Lonza Swiss Finanz AG

Basel, Switzerland

1.00 per cent Bonds 2020–2023 of CHF 300,000,000

unconditionally and irrevocably guaranteed by

Lonza Group Ltd

Basel, Switzerland

Issuer:	Lonza Swiss Finanz AG, Münchensteinerstrasse 38, CH-4002 Basel, Switzerland
Guarantor:	Lonza Group Ltd, Münchensteinerstrasse 38, CH-4002 Basel, Switzerland
Issue Price:	The Managers have purchased the Bonds at the price of 100.015 per cent. of the aggregate principal amount of the Bonds (before commissions).
Placement Price:	According to demand
Interest Rate:	1.00 per cent per annum, payable annually in arrears on 28 April, first interest payment on 28 April 2021. Interest payments are subject to the Swiss Federal Withholding Tax of currently 35 per cent.
Payment Date:	28 April 2020
Maturity Date:	28 April 2023
Duration:	3 years
Reopening:	The Issuer reserves the right to reopen this issue at any time before maturity of the Bonds (for details see Condition 1 of the Terms and Conditions).
Assurances:	Change of control clause, pari passu clause, negative pledge clause and cross default clause (for details see Conditions 3(c), 7(a), 7(b) and 8(c) of the Terms and Conditions, respectively)
Form of Bonds:	The Bonds are issued as uncertificated securities (*Wertrechte*) in accordance with art. 973c of the Swiss Code of Obligations. No physical delivery of individually certificated Bonds shall be made (for details see Condition 1 of the Terms and Conditions).
Status:	The Bonds constitute direct, unconditional and unsubordinated obligations of the Issuer (for details see Condition 7(a) of the Terms and Conditions).
Guarantee:	Unconditional and irrevocable guarantee in accordance with art. 111 of the Swiss Code of Obligations (for details see Condition 9 of the Terms and Conditions)
Denomination:	CHF 5,000 and multiples thereof
Trading and Listing:	The Bonds have been admitted to trading on the SIX Swiss Exchange with effect from 24 April 2020. Application will be made for the Bonds to be listed in accordance with the Standard for Bonds on the SIX Swiss Exchange. The last day of trading is expected to be 26 April 2023.
Law and Jurisdiction:	The Bonds and the Guarantee shall be governed by Swiss law. Any dispute which might arise in connection with the Bonds or the Guarantee shall fall within the jurisdiction of the courts of the city of Zurich, Switzerland, place of jurisdiction being Zurich 1 (for details see Conditions 9 and 12 of the Terms and Conditions).
Selling Restrictions:	United States of America and United States Persons, European Economic Area, Republic of Italy and general selling restrictions (for details see pages 3 and 4 herein)

Credit Suisse **UBS Investment Bank** **Zürcher Kantonalbank**

Swiss Security Number: 53 903 287 ISIN: CH0539032877 Common Code: 215570789

Prospectus dated 24 April 2020

In accordance with article 109 of the Swiss Financial Services Ordinance, this Prospectus has been prepared in compliance with articles 652a and 1156 of the Swiss Code of Obligations, as such articles were in effect immediately prior to the entry into effect of the Swiss Financial Services Act (the **FinSA**), and the Listing Rules of SIX Swiss Exchange in their version dated 8 November 2019 and in force as of 1 January 2020. Consequently, this Prospectus has not been and will not be reviewed or approved by a Swiss review body pursuant to article 51 of the FinSA, and does not comply with the disclosure requirements applicable to a prospectus approved by such a review body under the FinSA.

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Selling Restrictions

United States of America and United States Persons

No substantial U.S. market interest: The Issuer reasonably believes that at the time the offering of the Bonds began, there was no substantial U.S. market interest in its debt securities in the meaning of Rule 902.(j) (2) of Regulation S under the Securities Act of 1933 of the United States of America.

A) The Bonds have not been and will not be registered under the U.S. Securities Act of 1933, as amended (the **Securities Act**), and may not be offered or sold within the United States or to or for the account or benefit of United States persons (except pursuant to an exemption from, or in a transaction not subject to, the registration requirements of the Securities Act.

Each Manager has represented, warranted and agreed that it has not offered or sold, and will not offer or sell, any Bonds constituting part of their allotment within the United States or to or for the account or benefit of United States persons except in accordance with Rule 903 of Regulation S under the Securities Act.

Each Manager has represented and agreed that neither it, its affiliates nor any persons acting on its or their behalf have engaged or will engage in any selling efforts directed to the United States with respect to the Bonds.

Terms used in this paragraph have the meanings given to them by Regulation S under the Securities Act.

B) Each Manager has represented, warranted and agreed that it has not entered and will not enter into any contractual arrangement with respect to the distribution or delivery of the Bonds, except with their affiliates or with the prior written consent of the Issuer.

European Economic Area

In relation to each Member State of the European Economic Area, each Manager has represented and agreed, that it has not made and will not make an offer of Bonds to the public in the Member State except that it may make an offer of such Bonds to the public in that Member State at any time:

(i) to any legal entity which is a qualified investor as defined in the Prospectus Regulation; or

(ii) to fewer than 150 natural or legal persons (other than qualified investors as defined in the Prospectus Regulation, subject to obtaining the prior consent of the Managers nominated by the Issuer for any such offer; or

(iii) in any other circumstances falling within Article 1(4) of the Prospectus Regulation;

provided that no such offer of Bonds referred to in (ii) to (iii) above shall require the Issuer or the Managers to publish a prospectus pursuant to Article 3 of the Prospectus Regulation, or supplement a prospectus pursuant to Article 23 of the Prospectus Regulation.

For the purposes of this provision, the expression an **offer of Bonds to the public** in relation to any Bonds in any Member State means the communication in any form and by any means of sufficient information on the terms of the offer and the Bonds to be offered so as to enable an investor to decide to purchase or subscribe for the Bonds and the expression **Prospectus Regulation** means Regulation (EU) 2017/1129.

Republic of Italy

The offering of the Bonds has not been registered pursuant to Italian securities legislation and, accordingly, no Bonds may be offered, sold or delivered, nor may copies of the Prospectus or of any other document relating to the Bonds be distributed in the Republic of Italy, except:

(i) to qualified investors (*investitori qualificati*), as defined pursuant to Article 2 of Regulation (EU) 2017/1129 (the **Prospectus Regulation**) and any applicable provision of Legislative Decree No. 58 of 24 February 1998, as amended (the Financial Services Act) and Italian CONSO regulations; or

(ii) in other circumstances which are exempted from the rules on public offerings pursuant to Article 1 of the Prospectus Regulation, Article 34-*ter* of CONSOB Regulation No. 11971 of 14 May 1999, as amended from time to time, and the applicable Italian laws.

Any offer, sale or delivery of the Bonds or distribution of copies of the Prospectus or any other document relating to the Bonds in the Republic of Italy under (i) or (ii) above must be:

(a) made by an investment firm, bank or financial intermediary permitted to conduct such activities in the Republic of Italy in accordance with the Financial Services Act, Legislative Decree No. 385 of 1 September 1993, as amended (the **Consolidated Banking Act**), and CONSOB Regulation No. 20307 of 15 February 2018 (as amended from time to time); and

(b) in compliance with any other applicable laws and regulations, as well as with any regulations or requirement imposed by CONSOB, the Bank of Italy (including the reporting requirements, where applicable, pursuant to Article 129 of the Banking Act and the implementing guidelines of the Bank of Italy, as amended from time to time) and/or any other Italian authority.

In accordance with Article 100-bis of the Financial Services Act where no exemption from the rules on offerings of securities to the public applies under (i) and (ii) above, the subsequent distribution of the Bonds on the secondary market in Italy must be made in compliance with the Prospectus Regulation and the applicable Italian laws and regulations. Failure to comply with such rules may result in the sale of such Bonds being declared null and void and the liability of the intermediary transferring the financial instruments for any damages suffered by the investors.

General

Neither the Issuer nor any of the Managers has represented that Bonds may at any time lawfully be sold in compliance with any applicable registration or other requirements in any jurisdiction, or pursuant to any exemption available thereunder, or assumed any responsibility for facilitating such sale. The distribution of this Prospectus and the offering of the Bonds in certain jurisdictions may be restricted by law. Persons into whose possession this Prospectus comes are required by the Issuer to inform themselves about and to observe any such restrictions. This Prospectus does not constitute, and may not be used for or in connection with, an offer or solicitation by anyone in any jurisdiction in which such offer or solicitation is not authorised or to any person to whom it is unlawful to make such offer or solicitation and no action is being taken in any jurisdiction that would permit a public offering of the Bonds or the distribution of this Prospectus in any jurisdiction where action for that purpose is required.

Terms and Conditions

The terms and conditions of the bonds (each a **Condition**, and together the **Terms of the Bonds**) issued by the Issuer and unconditionally and irrevocably guaranteed by the Guarantor, are as follows:

1 Amount and Reopening, Form of the Bonds, Denomination, Custodianship and Transfer of the Bonds

(a) The initial aggregate principal amount of the Bonds of Swiss francs (**CHF**) 300,000,000 (in words: three hundred million Swiss francs) (the **Aggregate Principal Amount**) is divided into bonds (each a **Bond** and collectively the **Bonds**) with denominations of CHF 5,000 (five thousand Swiss francs) per Bond and integral multiples thereof.

The Issuer reserves the right to reopen (the **Reopening**) and increase the Aggregate Principal Amount at any time and without prior consultation of or permission of the holders of the bonds (the **Holders** and, individually, a **Holder**) through the issuance of further bonds which will be fungible with the Bonds (i.e. identical especially in respect of the Terms of the Bonds, security number, final maturity and interest rate).

(b) The Bonds are issued as uncertificated securities (*Wertrechte*) in accordance with art. 973c of the Swiss Code of Obligations.

Such uncertificated securities (*Wertrechte*) will then be entered by the Principal Paying Agent into the main register (*Hauptregister*) of SIX SIS or any other intermediary in Switzerland recognised for such purposes by SIX Swiss Exchange (SIX SIS or any such other intermediary, the **Intermediary**). Once the uncertificated securities (*Wertrechte*) are registered in the main register (*Hauptregister*) of the Intermediary and entered into the accounts of one or more participants of the Intermediary, the Bonds will constitute intermediated securities (*Bucheffekten*) (**Intermediated Securities**) in accordance with the provisions of the Swiss Federal Intermediated Securities Act (*Bucheffektengesetz*).

(c) So long as the Bonds are Intermediated Securities (*Bucheffekten*), the Bonds may only be transferred by the entry of the transferred Bonds in a securities account of the transferee.

(d) The records of the Intermediary will determine the number of Bonds held through each participant of that Intermediary. In respect of Bonds held in the form of Intermediated Securities, the Holders will be the persons holding the Bonds in a securities account (*Effektenkonto*) which is in their name, or in case of intermediaries (*Verwahrungsstellen*), the intermediaries (*Verwahrungsstellen*) holding the Bonds for their own account in a securities account (*Effektenkonto*) which is in their name.

(e) The conversion of the uncertificated securities (*Wertrechte*) into a permanent global certificate (*Globalurkunde*) or individually certificated bonds (*Wertpapiere*) is excluded. Neither the Issuer nor the Holders nor the Principal Paying Agent nor any third party shall at any time have the right to effect or demand the conversion of the uncertificated securities (*Wertrechte*) into, or the delivery of a permanent global certificate (*Globalurkunde*) or individually certificated securities (*Wertpapiere*). No physical delivery of the Bonds shall be made.

2 Interest

The Bonds bear interest from (and including) 28 April 2020 (the **Issue Date**) until (but excluding) the Maturity Date (as defined below) at the rate of 1.00 per cent of their Aggregate Principal Amount per annum, payable annually in arrears on 28 April of each year (the **Interest Payment Date**), for the first time on 28 April 2021. Interest on the Bonds is computed on the basis of a 360-day year of twelve 30-day months.

3 Redemption, Purchase and Cancellation

(a) Redemption at Maturity

Unless previously redeemed, the Issuer undertakes to repay all outstanding Bonds at par, without further notice on 28 April 2023 (the **Maturity Date**).

(b) Redemption at the Option of the Issuer

Subject to a period of not less than thirty (30) nor more than sixty (60) days' prior notice to the Principal Paying Agent, the Issuer may redeem the Bonds at any time after the Issue Date and prior to the Maturity Date, in whole, but not in part only, at par of their Aggregate Principal Amount plus accrued interest, if any, on the date determined by the Issuer for early redemption, if eighty-five (85) per cent or more of the Aggregate Principal Amount have been redeemed or purchased and cancelled at the time of such notice.

(c) Redemption at the Option of the Holders upon Change of Control with regard to the Guarantor

(A) A **Change of Control** occurs when:

(a) an offer to acquire issued and fully paid Shares, whether expressed as a public takeover offer, a merger or similar scheme with regard to such acquisition, or in any other way, is made in circumstances where (i) such offer is available to (a) all holders of Shares, (b) all holders of Shares other than the offeror and any persons acting in concert with such offeror or (c) all holders of Shares other than persons who are excluded from the offer by reason of being connected with one or more specific jurisdictions, and (ii) such offer having become or been declared unconditional in all respects, the Guarantor becomes aware that the right to cast more than 50 per cent of all the voting rights (whether exercisable or not) of the Guarantor has become unconditionally vested in the offeror and any persons acting in concert with the offeror; or

(b) the Guarantor consolidates with or merges into any other company (except any Subsidiaries); or

(c) the legal or beneficial ownership of all or substantially all of the assets owned by the Guarantor, either directly or indirectly, are acquired by one or more other persons.

Shares pursuant to this section means issued and fully paid registered shares of the Guarantor (and all other (if any) shares or stock resulting from any subdivision, consolidation or reclassification of such shares) which as between themselves have no preference in respect of dividends or amounts payable in the event of any voluntary or involuntary liquidation or dissolution of the Guarantor.

(B) Upon a Change of Control:

the Guarantor shall forthwith, or, if it is not clear at that point in time whether the Holders are entitled to exercise their redemption rights pursuant to sub-clause (C) below because the Guarantor's BBB+ rating is not yet available, immediately following the receipt of the rating decision of the relevant rating agency or after two months, whatever is earlier, give notice of that fact to the Holders (the **Change of Control Notice**) in the form set out in Condition 11. The Change of Control Notice shall:

(a) inform the Holders of their right to require redemption of the Bonds pursuant to sub-clause (C) below;

(b) specify the date (the **Change of Control Redemption Date**), being not more than sixty (60) and not less than thirty (30) days after giving such notice, on which the Bonds may be redeemed at the option of the Holders pursuant to sub-clause (C) below; and

(c) provide details concerning the Change of Control, including to specify the relevant office of the Principal Paying Agent (the **Specified Office**) for the purposes of sub-clause (C) below.

(C) Early Redemption at the Option of Holders upon Change of Control

Upon the occurrence of a Change of Control, the Guarantor will at the option of a Holder, redeem such Bond at its Principal Amount on, together with interest accrued up to, the Change of Control Redemption Date unless,

(a) in the event of a merger or consolidation of the Guarantor, (i) the surviving entity has or receives a rating of at least BBB+ by Standard & Poor's or the equivalent by Moody's for its senior unsecured long-term debt on a consolidated basis, (ii) assumes or keeps, as the case may be, the Guarantor's obligations under the Bonds pari passu with its own senior obligations, or

(b) in the event of an offer to acquire the Guarantor's Shares as described in sub-clause (A) above, the acquirer (i) has a rating of at least BBB+ by Standard & Poor's or the equivalent by Moody's for its senior unsecured long-term debt or receives such a rating on a consolidated basis after giving effect to the acquisition, (ii) the acquirer assumes the Guarantor's obligations under the Bonds pari passu with its own senior obligations.

It is understood that where no rating exists for the senior unsecured long term debt of the surviving entity, the acquiring entity or the Guarantor, as the case may be, or a rating is not received within a period of two months since the occurrence of a Change of Control, respectively, then the Holders shall have a redemption right as described in the first sentence of this sub-clause (C).

To exercise such option, a Holder must present at the Specified Office a duly completed redemption notice in the form obtainable at the Specified Office of the Principal Paying Agent (a **Change of Control Redemption Notice**), together with clearing instructions in a form satisfactory to the Principal Paying Agent allowing for the transfer of the relevant Bond(s) through SIX SIS to the Principal Paying Agent by not later than fourteen (14) days prior to the Change of Control Redemption Date. No Bond or Change of Control Redemption Notice so deposited may be withdrawn without the consent of the Issuer.

(d) Purchases

The Issuer, the Guarantor or any of their respective Subsidiaries may, either directly or indirectly, at any time purchase Bonds at any price, in the open market or otherwise. Any purchase shall be made in accordance with applicable laws or regulations, including applicable stock exchange regulations. Such Bonds may be held, resold or, at the option of the Issuer, surrendered to the Principal Paying Agent for cancellation as set out below.

(e) Cancellation

All Bonds which are redeemed or surrendered to the Principal Paying Agent for cancellation shall forthwith be cancelled. All Bonds so cancelled cannot be reissued or resold.

(f) Notice

Where the provisions of this Condition 3 provide for the giving of notice by the Issuer to the Principal Paying Agent, such notice shall be deemed to be validly given if made in writing with all required information to the Principal Paying Agent within the prescribed time limit. Such notices shall be announced to the Holders as soon as practicable pursuant to Condition 11. Such notices shall be irrevocable.

4 Payments

The amounts required for payments with respect to the Bonds will be made available in good time in freely disposable CHF which will be placed at the free disposal of the Principal Paying Agent on behalf of the Holders. If the due date for any payment by the Issuer does not fall on a Business Day, the Issuer undertakes to effect payment for value the Business Day immediately following such due date and the Holders will not be entitled to any additional sum in relation thereto. All payments with respect to the Bonds will be made to the Holders in CHF without collection costs.

The receipt by the Principal Paying Agent of the due and punctual payment of the funds in CHF as above provided shall release the Issuer and the Guarantor of their payment obligations under the Bonds to the extent of such payments.

If the Bonds are not redeemed when due, interest shall continue to accrue until (and including) the day when the Bonds are redeemed.

5 Statute of Limitations

In accordance with Swiss law, claims for interest payments shall become timebarred after a period of five (5) years and claims for the repayment or redemption of Bonds after a period of ten (10) years, calculated from their respective due dates.

6 Taxation

All payments in respect of the Bonds are subject to all applicable taxes, including the deduction of the Swiss Federal Withholding Tax (*Verrechnungssteuer*), currently levied at a rate of thirty-five (35) per cent.

7 Status of the Bonds and Negative Pledge

(a) Status

The Bonds constitute direct, unconditional, unsecured and unsubordinated obligations of the Issuer, rank pari passu among themselves and with all other present or future unsecured and unsubordinated obligations of the Issuer, except for such preferences as are provided for by any mandatorily applicable provision of law.

(b) Negative Pledge

So long as any of the Bonds remain outstanding, neither the Issuer nor the Guarantor will, and the Guarantor will procure that no Material Subsidiary of the Guarantor will, create or have outstanding any mortgage, charge, pledge, lien or other form of encumbrance or security interest, upon the whole or any part of its assets or revenues, present or future, to secure any Relevant Debt or to secure any guarantee or indemnity in respect of any Relevant Debt unless, at the same time or prior thereto, the Issuer's or, as the case may be, the Guarantor's obligations under the Bonds (in the case of the Issuer) or the Guarantee (in the case of the Guarantor) (i) are secured equally and rateably therewith by such encumbrance or security interest or benefit from a guarantee or indemnity in substantially identical terms thereto, as the case may be, or (ii) have the benefit of such other security, guarantee, indemnity or other arrangement as shall be approved by an extraordinary resolution of the Holders.

For the purposes of this Section 7, **Relevant Debt** means any present or future financial indebtedness of the Issuer, the Guarantor and its Material Subsidiaries, in the form of, or represented by, notes, bonds, debentures, loan stock or other securities, which are for the time being, or are capable of being, quoted, listed or ordinarily dealt with on any stock exchange, over-the-counter or other securities market.

8 Events of Default

If any of the following events (each event an **Event of Default**) shall occur, Credit Suisse in its capacity as Holders' representative (the **Holders' Representative**) has the right but not the obligation, on behalf of the Holders, to declare all outstanding Bonds immediately due and repayable at par plus accrued interest:

(a) there is a failure by the Issuer or the Guarantor to pay principal and/or interest on any of the Bonds, if and when due and such failure continues for a period of twenty (20) calendar days; or

(b) a default is made in the performance or observance of any material covenant, condition or provision which is to be performed by the Issuer under the Terms of the Bonds or by the Guarantor under the Guarantee and (except where the Holders' Representative certifies in writing that, in its reasonable

opinion, such default is not capable of remedy, when no such notice or continuation as is mentioned below shall be required) such default continues for a period of twenty (20) calendar days following the service by the Holders' Representative on the Issuer or the Guarantor, of notice requiring such default to be remedied; or

(c) any other present or future indebtedness of the Issuer or the Guarantor or of any other Material Subsidiary for or in respect of monies borrowed is not paid when due (otherwise than, where permitted under the terms of the relevant indenture or agreement, at the option of the relevant debtor) or, as the case may be, within any applicable grace period, or becomes due and payable prior to its stated maturity as a result of an event of default (howsoever described), or any security in respect of any such indebtedness become enforceable or any guarantee of, or indemnity in respect of, any such indebtedness given by the Issuer or the Guarantor or any other Material Subsidiary is not honoured when due and called upon or, as the case may be, within any applicable grace period, provided that no such event shall be taken into account for the purposes of this paragraph (c) unless the relative indebtedness, either alone or when aggregated with other indebtedness relative to all, if any, other such events which shall have occurred and are continuing shall at any time have an outstanding nominal value that equals or exceeds CHF 100,000,000 or its equivalent in any other currency or currencies (calculated on the basis of the middle spot rate for the relevant currency against CHF as quoted by any leading bank at the place of payment of such debt on the day on which this paragraph operates); or

(d) any mortgage, lien or other encumbrance, present or future, created or assumed by the Issuer, the Guarantor or any other Material Subsidiary becomes enforceable and any step is taken to enforce it (including the taking of possession or the appointment of a receiver, manager or other similar person but not the serving of a payment order (*Zahlungsbefehl*) provided that the aggregate amount of the relevant indebtedness in respect of which such mortgage, lien or other encumbrance was created or permitted to subsist equals or exceeds CHF 100,000,000 or its equivalent in another currency or currencies (calculated on the basis of the middle spot rate for the relevant currency against CHF as quoted by any leading bank at the place of payment of such debt on the day on which this paragraph operates), and any such steps taken are not abandoned or discontinued within thirty (30) days of being taken; or

(e) the Issuer, the Guarantor or a Material Subsidiary is (or is deemed by law or a court to be) insolvent or bankrupt or unable to pay its debts, stops or suspends payment of all or a material part of its debts, proposes or makes a stay of execution, a postponement of payments (*Stillhaltevereinbarung*), a general assignment or an arrangement or composition with or for the benefit of the relevant creditors in respect of any such debts or a moratorium or postponement of payments (*Stillhaltevereinbarung*) is agreed or declared in respect of or affecting all or a substantial part of (or a particular type of) the debts of the Issuer, the Guarantor or a Material Subsidiary; or

(f) the Issuer, the Guarantor or a Material Subsidiary alters its legal or commercial structure through bankruptcy, liquidation, disposal of all or substantially all of its assets, change in the objects of the legal entity and/or commercial activities or merger, in so far as the relevant action, in the Holders' Representative's reasonable opinion, has a material adverse effect on the capacity of (i) the Issuer to meet its obligations under the Terms of the Bonds and/or (ii) the Guarantor to meet its obligations under the Guarantee, unless the Holders' Representative considers the situation of the Holders as adequately protected based on securities created or other steps taken by the Issuer and/or the Guarantor; or

(g) a dissolution or merger involving the Issuer or the Guarantor as result of which the Issuer or the Guarantor, as the case may be, is not the surviving legal entity, unless the successor legal entity assumes all the Issuer's or the Guarantor's liabilities in respect of the Bonds; or

(h) the Guarantee ceases to be, or is claimed by the Guarantor not to be, in full force and effect.

The Issuer and the Guarantor undertake to inform the Holders' Representative without delay if any event mentioned under paragraph (b) through (h) has occurred and to provide the Holders' Representative with all necessary documents and information in connection therewith.

If an Event of Default occurs, the Holders' Representative has the right but not the obligation to serve a written notice of default (**Default Notice**), such notice having the effect that the Bonds shall become immediately due and payable at the Aggregate Principal Amount plus accrued interest, if any, on the day the Default Notice is given.

Upon the occurrence of an Event of Default, the Holders' Representative may invite the Holders in accordance with art. 1157 seq. of the Swiss Code of Obligations to a Holders' meeting for the taking of a resolution on the serving of a Default Notice, provided the Holders' Representative has not served such Default Notice itself. The legally valid resolution of the Holders' meeting to serve a Default Notice, shall replace the right reserved by the Holders' Representative according to these Terms of the Bonds to serve a Default Notice on behalf of the Holders. If the Holders' meeting votes against the serving of a Default Notice, the right to serve such Default Notice shall revert to the Holders' Representative whereby the Holders' Representative shall not be bound by the resolution of the Holders' meeting if and to the extent that new circumstances arise or become known which require a revised assessment of the facts.

9 Guarantee

(A) As security for the Bonds, the Guarantor has issued the following unconditional and irrevocable Guarantee:

Quote

GUARANTEE

(in the meaning of art. 111 of the Swiss Code of Obligations, hereinafter called the **Guarantee**)

(a) Being informed that Lonza Swiss Finanz AG, Münchensteinerstrasse 38, CH-4002 Basel, (hereinafter called the **Issuer**), issued and sold 1.00 per cent Bonds (hereinafter called the **Bonds**) in the aggregate principal amount of CHF 300,000,000 due 28 April 2023, Lonza Group Ltd, Münchensteinerstrasse 38, CH-4002 Basel (hereinafter called the **Guarantor**) herewith irrevocably and unconditionally guarantees to the holders of the Bonds (hereinafter called the **Holders**) in accordance with Article 111 of the Swiss Federal Code of Obligations, irrespective of the validity of the Bonds, the Bond Purchase Agreement and the Paying Agency Agreement prepared in relation to the Bonds (hereinafter called the **Agreements**) and waiving all rights of objection and defence arising from the Bonds and the Agreements, the due payment of the amounts payable by the Issuer under and pursuant to the Terms of the Bonds (including, without limitation, any Additional Amounts). Accordingly, the Guarantor agrees to pay to Credit Suisse AG, Paradeplatz 8, CH-8001 Zurich, Switzerland, in its capacity as Principal Paying Agent, on behalf of the Holders, within 7 days after the receipt by the Guarantor of the Principal Paying Agent's first written demand for payment and the Principal Paying Agent's confirmation in writing that an amount has become due and payable under the Bonds which is equivalent to the amount claimed under the Guarantee and has remained unpaid on the due date, or any amount due and payable by the Issuer under and pursuant to the Terms of the Bonds.

(b) All payments in respect of the Bonds by the Guarantor under this Guarantee to the Principal Paying Agent acting on behalf of the Holders shall be made free and clear of, and without withholding or deduction for, any taxes, duties, assessments or governmental charges of whatever nature imposed, levied, collected, withheld or assessed by or within Switzerland, as the case may be, or any political subdivision thereof or any authority therein or thereof having power to tax, unless such withholding or deduction is required by law. In the event that any payments by or on behalf of the Guarantor to the Principal Paying Agent shall be made subject to withholding or deduction for any such relevant taxes, duties, assessments or governmental charges so required by law, such additional amounts (the **Additional Amounts**) shall be payable by the Guarantor as may be necessary in order that the net amounts received by the Principal Paying Agent on behalf of a Holder after such withholding or deduction shall equal the respective amounts which would otherwise have been receivable by the Principal Paying Agent in respect of the relevant Bonds in the absence of such withholding or deduction. However, no such Additional Amounts shall be payable on account of any taxes, duties or governmental charges which:

(i) are duly disclosed in a prospectus in relation to the Bonds, including the Swiss Federal Withholding Tax (*Verrechnungssteuer*), currently levied at a rate of thirty-five (35) per cent; or

(ii) are payable otherwise than by deduction or withholding from payments under this Guarantee; or

(iii) are payable by reason of a Holder having, or having had, some personal or business connection with Switzerland and not merely by reason of the holding of the Bonds; or

(iv) are payable by reason of a change in law that becomes effective more than thirty (30) days after the relevant payment becomes due, or is duly provided for and notice thereof is published in accordance with Condition 11 of the Terms of the Bonds, whichever occurs later.

(c) The Guarantee constitutes a direct, unconditional, unsecured and unsubordinated obligation of the Guarantor and ranks and will rank pari passu with all other unsecured and unsubordinated obligations of the Guarantor except for such preferences as are provided by any mandatory applicable provision of law.

(d) So long as any Bond remains outstanding, the Guarantor will not and the Guarantor procures that no Material Subsidiary of the Guarantor will, create or have outstanding any mortgage, charge, pledge, lien or other form of encumbrance or security interest, upon the whole or any part of its assets or revenues, present or future, to secure any Relevant Debt or to secure any guarantee or indemnity in respect of any Relevant Debt unless, at the same time or prior thereto, the Guarantee (i) is secured equally and rateably therewith by such encumbrance or security interest or benefit from a guarantee or indemnity in substantially identical terms thereto, as the case may be, or (ii) has the benefit of such other security, guarantee, indemnity or other arrangement as shall be approved by an extraordinary resolution at a bondholders' meeting pursuant to the Swiss code of obligations.

For the purposes of this Guarantee, **Relevant Debt** means any present or future financial indebtedness of the Guarantor and its Material Subsidiaries in the form of, or represented or evidenced by notes, bonds, debentures, loan stock or other securities, which are for the time being, or are capable of being, quoted, listed or ordinarily dealt with on any stock exchange, over-the-counter or other securities market.

For the purposes of this Guarantee, **Material Subsidiary** means any operating Subsidiary of the Guarantor whose assets, net revenues, operating profit or profit after tax at any time, represent ten (10) per cent or more of the consolidated assets or the consolidated operating profit, as the case may be, of the Guarantor and its consolidated Subsidiaries at any time, ascertained by reference to (a) the financial statements of such Subsidiary at the date to which the last audited consolidated financial statements of the Guarantor and its consolidated Subsidiaries have been prepared, or (b) if such corporate body becomes a Subsidiary of the Guarantor after that date, the latest financial statements of such Subsidiary adjusted to take into account subsequent acquisitions and disposals or other changes in circumstances.

For the purposes of this Guarantee, **Subsidiary** of the Issuer or of the Guarantor means a company the financial statements of which are, in accordance with applicable law or generally accepted accounting principles, consolidated with those of the Issuer or Guarantor (as the case may be).

(e) Payments under the Guarantee shall be made in Swiss francs. The Guarantor undertakes to pay to Credit Suisse in its role as principal paying agent in respect of the Bonds (the **Principal Paying Agent**) on behalf of the Holders without costs to be borne by the Principal Paying Agent, without any restrictions, and whatever the circumstances may be, irrespective of nationality or domicile of the beneficiary of such payments and without requiring any affidavit or the fulfilment of any other formality, any sums due pursuant to the Guarantee in freely disposable Swiss francs.

The receipt by the Principal Paying Agent of funds in Swiss francs in Switzerland from the Guarantor shall release the Guarantor from its obligations under this Guarantee to the extent of the amounts received by the Principal Paying Agent.

(f) The Guarantee shall give rise to a separate and independent cause of action of the Principal Paying Agent acting on behalf of the Holders against the Guarantor and shall apply irrespective of any indulgence granted to the Issuer by the Principal Paying Agent or any Holders from time to time and shall continue in full force and effect notwithstanding any judgment or order against the Issuer and/or the Guarantor.

(g) The Guarantee shall be governed by and construed in accordance with the substantive laws of Switzerland (i.e. without regard to the principles of conflict of laws).

(h) Any dispute which might arise based on the Guarantee shall be settled in accordance with Swiss law and shall fall within the exclusive jurisdiction of the courts of the city of Zurich, and if permitted, the Commercial Court of the Canton of Zurich, the place of jurisdiction being Zurich 1. The Guarantor hereby irrevocably submits for any such action or proceeding to the jurisdiction of the aforesaid courts.

(i) Terms and expressions not otherwise defined in the Guarantee shall have the same meaning as defined in the Terms of the Bonds.

Unquote

(B) The Principal Paying Agent undertakes to call on the Guarantee and to claim from the Guarantor pursuant to the Guarantee any unpaid amount by the Issuer. Upon receipt, the Principal Paying Agent undertakes to forward such amount to the Holders, waiving all rights of set off with respect to such Holders. The Principal Paying Agent is, however, entitled to deduct from the received amount all costs and expenses related to the collection of said amount, including court fees and legal fees.

10 Substitution of the Issuer

The Issuer may, upon the decision of the Guarantor but without the consent of the Holders, at any time substitute itself in respect of all rights and obligations arising under or in connection with the Bonds with any Swiss legal entity of which all shares carrying voting rights are directly or indirectly held by the Issuer or the Guarantor (the **New Issuer**), provided that:

(a) the New Issuer is in the opinion of the Holders' Representative in a position to fulfil all payment obligations arising from or in connection with the Bonds, and

(b) the Guarantor has issued an irrevocable and unconditional guarantee as per art. 111 of the Swiss Code of Obligations in respect to the obligations of the New Issuer under the Bonds in form and content satisfactory to the Holders' Representative.

In the event of a substitution of the Issuer, notice of such substitution shall be made in accordance with the provisions of Condition 11 and any reference to the Issuer shall be deemed to refer to the New Issuer.

11 Notices

All notices regarding the Bonds shall be published by Credit Suisse on behalf and at the expense of the Issuer (i) on the internet site of SIX Swiss Exchange (where notices are currently published under the address https://www.six-group.com/exchanges/news/official_notices/search_en.html) or (ii) otherwise in accordance with the regulations of the SIX Swiss Exchange.

12 Listing

Application will be made for the admission to trading and listing of the Bonds on the SIX Swiss Exchange for the whole duration of the Bonds.

13 Governing Law and Jurisdiction

The Terms of the Bonds and the Bonds shall be governed by and construed in accordance with the substantive laws of Switzerland (i.e. without regard to the principles of conflict of laws).

Any dispute which might arise based on the Terms of the Bonds and the Bonds shall be settled in accordance with Swiss law and shall fall within the exclusive jurisdiction of the courts of the city of Zurich, and if permitted, the Commercial Court of the Canton of Zurich, the place of jurisdiction being Zurich 1.

The above-mentioned jurisdiction is also exclusively valid for the declaration of cancellation of Bonds.

14 Amendment to the Terms of the Bonds

The Terms of the Bonds may be amended by agreement between the Issuer and/or the Guarantor and the Holders' Representative provided that in the sole opinion of the Holders' Representative, such amendment is of a formal, minor or technical nature, is made to correct a manifest error and is not prejudicial to the interests of the Holders. Notice of any such amendment shall be published in accordance with Condition 11.

15 Role of Credit Suisse

Credit Suisse has been appointed by the Issuer and the Guarantor as the Principal Paying Agent and as the Listing Agent with respect to the Bonds and it will or may also act on behalf of or for the benefit of the Holders as Holders' Representative, but only in such cases stated explicitly in these Terms of the Bonds. In any other cases, the Holders' Representative is not obliged to take or to consider any actions on behalf of or for the benefit of the Holders.

16 Severability

If at any time one or more of the provisions of the Terms of Bonds is or becomes unlawful, invalid, illegal or unenforceable in any respect under any law, the validity, legality and enforceability of the remaining provisions shall not be in any way affected or impaired thereby.

17 Definitions

Business Day means any day (other than Saturday or Sunday) on which banks are open the whole day for business in Zurich.

Credit Suisse means Credit Suisse AG, Paradeplatz 8, 8001 Zurich, Switzerland.

Guarantor means Lonza Group Ltd, Münchensteinerstrasse 38, CH-4002 Basel, Switzerland.

Issuer means Lonza Swiss Finanz AG, Münchensteinerstrasse 38, CH-4002 Basel, Switzerland.

Listing Agent means Credit Suisse AG, appointed as recognised representative pursuant to art. 58a of the listing rules of the SIX Swiss Exchange to file the listing application (including the application for provisional admission to trading) for the Bonds with the SIX Swiss Exchange.

Material Subsidiary in respect to these Terms of the Bonds means any operating Subsidiary of the Guarantor whose assets, net revenues, operating profit or profit after tax at any time, represent ten (10) per cent or more of the consolidated assets or the consolidated operating profit, as the case may be, of the Guarantor and its consolidated Subsidiaries at any time, ascertained by reference to (i) the financial statements of such Subsidiary at the date to which the last audited consolidated financial statements of the Guarantor and its consolidated Subsidiaries have been prepared, or (ii) if such corporate body becomes a Subsidiary of the Guarantor after that date, the latest financial statements of such Subsidiary adjusted to take into account subsequent acquisitions and disposals or other changes in circumstances.

Principal Paying Agent means Credit Suisse AG in its function as principal paying agent.

If, at any time during the life of the Bonds, the Principal Paying Agent shall resign or become incapable of acting as Principal Paying Agent or as Holders' Representative as contemplated by these Terms of the Bonds or shall be adjudged bankrupt or insolvent, the Principal Paying Agent may be substituted by a duly licensed major Swiss bank or Swiss branch of a major foreign bank chosen by the Issuer. In the event of such a replacement of the Principal Paying Agent, all references to the Principal Paying Agent shall be deemed to refer to such replacement.

Notice of such a replacement shall be made in accordance with the provisions of Condition 11.

SIX SIS means SIX SIS Ltd, the Swiss clearing and settlement organisation, Baslerstrasse 100, 4600 Olten, or any successor organisation accepted by the SIX Swiss Exchange.

SIX Swiss Exchange means SIX Swiss Exchange Ltd, Pfingstweidstrasse 110, 8005 Zurich (P.O. Box 1758, 8021 Zurich) or any successor organisation.

Subsidiary of the Issuer or of the Guarantor in respect to these Terms of the Bonds means a company the financial statements of which are, in accordance with applicable law or generally accepted accounting principles, consolidated with those of the Issuer or the Guarantor (as the case may be).

Information on Lonza Swiss Finanz AG (Issuer)

Name, Registered Office, Incorporation, Duration and Legislation

Lonza Swiss Finanz AG (the **Issuer**) was incorporated under Swiss Law as a stock corporation (*Aktiengesellschaft*) under the name "Cheminvesta AG für Chemiebeteiligungen" on 29 May 1961 and was registered with the Commercial Register of the Canton of Basel-City on 23 December 1974 under the register number CHE-102.739.418. As of 28 April 2009, the Issuer changed its name to "Lonza Swiss Finanz AG (Lonza Swiss Finance Ltd)".

The duration of the Issuer shall be indefinite.

The registered office of Lonza Swiss Finanz AG and its principal place of business are located at Münchensteinerstrasse 38, CH-4002 Basel, Switzerland.

Business Purpose and Financial Year

Article 2 of the Issuer's Articles of Association states (translation):

The purpose of the Issuer is the financing and providing of services, in particular within the Lonza Group Ltd companies, as well as participating in domestic and foreign industrial and trading companies of all types. The Issuer has also the power to acquire and utilise real estate properties and intangible rights.

The financial year-end of the Issuer is 31 December.

Position within the Lonza Group Ltd

The Issuer is a direct wholly-owned subsidiary of the Guarantor. It has no subsidiaries of its own.

Corporate Information

Board of Directors

The Issuer is managed by a board of directors. The names and business occupations of the directors of the Issuer are set out below:

Daniel Blaettler, Chairman
Rodolfo Savitzky, Member of the Board

The business address of each member of the board of directors is the Issuer's registered office in Basel, Switzerland

Independent Statutory Auditors

The auditors appointed by the Issuer for the financial years ended 31 December 2018 and 2019 and for the current financial year are KPMG Ltd, Viaduktstrasse 42, CH-4002 Basel.

Business Activities

Net Turnover

For information on the net turnover, please refer to the Annual Financial Statements 2019 of the Issuer included herein as Annex A.

Patents and Licences

The Issuer is not dependent on any patent, license, or commercial contract. It will enter into material financing agreements with or on behalf of certain companies of the Guarantor or with financial institutions in connection with the use of the proceeds from this issue.

Principal Establishments and Real Estate

The Issuer does not have establishments other than at its registered office as stated above. It does not own real estate.

Interruption of Business

The Issuer is not an operating company and it has therefore not experienced any interruptions of its business since its formation.

Investment Policy

The Issuer is a wholly-owned subsidiary of the Guarantor providing financing services to the Group. No investments are planned or approved other than for general finance purposes of the Group.

Financial Statements 2019

The auditors of the Issuer have added the following qualification in their last statutory auditor's report for the year ended 31 December 2019:

> At 31 December 2019 the company is overindebted in accordance with Swiss law. In order to refrain from notifying the judge of overindebtedness according to Article 725 para. 2 CO, claims of the shareholder totaling CHF 15 million were subordinated (2018: CHF 15 million).

For further information, please refer to the Annual Financial Statements 2019 of the Issuer included herein as Annex A.

Litigation

Save as disclosed in this Prospectus (including the annexes), the Issuer is not involved in any litigation, arbitration or administrative proceedings which are likely to have a material adverse impact on the economic situation of the Issuer, nor are there, to the knowledge of the Issuer, any such proceedings pending.

Capital Structure

As of date of this Prospectus the issued and fully paid up share capital of the Issuer is CHF 100,000. It is divided into 100 bearer shares of CHF 1,000 each.

The Issuer has no authorised or conditional share capital.

Information on Lonza Group Ltd (Guarantor)

Name, Registered Office, Head Office

The guarantor is a stock corporation (*Aktiengesellschaft*), registered in accordance with Article 620 et seqq. of the Swiss Code of Obligations, under the name of Lonza Group Ltd (Lonza Group AG) (Lonza Group SA) (Lonza Group SA) (the **Company** or the **Guarantor**). The Guarantor was founded under the name of Axera AG in the Commercial Register of Zurich on 16 March 1999. As of 16 August 1999, it changed its name to Lonza Group Ltd. On 27 March 2002, the Guarantor was registered with the Commercial Register of Basel-City (register number CH-020.3.021.634-0) and is now registered under the register number CHE-106.841.866.

Neither the Guarantor's articles of association nor the operation of law limit the duration of the Guarantor.

The registered office and the place of business of the Guarantor are located at Münchensteinerstrasse 38, CH-4002 Basel, Switzerland.

Business Purpose and Financial Year

Article 2 of the Guarantor's Articles of Association states (translation):

The purpose of the Company is the participation, in whatever form, in companies active in whatever way in the fields of chemistry, energy and related fields, as well as engaging in all commercial, financial and other activities appropriate to such interests. The Company may also engage directly in the above mentioned business fields. The Company may, subject to legal provisions, extend its activities to other fields which are directly or indirectly related to its purpose.

The financial year-end of the Guarantor is 31 December.

Position of Lonza Group Ltd

Lonza Group Ltd is the holding company of the Lonza Group (together with its subsidiaries, **Lonza** or the **Group**).

Business Activities

Founded in 1897 in the Swiss Alps, Lonza is an integrated solutions provider that creates value along the Healthcare Continuum® and serves a number of highly attractive and growing markets related to its strategic focus on patient and consumer needs in prescription, prevention, protection and preservation. Through its Pharma Biotech & Nutrition segment and Specialty Ingredients segment businesses, Lonza harnesses science and technology to serve markets along this continuum. Lonza focuses on creating a healthy environment, promoting a healthier lifestyle and preventing illness through consumers' preventive healthcare, as well as improving patient healthcare by supporting its customers to deliver innovative medicines that help treat or cure severe diseases. Patients and consumers benefit from Lonza's ability to transfer its pharma know-how to the healthcare, hygiene and fast-moving consumer goods markets.

Drawing on more than a century of experience, Lonza applies its pharma know-how to create customer solutions that contribute to healthier living and that enhance the overall quality of life. The Group's services and products range from active pharmaceutical ingredients (both chemically as well as biologically derived), antibody drug conjugates, viral therapy and cell therapies, dosage and formulation expertise and drug product manufacturing. Lonza's product and service offerings furthermore range from nutritional ingredient compounds and organic consumer personal care ingredients to agricultural products, and from industrial preservatives to microbial control solutions that combat dangerous viruses, bacteria and other pathogens.

As at the end of 2019, the Group has more than 100 sites and offices and more than 15,400 employees, with key operations in Switzerland, the United States, the United Kingdom, China and Singapore. In the financial year ended 31 December 2019, Lonza generated sales of CHF 5.92 billion (compared with CHF 3.93 billion in 2012, representing growth of 50.8 per cent. over such period).

Lonza's strategy is to be the leading integrated, value-added solutions provider for the Healthcare Continuum®. Lonza offers a wide range of services and products from the custom development and manufacturing of active pharmaceutical ingredients to innovative dosage forms for the pharma and consumer health and nutrition industries.

The Guarantor is a publicly traded company with the primary listing of its shares on the SIX Swiss Exchange and secondary listing on the Singapore Exchange Securities Trading Limited. Except for the Guarantor, no company belonging to the Group has its shares listed on any stock exchange. Further information can be found at www.lonza.com.

Patents and Licences

Lonza's success depends in part on its ability to obtain and maintain proprietary protection for its products and product candidates, technology and know-how, to operate without infringing the proprietary rights of others and to prevent others from infringing its proprietary rights. Lonza seeks to protect its proprietary position by, among other methods, filing patent applications in Europe, the United States and other relevant jurisdictions where patent protection is available. Lonza also relies on trade secrets, know-how, and continuing technology innovation to develop and maintain its proprietary position.

As of 31 January 2020, Lonza had approximately 571 active patent families, 2334 granted patents and 948 pending patent applications in Europe. In addition, as of 31 January 2020, Lonza had more than 5,600 trademark filings, more than 800 brands globally and more than 700 registered domains. Lonza has in the past enforced and will continue to enforce intellectual property rights in jurisdictions around the globe. The Group does not consider any particular intellectual property right to be material to its overall business.

Board of Directors

Albert M. Baehny (1952)	Chairman and CEO *a.i*
Patrick Aebischer (1954)	Vice Chairman
Werner J. Bauer (1950)	Member
Angelica Kohlmann (1960)	Member
Christoph Mäder (1959)	Member
Barbara Richmond (1960)	Member
Margot Scheltema (1954)	Member
Jürgen B. Steinemann (1958)	Member
Oliver Verscheure (1972)	Member

(as of April 2020)

The business address of each member of the board of directors is the Guarantor's registered office in Basel, Switzerland.

Executive Committee

Albert M. Baehny (1952)	CEO *a.i*
Rodolfo Savitzky (1962)	Chief Financial Officer
Caroline Barth (1972)	Chief Human Resources Officer, effective 1 May 2020
Stefan Stoffel (1966)	Chief Operating Officer
Sven Abend (1968)	Chief Operating Officer

(as of April 2020)

The business address of each member of the executive committee is the Guarantor's registered office in Basel, Switzerland.

Capital Structure

The share capital according to the Articles of Association is as follows:

Article 4
Share Capital

[1] The share capital of the Company amounts to CHF 74,468,752, divided into 74,468,752 registered shares, fully paid-up, each with a par value of CHF 1.

[2] By decisions of the Shareholders' Meeting, registered shares may be converted into bearer shares, and bearer shares into registered shares.

Article 4bis
Contingent Capital

[1] The share capital of the Company may be increased through the issuance of a maximum of 7,500,000 fully paid in registered shares with a par value of CHF 1 each up to a maximum aggregate amount of CHF 7,500,000 through the exercise of conversion rights and/or warrants granted in connection with the issuance of bonds or similar debt instruments of the Company or one of its Group companies. The subscription rights of the shareholders shall be excluded. The current owners of conversion rights and/or warrants shall be entitled to subscribe for the new shares. The conditions of the conversion rights and/or warrants shall be determined by the Board of Directors.

[2] In connection with the issuance of the convertible or warrant-bearing bonds or any similar debt instruments, the Board of Directors shall be authorized to restrict or deny the pre-emptive rights of the shareholders if such instruments shall serve

a) to finance (including refinance) the acquisition of enterprises, divisions thereof, of participations or of newly planned investments of the Company or

b) to issue convertible bonds and/or warrants on the national and international capital markets.

[3] To the extent that the pre-emptive right is excluded,

a) the bonds or similar debt instruments are to be placed with the public at market conditions (including standard dilution protection clauses in accordance with market practice),

b) the term to exercise conversion rights may not exceed ten years and the term to exercise option rights may not exceed five years from the date of the bond issue and

c) the exercise price for the new shares must at least correspond to the market conditions at the time of the bond issue.

[4] The acquisition of shares through the exercise of conversion rights and or warrants as well as each subsequent transfer of the shares shall be subject to the restrictions of Article 6 of these Articles of Association.

Article 4ter
Authorized Capital

[1] The Board of Directors shall be authorized to increase, at any time until 6 May 2021, the share capital of the Company through the issuance of a maximum of 7,500,000 fully paid-in registered shares with a par value of CHF 1 each up to a maximum aggregate amount of CHF 7,500,000.

[2] The issue price, the beginning of the entitlement to dividends and the kind of contributions shall be determined by the Board of Directors.

[3] The Board of Directors is authorized to restrict or to suspend the subscription rights of the shareholders wholly or in part

a) in the event of issuance of shares for the participation of strategic partners,

b) for the takeover of companies, parts of companies, participations or intellectual property rights or for the financing and/or refinancing of such transactions,

c) for granting an over-allotment option ("greenshoe") of up to 20% of the preceding offer to the lead managers in connection with a placement of shares at market conditions,

d) for raising capital in a fast and flexible manner, which would hardly be achievable without the exclusion of the statutory subscription rights of the existing shareholders; or

e) for other valid reasons in the sense of Art. 652b, para 2, of the Swiss Code of Obligations.

If subscription rights are granted, but not exercised, the Board of Directors may use the respective shares in the interest of the Company.

[4] The new shares shall be subject to the restrictions of Article 6 of these Articles of Association.

Article 4^{quater}

The capital increases according to Articles 4bis and 4ter over a respective maximum of 7,500,000 fully paid-in registered shares with a par value of CHF 1 each may increase the share capital of the Company only by a maximum aggregate amount of CHF 7,500,000.

Article 5
Shares

[1] Under the reservation of para 2 the registered shares of the Company will be constructed as uncertified securities (in the sense of Swiss Code of Obligations) and book entry securities (in the sense of the Federal Law on Book Entry Securities). As far as Swiss law is applicable they may only be transferred in accordance with the Federal Law on Book Entry Securities.

[2] After entry in the share register the shareholder may at any time request from the Company a confirmation on the owned registered shares. Nevertheless, the shareholder is not entitled to receive printed documents of the registered shares. The Company is at any time free to print and deliver documents of the registered shares (as single documents, certificates or in the form of a global certificate). The Company may withdraw registered shares in the form of book entry securities from the respective safe-keeping system. With consent of the shareholder the Company may without substitution invalidate issued documents.

Article 6
Share Register, Nominees

[1] The Company shall keep a share register in which the owners and usufructuaries of the registered shares are entered with name, address and nationality. Only those with valid entries in the share register are recognized by the Company as shareholders or usufructuaries.

[2] Purchasers of registered shares may submit a request to be entered, without limitation, as shareholders with voting rights in the share register, provided they expressly declare that they have acquired these shares in their own name and on their own account.

[3] Persons who do not expressly declare in the entry application that they hold the shares on their own account (hereafter "nominees") will, without further ado, be entered with voting rights in the share register up to a maximum of 2% of the share capital entered in the Register of Commerce. Over and above this limit, registered shares held by nominees will only be entered with voting rights when the nominee concerned reveals the names, addresses, nationalities and shareholdings of those persons on whose account he holds 0.5% or more of the share capital entered in the Register of Commerce.

[4] After interviewing registered shareholders or nominees, the Board of Directors is entitled to delete entries from the share register, with retroactive effect from the date of entry, should these have been obtained by misrepresentation. The affected shareholder or nominee must be immediately informed of the deletion.

[5] The Board of Directors settles the details and issues the necessary instructions to ensure compliance with the provisions set out above. The Board is authorized to conclude agreements with nominees about their duties of notification.

[6] The provisions of this Article 6 apply also to shares underwritten or acquired through the exercise of subscription or conversion rights or rights to exercise warrants.

Own Shares

As at 31 March 2020 the Guarantor held 19,642 of its own registered shares with a par value of CHF 1 each.

Independent Statutory Auditors

The auditors appointed by the Guarantor for the financial years ended 31 December 2018 and 2019 and for the current financial year are KPMG Ltd, Räffelstrasse 28, CH-8045 Zurich.

Litigation

Save as disclosed in this Prospectus (including the annexes), there are no litigation or arbitration proceedings against or affecting the Guarantor or any of its subsidiaries or any of its assets, nor is the Guarantor aware of any pending or threatened proceedings, which, in each case, are or might be material in the context of the issue of the Bonds.

Additional Information and Responsibility Statement

Authorisation

Pursuant to a resolution of the Board of Directors of the Issuer dated 30 March 2020 and in accordance with a bond purchase agreement dated as of 24 April 2020 made between the Issuer and the Guarantor on the one hand, and Credit Suisse AG, UBS AG and Zürcher Kantonalbank (the **Managers**) on the other hand, the Issuer has determined to issue 1.00 per cent. Bonds due 28 April 2023 (the **Bonds**) in the aggregate principal amount of CHF 300,000,000.

Pursuant to a resolution of the Board of Directors of the Guarantor dated 30 March 2020, the Guarantor has determined to guarantee the payments of the obligations of the Issuer in relation to the Bonds.

Use of Net Proceeds

The net proceeds from the issue of the Bonds, amounting to CHF 299,224,000, will be utilised by the Group for (i) refinancing of existing debt and/or for (ii) general corporate purposes of the Group. Proceeds from the issue of the Bonds may also be used to repay loans provided by the Managers. None of the Managers shall have any responsibility for or be obliged to concern itself within the application of the net proceeds of the issue of the Bonds.

Representative

In accordance with Article 58a of the listing rules of the SIX Swiss Exchange, Credit Suisse AG has been appointed by the Issuer and the Guarantor as representative to lodge the listing application with SIX Exchange Regulation.

Notice to Investors

The financial institutions involved in the issuance and offering of these Bonds are banks, which directly or indirectly have participated, or will participate, in financing transactions and/or other banking business with the Issuer and/or the Guarantor, which are not disclosed herein.

Forward-Looking Statements

This Prospectus contains or incorporates by reference certain forward-looking statements and information relating to Lonza that are based on the current expectations, estimates, plans, strategic aims, vision statements, and projections of its management and information currently available to Lonza.

These forward-looking statements involve known and unknown risks, uncertainties, and other factors that may cause the actual results of operations, financial condition, performance or achievements of Lonza to be materially different from any future results, financial condition, performance or achievements expressed or implied by such forward-looking statements. Terms and phrases such as “will”, “believe”, “expect”, “anticipate”, “intend”, “plan”, “predict”, “estimate”, “project”, “target”, “assume”, “may” and “could”, and variations of these words and similar expressions, are intended to identify forward-looking statements but are not the exclusive means of identifying such statements.

These statements reflect current views of Lonza’s management (the **Management**) with respect to future events and are not a guarantee of future performance. Various factors could cause actual results or performance to differ materially from the expectations reflected in these forward-looking statements. These factors include, among others:

- Market and interest rate fluctuations;
- The strength of the global economy in general and the strength of the economies of the countries in which Lonza conducts its operations in particular;

- The ability of counterparties to meet their obligations to Lonza;
- The effects of, and changes in, fiscal, monetary, trade and tax policies, and currency fluctuations;
- Political and social developments, including war, civil unrest or terrorist activity;
- The possibility of foreign exchange controls, expropriation, nationalisation or confiscation of assets in countries in which Lonza conducts its operations;
- The ability to maintain sufficient liquidity and access capital markets;
- Operational factors such as systems failure, human error, or the failure to properly implement procedures, contamination in plants or sites;
- Actions taken by regulators with respect to Lonza's business and practices in one or more of the countries in which Lonza conducts its operations;
- The effects of changes in laws, regulations or accounting policies or practices;
- The competition in geographic and business areas in which Lonza conducts its operations;
- The ability to retain and recruit qualified personnel;
- The ability to maintain Lonza's reputation and promote its brands;
- The ability to increase market share and control expenses;
- Technological changes;
- The timely development of and acceptance of new products and services and the perceived overall value of these products and services by users;
- Acquisitions, including the ability to integrate successfully acquired businesses;
- Lonza's ability to successfully pursue its growth and operating strategies;
- Risks related to claims and litigation, environmental, health and safety matters;
- Instability in domestic and foreign financial markets;
- Lonza's ability to obtain commercial credit;
- The influence of significant shareholders;
- Lonza's success at managing the risks involved in the foregoing.

Should one or more of these risks or uncertainties occur, or should underlying assumptions prove incorrect, actual results may vary materially from those described herein. Therefore, no undue reliance should be placed on forward-looking statements and investors should assess and take into account these risks as part of their investment decision. Neither Lonza nor the Management undertake an obligation to update any forward-looking statement, even if new information, future events or other circumstances have made them incorrect or misleading.

All subsequent written and oral forward-looking statements attributable to Lonza or any other entity of Lonza are qualified in their entirety by the foregoing factors.

Important Information for Investors

Prospective Holders are expressly advised that an investment in the Bonds entails financial risks, including but not limited to risks that (i) the Issuer and/or the Guarantor will not be able to pay any interest amounts, the Principal Amount or other payments when due pursuant to the Terms of the Bonds and the Guarantee, respectively, (ii) no active trading of the market may develop and (iii) the prices of the Bonds may be volatile.

There is a wide range of factors which individually or together could result in the Issuer and/or the Guarantor becoming unable to make any or all payments due in respect of the Bonds and the Guarantee, respectively. In particular, due to the recent outbreak of a novel coronavirus disease (Covid-19) since late 2019, prospective Holders need to consider additional risks in connection with a potential investment in the Bonds. At the date of this prospectus, it is inherently difficult to provide a meaningful prediction on how the various governmental actions around the globe would affect the Group's operations. The Covid-19 outbreak has caused, and will continue to cause, economic instability and a significant decrease of total economic output in the affected areas and globally. The impact of the Covid-19 pandemic on the general economical environment in the markets in which the Group's operates remain uncertain and could be significant.

Investment decisions should not be made solely on the basis of the risk warnings set out in this Prospectus since such information cannot serve as a substitute for individual advice and information which is tailored to the requirements, objectives, experience, knowledge and circumstances of each prospective Holder individually. Only prospective Holders who are fully aware of the risks associated with the investment in the Bonds and who are financially able to bear any losses that may arise, should consider engaging in transactions of this type.

No Material Change

Save as disclosed in this Prospectus (including the annexes), there has been no material adverse change in the financial position of the Issuer or the Guarantor since 31 December 2019, and there has been no material adverse change in the consolidated financial position or results of operations of the Guarantor since 31 December 2019, which would materially affect the Issuer's or the Guarantor's ability to carry out its obligations under the Bonds.

Responsibility

Each of the Issuer and the Guarantor confirms that this Prospectus contains all information regarding the Issuer, the Guarantor and the Bonds which is (in the context of the issue of the Bonds) material; such information is true and accurate in all material respects and is not misleading; any opinions, predictions or intentions expressed in this Prospectus on the part of the Issuer and the other part of the Guarantor are honestly held or made and are not misleading in any material respect; this Prospectus does not omit to state any material fact necessary to make such information, opinions, predictions or intentions (in such context) not misleading in any material respect; and reasonable enquiries have been made to ascertain and to verify the foregoing.

The Issuer and the Guarantor accepts responsibility accordingly.

Basel, 24 April 2020

For: **Lonza Swiss Finanz AG**

By: _____ By: _____

For: **Lonza Group Ltd**

By: _____ By: _____

Annual Financial Statements 2019 of the Issuer

Audited financial statements of Lonza Swiss Finanz AG for the year ended 31 December 2019 prepared in accordance with the Swiss Code of Obligations, including the notes to the financial statements and the report of the statutory auditor.

Lonza Swiss Finance Ltd, Basel

Statutory Auditor's Report
on the Audit of the Financial Statements
to the General Meeting

Financial Statements 2019

KPMG AG
Zurich, 24 April 2020

KPMG

Statutory Auditor's Report

To the General Meeting of Lonza Swiss Finance Ltd, Basel

Report on the Audit of the Financial Statements

Opinion

We have audited the financial statements of Lonza Swiss Finance Ltd, which comprise the balance sheet as at 31 December 2019, and the income statement for the year then ended, and notes to the financial statements, including a summary of significant accounting policies.

In our opinion the financial statements for the year ended 31 December 2019 comply with Swiss law and the company's articles of incorporation.

Basis for Opinion

We conducted our audit in accordance with Swiss law and Swiss Auditing Standards. Our responsibilities under those provisions and standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are independent of the entity in accordance with the provisions of Swiss law and the requirements of the Swiss audit profession and we have fulfilled our other ethical responsibilities in accordance with these requirements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Report on Key Audit Matters based on the circular 1/2015 of the Federal Audit Oversight Authority

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the financial statements of the current period. We have determined that there are no key audit matters to communicate in our report.

Responsibility of the Board of Directors for the Financial Statements

The Board of Directors is responsible for the preparation of the financial statements in accordance with the provisions of Swiss law and the company's articles of incorporation, and for such internal control as the Board of Directors determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the Board of Directors is responsible for assessing the entity's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the Board of Directors either intends to liquidate the entity or to cease operations, or has no realistic alternative but to do so.

Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Swiss law and Swiss Auditing Standards will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with Swiss law and Swiss Auditing Standards, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

– Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.

- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made.
- Conclude on the appropriateness of the Board of Directors' use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the entity's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the entity to cease to continue as a going concern.

We communicate with the Board of Directors or its relevant committee regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide the Board of Directors or its relevant committee with a statement that we have complied with relevant ethical requirements regarding independence, and communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

From the matters communicated with the Board of Directors or its relevant committee, we determine those matters that were of most significance in the audit of the financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report, unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

Report on Other Legal and Regulatory Requirements

In accordance with article 728a para. 1 item 3 CO and the Swiss Auditing Standard 890, we confirm that an internal control system exists, which has been designed for the preparation of financial statements according to the instructions of the Board of Directors.

We recommend that the financial statements submitted to you be approved.

Furthermore we draw attention to the fact that Lonza Swiss Finance Ltd is overindebted as per article 725 para. 2 CO. Due to the fact that the company's creditors subordinated their claims amounting to CHF 15,000,000, the Board of Directors has refrained from notifying the court.

KPMG AG

Michael Blume
Licensed Audit Expert
Auditor in Charge

Cyrill Kaufmann
Licensed Audit Expert

Zurich, 24 April 2020

Enclosure:
Financial statements (balance sheet, income statement and notes)

Financial statements of Lonza Swiss Finance Ltd, Basel

Balance sheet at 31 December

Assets CHF	**2019**	**2018**
Current assets		
Cash and cash equivalents	1,041	160,319
Short-term financial assets:		
- from shareholders	23,085,885	326,505,347
- from group companies	348,527,160	295,000,000
Prepaid expenses and accrued income:		
- from third parties	358,599	419,319
- from group companies	791,005	7,147,524
- from shareholders	10,298,893	7,257,018
Total current assets	**383,062,583**	**636,489,527**
Non-current assets		
Long-term financial assets:		
- from third parties	410,360	768,958
- from group companies	0	354,555,485
- from shareholders	535,000,000	235,000,000
Total non-current assets	**535,410,360**	**590,324,443**
Total assets	**918,472,943**	**1,226,813,970**

Financial statements of Lonza Swiss Finance Ltd, Basel

Balance sheet at 31 December

Liabilities and shareholders' equity		**2019**	**2018**
CHF			
Current liabilities			
Trade accounts payables:			
- from third parties		0	1,531,250
Short-term interest bearing liabilities:			
- from third parties	2.1	150,000,000	300,000,000
Short-term provisions:			
- from third parties		1,400	31,500
Accrued expenses and deferred income:			
- from third parties		2,099,160	5,886,827
- from shareholders		67,916	5,833
Total current liabilities		**152,168,476**	**307,455,410**
Non-current liabilities			
Long-term interest bearing liabilities:			
- from third parties	2.2	765,000,000	915,000,000
- from shareholders (*)	2.3	15,000,000	15,000,000
Total non-current liabilities		**780,000,000**	**930,000,000**
Total liabilities		**932,168,476**	**1,237,455,410**
Shareholders' equity			
Share capital		100,000	100,000
Legal retained earnings reserves:			
- General legal retained earnings		50,000	50,000
Voluntary retained earnings:			
- Available earnings:			
- Loss brought forward		-10,791,439	-4,017,808
- Loss for the year		-3,054,094	-6,773,632
Total shareholders' equity		**-13,695,533**	**-10,641,440**
Total liabilities and shareholders' equity		**918,472,943**	**1,226,813,970**

(*) thereof signed subordination agreement of CHF 15 million (2018: CHF 15 million)

Financial statements of Lonza Swiss Finance Ltd, Basel

Income Statement for the year ending 31 December

CHF		2019	2018
Income			
Interest income		21,056,735	37,036,564
Total income		**21,056,735**	**37,036,564**
Expenses			
Interest expenses		9,687,048	22,542,321
Other financial expenses	2.4	14,388,128	21,197,310
Other operating expenses		35,653	70,565
Total expenses		**24,110,829**	**43,810,196**
Loss for the year		**-3,054,094**	**-6,773,632**

Financial statements of Lonza Swiss Finance Ltd, Basel

Notes to the Financial Statements

1. Principles

1.1 General aspects
These financial statements were prepared according to the provisions of the Swiss Law on Accounting and Financial Reporting (32nd title of the Swiss Code of Obligations). Where not prescribed by law, the significant accounting and valuation principles applied are described below.

1.2 Financial assets
Financial assets include short- and long-term loans to group companies and shareholders. Loans granted in foreign currencies are translated at the rate as of the balance sheet date.

1.3 Short- / Long-term interest-bearing liabilities
Interest-bearing liabilities are recognized in the balance sheet at nominal value. Discounts and issue costs for bonds are recognized as prepaid expenses and amortized based on the effective interest rate over the principal's maturity period. Premiums are recognized as accrued expenses and amortized based on the effective interest rate over the principal's maturity period.

1.4 Presentation of a cash flow statement and additional disclosures in the notes
Lonza Swiss Finance Ltd is exempt from the requirement to prepare a cash flow statement and additional disclosures in the notes to the financial statements on the grounds that is a wholly owned subsidiary and meets all of the conditions for exemption as a wholly owned subsidiary of an entity which is publicly listed and who publishes consolidated financial statements in accordance with International Financial Reporting Standards.

Financial statements of Lonza Swiss Finance Ltd, Basel

Notes to the Financial Statements

2. Information on balance sheet and income statement items

2.1 Short-term interest-bearing liabilities from third parties

in CHF	Interest rate	Maturity	31.12.2019	31.12.2018
Bond	1.750%	10.04.2019	0	300 000 000
Bond	0.625%	22.09.2020	150 000 000	0
Total bonds			150 000 000	300 000 000

2.2 Long-term interest-bearing liabilities from third parties

in CHF	Interest rate	Maturity	31.12.2019	31.12.2018
Bond	0.625%	22.09.2020	0	150 000 000
Bond	0.200%	12.07.2021	125 000 000	125 000 000
Bond	0.125%	01.11.2021	250 000 000	250 000 000
Bond	3.000%	11.10.2022	105 000 000	105 000 000
Bond	1.250%	22.09.2023	175 000 000	175 000 000
Bond	0.700%	12.07.2024	110 000 000	110 000 000
Total bonds			765 000 000	915 000 000

2.3 Long-term interest bearing liabilities

At 31 December 2019 the company is overindebted in accordance with Swiss law. In order to refrain from notifying the judge of overindebtedness according to Article 725 para. 2 CO, claims of the shareholder totaling CHF 15 million were subordinated (2018: CHF 15 million).

2.4 Other financial expenses

Includes interest and currency related losses of CHF 11,739,961 (2018: CHF 17,232,456).

Financial statements of Lonza Swiss Finance Ltd, Basel

Notes to the Financial Statements

3. Other information

3.1 Full-time equivalents

At 31 December 2019, Lonza Swiss Finance Ltd had no employees (2018: 0).

3.2 Contingent liabilites

The company is a member of the Lonza Group value-added-tax group in Switzerland and is thereby jointly and severally liable to the federal tax authorities for value-added-tax debts of that group.

3.3 Majors shareholders

At 31 December 2019, Lonza Group Ltd, Basel holds 100% of the company's share capital (2018: 100%).

3.4 Significant events after the balance sheet date

On 11 March 2020, the World Health Organisation declared the Coronavirus (Sars-CoV-2) outbreak to be a pandemic in recognition of its rapid spread across the globe, with over 150 countries now affected. Many governments are taking increasingly stringent steps to help contain or delay the spread of the virus. Currently, there is a significant increase in economic uncertainty which is, for example, evidenced by more volatile asset prices and currency exchange rates.

For the Company’s 31 December 2019 financial statements, the Coronavirus outbreak and the related impacts are considered non-adjusting events. Consequently, there is no impact on the recognition and measurement of assets and liabilities. Due to the uncertainty of the outcome of the current events, the Company cannot reasonably estimate the impact these events will have on the Company’s financial position, results of operations or cash flows in the future.

Lonza Swiss Finance Ltd. has taken measures to stop losses due to its FX exposures and to generate sustainable profit to eliminate overindebtedness. In March 2020, management decided to assign the intercompany loans in USD against group companies to Lonza Group Ltd. (shareholder) in consideration of receivables in CHF for the equivalent amount.

There are no further significant events after the balance sheet date which could impact the book value of the assets or liabilities or which should be disclosed.

Annual Report 2019 of the Guarantor

Annual Report 2019 of Lonza Group Ltd, including the audited consolidated financial statements for the year ended 31 December 2019 (pages 80 to 167), the audited financial statements for the year ended 31 December 2019 (pages 168 to 179), the Remuneration Report (pages 188 to 207) and the Corporate Governance Report (pages 208 to 237).

Annual Report 2019

Lonza

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Creating Value in 2019

Lonza

Letter to Stakeholders

Albert M. Baehny
Chairman of the Board of Directors
and Chief Executive Officer (CEO)
ad interim

Dear Stakeholders

2019 proved to be another successful year for Lonza Group, from a commercial and financial perspective. At the same time we have strategically reconfigured the business to ensure that it is set up for long-term growth and profitability. We have focused our attention on delivering structural improvements to align our business more closely to our markets. We have also considered growth investments to deliver sustained performance in the long term.

Financial Performance[1]
Our people and business have delivered a strong full-year 2019 result; we reported CHF 5.9 billion in sales, CHF 1.6 billion in CORE EBITDA and CHF 1.2 billion in CORE EBIT for the full-year 2019. We delivered on our guidance with 6.8% sales growth, resulting in a CORE EBITDA margin of 27.4% in an important investment year.

These strong results reflect the continued positive momentum of our pharma-related businesses. In numbers, our Pharma Biotech & Nutrition (LPBN) segment achieved 11.0% sales growth, above guidance, despite a contraction in the nutritional hard capsules business. LPBN reported a CORE EBITDA margin of 32.9%, even after an elevated level of operational expenditure (OPEX) behind growth initiatives.

Our Specialty Ingredients (LSI) segment businesses showed soft full-year performance against headwinds, and overall softness in global end-markets. However, productivity gains, cost control measures and price increases resulted in a CORE EBITDA margin of 17.8%, as margins began to show improvement.

The Carve-out of Specialty Ingredients
Our decision in 2019 to commence the carve-out of our Specialty Ingredients (LSI) segment represents an inflection point for our wider business. It reflects an internal acknowledgment of the challenges we have faced in satisfying all our stakeholders, while operating concurrently across two distinct industries. With the decision to carve-out the LSI segment and allow it to operate autonomously, we provided the segment with a chance to grow closer to its own markets and deliver increased leadership in the microbial control space. It also provided an opportunity to explore operational improvements and increased efficiencies. At the same time, the carve-out process allows the wider business to make a firm and lasting commitment to the pharma and biotech segment, which has a leading position in an attractive industry, with future growth potential.

Strategic Growth Investments in Pharma Biotech & Nutrition
The long-term commitment of our business to the pharma and biotech industry is reflected in the number and scale of growth investments in the LPBN segment over the course of 2019.

Our major investments include capacity expansions and new technologies supporting the full life cycle of molecules. In 2019, almost CHF 800 million in capital expenditures (CAPEX) – more than 13% of sales – was spent financing several important growth projects across our global network. This provided for expansions: in Visp (CH) for clinical and commercial biologics, highly potent active pharmaceutical ingredients (HPAPI) and bioconjugates (including Antibody Drug Conjugates); in Portsmouth, NH (USA) for mid-scale mammalian; in Guangzhou (CN) for clinical mammalian; in Houston, TX (USA), Geleen (NL), Singapore (SG) and Portsmouth, NH (USA) for cell and gene technology; and in the Basel area (CH) for drug product services. We have also invested in new therapeutic areas and innovation by entering the microbiome space. In 2019, we formed a partnership with Chr. Hansen to establish BacThera, a joint venture to support the manufacture of live biotherapeutic products.

[1] All figures relate to Lonza's continuing operations, excluding the Water Care business unit, in reported currency and are compared with the same period in 2018 on a like-for-like basis to reflect the realignment of our segments in 2019

All of our capital expenditure projects are calculated to deliver attractive returns. However, these returns take time to realize, even after new facilities become operational. This reflects the scale and specificity of the facilities, as well as the highly regulated and complex nature of the products we manufacture.

The length and complexity of the "investment journey" can be easily underestimated. As an example, the initial build phase for an overall CHF 400 million biologics facility construction project can take up to three years before we are able to commence operations. This is followed by a further two-to-three year "ramp-up" phase when the facility is productive but not operating at full capacity; in this phase new products are introduced, production processes are refined and employees continue to upskill.

Our planned projects are largely expected to contribute to continued growth in Pharma Biotech & Nutrition beyond the Mid-Term Guidance 2022. We need to make the investments now to fully harvest opportunities in an attractive, ever-changing environment. As pharmaceutical companies look to become more profitable and efficient by focusing on their core business, we believe the relevance and opportunity for outsourcing will increase. With our selected investments, we want to remain well positioned to offer quality services that properly address the needs of our pharma and biotech customers, and underpin our ambition to remain a world-leading contract development and manufacturing organization (CDMO) company in scope, capability and innovation.

Alongside our investment activities in 2019, we have also been making improvements across the existing business. We have continued to drive forward our operational excellence agenda, with a focus on improving our manufacturing and logistics systems and processes. These efforts have been supported by the establishment of a global Technical Operations (TechOps) community, which brings together all aspects of our operational and manufacturing functions within a single framework, which is designed to promote an internal culture of efficiency and performance.

Our Commitment to Sustainability

We are consolidating our efforts to achieve industry best practice in sustainability. This is an ethical and commercial imperative for the business and is increasingly a topic of discussion both in the boardroom and across our customer communities. Our intention and activities to deliver a sustainable business can be seen in our designated Sustainability Report, which forms a companion document to this 2019 Annual Report.

Our sustainability policy and practice is not only a critical reflection of our integrity in doing business, it also attracts a new generation of world-class talent. Millennial job candidates are increasingly attracted by corporate purpose, alongside fulfilling work, opportunities for progress and the ability to make a meaningful difference. Like so many companies operating in our markets, our performance and success depend on our ability to attract and maintain leading talent. This is especially important as strategic growth projects begin to come online in 2020, requiring sustained recruitment efforts and a strong employer brand.

Outlook

I am confident about our current momentum, and our ability to deliver on our targets in 2020. Our outlook includes above mid-single-digit sales growth, driven by high single-digit sales growth in LPBN and low single-digit sales growth in LSI, accompanied by an overall stable CORE EBITDA margin. We look forward to the successful start of operations for major investment projects, completing the carve-out, announcing a new Group CEO and continuing to work on the delivery of our Mid-Term Guidance 2022, which we have confirmed.

On behalf of the business, let me extend our thanks to all our stakeholders, our customers, shareholders and suppliers, who have supported the Lonza business over the last year. As a final word, I would also like to share my sincere thanks to our community of 15,500 employees for their hard work and commitment in 2019 to serving our hundreds of customers and their millions of patients and consumers globally. With our employees' dedication and determination, we have navigated a transformational journey which has enabled us to achieve our financial targets for the Group, while setting a foundation to deliver long-term advantage. I am proud of their achievements and look forward to working with them on the next stage of our journey in 2020.

Albert M. Baehny

Chairman of the Board of Directors, CEO *ad interim*

2019 Highlights

January

Lonza started 2019 by announcing record-breaking full-year 2018 results in a major transformational year

Lonza commenced commercial supply of Portola's second-generation Andexxa®

Lonza announced the succession of the CEO

February

Lonza strengthened Pharma Biotech & Nutrition offerings with aligned structure

DuPont Nutrition and Health, and Lonza Specialty Ingredients announced a joint agreement in human milk oligosaccharides

March

Lonza completed divestment of its Water Care business

Lonza provided adjusted Mid-Term Guidance 2022 to reflect the divestment of its former Water Care business unit

Sheba and Lonza to collaborate on Cocoon™ platform bringing automated cell-therapy manufacturing to the clinic

April

Lonza and Chr. Hansen created a strategic joint venture to become the partner of choice for developing and manufacturing live biotherapeutic products for pharma and biotech customers

May

Alector opted for Lonza's Ibex™ Develop to secure future manufacturing for neurodegeneration therapies

June

Lonza announced its intention to proceed with a carve-out of its Specialty Ingredients segment to allow the segment to become a global leader in microbial control

Lonza announced an investment in a major expansion of highly potent active pharmaceutical ingredients (HPAPI) capacity at its Visp (CH) site to meet increased market demand

July

Lonza announced the start of expansion to its bioconjugation facility in Visp (CH), together with the additional antibody drug conjugates (ADCs) produced at the site

Lonza reported continued positive momentum in its core healthcare businesses with organic growth of 6.4% sales and 7.7% CORE EBITDA in H1 2019

August

Lonza acquired a sterile fill and finish facility from Novartis to complement Pharma Biotech & Nutrition current parenteral drug product offering in Basel (CH)

September

Celltrion and Lonza signed a contract to manufacture Remsima drug substance

October

Lonza's Ibex™ Solutions in Visp (CH) to support Genmab's growing clinical portfolio

Mesoblast and Lonza entered into agreement for commercial manufacture of Mesoblast's potential first United States allogeneic therapy

November

Board announcement – Albert M. Baehny, Chairman of the Board of Directors, took on the additional responsibility of Chief Executive Officer on an *ad interim* basis. Christoph Mäder appointed as Lead Independent Director

Lonza at a Glance

5,920mn
SALES IN CHF

6.8
SALES GROWTH IN %

1,620mn
CORE EBITDA[1] IN CHF

27.4
CORE EBITDA MARGIN[1] IN %

1,245mn
CORE EBIT[2] IN CHF

21.0
CORE EBIT MARGIN[2] IN %

9.1
ROIC IN %

28.5
CORE RONOA IN %

>30
COUNTRIES AROUND THE WORLD

>55
MANUFACTURING SITES

>1,040
SMALL AND LARGE MOLECULES[3]

>5,600
TRADEMARK FILINGS

>575
ACTIVE PATENT FAMILIES

>800
BRANDS GLOBALLY

15,468
EMPLOYEES END OF 2019

[1] IFRS 16 accounting adjustment on leases had a positive CORE EBITDA impact of CHF 33 mn in 2019 (60 bps positive CORE EBITDA margin impact), offset by costs related to the divestment of the Water Care business and carve-out of Specialty Ingredients (50 bps negative CORE EBITDA margin impact). IFRS Results – Continuing Business: EBITDA – CHF 1,525 mn; EBITDA Margin – 25.8%

[2] IFRS 16 accounting adjustment on leases had a positive CORE EBIT impact of CHF 2 million in 2019 (3 bps positive CORE EBIT margin impact), offset by costs related to the divestment of the Water Care business and carve-out of Specialty Ingredients (50 bps negative CORE EBIT margin impact). IFRS Results – Continuing Business: EBIT – CHF 972 mn; EBIT Margin – 16.4%

[3] Small Molecules include active pharmaceutical ingredients (API), highly potent API (HPAPI) and dosage form and delivery systems. Large Molecules include mammalian and microbial, cell & gene therapy products, applied protein services and drug product services

Financial Highlights[1]

We are looking back at another successful year with CHF 5.9 billion in sales, CHF 1.6 billion in CORE EBITDA and CHF 1.2 billion in CORE EBIT for the full-year 2019. These strong results reflect the continued positive momentum of the pharma-related businesses. We delivered on our guidance both on sales with 6.8% sales growth in reported currency (7.3% in constant currency) as well as on profit with a sustained 27.4% CORE EBITDA margin, up 10 bps compared to previous year.

Our margin benefitted from the new IFRS 16 accounting standard on leases, resulting in 60 bps incremental margin for the Group. However, this was largely offset by costs related to the divestment of the Water Care business and the carve-out of our Specialty Ingredients segment. These amounted to a dilution of 50 bps.

Full-year performance was driven by Lonza's Pharma Biotech & Nutrition (LPBN) segment achieving 11.0% sales growth in reported currency (11.3% in constant currency), above guidance. The business attained a CORE EBITDA margin of 32.9%, despite an elevated level of operational expenditure (OPEX) behind growth initiatives. The margin was supported by operating leverage in the double-digit growing Pharma base business. It was also enhanced by ongoing efficiencies in our manufacturing operations, as well as productivity gains across the Group.

The Specialty Ingredients (LSI) segment reported weaker sales than anticipated in H2 2019. Segment performance showed overall softness in global end-markets. The business reported sales growth of -3.2% in reported currency (-2.5% in constant currency). However, productivity gains, cost control measures and price increases resulted in a CORE EBITDA margin of 17.8%.

Two other important KPIs – earnings per share and return on invested capital – have seen a significant increase in 2019. We are pleased to have achieved a strong 13.4% diluted CORE EPS increase and a 9.1% ROIC, more than 110 bps ahead of the previous year. These strong results reflect our positive profit performance and an exceptionally low 10% tax rate – 8% pts below prior year.

The tax rate was positively impacted by a combination of country profit mix and favorable one-time effects, including the impact of the adoption of Swiss tax reform, fully effective in 2020. We confirm our previous tax guidance of achieving an effective tax rate of below 20%.

In 2019, we increased the level of capital expenditure (CAPEX) investments to 13.3% of sales. We anticipate that the 2019 elevated CAPEX will be replicated in 2020. From 2021, we expect to return to a normalized level, based on the existing project pipeline.

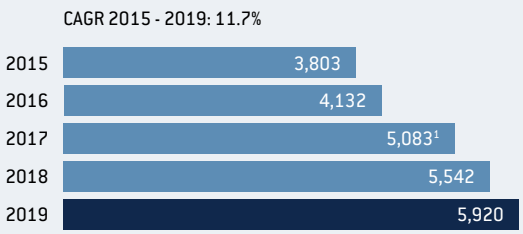
Net working capital had a year-on-year increase to support growth, but with higher levels of inventory across several business units. In addition to business growth, one inventory driver was extending the value chain in small molecules by producing intermediates. We are currently working to achieve an improved level of inventory while continuing to serve our customers' needs.

We have achieved an operational free cash flow before acquisitions of CHF 399 million in full-year 2019. Including the proceeds from the disposal of Water Care, our operational free cash flow amounted to CHF 995 million. This was mainly used to finance our dividend, interest, taxes and to pay down debt. Our Net Debt to CORE EBITDA ratio was decreased to 1.83 times by the end of 2019.

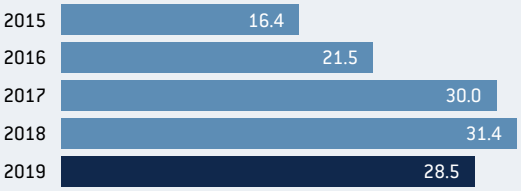
[1] All figures relate to Lonza's continuing operations (excluding the Water Care business unit) and are compared with the same period in 2018 on a like-for-like basis (restated Lonza Full-Year 2018 financial results) to reflect the realignment of the segments

Historical Progression

Sales
Million CHF

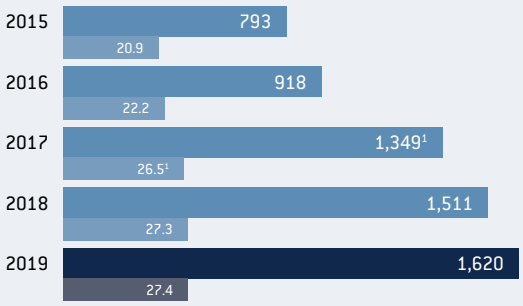


CORE RONOA
In %



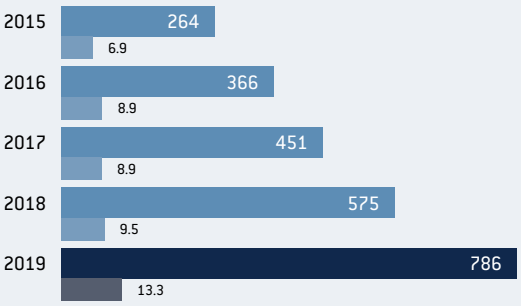
CORE EBITDA
Million CHF

CORE EBITDA Margin
In %



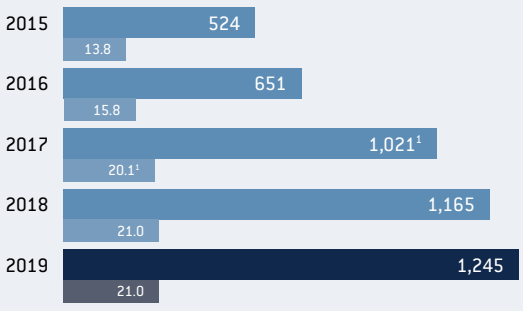
Capital Expenditures (CAPEX)
Million CHF

CAPEX/Sales
In %

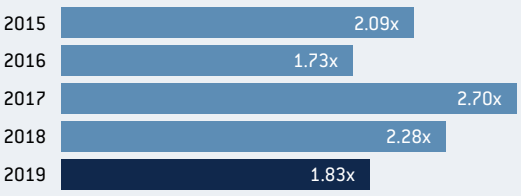


CORE EBIT
Million CHF

CORE EBIT Margin
In %



Net Debt/CORE EBITDA
Ratio



[1] Reported pro-forma full-year 2017 financial results (restated for IFRS 15) include Capsugel full-year 2017 financial result

Personal Perspective

Rodolfo J. Savitzky

Chief Finance Officer

Over the course of 2019, we have successfully maintained a balance between three main priorities. We have worked to deliver strong financial performance across our segment, prioritized investments in growth initiatives and maintained a healthy balance sheet, alongside efficient financing. All of these measures will allow us to remain on track to achieve our Mid-Term-Guidance 2022.

In both our Lonza Pharma Biotech & Nutrition (LPBN) and Lonza Specialty Ingredients (LSI) segments, we have deployed ongoing operational excellence initiatives. These have allowed us to deliver attractive margins despite high levels of investment in LPBN and headwinds in our LSI markets. These initiatives include our productivity programs in our manufacturing operations, competitive pricing for our services and products and continued efficiency programs in our sales, R&D and administrative organizations.

Regarding our investments, we are fortunate to have many attractive growth opportunities in LPBN but focused prioritization is needed to ensure that selected initiatives are executed with due care and attention. It is also the responsibility of our controlling teams to ensure that all our investments are backed by solid assumptions and – frequently – by contracted commercial programs. Looking at the full-year, we have invested CHF 786 million in Capital expenditures (CAPEX), which is equivalent to 13.3% of Group sales. In our investments, we have focused on modalities and opportunities with high potential future growth combined with very attractive returns.

During 2019, we have hired and onboarded more than 1,000 full-time employees, on average 500 for the full-year. The aforementioned efficiency measures and strong operating leverage in our LPBN base business allowed us to successfully mitigate the additional costs with minimum CORE EBITDA margin impact.

Looking at the balance sheet, our net leverage has decreased at a steady rate since the acquisition of Capsugel in 2017. At that time, our net debt to CORE EBITDA ratio stood at 2.7x, and is currently 1.83x, as we promised. This deleveraging has been accelerated by the divestment of the Water Care business, which resulted in net proceeds of CHF 620 million. We hold a continuing confirmation of our BBB+ rating with stable outlook from S&P, which affirms our strong business model and deleveraging capabilities. We have also successfully refinanced the CHF 2.2 billion debt raised for the Capsugel acquisition. We remain fully committed to maintaining a solid investment grade rating in the future.

Looking at our current position, I am confident that we have all the building blocks in place to achieve our Mid-Term Guidance 2022. We have also made progress on all financial elements of the carve-out of the LSI segment to strategically optimize our potential from the separation of the two segments. We aim to have this work completed by mid-2020.

All of these initiatives would not have been possible without the strong commitment of our employees, who have worked diligently to deliver these positive outcomes over the course of 2019.

Outlook 2020 and Mid-Term Guidance 2022

We will continue to execute on all of the necessary building blocks to achieve our Mid-Term Guidance 2022. In 2020, we will focus on executing our growth projects in another major investment year, completing the carve-out of our Specialty Ingredients segment and reviewing future plans. The investment in growth projects in LPBN is expected to remain at 2019 levels in order to further expand our asset and technology platforms for future growth. We have also factored into our outlook the continued macroeconomic uncertainty and some potential ongoing headwinds in the cyclical parts of our Specialty Ingredients businesses.

Concurrently, we will work to strengthen a culture of shared values, collective accountability, commitment and transparency. We will also increase our efforts to ensure a constant pipeline of talent to develop as future company leaders. Finally, we will establish clearer environmental, social and governance (ESG) targets and action plans for implementation in 2021.

The following outlook for full-year 2020 is provided for Lonza Group:

- Above mid single-digit sales growth, with high single-digit sales growth in Pharma Biotech & Nutrition and low single-digit sales growth in Specialty Ingredients
- Stable CORE EBITDA margin

The Outlook 2020 is the next step in achieving our Mid-Term Guidance 2022 with all necessary building blocks in place. These include continued operating leverage and efficiency improvements in the LPBN base business, the return to a normalized level of investment in LPBN both in CAPEX and OPEX spend from 2021, alongside productivity gains and business recovery in LSI.

We confirm our Mid-Term Guidance 2022:

- Sales of CHF 7.1 billion
- CORE EBITDA margin of 30.5%
- CORE RONOA 35%
- Double-digit ROIC

Outlook 2020 and Mid-Term Guidance 2022 are based on the present business composition, the current macro-economic environment, existing visibility and constant exchange rates.

Investor Information

Shares of Lonza Group Ltd are listed on the SIX Swiss Exchange and were included in the Swiss Market Index (SMI) in 2019. We also maintain a secondary listing on the SGX Singapore Exchange. The nominal value of the Lonza Group Ltd share is CHF 1. Our share price closed at the end of 2019 at CHF 353.20, which represents an increase of 38.7% in 2019.

The free float in Lonza Group Ltd registered shares reached 99.8% at year-end, and the average daily trade volume was 314,762 shares in 2019.

Listing and Security Information

Stock Exchange Listing / Trading:
SIX Swiss Exchange
SGX Singapore Exchange

Common Stock Symbols:
Bloomberg LONN SW
Reuters LONN.S
SIX Financial Information
LONN SGX 06Z

Security Number:
Valor 001384101
ISIN CH0013841017

Shareholdings

According to disclosure notifications filed with Lonza, the following shareholders held more than 3% of Lonza's share capital as of 31 December 2019:

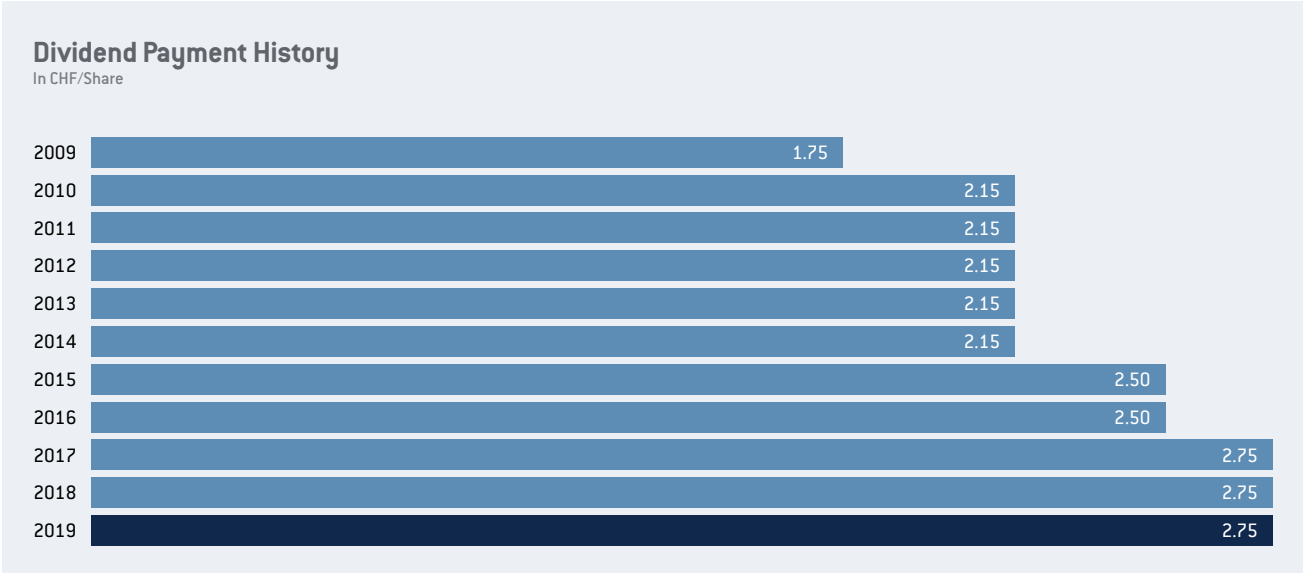
Principal Shareholders:

BlackRock, Inc., New York, NY (USA)	9.67%
Artisan Partners Limited Partnership	3.02%

We know of no other shareholder(s) that owned more than 3% of our share capital as of 31 December 2019. To the best of our knowledge, the shareholders mentioned above are not linked by any shareholders' agreement or similar arrangement with respect to their shareholdings in Lonza or the exercise of shareholders' rights. For a full review of the individual disclosure notifications made during 2019, please refer to the SIX Swiss Exchange disclosure platform.

Dividend

Our Board of Directors is proposing an unchanged dividend for shareholders of CHF 2.75 per share for 2019. The proposal represents a payout of 30.7% of 2019 reported net profit. Subject to approval at the upcoming Annual General Meeting (AGM) on 28 April 2020, 50% of the dividend of CHF 2.75 per share for 2019 will be paid out of the capital contribution reserve and will therefore be free from Swiss withholding tax.



Lonza Share Price Development 2019

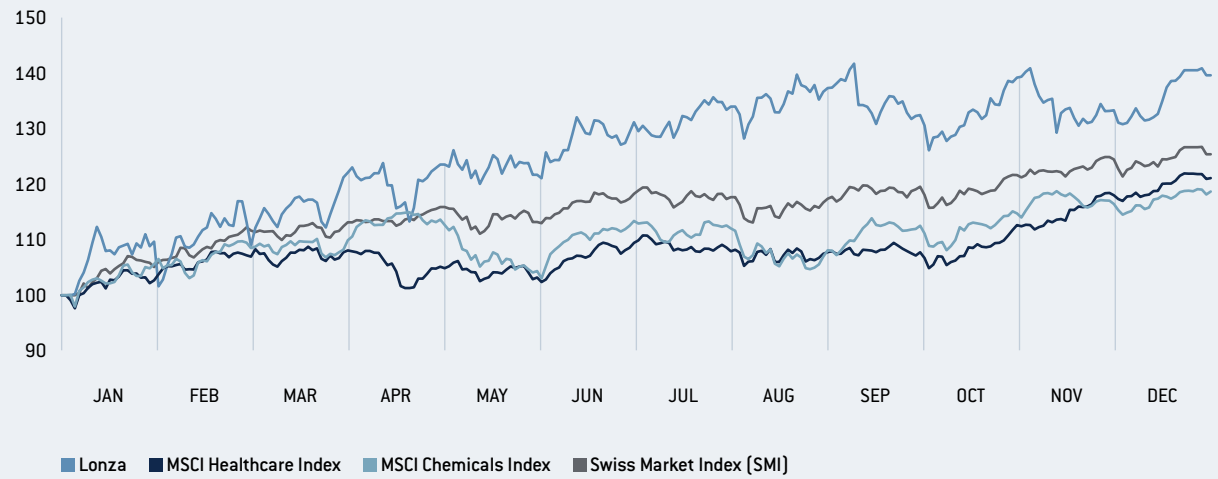
In CHF/Share

A	Full-Year 2018 Results	30/01/2019	
B	Announcement of CEO Succession (Richard Ridinger)	30/01/2019	
C	Lonza Annual General Meeting	18/04/2019	
D	Q1 Qualitative Business Update	18/04/2019	
E	Dividend Payment	26/04/2019	
F	Carve-out of Lonza Specialty Ingredients	03/06/2019	
G	Half Year 2019 Results	24/07/2019	
H	Announcement of CEO Succession (Marc Funk)	12/11/2019	

Share price high	361.00
Share price low	252.94
Closing Price	353.20

Lonza Share Price Development vs. Swiss Market Index (SMI), MSCI Chemicals Index and MSCI Healthcare Index

Rebased to 100



Upcoming Financial Events

Date	Time	Event	Location
14 APR 2020	5:00PM CEST	Closing of the Share Register	
28 APR 2020	10:00AM CEST	Annual General Meeting for the Financial Year 2019	Congress Center Basel, Switzerland
30 APR 2020		Ex-Dividend Date	
4 MAY 2020		Record-Dividend Date	
5 MAY 2020		Dividend-Payment Date	
24 JUL 2020		Half-Year Results 2020	
28 JAN 2021		Full-Year Results 2020	

Ten-Year Overview of Major Highlights

Million CHF		2010	2011	2012	2013	2014	2015	2016	2017	2018[1]	2019
Sales		2,680	2,692	3,925	3,584	3,640	3,803	4,132	4,548	5,542	5,920
CORE EBITDA		n.a.	n.a.	663	711	743	793	918	1,196	1,511	1,620
Margin in %		n.a.	n.a.	16.9	19.8	20.4	20.9	22.2	26.5	27.3	27.4
EBITDA		643	537	645	647	737	780	848	1,084	1,429	1,525
Margin in %		24.0	19.9	16.4	18.1	20.2	20.5	20.5	23.8	25.8	25.8
CORE EBIT		387	326	398	436	475	524	651	904	1,165	1,245
Margin in %		14.4	12.1	10.1	12.2	13.0	13.8	15.8	20.1	21.0	21.0
Result from operating activities (EBIT)		374	261	340	253	423	428	486	673	842	972
Margin in %		14.0	9.7	8.7	7.1	11.6	11.3	11.8	14.8	15.2	16.4
CORE RONOA in %		n.a.	n.a.	8.8	12.3	14.3	16.4	21.5	30.0	31.4	28.5
RONOA[3] in %		10.8	6.9	7.5	5.9	10.3	10.8	12.7	9.8	12.1	12.9
ROIC[2,3] in %		n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	8.4	8.0	9.1
CORE EPS (diluted)	CHF	5.81	4.34	4.54	4.97	6.76	6.76	8.38	10.78	11.98	13.59
EPS (diluted)	CHF	5.53	2.97	3.35	1.67	4.54	5.26	5.69	9.70	8.77	10.22
Operational free cash flow (bef. acquisitions)		362	127	510	519	476	693	638	658	884	495
Net debt		1,108	2,647	2,301	2,103	2,011	1,660	1,584	3,762	3,534	2,961
Net debt /CORE EBITDA		n.a.	n.a.	3.47	2.96	2.70	2.09	1.73	2.70	2.28	1.83
Number of employees (Full-Time Equivalent)		8,280	11,001	10,789	9,935	9,809	9,829	10,130	14,618	15,375	15,468
Net Operating Assets (NOA)[3]		2,970	4,205	3,990	3,916	4,094	3,739	3,739	6,852	6,795	7,423

[1] Lonza continuing operations, excluding Water Care business classified as discontinued operations, except for "Net debt", "Net debt/CORE EBITDA" and Headcount"
[2] Introduced in 2018, comparable data for 2017 was provided
[3] Refer to Alternative Performance Measures section of the Financial Report for more details of the calculation methodology

Discover More

More information for our shareholders and capital market is available on Lonza's Investor Relations webpage. To learn more about Lonza's activities during 2019, refer to our News Archive.

Our Strategic Focus

Today, we are one of the world's leading suppliers to the pharmaceutical, biotech and specialty ingredients markets. We focus on preventing and curing illness, by supporting our customers to deliver innovative medicines that help treat or even cure a wide range of diseases, as well as creating a healthier environment. Patients and consumers benefit from how we apply our manufacturing technologies to the healthcare, preservation and protection categories.

Our strategy in 2019 has been to increase focus on the healthcare related businesses and commencing the carve-out of the Specialty Ingredients segment. Over the course of the year, we have worked diligently on the carve-out and concurrently reviewed the Group strategy to refocus on accelerating the growth and development of our Pharma Biotech & Nutrition offering.

Investing in Future Growth in Lonza Pharma Biotech & Nutrition (LPBN)

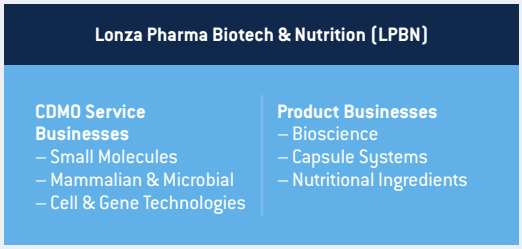
LPBN continues its accelerated growth trajectory, with an expanding portfolio of customers and offerings. Our focus remains on providing healthcare development and manufacturing solutions, which enable our global customers to deliver advances in global health.

Today, the contract development and manufacturing organization (CDMO) industry is experiencing a time of radical change and disruption, driven by the rate of scientific and technological advancement in the industry. At this time, pharma and biotech companies are increasingly focusing on the breadth and depth of end-to-end solutions that deliver a path to commercialization to save time, better deal with complexity and gain access to expert knowledge.

As an early entrant to the CDMO market, we have captured and built customer relationships and established a leading reputation for quality, reliability and consistent delivery.

We are well-positioned to increase our competitive advantage through strong investment in growth projects. These include capacity expansions and new technologies supporting the full life cycle of molecules. In 2019, we had CHF 786 million in capital expenditures (CAPEX) – 13.3% of Group sales – a significant proportion of which was spent financing several important growth projects across our global network. These included expansions in Visp (CH) for clinical and commercial biologics, highly potent active pharmaceutical ingredients (HPAPI) and bioconjugates (including Antibody Drug Conjugates), in Portsmouth, NH (USA) for mid-scale mammalian, in Guangzhou (CN) for clinical mammalian, in Houston, TX (USA), Geleen (NL), Singapore (SG) and Portsmouth, NH (USA) for cell and gene technology, and in the Basel area (CH) for drug product services.

Lonza Pharma Biotech & Nutrition Segment Overview



At Lonza, we always work diligently to weigh up risk-return profiles when investing in new initiatives and offer different business models to our customers depending on their needs. For larger commercial investments, we seek contractual commitment before build-out. For multi-purpose assets and clinical assets, decisions are based on robust demand projections. Depending on business models, CAPEX contributions and milestone payments by customers may be part of the investment approach.

We are reaching an inflection point, as biopharma performance over the last few years was based on historic investments. To continue our current growth trajectory and meet market demand, we have invested in new capacity, the expansion of our value chain and geographic coverage.

Planned projects are largely expected to contribute to continued growth beyond the Mid-Term Guidance 2022, as facilities are ramped up over several years before full utilization and profitability levels are achieved.

All investments have been considered in the context of the attractive pharma and biotech market environment with high levels of growth and innovation. We are eager to build on our leadership position as a partner of choice to both large, mid- and small customers who are working to advance health with sophisticated manufacturing technologies.

Delivering a Customer-Centric Configuration in Lonza Specialty Ingredients (LSI)

Over the course of 2019, we have worked to develop the structure of the LSI business to more accurately reflect the markets it serves. The business is now set up to be easier to navigate and more accessible to customers, with a leading portfolio of Microbial Control Solutions (MCS), supported by a division dedicated to Specialty Chemicals Services (SCS).

In LSI, we play in an attractive niche market within the Specialty Chemicals industry and we have expanded beyond our core market of microbial control actives, into microbial formulations and the much larger market of formulation additives. We have the ambition to return to growth and to increase our CORE EBITDA margin to above 20% by 2022. The main growth driver will be the asset-light Microbial Control Solutions business. We aim to extend our digital capabilities – not only to increase internal efficiency, but also to develop new business models and enhance customer engagement.

Growth will be supported by our strength in innovation, and our capability in fulfilling customer needs in an increasingly complex regulatory environment. We have been at the forefront of innovation and have a full pipeline of growth projects. As part of our approach, we continue to focus on "out-of-house" innovations, for instance, with investments through our Venture Fund with Prolog, or through targeted acquisitions.

We are now working to create closer connections to customers with a refreshed creative visual identity and a marketing campaign that is designed to highlight the importance of the customer relationships and the value of long-term partnerships.

Lonza Specialty Ingredients Segment Overview

Lonza Specialty Ingredients (LSI)

Microbial-Control Solutions
- Professional Hygiene
- Home and Personal Care
- Wood Protection
- Material Protection
- Paints & Coatings
- Crop Protection

Specialty Chemical Services
- Composites
- Custom Development & Manufacturing Organization
- Performance Chemicals & Intermediates

Delivering the Carve-out: Process Overview

The carve-out has enabled LSI to benefit from greater levels of autonomy translating to renewed customer focus, alongside improved structural and operational efficiency.

We have a designated core team of around 40 employees who have been dedicated to the carve-out process since the program was initiated in June 2019. The team has worked systematically on all key pillars of an independent LSI, including dedicated legal entities and allocated employees, among others. Through this close collaboration, all significant milestones targeted for completion in 2019 were achieved.

Particularly complex areas in the carve-out process included IT systems, and the allocation of full-time employees (FTEs). There have also been intricacies carving-out sites that have a mix of LSI and LPBN facilities. All of these issues have now been substantively resolved. The carve-out is progressing in line with plan, with completion currently expected in mid-2020.

Our Approach to Sustainability

We are dedicated to providing the highest quality products and services to our customers, while minimizing our impact on the environment, striving for energy and resource efficiency and helping to improve life quality.

Our Commitment

Compliance and Integrity
We ensure that regulatory compliance, integrity and ethical conduct are the foundations in every place we operate.

Vision ZERO
We continually improve our systems and aspire to ZERO incidents, injuries or emissions.

Our People
We develop our employees by helping them grow. We provide safe workplaces, care for employees' well-being and foster their involvement and participation.

Our Environment
We improve our environmental footprint by continually reducing energy, water and material demand per unit.

Value for Society
We create value for society by innovating science-based solutions along the Healthcare Continuum® to develop the medicines and consumer products of tomorrow. We engage in the communities where we operate.

As part of this commitment, we foster transparency and reporting in line with the Global Reporting Initiative (GRI) Standards, which represent the industry standard for reporting on economic, environmental and social indicators. The Lonza Sustainability Report 2019 focuses on the topics most relevant to our business, as identified in the 2018 materiality assessment.

Material Topics and Sustainable Development Goals

In 2018 we performed a materiality assessment with the involvement of more than 100 stakeholders to prioritize our initiatives and the focal areas that best support sustainable development. A total of 16 topics were identified as the most relevant for us globally, reflecting the sustainability benefits and impacts of our operations, products and services along our value chain.

The Sustainability Report 2019 provides more detail on each topic and outlines our management approach and performance results.

Material Topics for Lonza

Economic
- Economic Performance
- Anti-Corruption
- Quality and Reliability
- Customer Satisfaction

Environmental
- Energy Conservation and Efficiency
- GHG Management
- Waste and Recycling
- Environmental Compliance
- Innovation

Social
- Occupational Health and Safety
- Non-Discrimination
- Protection of Human Rights
- Customer Health and Safety
- Socioeconomic Compliance
- Talent Management
- Employee Engagement

In addition to the materiality topics, we also recognize the importance and relevance of the UN Sustainable Development Goals (SDGs). The goals contain a broad range of sustainable development themes, including alleviating poverty and hunger, improving health and education, reducing inequalities, promoting responsible consumption, combatting climate change and protecting natural resources. There is a collective ambition to achieve these interconnected goals by 2030 worldwide.

We are committed to contributing to the realization of these goals. From the 17 SDGs, we have identified the eight that we consider the most relevant for our industry, operations and sustainability focal areas.

UN Sustainable Development Goals (SDGs)

We contribute to the SDGs through our crop protection solutions, which improve crop yields and food quality. Similarly, our nutritional supplements and our products, services and cutting-edge technologies help save, extend and enhance lives. Our company is an equal opportunities employer which empowers employees and invests to improve innovation and resource efficiency. We have also established partnerships and sponsoring programs for research, education and basic healthcare.

Safety and Sustainability Targets

Our long-term goal is to improve our sustainability performance and reduce our environmental footprint. Using 2018 as the baseline, we have defined the targets for 2019 to 2030 (see the table below). Moreover, we are working to achieve a greenhouse gas reduction of more than 50% compared with our 2010 carbon footprint intensity, in line with the Paris Agreement timeline.

Our safety targets are aligned with our Vision Zero initiative, which aims to accomplish zero workplace injuries or illnesses, zero manufacturing process incidents, zero environmental incidents and zero transportation incidents involving our products or services. Our 2019 safety targets were set on a local basis and linked to metrics based on identification and closure of safety related corrective actions at each of our operating sites. This moved us from a lagging metric based on injuries that can have high year-on-year variability, to a leading metric that drives employee behavior and involvement.

Long-Term Targets, Total Company Until 2030 – Baseline 2018, Per CHF 1 Million Sales

Zero lost time injuries (aspiration)
24% energy reduction
36% CO_2 reduction, e.g. through more renewable electricity
24% waste reduction

Milestone 2019 (Per CHF 1 Million Sales), Baseline 2018

Corrective actions and accidents (defined by target)
2% energy reduction
3% CO_2 reduction, more renewable electricity
2% waste reduction

We applied targets per CHF 1 million sales on the basis of our diverse product portfolio, which ranges from manufacturing of chemical bulk products to pharmaceutical ingredients; from medical capsules to food supplements; from gene technology to cell-media productions. This diversity could only be reconciled with a financially focused denominator.

Our Progress in 2019

Indicator	FY 2018 cont. ops	FY 2019	Change in %	Status
Energy (GJ/million CHF)	2,231	2,071	-7%	Achieved
CO_2-eq (scope 1 & 2 mt/million CHF)[1]	151	142	-7%	Achieved
Waste (mt/million CHF)[2]	26.1	26.4	+1%	Not achieved

[1] The CO_2-eq rate and the reduction target is relative to the 2018 baseline, recording routine emissions from combustion and general sources (see Sustainability Report)
[2] The waste intensity baseline value for 2018 has been restated due to data entry inaccuracy

In addition to the global goals, sites set local targets for material topics for their locations, e.g. emissions, water quantity and parameters. Sites will develop a three-year roadmap which will include their action plans around global and local targets.

A Systematic Approach to Safety and Sustainability

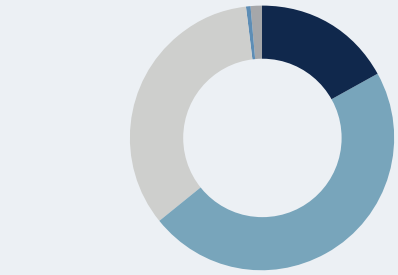
Our approach to safety and sustainability in Lonza is systematic. We have policies in place, including our aspirational Vision Zero, for the reduction of accidents, incidents and emissions. Across all our sites, we collect data for accidents and incidents, energy, water and waste and analyze deviations from established goals. We regularly visit and audit our sites to identify compliance risks and procedures that do not meet Lonza standards.

We also review the impact of workplace risks on our business performance and find ways to mitigate these risks. In this context, we see safety and sustainability as opportunities that allow us to maximize our value creation for society, our customers and our people while reducing our environmental footprint.

At the end of the reporting year, approximately 200 people worked in the core EHS field. EHS operating costs amounted to CHF 64.4 million in 2019. Capital expenditure on EHS was CHF 77 million in 2019.

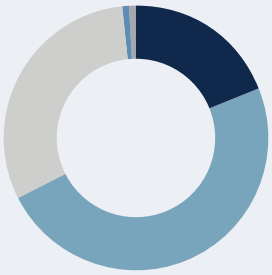
Talent Attraction and Retention

Hires in 2019 by Region



- APAC
- EMEA
- North Americas
- South Americas
- Central Americas

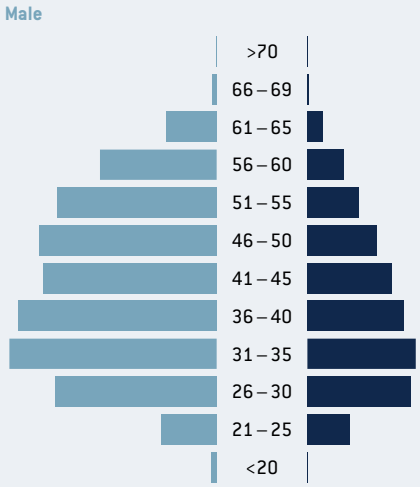
Geographic Diversity



- APAC
- EMEA
- North Americas
- South Americas
- Central Americas

Lonza is largely based in EMEA and due to recent acquisitions has increased presence in APAC and the Americas

Broad Balance Across Age Groups



32%

Female Employees

33%

Female Board Members

38%

Female New Hires

44%

Female Business Unit Heads

Our HR Strategy continues to center around partnering with the business to support the company's strategic direction as well as investing in our existing and future employees. This includes particular focus on the employee life cycle, including the attraction of talent, the development and the retention of our employees.

This is underpinned by a culture of innovation, customer-centricity and merit. 2019 has been a pivotal year for Lonza in light of the investments in future growth in Pharma Biotech & Nutrition (LPBN) and the carve-out of the Specialty Ingredients segment (LSI). We have hired more than 1,000 highly skilled employees in 2019, and expect a further 600 in 2020, in LPBN. This work has aligned with Lonza's growth ambitions by attracting diverse skillsets and competencies in a very competitive environment. It has been completed while the wider business continues to focus on operational efficiencies.

Attracting Talent

The prerequisite for successful talent attraction is the identification of the talent needs across all our sites and functions, on a global basis. To address this, we have set up a talent plan, which aligns to the strategic business plan and functions. This will enable the business to introduce talent marketing initiatives.

Talent acquisition is the first interconnected step of the employee life cycle. In the spirit of close partnering, our recruitment teams have been more closely aligned to the business structure. This will ensure that relevant HR expertise is best positioned to provide specific industry or functional knowledge to the respective business divisions and teams.

2019 also saw the launch of our new Employee Value Proposition (EVP) "A Meaningful Difference". It articulates our belief that our greatest competitive advantage is talented people working together, devising solutions and providing services that help our customers improve lives. We believe employees' ideas, big and small, can genuinely positively impact our business and our industry. Our EVP aims to portray the future of our workforce and forms part of our "Make Your Career Count" initiative, which focuses on hiring the skilled talents we need for the future.

One integral component of Lonza's growth ambition is expanding existing sites and opening new ones across the world. We have delivered site expansion projects in Guangzhou (CN), Visp (CH), Geleen (NL), Houston, TX (USA), Portsmouth, NH (USA) and Slough (UK). It has been essential to attract the very best talent to these sites, and carefully manage their onboarding to ensure they integrate fast and feel engaged.

Through our recruitment processes, we strive to create a more diverse and inclusive workforce. We believe that different backgrounds, opinions, perspectives and experiences ultimately drive innovation and creativity throughout the organization and help to make us a truly global company.

Development at Lonza

Encouraging and facilitating professional development is a priority within our employee life cycle. We want our employees to feel empowered to shape their own careers whilst also working on innovations that will shape our future. Developing our leaders is also of utmost importance as their decisions drive the business, impact the performance and wellbeing of colleagues, and ultimately impact our financial results.

The ability for our employees to develop is underpinned by our talent development programs and systems. We believe that development should roughly follow 70% on-the-job experience, 20% via social networks and 10% via traditional learning programs.

Our employees take on different responsibilities during their career at Lonza and are given opportunities to move on numerous occasions throughout their time with the business. In order to further encourage such moves, in 2019 we focused on simplifying and streamlining our global mobility policies and procedures. Our aim is to make it even easier for employees to seize opportunities across the globe, promoting a culture of mobility and removing barriers to global talent exchange.

In 2019, priority was also placed on simplifying our talent management processes to be more agile as the development needs of our workforce continue to evolve.

Retaining our Talent

Retaining our talent is critical, as existing employees hold a unique knowledge of our business. We take a holistic approach to retention of our employees, focusing on robust onboarding, personal and career development opportunities, as well as a culture which fosters leadership, innovation and growth.

We ensure our Total Rewards offering is competitive to attract and retain the talent we need to deliver our ambitions. We continually review our rewards packages to ensure we remain competitive and aligned with the evolving needs of our workforce.

Engaging with our employees to better understand their needs, challenges and motivations helps guide our decisions for change in the organization. The results of employee engagement are more beneficial when conducted in consistent environments where results can be compared over time. During a period of change in 2019, our employee engagement strategy focused on selected teams and functions within the organization to ensure alignment and understanding of the Lonza journey.

Personal Perspective

Aurelie Dalbiez

Head of Strategic HR Projects, (CHRO *ad interim*)

Talent attraction, development and retention are critical to Lonza's long-term success and competitive advantage. We are our people. Our facilities and assets are nothing without the people operating them. Our relationships with our customers, suppliers and contractors are also dependent on our people.

From a talent perspective, we are going through a period of transformation, which has far-reaching consequences for the role and remit of our HR function. Over the past few years, we have worked to integrate our Capsugel colleagues into Lonza, while supporting our Water Care colleagues as they moved out of the Lonza family. As these activities were phasing out, the carve-out of the LSI segment in 2019 and the acceleration of growth projects in LPBN have brought new challenges to our systems and processes. Throughout this period, we have strived to find new ways to grow with agility and to support the changing needs of an expanding global enterprise.

As we look to the future, we see a need to rethink our recruitment strategy to attract the best talent and accommodate our growth and geographical expansion. To address our talent needs, we are shifting our focus more towards behaviors and values, in addition to traditional competencies. Our goal is to create a supportive environment in which employees can learn, develop and grow. Lonza has a strong and unique culture of diversity, performance, entrepreneurship and collaboration. We do not talk about it much but we live it. And we know that our success is dependent on this unique approach.

In our quest for the best talent, we will have to broaden our horizon, to account for the growing challenges of attracting talent in new locations and from new generations. As we start ramping up recruitment activities in our future growth areas, such as China and the US for example, we will have to adapt our approach and target different talent pools. We aim to ensure that our workforce remains a healthy mix of internal talent, who bring a wealth of institutional knowledge, values and behaviors, and external hires who bring a diversity of experience and backgrounds.

For the first time ever, we have up to five generations collaborating in the workplace. By 2025, Millennials will make up approximately 75% of the workforce. This brings immense richness and diversity, but also challenges. Compared to earlier generations, Millennials and Generation Z put a stronger emphasis on organizational and personal purpose, work-life balance, and ethics. At Lonza, we see this new workforce providing ambassadorship for the culture and values we want to nurture.

For me and my team, our most rewarding work is partnering with the business during its transformation journey, to shape the culture as well as attract, develop and support the growth of the best talent. These are the ways in which the HR function makes a strategic contribution to the organization's future success.

Our Businesses

Pharma Biotech & Nutrition

Our Offerings

As the world's largest company for contract development and manufacturing, our Pharma Biotech & Nutrition segment is recognized for its reliable, high-quality services, regulatory track record, global footprint, innovative technology platforms and extensive experience.

Our vision is to enable our customers to meet some of the greatest challenges in patient treatment. Our broad capabilities span across biologics, small molecules (including highly potent active pharmaceutical ingredients such as cytotoxins), bioconjugates, cell and gene technology, and live biotherapeutics. We manage projects from pre-clinical stage through to commercialization, from established therapeutics to advanced personalized medicines, and our expertise covers both drug substance and drug product.

>730 Preclinical and Clinical Small[1] and Large[2] Molecules

>310 Commercial Small[1] and Large[3] Molecules

>200 Billion Capsules Produced[4]

In February 2019, we changed our structure, combining Pharma & Biotech and Consumer Health & Nutrition into the Lonza Pharma Biotech & Nutrition (LPBN) segment. With this structure, we can leverage our innovation programs and technology platforms across the nutrition-pharma spectrum, most importantly in the pharma and nutritional capsules businesses.

In 2019, the LPBN segment comprised the following offerings:

CDMO service businesses:
- Small Molecules
- Mammalian & Microbial
- Cell & Gene Technologies

Product businesses:
- Bioscience
- Capsule Systems
- Nutritional Ingredients

Our Global Footprint

With 37 sites across three continents and 11,148 employees, we capitalize on our global footprint and have the flexibility to address regional and even local marketplace needs.

1 Including active pharmaceutical ingredients (API), highly potent API (HPAPI) and dosage form and delivery systems
2 Including mammalian and microbial, cell & gene therapy products, applied protein services and drug product services
3 Including mammalian and microbial and cell & gene therapy products
4 Including pharma and nutritional hard capsules

Biologics Services

Portsmouth, USA
Mammalian
• Commercial manufacturing

Hayward, USA
Mammalian
• Clinical manufacturing

Visp, Switzerland
Bioconjugates
• Clinical development & manufacturing
• Commercial manufacturing
Mammalian[2]
• Clinical development & manufacturing
• Commercial manufacturing
Microbial
• Clinical development & manufacturing
• Commercial manufacturing

Basel/Stein, Switzerland
Drug product services
• Clinical & commercial development
• Clinical & commercial manufacturing[1]

Cambridge, UK
Pre-clinical candidate risk assessment
• Manufacturability & immunogenicity
• Non-GMP research product supply

Slough, UK
Mammalian
• Clinical development & manufacturing

Porriño, Spain
Mammalian
• Commercial manufacturing

Guangzhou, China[2]
Mammalian
• Clinical development & manufacturing

Tuas, Singapore
Mammalian
• Clinical development & manufacturing
• Commercial manufacturing

Cell & Gene Technologies

Portsmouth, USA
Cell & gene technologies
• Clinical & commercial manufacturing

Houston, USA (including El Rio)[3]
Cell & gene technologies (including viral vector manufacturing)
• Clinical & commercial development & manufacturing

Kingston, Canada
Cell & gene technologies
• Clinical development

Geleen, Netherlands (including Maastricht)[3]
Cell & gene technologies
• Clinical & commercial development & manufacturing

Tuas, Singapore
Cell & gene technologies
• Clinical development & manufacturing

Tokyo, Japan[4]
Cell & gene technologies
• Clinical & commercial development & manufacturing

Small Molecules

Quakertown, USA
Particle engineering and drug products
• Dosage forms & delivery solutions

Tampa, USA
Particle engineering and drug products
• Dosage forms & delivery solutions

Bend, USA
Particle engineering and drug products
• Dosage forms & delivery solutions

Visp, Switzerland
Drug substance
• API development & manufacturing

Monteggio, Switzerland
Particle engineering and drug products
• Dosage forms & delivery solutions

Ploermel, France
Particle engineering and drug products
• Dosage forms & delivery solutions

Edinburgh, UK
Particle engineering and drug products
• Dosage forms & delivery solutions

Nansha, China
Drug substance
• API development & manufacturing

Capsule Systems

Greenwood, USA
Pharma & nutritional capsules

Puebla, Mexico
Nutritional capsules

Colmar, France
Pharma & nutritional capsules

Bornem, Belgium (including Komec Helsen)
Pharma & nutritional capsules

Sagamihara, Japan
Pharma & nutritional capsules

Suzhou, China
Pharma & nutritional capsules

Jakarta, Indonesia
Pharma & nutritional capsules

Haryana, India
Pharma & nutritional capsules

Nutritional Ingredients

Benicia, USA
Nutritional ingredients

Cohasset, USA
Nutritional ingredients

Fort Smith, USA
Nutritional ingredients

Nansha, China
Nutritional ingredients

Bioscience

Walkersville, USA
(including Wayne and Salisbury)[3]
Bioscience

Durham, USA
Bioscience

Rockland, USA
Bioscience

Verviers, Belgium
Bioscience

Cologne, Germany
Bioscience

Copenhagen, Denmark
Bioscience

1 cGMP Sterile manufacturing
2 Capabilities to become available from 2020
3 Locations connected to another site
4 Facility owned and operated by Nikon CeLL innovation Co. Ltd. under Nikon-Lonza partnership

Financial Highlights

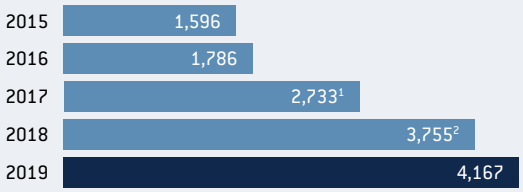
Lonza Pharma Biotech & Nutrition (LPBN) achieved continued double-digit sales growth above guidance for 2019. The realigned segment includes the nutritional hard capsules business (acquired with Capsugel), as well as a small portfolio of nutritional ingredients and formulation services. We delivered CHF 4.2 billion sales in full-year 2019 and a CORE EBITDA of CHF 1.4 billion while investing in strategic growth projects, a number of which are expected to commence operations from the end of 2020.

Pharma Biotech & Nutrition

Million CHF	2019	Change in %	2018 Restated[2]
Sales	**4,167**	**11.0**	**3,755**
CORE EBITDA	**1,371**	**10.0**	**1,246**
Margin in %	**32.9**		**33.2**
CORE EBITDA excl. IFRS 16	1,347	8.1	1,246
Margin in %	32.3		33.2
CORE result from operating activities (EBIT)	**1,125**	**10.3**	**1,020**
Margin in %	**27.0**		**27.2**
CORE result from operating activities (EBIT) excl. IFRS 16	1,123	10.1	1,020
Margin in %	26.9		27.2

Sales

Million CHF

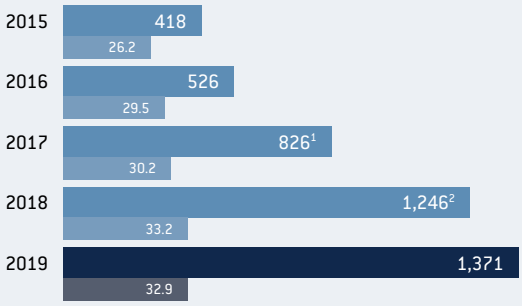


CORE EBITDA

Million CHF

CORE EBITDA Margin

In %



[1] Reported pro-forma full-year 2017 financial results include Capsugel full-year 2017 financial results

[2] Restated to reflect the 2019 realignment of Lonza's segments into Pharma Biotech & Nutrition and Specialty Ingredients

Innovations in Pharma Biotech & Nutrition

We have a broad view on the industry, and a depth of experience in developing and manufacturing therapies. Our scientific teams focus on devising credible, game-changing solutions that create value for our customers today by delivering the medicines of tomorrow.

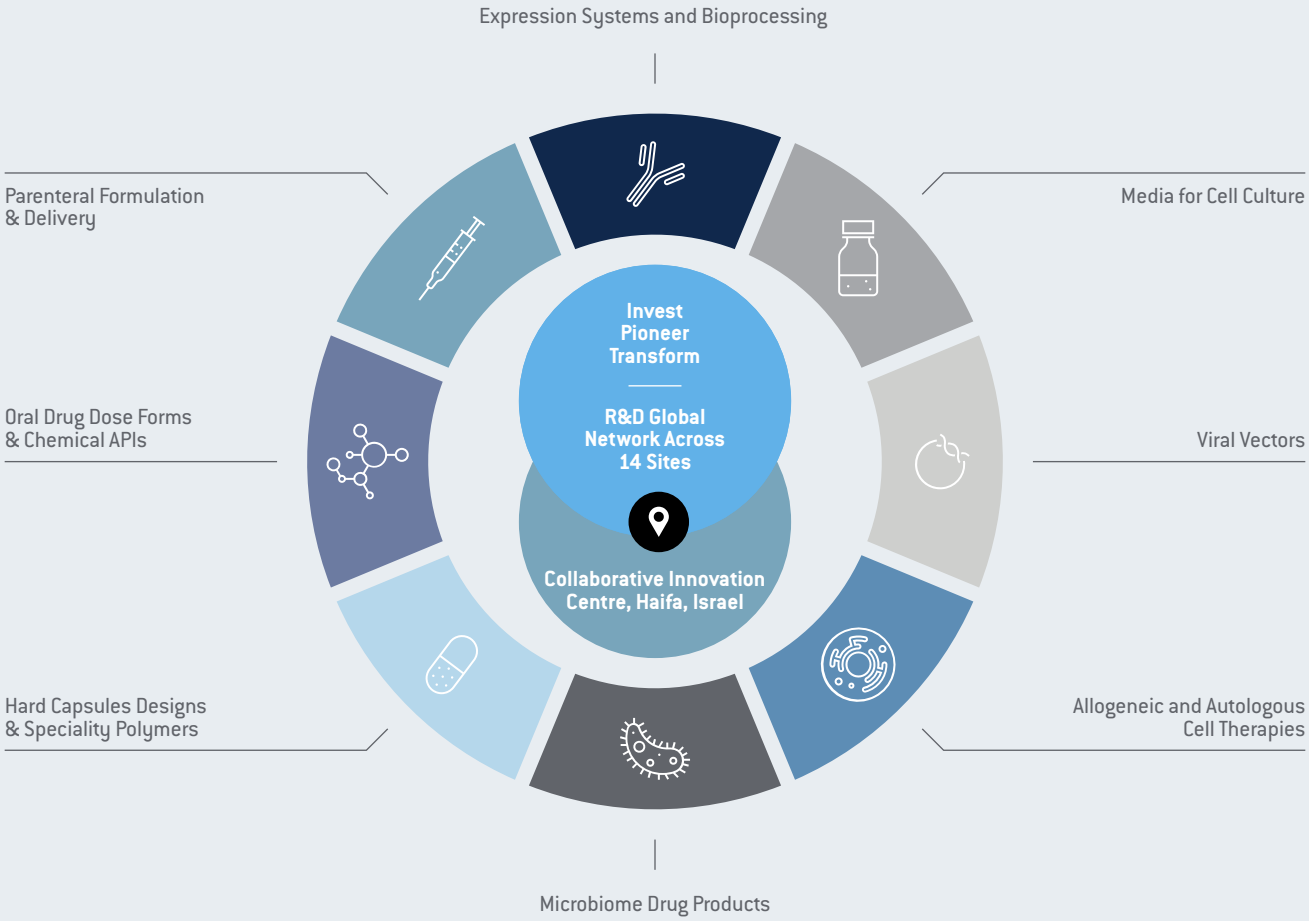
Our research and development (R&D) group is focused on the following thematic areas: expression systems and bioprocessing, media for cell culture, viral vectors, autologous and allogeneic cell therapies, microbiome drug products, hard capsule design and specialty polymers, oral drug dose forms, chemical active pharmaceutical ingredients (APIs) and parenteral formulation & delivery. Our global R&D network spans 14 sites and our Collaborative Innovation Center in Israel; examples of key projects are outlined below.

Scaling Next Generation Biologics

As market demand continues to rise for more potent and effective therapeutics, biologic pipelines are evolving from standard antibody formats to next-generation biologics (NGBs) such as dual-targeted bi-specific antibodies. There is a real need for robust and scalable expression platforms that can keep pace with this shift towards more complex protein formats and this can prove challenging for traditional expression systems.

Using advanced molecular biology, we are building new capabilities into our proprietary GS Xceed® expression system to solve this challenge and to make sure NGBs can scale. We recently launched our GS piggyBac™ transposon technology for stable expression of large molecules and multigene vectors for the production of bi-specific antibodies. Current research is focused on fine-tuning expression of individual genes using inducible and tunable promotors.

Lonza Pharma Biotech & Nutrition Focus Areas



Improving the Viral Vector Bottleneck
Cell and gene therapies currently rely heavily on viral vectors to deliver DNA into cells — both *in vivo* and *ex vivo* — but producing these vital components is a major bottleneck in manufacturing and contributes to the high cost of goods. We are already working in this critical area.

Viral vectors are complex to make, with many steps often required to bring the components of the virus and the relevant gene together in the right format. This often results in a low percentage of correctly packaged genes. Our R&D teams are focused on developing producer cell lines for the main viral vectors in use today, e.g. lenti virus, adeno-associated virus (AAV) and adenovirus. Building on our knowledge of molecular biology and mammalian expression systems, our goal is to precisely control the production of the different elements needed and increase the proportion of correctly packaged viral vectors.

In addition, the purification of viral vectors is inefficient and results in considerable loss of product. Our R&D teams are developing new methods for capturing and purifying loaded virus which, when combined with producer cell lines, will be a significant step forward in the industrialization of cell and gene therapy manufacturing.

Towards Continuous Manufacturing
The move from the current industry standard of batch-fed manufacturing towards continuous bioprocessing has been a focus for the industry for a number of years. It promises to greatly enhance throughput from a given facility and reduce future CAPEX demands as well as the cost of goods for our customers. However, it is a complex process that involves aligning a number of different technologies.

Our in-house R&D teams are working with a consortium of partners to bring the necessary elements together. For example, intensifying the process of growing cells up to the production volume (N-1 perfusion) can significantly reduce time but requires advances in cell lines, media, cell retention devices and automation. These are all key areas of focus for our bioprocessing R&D team.

In addition, our team is working to integrate several proprietary Lonza technologies, including advanced in-line sensors (Raman spectroscopy) and controllers — Modular Automated Sampling Technology (MAST™), with predictive modelling and machine learning to run the optimal bioprocess — that delivers on time, error-free outputs (the so-called "Golden Batch").

Together with development in downstream processing and analytics for real time release, the different elements needed for end-to-end continuous manufacturing are starting to line up. The potential for bringing the highest quality of medicines to patients rapidly and in a more cost efficient way will ensure we make continuous bioprocessing a key focal point for our customers and our own business.

Specialty Oral Dosage Forms for Controlled Release
Our R&D team is developing a commercial technology platform capable of tuning the release of some oral medicines. This enables the customization and control of the drug's specific pharmacokinetic profile.

The platform technology either solubilizes or suspends drug crystals within a lipid matrix to form lipid multiparticulates (LMPs). Formulations can be designed to control the release of the active drug from the LMP using pore formers.

The spherical particles are also uniquely suited for functional coatings for tastemasking applications which can provide significant patient benefits, particularly in the growing areas of pediatric and geriatric medicines.

Personal Perspective

Stefan Stoffel

Chief Operating Officer Pharma Biotech & Nutrition

The Technical Operations (TechOps) organization comprises more than 8,000 Lonza employees. They are united by a clear focus on delivering unmatched customer solutions to improve health globally, develop our talent and leverage our internal know-how through best in class technologies and sustainable business practice.

TechOps was established in early 2019, bringing together various departments including Operations, Quality, Strategic Growth Investments & Engineering and Procurement. United by an objective of improving cross-functional alignment and efficiency, the team centrally manages the development and manufacturing operations across all business units. All TechOps departments have a clear vision and mission with shared common objectives. The organization is united in its efforts to enable sustainable business growth by delivering solutions to our customers and ultimately to their patients.

The benefits and synergies of these close connections are already observable. The calibre of our technical operations is of particular value and relevance at a time when the business has such a high number of strategic growth investments running concurrently. More than five significant projects are scheduled to start up over the course of 2020, spanning Europe, the US and the Far East (China). The range of growth investments span the LPBN business units, with the intention of expanding our Small Molecules and Biologics capabilities. This is a significant undertaking and requires optimal levels of collaboration amongst all TechOps departments.

Lonza is technology-agnostic in finding the best ways to serve the different needs of our customers. A large component of our investments is linked to disposable technologies, but we also continue to use stainless steel to deliver efficiency and stability in the production of larger drug volumes. In this area, we have experience and a track record spanning more than 30 years. We are now redirecting that established expertise to deliver advances in new technologies, including cell and gene therapy. In 2020 we will significantly increase the number of new projects becoming operational, with offerings that serve a wide range of needs or scale, alongside the highest ever number of pre-approval inspections (PAI). We serve many hundreds of different customers, each of whom benefits from our continuously increasing portfolio, our broad technological offering and global reach.

Alongside our growth projects, we are making a significant investment in people. We attract a broad range of biological and chemical experts, as well as operations professionals, to work at our sites. In the manufacturing complex of our Ibex Solutions™ in Visp (CH), we have a workforce comprising more than 30 different nationalities, working alongside local employees. We are proud to make this investment and understand that it supports our long-term growth and success.

In addition to our focus on people, we work to remain at the forefront of technological advances in our industry. We understand that our focus on digital and data technologies will enable us to achieve breakthrough business results and sustain competitive advantage. We are able to combine existing and established technologies with new innovative approaches to achieve synergies and improve our service offerings. Such opportunities enable us to experiment, invent, learn and grow as a business.

Personal Perspective

Jean-Christophe Hyvert

Chief Commercial Officer Pharma Biotech & Nutrition

Looking at the wider market, we see strong demand for LPBN services across all our modalities. Specifically, there have been increasing levels of demand in antibody drug conjugates (ADC), highly potent active pharmaceutical ingredients (HPAPI), clinical stage mammalian and a healthy market for complex proteins in mammalian. In response to this market growth, we have made significant and continued capital expenditure (CAPEX) investments, many of which will start to come online throughout the course of 2020 and beyond.

Our manufacturing and technological investments have brought us to an inflection point; we are beginning to invest in the people and production costs associated with our new facilities and offering, but we will not begin to see returns until the following financial years. For instance, at our Ibex Design™ & Develop™ (DD) facility in Visp (CH), we will commence a ramp-up program in 2020, to ensure that facilities are operational and new recruits are fully trained. However, commercial ramp-up and sales will not happen until 2021.

As we review our long-term strategic direction, we must consider the range of options provided by our experience and capabilities across modalities as well as future market opportunities. We see a strong market and increasing demand, but we must make choices and prioritize by geography and modality, ensuring we focus on the areas of greatest future potential value. We are working to make calculated investments in new areas, while managing the risk associated with such investment. This is, for instance, our approach in the microbiome space, where we are currently working with a joint-venture (JV) partner, Chr. Hansen, where we bring our respective expertise to form an integrated marketing offering. Similarly, in personalised medicine, we are making calculated advances; we are working towards a first CAR-T immunotherapy patient treatment from our Cocoon™ autologous cell therapy manufacturing equipment.

As we look to the future, it is important that we carefully consider our strategic choices in a fast-moving global market and industry context. We see that there is a burgeoning ecosystem of small pharma companies in China, supported by strong access to venture capital (VC) funding as well as strong expectations of biologics growth. We are also seeing hubs of technological and pharmaceutical innovation in the US, with which we must engage and connect if we are to maintain our strong reputation for healthcare manufacturing technologies.

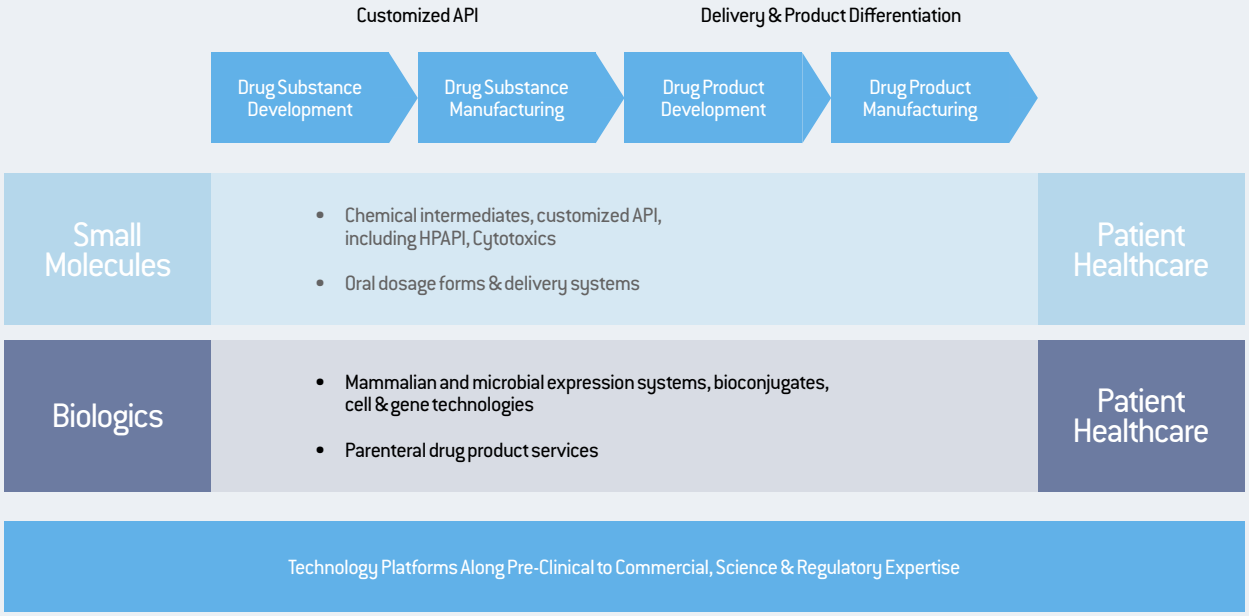
As well as refining our geographical focus, we must also carefully consider how we structure and invest in our modalities. Specifically, we must balance our returns from our high-revenue and high-margin modalities with the need to invest in our smaller high-potential modalities. This will allow us to deliver against our current targets, while setting up the business for long-term success.

As we review our approach to investment, we must maintain a careful balance between managing risk and capitalizing on future growth opportunities. More important still is our focus on the plans and needs of our customers. Our commercial function is only as strong as our relationships with our customer communities. We understand that our success depends on our ability to meet their needs and the needs of the patients they serve.

CDMO Service Businesses

We serve our customers by delivering consistent and high-quality chemicals and biopharmaceuticals throughout the product lifecycle. Using advanced technologies in our extensive contract development and manufacturing services portfolio, we deliver products such as highly potent active pharmaceutical ingredients (HPAPI), cytotoxins, chemical intermediates, customized API, other recombinant proteins for the clinic or market as well as mammalian and microbial expression systems, bioconjugates, cell & gene technologies.

Integrated Offerings in CDMO Service Businesses



Small Molecules

>350 Preclinical and Clinical Small Molecules[1]

>270 Commercial Small Molecules[1]

Biologics

>380 Preclinical and Clinical Large Molecules[2]

>40 Commercial Large Molecules[3]

1 Including active pharmaceutical ingredients (API), highly potent API (HPAPI) and dosage form and delivery systems
2 Including mammalian and microbial, cell & gene therapy products, applied protein services and drug product services
3 Including mammalian and microbial and cell & gene therapy products

Small Molecules

Market Trends

We see continued strong underlying market growth of 6% for drugs based on small molecules[1]. The continuing role of small molecules is apparent in recent approval trends with 83% of 2019 approved FDA drugs being small molecules[2]. In 2019, early phase drug candidates based on chemical technologies have continued to grow driven by increased investment in new therapeutic treatments (e.g. oncology indications); streamlined regulatory approval processes; and demand for increasingly specialized medicines inclusive of orphan disease applications.

Specialty medications are usually defined as high-cost, high-complexity medicines. These are often associated with biologics although small molecules today still represent 60% of all innovative drugs[3]. The demand for these specialty medications continues to increase especially in highly developed areas such as USA, Europe and Japan. As a result, sales of specialty medications are growing at roughly twice the rate of traditional drug products whose growth rate is primarily driven by increased access to medicines in heavily populated countries such as China and India[4]. More than 25% of drug products in development are highly potent active pharmaceutical ingredients (HPAPIs)[5]. The highly potent nature of these active pharmaceutical ingredients (APIs) means that they are highly toxic and require specialized manufacturing and handling capabilities

In addition, dosage form and delivery of complex small molecule drugs pose challenges including the prevalence of poor solubility in highly potent compounds. An estimated 70% of new compounds require an enabling technology to reach sufficient bioavailability[6].

Our Offerings

We remain a global leader in the contract development and manufacture of drug substances or API, leveraging our expertise in more complex molecules, economies of scale, our many years of experience in manufacture, and the dedication and expertise of our employees.

We offer world-leading expertise and capabilities for the safe and efficient development and manufacture of HPAPI. With more than 20 years of experience in HPAPI, we have progressed more than 30 drug products to commercialization. Our specialized capabilities include handling HPAPI to exposure levels to 100ng/m^3 across all manufacturing scales, as well as specific expertise in rapidly scaling up drug substances for commercialization.

Our HPAPI handling capabilities include contained processing for particle engineering as well as specialized drug product for highly potent/low dose applications, inclusive of liquid and semi-solid oral drug product as well as sterile fill and finish. This integrated offering adds substantial value to our customers as it simplifies interfaces, reduces costs and accelerates timelines. Lonza is an established partner in early development programs (preclinical through to Phase II) for drug products. The majority of early development is associated with addressing bioavailability and drug delivery challenges as well as accelerated development for clinical trials.

Our industry-leading bioavailability enhancement services portfolio includes all primary technologies for handling solubility, dissolution rate and/or drug delivery challenges. It also includes proprietary capabilities developed over 25 years. We have predictive modelling tools for rapid technology selection, specialized processing techniques and phase-appropriate equipment, which all complement our product development teams' experience in meeting required bioavailability targets for new compounds or improving existing drug product performance.

Our Global Footprint

With a global network of eight sites in Europe, USA and China covering drug substance and drug product development and manufacturing, we are geographically aligned with the major growth drivers of the biopharmaceutical industry, e.g. small / emerging biopharma companies that hold the majority of the early phase pipeline for new molecules.

At our Visp (CH) facility, we have a well-established base for current good manufacturing practices (cGMP) chemical synthesis with more than 40 years' track record in the production of highly potent active pharmaceutical ingredients HP(API) and their intermediates. The seven ISO-certified plants within the Visp complex provide more than 600m^3 of reactor volume and a full range of capabilities across an array of chemical technologies to service customer requirements.

The Nansha-based (CN) production of drug substance complements our Visp site in ensuring high quality, secure supply of active ingredients to global biopharma customers.

In the USA, we provide particle engineering, bioavailability enhancement and drug delivery services from our sites in Quakertown, PA (USA), Bend, OR (USA) and Tampa, FL (USA). Additionally, in 2019, we completed the expansion of our solid oral dose development and manufacturing capabilities and capacity at our Tampa site. The expansion enables the team to provide more integrated services for customers across early-stage product development, clinical trial material manufacture and

1 Source: Evaluate Pharma (2019)
2 Source: DCAT (2019)
3 Source: Evaluate Pharma (2019) (no generics or biosimilars considered)
4 Source: IQVIA / Midas (2019)
5 Sources: Internal Analysis; FDA (2019)
6 Sources: Internal Analysis (2019); PharmaCircle (2019)

commercialization of innovative drug products. It will also further strengthen our speed-to-market capabilities.

Additional capacity for design, development and manufacturing services across drug products is available from our sites in Monteggio (CH), Ploërmel (FR) and Edinburgh (UK).

Discover More

For further information about our offerings in small molecules, including our expertise in HPAPI and other active pharmaceutical ingredients, visit our website. Click here for a 360° Virtual Tour of our facilities. Visit our Capsugel and Micro-Macinazione websites.

Highlights and Initiatives 2019

Throughout the year our small molecule business continued to benefit from innovative business models (including tailored capacity optimized to customer needs), formulation and encapsulation capabilities. Lonza's HPAPI offerings have made a positive contribution, with a number of new long-term contracts signed.

Drug Substance Development and Manufacturing
Our API / HPAPI offerings have positively contributed to our 2019 performance with a number of new long-term contracts signed. Examples include:

- AstraZeneca signing a long-term manufacturing agreement with us for the delivery of a number of HPAPI based products from our Visp (CH) site. To meet this increased demand, we will expand our Visp-based HPAPI development and manufacturing capacities, with planned operations to start from July 2020. This investment will add two 4m^3-scale, multi-purpose production lines for HPAPI manufacturing to complement our existing range of production capacities from lab to large commercial scale.

- A previously-announced long-term agreement to produce drug substance payloads for antibody drug conjugates, was expanded in 2019 to accommodate higher production commitments by a major biopharmaceutical partner. The inherent expansion, which includes two new suites designed specifically for the production of ADC payloads, is based on a tailored agreement that ensures flexible and secure supply at reduced cost.

- Several substantial new contracts for manufacturing were also secured for our Nansha (CN) drug substance development and manufacturing site.

Leveraging our leading expertise in addressing bioavailability challenges, we launched SimpliFiH™ Solutions. This service package is designed for innovator companies, especially small / emerging companies that require development and manufacturing partnerships for early-stage development and first-in-human studies. This new offering consists of streamlined service agreement packages to further reduce time, cost and complexity for early clinical studies, demonstrating our continued commitment to constant innovation and adding value for our customers.

Drug Product Development and Manufacturing
The first long-term commercial supply agreement for a spray dried dispersion-based drug product was signed with a biotech company partner. Our Bend, OR (USA) site utilizes proprietary spray-dried dispersion technology to provide sufficient drug bioavailability to a highly insoluble kinase inhibitor drug substance. This agreement provides supply security to the client whose new drug product is expected to be granted regulatory approval in Q1 2020.

We signed an agreement with Chiasma for the commercial supply of their late clinical phase product Mycapssa®. Combining Chiasma's technology with our liquid-filled hard capsule delivery systems provides the potential to improve the treatment options for adult patients with acromegaly. We have provided early stage development and specialized encapsulation services for this new orphan application.

We are providing commercial supply of a new drug product using our proprietary Xcelodose® Precision Powder Micro-Dosing Technology. This agreement is the first instance in which this specialized equipment, designed for supporting rapid clinical trial studies, will be used for the commercial supply of a specialized encapsulated drug product. Lonza has developed micro-dosing best practices through more than fifteen years' experience across hundreds of compounds.

In addition, our team in Tampa, FL (USA) supported Takeda's brigatinib program, a new oral, once-daily monotherapy for treating non-small cell lung cancer. We provided the product, method and process development support to meet accelerated timelines to bring this breakthrough treatment to patients.

Mammalian and Microbial

Market Trends

The reporting year was a significant period for the mammalian and microbial market, with worldwide biopharmaceutical sales currently at USD 258 billion and estimated to grow at a CAGR of 9% over the next six years[1]. There has been strong venture capital (VC) funding for biotechs, which has supported this healthy growth in development and had a positive impact on outsourcing to custom manufacturers like Lonza.

The product landscape is changing rapidly and is getting more complex from a regulatory perspective, with an increasing need for new molecule design, manufacturing technologies and process improvement capabilities for biologics. Mammalian will remain the preferred production technology and has the highest growth potential due to pipeline increase and improvements in manufacturing technology. However, the sales of new molecular formats is predicted to grow at up to three times the rate of standard monoclonal antibodies (mAbs) through to 2025, including antibody drug conjugates (ADCs) and bi-/multi-specific antibodies, among others[2]. Bispecifics and other more complex molecules also require new technologies for expression systems. These will include improved cell lines and manufacturing advances, such as continuous production.

New challenges are also brought by accelerated approval pathways such as FasTrack and Priority Review, which have increased pressure to quickly deliver therapies to the patients who need them most.

In biologics, many companies recognize that development failures often relate to poor formulation and poor drug product design. All biologics for systemic administration are parenteral and are administered by injection, infusion or implant. Such modern subcutaneously administered products require a high product concentration, which requires a careful formulation development to cope with the resulting risks of high viscosity and aggregation. Other modern products, such as in immuno-oncology, require very low doses alongside careful design of the drug administration setup. This is critical to ensure that the low quantities are actually reaching the patient.

Product failure at the formulation or final-filling stage accounts for significant cost and timeline challenges. Specialized expertise in drug product development, manufacturing and testing is required to ensure fast commercialization and robust production.

A growing number of molecules in the pipeline are expected to be owned by small and virtual biotech companies, who may not have the in-house expertise to bring those to the market and therefore have a higher propensity to outsource. Biotech is outsourcing more than 70% of its services to external partners[3]. In smaller biotech, this number reaches between 90 and 100%, as secured funding is used for developing therapies, not manufacturing for clinical stage trials[2].

VC funding is critical in this space – and biotech companies with a strong manufacturing partner receive better funding. VC funds have now begun to set up virtual biotech companies. Such virtual companies do have only a skeleton crew of managers. Therefore, high levels of communication, coordination, and trust among partners are prerequisites to deliver a successful outsourced project. Additionally, there is a burgeoning ecosystem of small pharma companies in China, supported by strong access to VC funding and bolstered by expectations of biologics growth.

Our Offerings

We are a leading contract development and manufacturing partner for biopharmaceuticals. Our offerings include a wide range of contract development and manufacturing services from sequence optimization, cell line construction, process development and optimization, and manufacture of drug substance and drug product for mAbs and other recombinant proteins from mammalian cell culture and microbial fermentation in small to large scale. Additionally, we specialize in development and manufacturing of bioconjugates which exemplifies our competency in developing and manufacturing complex molecules. We work in partnership with customers of all sizes, from start-ups to large biotechs and pharmaceutical companies.

In 2019, we offered a broad portfolio of drug substance and drug product development services, as well as clinical and commercial supply manufacturing in mammalian and microbial expression systems. Currently our development and manufacturing product portfolio includes active pharmaceutical ingredients (APIs) for life-saving medicines, including cancer treatments and orphan drugs for rare diseases where no alternative treatment exists.

[1] Source: Evaluate Pharma (2019)
[2] Source: Visiongain (2018)
[3] Source: BioPlan Associates (2018)

For our customers in late discovery phase, our Applied Protein Services offering includes technologies and programs designed to assess and mitigate risks, reduce attrition and improve the quality and safety of therapeutic proteins in a cost-efficient and timely manner. These technologies include our Epibase® *in silico* and *in vitro*, immunogenicity screening, and our antibody humanization and deimmunization services.

Our Sentinel APART™ Platform serves as a tool for antibody aggregation prediction and re-engineering, and our manufacturability assessment service is used to help predict and mitigate manufacturing risk. Early-stage customers also benefit from our mammalian and microbial-based Lightpath™ material supply services for their research and proof-of-concept studies. We also complement these services with developability assessment services to support our customers' lead candidate selection. More information on our late discovery services is available online.

When a lead candidate is selected, our industry-leading expression technologies, including the GS Xceed® Gene Expression System for mammalian expression and XS® Microbial Expression Technologies for microbial expression, are used to create commercially relevant cell lines or strains for protein production. Our GS Expression System® now underpins dozens of commercially available products, plus hundreds of others in clinical trials. We are continuously building on our established and trusted platform to ensure it remains a powerful solution for next generation bioprocessing, including the expression of increasingly complex proteins and continuous processing.

Following the creation of a new cell line or strain, we engage in a program of process development and scale-up studies that creates a robust process suitable for transfer to current good manufacturing practices (cGMP) sites. Once a process has been established, we can manufacture products to support not only preclinical activities, but also clinical trial material. In addition to developing a process at Lonza, we are also able to transfer into Lonza many product and process technologies that have been developed by our customers.

Ibex™ Solutions

Ibex™ Solutions consist of three innovative contract development and manufacturing organization (CDMO) offerings that span the complete product lifecycle of a biopharmaceutical – from preclinical to commercial stages, from drug substance to drug product, all in one location.

The three offerings Ibex™ Design, Ibex™ Develop, and Ibex™ Dedicate have been developed as a response to a dynamic market and evolving needs. The home for Ibex™ Solutions is the Lonza biopark in Visp (CH), which leverages Lonza's existing infrastructure, support networks and a stable and highly skilled workforce.

Ibex™ Design is our offering for customers' preclinical and Investigational New Drug (IND) needs through to clinical Phase I. It includes a pioneering gene-to-drug product package for antibodies and antibody-like molecules, delivering drug product within 12 months and at least 1 kg of drug substance[1]. This package also includes the reservation of a manufacturing slot for clinical resupply. Customers can benefit from our proven GS Xceed® Gene Expression System bioprocess platform and a holistic development strategy with the endpoint in mind.

Ibex™ Develop helps companies seamlessly and rapidly transition from clinical Phase II to commercialization. Co-location at one site eliminates the need for tech transfers, and accelerates the path to market. This offering enables biologics license applications (BLAs) to be submitted within 22 months from the start of process characterization. Eliminating the need for tech transfers, driving process optimizations and creating operational efficiencies are all expected to accelerate the path to market.

With **Ibex™ Dedicate**, a fully customized commercial supply solution for our customers' products, Lonza is able to offer complete product lifecycle management in one site. A pre-built shell and faster ramp-up could save our customers up to 30 months total time to market. Ibex™ Dedicate allows our customers to delay their capacity build decisions and better manage investment risk. Moreover, our technology-agnostic supply solutions provide for flexible ownership and operating models for mammalian and microbial production, vaccines and cell and gene therapies.

* Image as of January 2020
[1] From receipt of the gene sequence, subject to contractual terms and conditions

Parenteral Drug Product Services

Our Drug Product Services (DPS) team in Basel (CH) focuses on parenteral dosage forms and offers solutions for customers developing therapeutic proteins, peptides, cell and gene therapies as well as small molecules that require a parenteral dosage form. These products are for injection, infusion, intravenous, subcutaneous and intraocular routes of administration.

The DPS team provides a complete portfolio of services for parenteral dosage forms, including formulation development, simulated clinical administration setup and testing, analytical method development and quality control. Further services include primary packaging and device design and integration, drug product process development, and manufacturing of parenteral dosage forms for stability testing and preclinical or clinical testing.

There are also special services including surfactant characterization and characterization of excipient degradation, extractables and leachables assessment, and container-closure integrity and device testing. Our experts have multiple years of experience in the development, manufacturing, testing and commercialization of parenteral dosage forms and related regulatory requirements. Many of our experts have extensively researched and published in this area. Our customers benefit from seamless integration of pharmaceutical ingredients and drug substance development for rapid and reliable entry into the clinic and for robust late-stage development. In addition, our DPS team offers best-in-class analytical and specialized services for routine processes and troubleshooting in pharmaceutical manufacturing.

Discover More

For further information about our mammalian cell-culture capabilities for large-molecule drug substance, as well as for descriptions of Lonza's mammalian cell culture facilities, please visit our mammalian manufacturing webpage. For further information about our microbial fermentation capabilities, please visit our microbial manufacturing webpage. For more information about our bioconjugate services, please visit our antibody drug conjugates webpage.

Our Global Footprint

Today our mammalian manufacturing offerings have a global footprint, and the company's strength is providing the best option for our customers whatever their manufacturing strategy or stage of development.

We have the capability to produce clinical and commercial material across our sites globally, from small-scale (1,000–2,000L) through mid-scale (6,000L) to large-scale (10,000L and 20,000L). Lonza leverages its expertise in stainless steel, single-use and hybrid technology to de-risk the path to market for customers. We produce mammalian-derived biopharmaceuticals in highly advanced current good manufacturing practices (cGMP) multi-product facilities, in a global network across three continents: Slough (UK), Portsmouth, NH (USA), Tuas (SG), Porriño (ES), Visp (CH) and Hayward, CA (USA).

Our Slough (UK) site is the center of excellence for preclinical to clinical development and manufacture of mammalian-derived biotherapeutics. Our Portsmouth, NH (US) facility has been designed specifically for the production of therapeutic proteins derived from mammalian cell culture. In 2020, a new 6,000L mammalian suite, designed to manufacture next-generation molecules, is expected to be operational in Portsmouth. Our facility in Tuas, (SG) offers the full breadth of mammalian development and manufacturing services, from DNA to commercial cGMP products. In Porriño (ES), we specialize in the custom manufacture of recombinant proteins mammalian-derived. In Visp (CH), we offer our innovative Ibex™ Solutions offering for biologics product lifecycle management for mammalian-derived biologics, microbial as well as bioconjugates. Our microbial center of excellence in Visp offers drug substance manufacturing solutions at capacities up to 15,000L and biosafety level 2 capabilities at all scales. Additionally, our bioconjugate team in Visp is one of the industry leaders in process development and cGMP manufacturing of clinical and commercial bioconjugates, including antibody drug conjugates (ADCs).

The newest addition to our mammalian manufacturing network is in Hayward, CA (US) — a site focused on clinical production of mammalian derived therapeutic proteins.

In China, as the country opens up to multinational companies, we are bringing our expertise in clinical development services and manufacturing. In 2020, a new mammalian site will be operational in Guangzhou (CN). The Guangzhou site will provide development and manufacturing services for early to late clinical and commercial launch projects. The new site will house a 17,000m^2 multiproduct facility using single-use technology, with significant adjacent expansion land secured.

In Switzerland, we have acquired our first sterile drug product fill and finish facility. The facility in Stein (CH), complements our Pharma Biotech & Nutrition current parenteral drug product services in Basel (CH) and is the first facility for clinical production and commercial launches. It will enable us to build on existing parenteral drug product development and testing capabilities, and offer an end-to-end service to our customers for clinical supply and launch.

Highlights and Initiatives 2019

During the reporting year, we saw ongoing strong momentum for our clinical and commercial offerings in 2019. Commercial agreements signed for new and existing assets provide meaningful sales visibility for the mid- and long-term. Commercial capacities for 2020 are largely committed.

Our integrated clinical service offerings gained traction, with shortened development and manufacturing timelines, guaranteed delivery of drug product for IND (Investigational New Drug) applications and secured supply for subsequent clinical and commercial requirements.

Protein Expression
In 2019, we announced the next stage in the evolution of our GS Xceed® Toolbox. As the formats of innovative therapeutic proteins become more complex and harder to express, we are looking for new solutions to improve productivity for our customers. The launch of GS piggyBac™ technology enables the insertion of large DNA cargos into transcriptionally active and genetically stable areas of the genome. It allows the generation of stable pools of cells with high levels of protein expression. A further partnership with Synpromics to develop inducible promotors capable of turning gene expression "on or off" in response to signals in the cell environment, should enable fine-tuning of bioproduction. Both technologies are designed to provide even higher yields and enhanced performance and to support the expression of a growing number of challenging proteins including bi-specific antibodies and other new molecular formats.

Clinical Development and Manufacturing
We are committed to supporting a new generation of merging and even virtual Biotech companies looking to take innovative therapies into the clinic and beyond. An example of this is the partnership announced between Citryll and Lonza to manufacture NETosis Inhibiting Antibody CIT-013. This drug candidate offers new treatment options for various human diseases including lupus, vasculitis, pulmonary fibrosis and organ damage due to sepsis. Scientific teams from the two companies have been working together to develop Citryll's lead antibody candidate CIT-013. Lonza's *in silico* immunogenicity assessment services were used to improve the quality and potency of the candidate. Using our GS Xceed® System, we will create a cell line for the product and manufacture cGMP drug substance at our Slough (UK) site. Drug Product for this compound will be carried out at our recently acquired facility in Stein (CH).

Ibex™ Design and Ibex™ Develop
First customers for our innovative full-service, single-site clinical offering Ibex™ Design and Ibex™ Develop in Visp (CH) are committed. This constitutes 100% of 2020 available clinical manufacturing capacity one year ahead of planned operations.

One example is the extension of our partnership with Genmab to cover preclinical and clinical development and manufacturing for a significant portion of Genmab's pipeline in Ibex™ Solutions. Our Ibex Design offering enables Genmab to take their candidates from gene to IND in 12 months and then move to reserved manufacturing capacity in Ibex Develop for clinical manufacturing and BLA submission when Genmab needs it. The agreement aims to provide Genmab with security of supply and to enable Genmab to move rapidly into clinical manufacturing with the flexibility needed to manage an extensive pipeline through the demands of clinical trials.

Commercial Drug Substance Manufacture
Following the recent U.S Food and Drug Administration (FDA) approval of the Prior Approval Supplement (PAS) for second-generation-process Andexxa®, Portola Pharmaceuticals, Inc. and Lonza announced the start of commercial supply of the recombinant coagulation factor from Lonza's Porriño (ES) facility. The production at our 10,000L mammalian facility in Porriño will be supplemented by additional large-scale capacity in Ibex™ Dedicate at our Visp (CH) site. The two sites will ensure the flexible supply of Andexxa® to patients.

Additionally, we have recently signed a new Ibex™ Dedicate deal with a major multinational pharmaceutical company for the manufacturing of a commercial microbial-derived product.

To satisfy increasing global demand for biosimilars, we have signed a contract with Celltrion to manufacture Remsima drug substance in our commercial facility in Singapore that will cover market needs in Europe and North America. The partnership will provide cost-effective biologics for greater patient benefit worldwide.

Bioconjugates
To meet increasing clinical, launch and commercial market demand, we started an expansion of our bioconjugation facility in Visp (CH). Now supporting the majority of commercially approved ADCs, we see the need to further expand based on signed commitments from customers.

Many bioconjugates are on expedited programs and the existing expertise at the facility, combined with proximity to clinical and commercial manufacturing of antibody, linkers and payload, will reduce risk and increase speed on the path to market for our customers.

Parenteral Drug Product Services
Our Drug Product Services (DPS) continued to expand ahead of plan, responding to positive demand from customers. Since entering the field of Drug Product Services at the end of 2016, we have met considerable demand from the market and have already announced various expansions. In 2019, we acquired a sterile fill and finish cGMP facility from Novartis, and we are currently already expanding capacity. From 2020 we will expand development and testing labs into a larger building in Basel (CH) with an additional 8,000 m² and we plan to hire additional experts. In Visp (CH), the Ibex™ Solutions DPS fill and finish cGMP facility is progressing well and planned to be operational from end 2021.

Cell & Gene Technologies

Market Trends

Cell and gene technologies are seen as the new frontier in medicine. 2018 was a critical year for regenerative medicine financing, with investments of more than USD 13 billion[1]. In 2019, the level of venture capital (VC) financings already exceeded that of 2018[2]. The influx of capital into the field of cell and gene therapy is testament to their potential to transform the way patients are treated, providing potentially curative or life changing patient outcomes.

Currently there are more than 1,000 regenerative medicine clinical trials[2], with five landmark commercial approvals in the past two years. We are at an inflection point with an increasing number of products moving to late-stage and commercialization. By 2025, the US Food and Drug Administration (FDA) expects to approve 10 to 20 cell and gene therapy products per year[3].

The manufacture of such medicines brings new challenges. For example, the small, patient-scale batch sizes for autologous products require automatized solutions to enable scalability and efficiencies in manufacturing to meet commercial demand for certain larger indications. Furthermore, getting these drugs to patients around the globe can present logistical challenges. For allogeneic cell and viral vector gene therapies, there is a challenge in scaling-up to increase batch sizes and treat more patients per batch. Today the cost of production still represents a major hurdle on the way to the market. New technologies must be developed to enable robust and efficient manufacturing and yield replicable high-quality medicines. These challenges need to be addressed to bring affordable curative medicines to patients globally.

Our Offerings

We are at the forefront of this new frontier, with our comprehensive offering that spans products and services for allogeneic and autologous cell therapies, as well as viral vector gene therapies. Our competitive advantage resides in the combination of an integrated offering beyond manufacturing, with unmatched process development expertise and industrialization capabilities. We can offer in-house tissue acquisition, dedicated cell and gene therapy regulatory expertise, to an integrated supply chain orchestration system. Together, these services provide an end-to-end offering from concept to commercialization.

>20 Years cGMP Experience

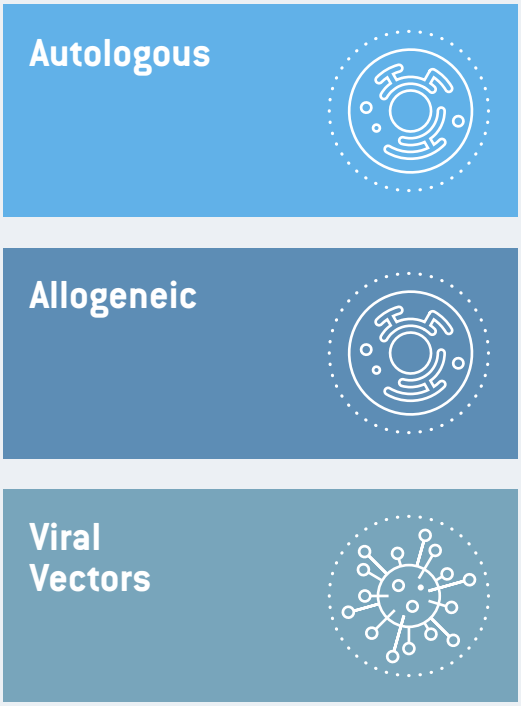
>160 Customers Over the Years

>1,000 Employees (end of 2019 and growing)

We enable our customers to de-risk their process early and fully industrialize their therapy via our unmatched experience in process development across cell and gene therapy modalities, supplemented with a full access to available technologies, all located under one roof in Houston, TX (USA). This provides customers with the best chance of success for commercialization.

1 Alliance of Regenerative Medicine (2018)
2 Alliance of Regenerative Medicine (2019)
3 Food and Drug Administration (2019)

Our Modalities in Cell & Gene Technologies



We are already well-positioned with our extensive experience in cell processing, process development and manufacturing of cells and viral vectors under current good manufacturing practices (cGMP). Our tailored manufacturing solutions are built around a broad service offering including process development, bioanalytical services and global regulatory support. These offerings, combined with a global footprint spanning the United States, Europe and Asia, enable us to support our clients throughout clinical development and commercial production.

Our Global Footprint

At our Houston, TX (USA) facility, we offer development and cGMP services for cell and gene therapies, including viral vector production. The range includes a wide selection of cell and virus types, including T-cells, dendritic cells, pluripotent stem cells (PSCs), mesenchymal stem cells (MSCs) and adenoviral, adeno-associated virus (AAV) and lentiviral vectors. Our Portsmouth, NH (USA) cell therapy cGMP provides clinical and commercial cGMP manufacturing.

In Europe, our dedicated cell and gene therapy manufacturing sites in Geleen and Maastricht (NL), provide capacity for both process development, analytical services, clinical and commercial cGMP manufacturing.

In Asia, we provide clinical and commercial cGMP cell therapy manufacturing from our Tuas (SG) site. We also partner with Nikon CeLL innovation Co., Ltd in Japan to provide our customers with process development, analytical services, clinical and commercial cGMP manufacturing specifically for the Japanese market.

Our global research and development (R&D) footprint is also growing. This is reflected in the ramping up of R&D capabilities in Houston, TX (USA), at the Israel Collaborative Innovation Center in Haifa (IL), and with the opening of R&D labs in Rockville, MD (USA).

Discover More

Additional information about our services, such as process development, cGMP manufacturing, assay development, analytical and all other related services, is available on our Cell & Gene Technologies website.

Highlights and Initiatives 2019

During the reporting year, our Cell & Gene Technologies business benefitted from continued sales momentum in a dynamic market environment, with strong interest in offerings including process development and commercial manufacturing. We signed a significant number of clinical and commercial contracts with new customers.

Despite the strong commercial momentum, our Cell & Gene Technologies business is addressing the continuing need to improve productivity. The team is focused on improving contractual excellence to reflect the value of our services, optimize our network, and deploy meaningful operational excellence.

In 2020, the business expects at least five late-stage registrations within our global network. In the coming year, we will continue to focus on improving operational excellence and on delivering seamless service, removing supply chain challenges in autologous cell therapy and ensuring patient safety in personalized therapies while working on a "vein-to-vein" offering.

Clinical and Commercial Programs
During 2019, there was a strong interest in our offerings, including process development and commercial manufacturing capacity with new customers signed. We have signed a manufacturing service agreement with Cellectis for our Geleen (NL) site, for the clinical manufacturing of Cellectis' allogeneic UCART product candidates targeting hematological malignancies. We have also established a strategic collaboration with Prevail Therapeutics, for its pipeline of novel AAV-based gene therapy programs to be developed and manufactured at our Houston, TX (USA) site.

Another example includes the strategic collaboration between Lonza and DiNAQOR AG to advance DiNAQOR's preclinical programs for the treatment of cardiac myosin-binding protein-C (MYBPC3) cardiomyopathies, a genetic condition that can result in heart failure. The process development and manufacturing will be located at our Houston site.

In addition to these new partnerships, we have expanded existing collaborations with our long-term partners — Gamida Cell and Mesoblast. We have established a commercial manufacturing agreement with Gamida Cell for Omidubicel, a Phase III investigational advanced cell therapy designed to enhance the life-saving benefits of hematopoietic stem cell (bone marrow) transplant. Under this multi-year agreement, we will construct dedicated production suites at our Geleen (NL) site, for the anticipated commercial launch.

We announced the signing of a commercial manufacturing agreement with Mesoblast for the production of MSC-100-IV, a mesenchymal stem cell-based therapy pending commercial approval by the Food and Drug Administration (FDA) for steroid refractory acute graft versus host disease. The two companies have formed a strategic alliance since 2011 for the clinical and long-term commercial production of Mesoblast's off-the-shelf (allogeneic) Mesenchymal Precursor Cell portfolio of products. Production of MSC-100-IV will be carried out in the existing suite in our cGMP facility in Tuas (SG).

Partnerships
Pursuing the goal of seamless service for our customers and their patients, we announced two partnerships to enable a 'vein-to-vein' delivery network. Vineti will provide a supply chain orchestration platform that allows easy access to fully electronic end-to-end control of material, and reduce the time that biopharmaceutical developers need for system selection and integration. Cryoport will provide transport and delivery of patient tissues on a global basis, ensuring seamless service for our customers and their patients. We will work with these two new partners to remove the supply chain hurdles faced by developers of personalized therapeutics.

Personalized Medicine
In March, we started to bring our Cocoon™ autologous cell therapy in-a-box manufacturing device to the clinic as a pilot project with Sheba Medical Center, the largest hospital in Israel. This collaboration is a key part of the development program for the Cocoon™ platform. It will confirm the benefits of using our closed, automated "cGMP-in-a-box" concept to more efficiently manufacture personalized cell therapies where the patients need it. This will enable treatment of a larger patient population.

Live Biotherapeutic Products[1]

Market Trends

The microbiome is increasingly a foundation for new therapies in dermatology, endocrinology, cancer, central nervous system and cardiovascular indications. Biopharma companies are developing Live Biotherapeutic Products (LPB) that aim to restore microbiome populations missing in disease or remove harmful ones. There are currently around 100 LPB therapies in the clinical pipeline with five nearing commercial launch. However, most of these are small companies with limited specialized in-house manufacturing capabilities.

The biggest challenges facing companies developing LPB are the difficulty of identifying and growing strict anaerobic bacteria, or cocktails of bacteria, and then maintaining anaerobic conditions in an oral dosage form that delivers the bacteria to the intestine.

Establishing an Offering in 2019

In 2019, a 50/50 strategic joint-venture (JV), was established between Lonza and Danish company Chr. Hansen for developing and manufacturing live biotherapeutic products for pharma and biotech customers. The JV got approval to start operations under the name BacThera.

While Chr. Hansen contributes its know-how in developing, upscaling and manufacturing bacteria strains, we bring capabilities in pharma contract manufacturing and formulation and drug delivery technologies, including the enTRinsic™ capsules.

BacThera Offerings Overview

STAGE 1: 2019–2022
Development services

Approx €45 million shared investment
~50 staff initially

- Serving start-up and small biotech with pre-clinical & clinical development projects
- Service offering focused on process development and small batches

STAGE 2: 2022
Phase III & commercial batch services

Approx €45 million shared investment*
~120 staff

- Serving a mixture of biotechs and their acquirers (e.g. large pharmacos) as clinical projects commercialize
- Service offering expanding to large batch sizes for Phase III and commercial production

* based on customer demand

Our Global Footprint

BacThera will operate from its headquarters in Basel (CH). In addition, the JV will upgrade existing facilities in Hørsholm (DK), and equip new facilities in Basel to serve pre-clinical to Phase II projects. Further facilities will be developed as the pipeline matures.

[1] A Live Biotherapeutic Product is a biological product that contains live organisms, such as bacteria and that is applicable to the prevention, treatment or cure of a disease or condition of human beings (excludes vaccines)

Product Businesses

Bioscience

Market Trends

Market trends support all four areas in which Lonza Bioscience operates: Therapeutic Cell Culture Media, Research Tools, Testing Solutions and Quality Control Software.

The global media market was estimated in 2017 at USD 1.4 billion with a 10% CAGR over the next 10 years. This market is expected to reach USD 4-5 billion driven by existing biologics (recombinant proteins and vaccines)[1].

In the Discovery market, recent developments in Clustered Regularly Interspaced Short Palindromic Repeats (CRISPR) and non-viral, ex-vivo gene therapy are driving demand for alternative technologies, like nucleofection, whilst new applications in *in vitro* toxicology and immunotherapy are driving demand for liver cells and immune cells, supporting custom cell biology services.

Several developments and trends drive demand for offerings in the informatics and testing markets. Large Pharma and Biotech companies are actively adopting global, integrated and automated solutions in quality control and manufacturing environments. Traceability and data integrity within current good manufacturing practices (cGMP) is becoming a critical part of the manufacturing and release process for a lot of these companies. With Cell and Gene therapy on the rise, there is an increasing need for cost-effective and flexible IT systems, which can be rapidly deployed to improve decision making, quality and compliance needs.

>2,600 Scientific Publications Used a Lonza Bioscience Product

310 Bioscience Products Filed with Regulatory Agencies

222 Different Primary Cell Types

[1] Sources: Meticulous (2018); BCC research (2015); Markets and markets (2015); Seed planning; METI; Kuick Research, Med Market Diligence, Transparency market research, Roots analysis cell therapy manufacturing market (2017 – 2027)

Our Offerings

With our product offerings in media, research tools, testing solutions and quality control software, we help our customers leverage the therapeutic potential for transformational technologies in cell and gene therapy and biologics.

Our offerings provide advanced cell biology and cell engineering solutions, Quality Control (QC), safety testing tools and software. Collectively, these support the life-science industry from discovery through to manufacturing.

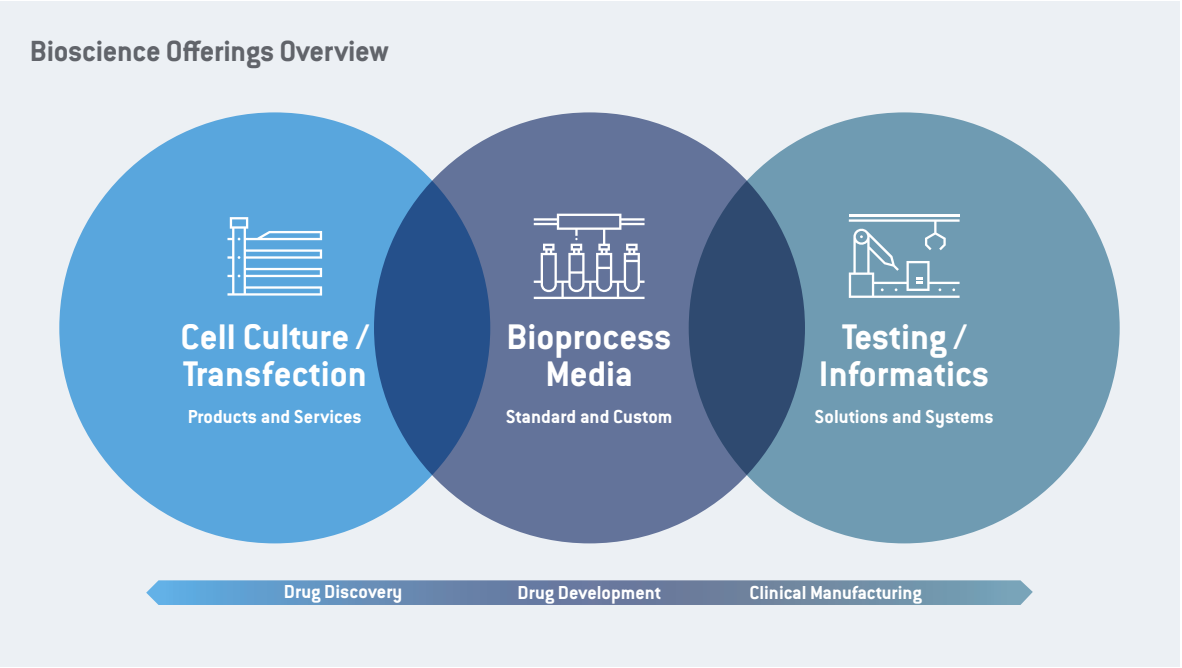
We serve customers in academic and government institutions and major biotech and pharmaceutical organizations across the globe. Bioscience customers are discovering, developing and manufacturing critical disease-treating drugs and therapies, and we provide tools to support their activities and ensure the highest degree of patient safety and regulatory compliance. With our product offerings we help our customers leverage the therapeutic potential for transformational technologies in cell and gene therapy and biologics.

Our therapeutic cell culture media are used in the production of therapeutics, including antibodies, antibody drug conjugates (ADCs), vaccines, cell and gene technologies applications and other biologics.

Our Discovery Solutions offer human cell-based tools for basic research, drug-discovery and translational research targeting cardiovascular, respiratory, neurological, metabolic, cancer and other disease areas.

Our Testing Solutions offer endotoxin-detection assays that are applied in pharmaceutical product-release testing, medical device testing and dialysis clinics. They help to ensure the safety of injectable drugs, implantable medical devices and dialysis equipment.

The fully integrated MODA™ Software Solutions streamline quality-control processes and offer insight into manufacturing operations, with quick access to management, compliance and trending data.



Our Global Footprint

Our Bioscience business serves customers across the world with a network of seven key production sites.

In Europe, the team at our Cologne (DE) site is dedicated to the manufacturing and sales of a non-viral transfection method, which enables a more efficient identification of new targets for pharmaceuticals and therapies. Our second site in Verviers (BE) is the European distribution center for Bioscience Solutions research products and produces cell culture media for bio-production, cell and gene therapy and research applications. Our Copenhagen (DK) site specializes in custom manufacturing unique agaroses for chromatography purposes.

In the USA, our Walkersville, MD (USA) site is the North American distribution center for Bioscience Solutions research and as well as producing cell culture media, we also manufacture endotoxin testing reagents, automation and software solutions for the quality control of parenteral drugs, medical services and biomanufacturing products.

Further sites in the USA include Durham, NW (USA), which is a Center of Excellence that specializes in the manufacture of primary cells for research, drug discovery and drug development. In Wayne, MI (USA), we provide software solutions for environmental monitoring and electronic batch recording. In Rockland, ME (USA), we provide life science researchers with state-of-the-art products for use in molecular biology as well as cell based assays for clinical diagnostics, rapid cell health and activity screening and other applications.

Discover More

Additional information about our offerings, such as process development, current good manufacturing practices (cGMP), assay development, analytical and all other related services, is available online. Explore our worldwide sites by location via our 360° Virtual Tours.

Highlights and Initiatives 2019

The Bioscience Solutions business saw increased demand, based on favorable market trends in drug discovery and cell therapy. We are continuing to make progress with operational improvements.

Therapeutic Cell Culture Media
With over 40 years of expertise in media development, we introduced eCHO™[1] Basal Medium and Feed. eCHO™ Medium is a new serum-free, chemically defined, hydrolysate-free and non-animal origin medium to enhance late-stage cell viability, accelerating protein purification and allowing for the production of a consistently increased amount of proteins per cell.

Our leading TheraPEAK™ X-VIVO™ Cell Culture Media have seen strong growth in 2019, supporting the CAR-T process and other treatments under development in the cell therapy market. Our Bioscience Solutions and Cell & Gene Technologies groups are joining forces to promote a full offering in cell and gene therapy, helping customers to successfully navigate the path from early discovery to commercialization, and get new treatments to patients faster.

Bioscience Solutions and our Mammalian and Microbial Development and Manufacturing groups are intensifying their collaboration in order to help customers in the biologics market using our GS-CHO™ Media as an integral part of our GS Gene Expression System®.

Research Tools
Bioscience continues to shape the cell and gene therapy market, with integrated solutions and our cell biology expertise both positioned to support cGMP cell processing workflows, including those based on Lonza's Nucleofector® Transfection Technology. Market adoption of the 4D-Nucleofector® LV Transfection Device increased as we accelerated efforts to support cGMP workflow requirements and establish Nucleofector® Technology as the standard for non-viral transfection in cell and gene therapy applications.

In 2019, we developed a line of high-quality cryopreserved pooled donor suspension hepatocytes, DonorPlex™ Hepatocytes. In addition, we added Verified for Spheroids™ Human Hepatocytes, which are pre-screened for their ability to promote spheroid formation in 3-dimensional cell culture platforms, supporting toxicology, disease modelling and Drug Metabolism and Pharmacokinetics (DMPK) studies.

Customers working on immunology applications can take advantage of the largest available portfolio of immune cells, due to the private label partnership between Lonza Bioscience and AllCells. This partnership expands our broad offering of hematopoietic cells supporting an array of applications in drug discovery, toxicity testing, cell therapy and personalized medicine.

To meet specific, individual research application needs, we have expanded our CellBio Services, a comprehensive portfolio of unique, custom solutions. Researchers across pharmaceutical and contract manufacturing organizations can now choose from an extensive range of services, including cell line expansion and banking, media production, cell isolation, cell characterization, transfection services, and three-dimensional (3D) cell-culture services.

Testing Solutions
Due to sustained interest from new and existing customers, we continue to expand our global availability of the world's first fully automated, plate-based robotic solution PyroTec™ PRO Robotic Solution for endotoxin testing. The platform marks a milestone in endotoxin detection, allowing pharmaceutical manufacturers to replace manual, error-prone processes with a fully automated solution, integrating instruments, endotoxin reagents and software offering quick time-to-result. In addition, our PyroGene™ Recombinant Factor C Assay, is gaining traction in the market, as regulatory authorities have started accepting the assay as an alternative method for endotoxin testing.

Quality Control Software
During the reporting year, the Bioscience business experienced strong interest in the MODA™ Platform. We launched the next-generation electronic batch record execution solution, MODA-ES™ Software Platform, designed to provide a cost-effective, easy to use solution to batch record challenges, by consolidating and managing batch and quality data generated by non- or semi-automated manufacturing processes.

[1] Chinese hamster ovary (CHO)

Pharma Hard Capsules

Market Trends[1]

In 2018, the global hard empty capsules (HEC) market was above 700 billion capsules (units). In 2020, the global growth for the capsule market is anticipated to be modest in value for pharma, and comprise approximately 70% of the capsule market globally. Within Pharma, demand has been driven by more complex drugs requiring specialized dosage forms to overcome bioavailability challenges, such as oncology and orphan drugs, as well as by volume growth in pharmerging markets driven by off-patent drugs. Moreover, the majority of new developments are in the generic space and more than half of NCE (New Chemical Entity) developments are currently in specialty polymers, underlining the current market trend in non-gelatine base alternative for capsules. From a geographic perspective, Pharma HEC sees increasing demand in the Asia-Pacific markets, as well as consolidated demand in developed markets. Asia is a key growth driver, especially in generic drugs and the traditional Chinese medicine segment in China.

Our Offerings

The pharma hard-capsule business continues to build on the Capsugel® brand and track record of ingenuity, credibility and flexibility to deliver a positive experience and drive added value creation for our customers. Our proprietary and patent-protected technologies, significant expertise in capsule polymer science and product and process design capabilities, all help our customers meet their target product profiles and commercial objectives. Business continuity for capsule supply to the biopharmaceutical industry is unmatched with eight production sites located in Europe, USA and Asia.

Leveraging this extensive experience in two-piece hard capsule design and manufacturing, we have also been able to deliver an unmatched value-added service portfolio. Following our commitment to deliver high-quality products, we have established standards and systems to oversee internal and external quality performance by establishing a global quality organization, with an integrated supply chain, technical and operational engineers, color lab support and global regulatory expertise.

Our acquisition of Capsugel, with its unique hard-capsule science and engineering, has allowed us to provide the broadest range of capsule polymers, sizes and designs in the global pharmaceutical industry. We also offer integrated product design, development, clinical supply and commercial manufacturing services to our customers around the world. The diversified customer base includes companies that make branded, generic and specialty pharmaceuticals, as well as biotech products and over-the-counter medicines.

>200 Billion Capsules Produced[2]

Our Global Footprint

At our Greenwood, SC (USA), we provide hard capsule manufacturing, as well as the product development and manufacturing of liquid and multi-particulate filled hard capsules.

In Europe, our dedicated hard capsule manufacturing sites are in Bornem (BE) and Colmar (FR), with Colmar also offering finished product design and development and manufacturing of liquid and multi-particulate filled hard capsules. Both sites also serve as our R&D Centres of Excellence.

In Asia, our presence spans from Suzhou (CN), Jakarta (ID) and Haryana (IN) to Sagamihara (JP). Our Sagamihara facility provides capacity for hard capsule manufacturing, product development and manufacturing and multi-particulate filled hard capsules.

Highlights and Initiatives 2019

The pharma hard capsules business saw ongoing demand for specialty polymer and dry powder inhalation (DPI) offerings. The business was supported by new product launches but challenged by market conditions in the US and slower growth in developed markets. Several long-term agreements were signed.

In 2019, we launched Lonza Engine™ line for clinical and commercial scale processing equipment inclusive of specialized encapsulation technology which complement our capsule product line offering.

From early-stage development to commercial solutions, the hard-capsule business continues to offer the broadest portfolio of gelatin, hydroxypropylmethylcellulose (HPMC) and other specialized polymers for capsule production tailored to specific pharmaceutical applications. Supporting the fast growth of the HPMC lines, we re-launched Capsugel® Vcaps® Plus HPMC capsules globally. In addition, our specialized capsules for DPI applications were launched, branded as Zephyr® capsules, building on more than 20 years of experience in DPI encapsulation applications. Zephyr® capsules are supported by DPI and bioavailability enhancement formulation services to serve the growing number of pulmonary delivery route solutions.

[1] Source: Internal Analysis
[2] Including Pharma and Nutritional Hard Capsules

Nutritional Hard Capsules and Nutritional Ingredients

Market Trends

The broader nutrition industry (CHF 590 billion retail selling price)[1] continues to grow with segments such as joint health, sports nutrition and digestive health forecast to grow at 7-9% (CAGR 2019 – 2024)[1]. The nutritional capsules market, however, is expected to grow in line with the overall capsules market of moderate GDP+ growth. More consumers are proactively looking to protect their health, improve their wellbeing, and live longer, healthier lives. With today's busy lifestyle, consumers are seeking convenient methods of getting nutrients through supplements and functional foods.

Consumers are also looking for greater transparency in the products they buy. They also want to understand how a product was made and where it came from. Trusted products offering clean-label, natural, non-genetically modified organism (GMO), plant-based credentials and information on ingredient sourcing and processing, are of great consumer interest. In addition, the convergence of the food and pharma market continues with an increasing range of supplements, functional foods, and nutraceuticals to promote and expand healthspan.

Our Offerings

We offer specialty ingredients, formulation know-how and inventive oral delivery solutions backed by industry-leading service capabilities and global regulatory expertise to help our customers take their innovative and differentiated nutritional products to market in the shortest time possible. Now fully incorporated into Lonza, the former Capsugel business serves pharma, over-the-counter (OTC), and nutrition customers with gelatin and specialty polymer hard capsules as well as fully formulated specialized finished dosage forms.

>7,000 Customers Worldwide

We strive towards fully integrated solutions, from initial concept to ready-to-market product commercialization. In addition to our broad capsule range, we offer a select portfolio of high-quality nutritional ingredients across joint health, active nutrition, digestive and immune health, weight management, sports activities, and pet nutrition.

Our customers benefit from our rich consumer market insights and long-standing expertise in pharmaceutical delivery science, which has enabled us to develop a comprehensive range of proprietary dosage forms and delivery technologies. These include targeted delivery, liquid-filled hard capsules, soft gels, capsule-in-a-capsule or tablet-in-a-capsule solutions and lipid multi-particulates.

Nutritional Capsules and Nutritional Ingredients Offerings Overview

High-value Ingredients	Unique & Innovative	Attractive Products
Backed by Science	Delivery Systems	Integrated Solutions
adding	value	
Healthy Aging UC-II® | Relora® | Meratrim® **Sports Nutrition** Carnipure® | ZMA® | UC-II® **Digestive & Immune** ResistAid®	**Hard Empty Capsules** • Vegetarian – Vcaps®, Vcaps® Plus, Plantcaps®, DRcaps™ • Gelatin, Gelcaps, Sprinkle Caps **Formulation Technologies** • Liquid Multi-Particulate • Beadlet technology • Micronization	**Finished Dosage Forms** • Improved Performance • Modified/Targeted Release • Enhanced Consumer Experience

[1] Source: Euromonitor

The innovative capsules in our portfolio enable customers to improve the bioavailability, targeted delivery, swallowability, scent and taste masking of their nutritionals. Consumer experience is enhanced, while product owners enjoy the benefits of superior brand differentiation.

Our Global Footprint

We serve customers in more than 100 countries around the world thanks to a state-of-art network of 11 production and R&D sites across three continents. In addition to the manufacturing sites we share with the pharma hard capsules business in Greenwood, SC (USA), Bornem (BE), Colmar (FR), Sagamihara (JP), Suzhou (CN), Jakarta (ID), and Haryana (IN), we also have a Capsugel® capsule manufacturing site in Puebla (MX).

On the nutritional ingredients side, our UC-II® Undenatured Type II Collagen (joint health) is primarily manufactured in Fort Smith, AR (USA), and will be supplemented by Greenwood, SC (USA). We produce our Carnipure® L-carnitine for human nutrition, and CarniKing® for pet nutrition in Nansha (CN), an FSSC 22000 certified plant. In addition, our ResistAid®, an arabinogalactan uniquely sourced from local larch trees to support immune health, is produced in Cohasset, MN (USA).

We created additional capacity within the existing footprint in 2019, with plans to further expand our Greenwood, SC (USA) facility in mid-2020. This integrated facility will offer capsule manufacturing, ingredient production, and finished dosage forms at the same site.

Discover More

For further information about our businesses, visit one of the following webpages: Capsules & Food Supplements / UC-II® Lifestyle in Motion™ / Capsugel / Consumer Health / Nutrition website

Highlights and Initiatives 2019

The nutritional hard capsules business was negatively impacted by increased competition. This was exacerbated by softer demand for conventional gelatin hard capsules and slower growth than anticipated in specialty polymer empty capsules, particularly in mature markets. The business started to implement commercial countermeasures with first impact in Q4 2019. The nutritional ingredients business experienced softer performance, mainly related to supply issues.

In 2019, we have helped several customers launch new products or reformulate existing ones by combining innovative nutritional ingredients, optimizing formulations and tailoring capsule delivery technologies. Overall, we see solid growth opportunities for nutritional capsules, as well as combined ingredient and capsule offerings.

Nutritional Hard Capsules
Following the launch of the industry's first clean-label and food-colored capsules in 2018, we have continued to bring new consumer-driven capsule innovations to the market in 2019.

For instance, we introduced Vcaps® Plus White Opal™ capsules, our first commercially available titanium dioxide-free semi-opaque (TiO2) capsules designed to address the changing regulatory environment alongside a growing demand for opaque capsules in Europe. Solutions in our wider plant-based range also include our innovative dosage forms, such as vegetarian Plantcaps® capsules.

Our vegetarian Vcaps® Plus capsules can now also be tinted using natural coloring foodstuffs to achieve a vibrant color that offers outstanding brand differentiation without compromising on a clean-label positioning. To date, Red Radish, Spicy Yellow, Blue Spirulina and Purple Carrot Vcaps® Plus capsule colors have been launched in Europe. Purple Carrot capsules were successfully launched in the United States, while Blue Spirulina capsules are also available in Canada.

Nutritional Ingredients
Our premium, science-backed UC-II® ingredient for joint health successfully entered new markets, regions and applications in 2019. We introduced different innovation concepts for joint health, featuring UC-II® undenatured type II collagen in combination with other trending ingredients combination. Examples include vitamin K2, which was delivered in a Licaps® liquid-filled hard capsules to offer an all-in-one bone-and-joint health solution. We also expanded the applications for our UC-II® ingredient in pet nutrition, with a focus on supporting pet health and well-being.

Putting the spotlight on our performance nutrition expertise, we launched a new sports nutrition ingredient, Oceanix™ marine phytoplankton, based on highly active antioxidant enzymes. This unique ingredient is sustainably sourced from the ocean and meets the rising demand for natural, non-GMO, and vegan supplement products, bringing together sports performance and wellness benefits.

The Carnipure® L-Carnitine ingredient for sports nutrition also became a key component of our newly launched MuscleGuard™ formulation, a vegan solution for optimizing gains in muscle mass and strength. The MuscleGuard™ formula brings together our Carnipure® L-Carnitine ingredient, Creatine and Leucine with vitamin D in a proprietary ratio that was demonstrated by a clinical study[1] to deliver a 63% increase in muscle strength, mass and activity in older people.

[1] Bellamine, et al. Nutr Metab. 2017

Specialty Ingredients

Market Trends

The Specialty Ingredients sector is in a time of evolutionary change with new markets opening up, primarily driven by an improved standard of life and growing middle classes in developing markets. There is also an increased demand for personalized health and a push towards environmentally friendly and sustainable products. All these opportunities come with challenges, as the sector faces increased complexity in global regulatory requirements and raw material shortages (with associated price volatility). There is also increased competition with the rapid rise of Chinese chemical producers and the new and innovative market entrants challenging established players.

We are well positioned to overcome these challenges and capitalize on existing opportunities to drive growth and accommodate increased demand.

Our Offerings

In Lonza Specialty Ingredients (LSI), we are focused on further strengthening our market leadership in microbial control solutions to protect our environment and ourselves from harmful microbes. Our businesses deliver customer-focused, innovative and smart solutions for a wide range of consumer and industrial markets, as well as wood applications and agricultural offerings along a common microbial control solutions platform.

>5,300 Customers Worldwide

21 Manufacturing Sites

43 Fields of Application

A key challenge for our customers is the increasingly complex and evolving regulatory landscape. We can help them by applying our deep understanding of both current and future regulations to enable them to achieve performance and regulatory compliance.

We also provide solutions for composite materials and processing additives for high performance industries, performance chemicals and intermediates as well as custom development and manufacturing.

In 2019, the LSI segment comprised the following offerings:

- Microbial Control Solutions
- Specialty Chemical Services

In 2019, we announced the decision to carve-out the LSI segment, with the intention of operating independently whilst remaining part of the Lonza Group. This will allow us to grow and strengthen our leading role in the microbial control solution market, as well as operate more efficiently. We expect to complete the process by mid-2020.

Our Global Footprint

With representations in 28 countries across 5 continents and 2,504 employees, we take care of our customers and their global, regional or local requirements.

Microbial Control Solutions

Huddersfield, UK
Auckland, New Zealand
New Plymouth, New Zealand
Trentham, Australia
Penang, Malaysia
Suzhou, China
Port Shepstone, South Africa
Salto, Brasil
Rochester, USA
Williamsport, USA
Mapleton, USA
Conley, USA
Kalama, USA
Valparaiso, USA

Specialty Chemical Services

Visp, Switzerland
Kouřim, Czech Republic
Nansha, China
Nanjing, China
Lake Charles, USA

Financial Highlights

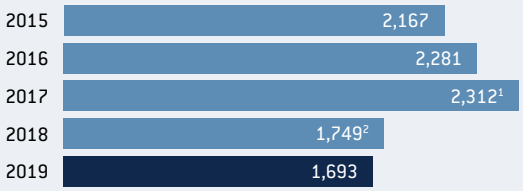
Lonza Specialty Ingredients (LSI) has experienced headwinds during 2019. Sales declined 3.2%, resulting in CHF 1.7 billion revenues for the segment. Pricing initiatives, operational improvements and cost control measures resulted in a CORE EBITDA of CHF 302 million and a solid 17.8% CORE EBITDA margin. We will continue to focus on driving recovery for our business, delivering the carve-out and developing a new market-oriented and efficient organization. Over the course of 2019, we have worked to develop the structure of our business to reflect more accurately the underlying technology platforms. The business is now set up with a leading portfolio of Microbial Control Solutions (MCS), supported by a division of dedicated Specialty Chemicals Services (SCS).

Specialty Ingredients

million CHF	2019	Change in %	2018 Restated[2]
Sales	**1,693**	**(3.2)**	**1,749**
CORE EBITDA	**302**	**(0.3)**	**303**
Margin in %	**17.8**		**17.3**
CORE EBITDA excl. IFRS 16	297	(2.0)	303
Margin in %	17.5		17.3
CORE result from operating activities (EBIT)	**223**	**(1.8)**	**227**
Margin in %	**13.2**		**13.0**
CORE result from operating activities (EBIT) excl. IFRS 16	222	(2.2)	227
Margin in %	13.1		13.0

Sales

Million CHF

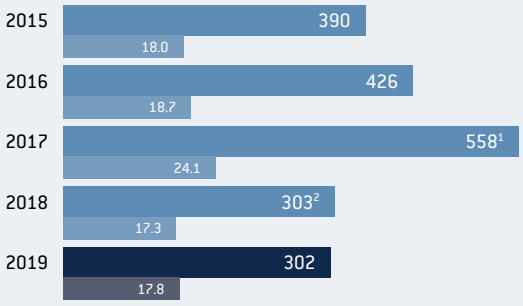


CORE EBITDA

Million CHF

CORE EBITDA Margin

In %



[1] Reported pro-forma full-year 2017 financial results include Capsugel full-year 2017 financial results

[2] Restated to reflect the 2019 realignment of Lonza's segments into Pharma Biotech & Nutrition and Specialty Ingredients

Innovations in Lonza Specialty Ingredients

Our Specialty Ingredients business development team focuses on innovation to anticipate the evolving needs of the marketplace. All our LSI businesses are addressing a wide range of consumer-oriented and industrial markets, as well as wood applications and agricultural offerings along a common microbial control platform. The focus is on innovative and smart microbial control solutions for resource protection and a consumer-centric healthy environment. There is also a developing focus on increasingly challenging regulatory requirements that carry both risks and opportunities for competitive differentiation.

Regulatory Stewardship
The changing regulatory landscape is impacted by multiple factors; chemical regulations are becoming more stringent and increasing in number, difficulties and enforcements. Global regulatory scenarios are becoming increasingly complex, with local adaptations especially in emerging markets. There is a greater concern over the environmental impact of biocides driven by consumer and non-governmental organizations; new potential health concerns are also being raised.

Because of the heavily regulated nature of the microbial control platform, the choice of chemicals available is shrinking while the requirement for new and established products is increasing. These challenges offer us opportunities to differentiate against our competition by using our deep scientific and regulatory knowledge and expertise. Our leading position in Microbial Control Regulatory enables us to address and meet market challenges and offer solutions, which protect our customer's brands and the environment.

Our extensive portfolio of approved active substances is a major competitive advantage when traditional biocides such as methylisothiazolinones (MIT) become more strictly regulated due to health and environmental concerns. In response to an increasing global demand for MIT-free biocide formulations, we have expanded our portfolio of preservatives with two active broadband biocides for the wet-state preservation of water-based paints, adhesives and construction chemicals. For more information, see Microbial Control Solutions.

Market-driven Innovation
Growing awareness of health risks increases demand for innovative, safe and sustainable hygiene and microbial-control solutions, which deliver infection control, clean-label preservation, a safe and healthy living environment and a sustainable use of resources.

We have an incremental innovation pipeline with a high number of very promising projects, which have the potential to convert into market leading innovations supporting the Specialty Ingredients innovation platform in microbial control.

Our market-led microbial control innovation spans from single highly effective anti-microbial ingredients to formulated microbial solutions. Our know-how in formulation expertise and application technology enables our customers to access formulated turnkey solutions, which meet the complex requirements of our customers' applications.

In the areas of hygiene and disinfection, we offer industry-leading innovative blends of anti-microbial ingredients that provide safe and effective protection against bacteria, molds and other contaminants while satisfying increasingly strict global regulations.

Collaboration and Start-up Funding
In early 2018, we launched with the Prolog Lonza Consumer Fund, an exclusive Venture Capital Fund in partnership with Prolog Ventures to invest in potentially game-changing, consumer-centric start-ups focused in North America.

The Fund offers value by providing early-stage, high-growth companies with access to our global resources and expertise. In return, we can gain insights into innovative business models and technologies, evolving consumer trends and changing demands, and new digital routes to market. By tapping into the entrepreneurial ecosystem, we aim to expand our future business growth opportunities.

In 2019, Prolog Ventures' first funding has been released to bio-Clarity™, a digitally native brand known for its skincare products. Specifically formulated for the treatment of acne in teenagers and young adults, bioClarity™ is rapidly growing in popularity among Generation Z and Millennials. The investment enables us to collaborate in a high value niche market, to prototype customized solution offerings and to benefit from bioClarity™'s expertise in consumer targeted social media marketing.

In the last three years, we have established collaboration with Universities that can help us further develop and maintain our leading position in microbial control. We have established collaborations with the University of Sofia (a world leading school in colloid science and formulation), Sheffield University (a leading research center on bacterial adhesion and biofilm), Manchester University (with world-class Physical and Microbiology departments) and Oxford University.

In collaboration with Manchester University's School of Biological Sciences and School of Physics and Astronomy, we have been awarded a grant from Innovate UK, a non-governmental public body operating as part of the United Kingdom Research and Innovation organization. With this support we are working on combatting antimicrobial resistance (AMR) through developing the understanding of the interaction between microorganism and biocide and enabling market expansion through sales growth from active ingredients and formulated products.

Personal Perspective

Sven Abend

Chief Operating Officer Specialty Ingredients

2019 has been a transformational year for the Specialty Ingredients segment (LSI). We have worked to refocus our business, define the priority growth areas, enhance our market and customer offer and review the organizational structure to improve our agility and alignment with the wider business.

In Q1 we transferred the Consumer Health & Nutrition business into the Pharma & Biotech segment, allowing us to focus more closely on strengthening our microbial control platform. This is our major growth driver and a business in which we already hold a leading market position.

Following the Group announcement of its intention to commence a carve-out of the Specialty Ingredients segment from the wider Lonza Group business, we began to prepare for operational, commercial and financial independence, while remaining within the Lonza family. This step has enabled LSI to structure its business for optimal performance as a standalone entity.

LSI now comprises two divisions, focusing on different markets and operating distinct technology and asset platforms: Microbial Control Solutions (MCS), our growth driver, delivers future-proof Microbial Control technologies and related applications to consumer-facing and resource protection markets. Our Specialty Chemical Services (SCS) is an asset-driven business with attractive growth levels in technically demanding industries and applications, as well as capabilities in custom development and manufacturing.

To better serve the specific needs of these very different businesses, we aligned portfolios and adapted the size of our organization to best support the business in the long-term. Notably, we integrated our business critical enabling functions, such as customer service, to further increase our efficiency and service quality.

Over the past year, we have also significantly improved our operational excellence. For instance, we have integrated our supply chain and simplified our asset management. The combination of these efforts will allow us to build a sustainable and competitive standalone entity that delivers the best possible operational efficiency and is responsive to changing business needs.

Turning to our external context, we have faced challenges in our markets, but we are confident that we will benefit from greater stability in 2020. Through 2019, we have experienced challenges in our supply chain with shortages of some key raw materials, as well as softer demand in our end-markets, caused by a combination of trade disputes, higher tariffs and stricter regulation.

We have worked assiduously through all of these challenges to create a leaner business with greater flexibility and a strong focus on operational quality and efficiency. The team has embraced many changes over the course of 2019, while steadily driving the business forward. We are confident that we have set ourselves up for improved performance in 2020, with innovative offerings and greater agility to navigate the regulatory landscape, as well as a stronger customer focus.

Microbial Control Solutions (MCS)

>4,300 Customers Worldwide

>38 Fields of Application

>470 Offerings

Wood Protection
Our wood protection products deliver technologies that enhance the performance and increase the longevity of wood, one of the world's greatest renewable resources. We manufacture high-quality formulated products that protect wood from mold, insects, fungal decay and fire to help make the most of wood as a sustainable and adaptable construction material. Our proven preservative technologies extend the service life of lumber, ensuring it can be used as a high performance material. Sapstain and mold control treatments keep lumber clean all the way from the sawmill to consumers' doors. Our heavy-duty industrial offerings protect wood in the harshest environments, including utility, railway, marine and agricultural applications. Our market-leading formulations for glue line protection of strand and veneer-based engineered wood products secure the future of wood against alternative materials. We support our customers with our flagship brands of Wolman®, Tanalith®, Dricon® and AntiBlu®.

Material Protection
Our Materials Protection business offers solutions that include anti-microbials, corrosion inhibitors, lubricants, and a variety of other specialty additives. These products are used across a range of industries including Metal Working Fluids, Powdered Metal, Polymers and Textiles, and Oil and Gas. Our Metal Working Fluid products, such as Densil®, Omacide®, Proxel®, Lonzabac® and Vanquish® protect our customers fluid systems from harmful bacteria and fungi, lengthening the use of a fluid system therefore providing sustainable solutions, that reduces system costs and waste. Our Arcawax® Powdered Metal lubricants are recognized as the high quality industry standard lubricant, reducing the likelihood of wasted materials and increasing our customers manufacturing efficiency.

Over the last four decades, products made from polymer blends are becoming an increasing part of a consumer's life. We have served the polymer industry with unique customer-specific product solutions of high quality and consistency. These additives, such as Acrawax®, Glycolube® and Glycomul® are either protecting the polymer matrix (for e.g. lubricants) or are providing a unique property to the overall system such as its anti-static, anti-fogging effect. Typical examples for end applications would be car interior & under the hood, consumer electronics, ophthalmic and medical devices.

Our anti-microbial products, in particular Vanquish® and Zinc Omadine® are also additives of choice in applications such as carpet backing, bath mats, shower curtains, wallboards, plastic fencing, roof tiles etc. A growing consumer trend in the textile industry, specifically in sports active wear is to have anti-microbial additives as part of the formulation to minimize the bad odors caused by the bacteria from perspiration. Our products are part of a significant number of premium athletic brands.

In the Oil and Gas market, we provide high performance biocides, such as Bardac®, Barquat®, Vantocil® and Dantogard®, corrosion inhibitors Uniquat®, Akolidine® and hydrogen sulfide scavengers SourBan®, that are used to protect oil and gas production systems from aggressive corrosion conditions.

Paints & Coatings
We are a global leader for Paints & Coatings which includes providing wet state preservation for waterborne architectural paint and other formulations in the building and construction market space. Additionally, we play a critical role in the protection of marine vessels from marine antifouling and offer best in class technology for paint dry film protection against defacement from algae and fungi. We are an innovation leader by providing effective solutions that are oriented to microbial control versus just biocides. Innovation efforts include providing slow release technologies and an increasing focus on using inert raw materials to provide efficacy in coating systems.

Customers know us through the global brands of Proxel®, Omadine®, Densil® and Umigard®. Each brand conveys our leadership position in the various applications for microbial control ranging from protection on a home owner facade to the hull of an ocean going vessel.

Professional Hygiene
As a global leader in registered biocides, preservatives and antimicrobial formulations, our hygiene business offers solutions for disinfecting and sanitizing surfaces in industrial and institutional settings. This includes schools, food-processing plants, restaurants, grocery stores, hospitals, operating theaters and health clinics. Our products help prevent the spread of infection and are available in a range of formats, including concentrates and ready-to-use liquids, wipes, and solids. Our global registrations portfolio includes the U.S. Environmental Protection Agency (EPA), the Canadian Therapeutic Products Directorate (TPD), the EU Biocidal Products Regulation (BPR) and the China and Japan Ministries of Health, as well as many other regulatory agencies around the world.

We also provide regulatory and toxicology expertise, supporting compliance with global regulatory regimes. Our robust data packages and innovative, market-focused research and technology offerings enable our customers to stay at the forefront of industry developments. Product innovation and strong regulatory leadership will continue to be the strategic cornerstones of our professional hygiene offering together with our high levels of customer support.

Home & Personal Care
Within Home Care, our focus remains on ensuring that our homes remain healthy places, by providing new and innovative solutions to clean, sanitize and disinfect our rooms and surfaces. Our innovative research and development (R&D) programs, aligned with industry-leading regulatory and toxicology expertise, allow us to offer convenient and effective solutions to the many microbial challenges we face in the home.

Our Personal Care business serves the global beauty and well-being markets. We are the leading producer of dandruff-fighting ingredients, built on Zinc Pyrithione – the world's most recognized and widely accepted anti-dandruff active. In addition, our Zinc Omadine® brand is recognized as the global standard for cosmetic anti-dandruff treatment products.

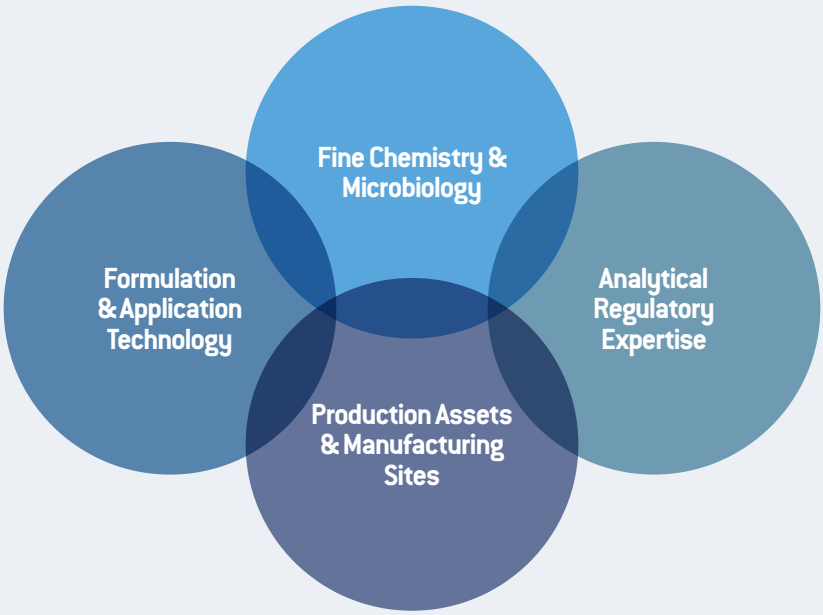
We further strengthen our position with well-established and next generation preservation systems, as well as our functional ingredients, such as specialty plant-based emulsifiers and aesthetic modifiers across all of personal care formulations.

With custom-developed biological fermentation and technologies perfected for pharmaceutical companies, the personal care team continues to deliver premium-positioned bio-active functionals, which enhances the consumer experience and uniquely improves the performance of finished products targeting leave-on skin and scalp care.

Crop Protection
Our Crop Protection business offers customers a range of agro-chemistry and formulations for global agricultural markets. We have a leading position in the supply of Meta® Metaldehyde, the active of choice for controlling mollusks. We have invested significantly in registration packages across the world. To support the farming community, we have also extended our molluscicide offer to include Axcela® pellets, a ready-formulated product for use in a wide range of global agricultural needs.

Developed in collaboration with our distribution partners in different regions, we have an ever-increasing range of products to help farmers maximize the effectiveness of their crop protection products. We offer crop-protecting fungicides, insecticides, herbicides, foliar nutrients and additives. To provide full support to the farming community, we also offer post-harvest sanitation solutions such as FREXUS®. This line of products ensures effective sanitization in the food, beverage and farming industries.

Leveraging Technology Platforms, Expertise and Assets



Highlights and Initiatives 2019

While general demand for microbial control applications was solid in 2019, the Microbial Control Solutions business saw mixed performance, which was related to its various end-markets.

Wood Protection
During 2019, Wood protection experienced stable demand, but saw an increased competitive environment and pricing pressure, especially in the US market.

The increasingly stringent regulatory landscape in the European wood protection market, combined with the ongoing Biocidal Products Directive (BPR) evaluation of creosote (a common preservative system used for high-performance timber applications), has generated increased market interest in modern technologies such as our new Tanasote® preservative. Tanasote® is an innovative oil-based alternative to traditional creosote, expected to be available by the end of 2020.

We successfully launched another new high-performance preservative formulation, Tanalith® K, for the treatment of utility poles, agricultural timbers, and other industrial products in Oceania. The product was launched with a flagship customer in 2019, providing the foundation for further rollout in 2020.

We have also expanded the geographic offering of our existing technologies, including our Excalibur™ incising equipment and Auto-Treater™ process control systems, to drive steady growth in targeted regions such as the Nordics, France and United Kingdom. We experienced further growth in the residential retail sector in North America through collaborative marketing partnerships with wood treatment customers and the big box retail channel.

Material Protection
In 2019, Polymers and Textiles faced softer market demand from the automobile industry and still suffered from a suboptimal supply of a BIT (1,2-Benzisothiazolin-3-one)-related intermediate. BIT supply began to regain stability in H2 2019 and Lonza expects a fully restored supply by the end of H1 2020.

Oil and Gas industry solutions performed strongly in 2019; these include corrosion inhibitors and biocides to protect vital operation systems. We launched a new oil and gas biocide, Bardac® 2210 Biocide, providing large cost performance improvements and significant lead time reductions with last leg field logistics. Leveraging our deep technical capabilities, the industrial team deployed novel rapid Deoxyribonucleic Acid (DNA) speciation techniques to help customers make better decisions about protecting their assets while concurrently reducing costs.

Moreover, we announced the approval of Densil® DN and Densil® DG-45 antimicrobials, by the United States Environmental Protection Agency (EPA) for use in all metalworking fluid systems. The Densil® DN and Densil® DG-45 products are globally recognized fungicides with a proven performance record. These antimicrobials are chemically stable over broad pH and temperature ranges, effective in systems with a high level of bacterial contamination and compatible with a variety of metalworking fluids and amine systems.

Paints & Coatings
Paints & Coatings showed good performance during the reporting year, despite the shortage of key raw material BIT.

In response to future global methylisothiazolinone (MIT)-label restrictions in biocide formulations, we introduced two new additions to the Proxel® range of preservatives. Proxel® LSR and Proxel® HBC Preservatives are dual-active, broad-spectrum biocides for wet-state preservation of water-based paints, adhesives and construction chemicals.

Professional Hygiene
Professional Hygiene saw positive performance in 2019, with continued strong disinfection sales into veterinary, biosecurity, food service and wipes.

In 2019, we expanded our hygiene offerings into the Indian and Middle Eastern markets to meet the increasing hygiene needs and standards resulting from socio-demographic, macro-economic and regulatory changes.

As part of our customer support program, we introduced new additions to our professional hygiene offerings. One example is our first hydrogen peroxide based hard surface disinfectant. Hydrogen peroxide is a sustainable active that breaks down naturally into water and oxygen. The NUGEN® EHP platform offers environmentally sustainable disinfection to consumers and cleaning professionals, who want to use more sustainable cleaning solutions without compromising core-cleaning performance. We have also expanded our hand hygiene offerings to include a Non-Alcohol Hand Sanitizer concentrate.

Our European Professional Hygiene business in the EMEA region continued to grow well above market average, mainly driven by the further implementation of our market-tailored "Survive the BPR®" initiatives. The value offered through our "Formulated Solutions" program has been well received by the market, and adopted by a steadily increasing number of customers. The initiative mainly targets mid-sized and smaller accounts which are looking to market biocidal products under their own brand, but for which we take care of all regulatory and technical support, ranging from product development to market authorization under the BPR. Customers may manufacture the biocidal end-use product in their own facilities under a license agreement, or purchase the readily formulated product directly. Our "Premium Support" initiative is targeted to key accounts in the hygiene market, building on our regulatory and technical expertise in the field of biocides. Customers value our specialist support to assure authorization of their products.

The list of tools to effectively manage pathogens that move with people, animals and food, is getting smaller. This is why we have started a holistic advocacy program aiming to educate consumers, users and scientists about the existing data that answers questions around human health, environmental fate, human toxicity and microbial resistance. An example is our current partnership with Manchester University, which is partially funded by the United Kingdom government to dispel the concerns surrounding Quaternary Ammonium Compounds resistance.

Home & Personal Care
During the reporting year, the Home & Personal Care business continued innovating in chemistries, applications and differentiated offerings. Home care disinfection saw positive performance in 2019, while Personal care preservation ended the year soft but saw an uptake in H2.

Driven by changing requirements of the US Food and Drug Administration (FDA) which have caused increasing moves away from Triclosan, we successfully introduced an effective microbial-control alternative - Lonzagard® BKC cGMP - to the home care market. Produced under current good manufacturing practice (cGMP) to meet the stringent US FDA regulatory requirements as a hand care antimicrobial active ingredient as well as a personal care or pharmaceutical preservative. In addition, during 2019, Lonza continued to invest in the development of Safety and Efficacy data required by the FDA for maintaining this hand hygiene tool for its use against microbial pathogens. These efforts allowed us to secure and renew long term agreements with multiple customers in consumer and professional service markets.

Globally, we have invested significantly in our consumer laundry hygiene program, helping to reduce energy and water consumption. Reductions in wash temperatures, coupled with lower water usage and shorter cycle times, have reduced the removal of micro-organisms during the washing process, leading to increases in the need for hygienic laundry products. Driven through our United Kingdom-based laundry development center, we have become an advanced and growing supplier of antimicrobial solutions in this area, currently best exemplified by our widely used Bardac® 2080 active ingredient.

In response to the changing and increasing regulatory requirements of home care preservation, we have repositioned our Sodium Omadine® antimicrobial, a preservative active, providing a viable isothiazolinone-free and solvent-free offer for formulators used in household products, such as laundry care, surface cleaning and air care.

As a leading anti-dandruff active supplier, we continue to innovate and expand our presence in the Personal Care market. Our anti-dandruff platform was successfully expanded in 2019 with pickup of supply in Europe. Our newest offering Piroctone Olamine, broadened our portfolio of anti-dandruff actives, supporting our position as a key partner for scalp health brands worldwide.

Helping our customers to develop consumer products that meet the latest global consumer trends, we have broadened our portfolio with four new offerings:

- The SYNETH™ range of naturally derived polyglycerol esters provides extremely versatile, nonionic emulsifiers and surfactants. They are designed to help formulators strike the perfect balance between functionality, aesthetics and mildness in skin and haircare products.
- Our H2OBioEV® bioactive functional is an innovative ingredient for skin rejuvenation. It is a multifunctional cosmetic ingredient that helps revitalize, rejuvenate and moisturize skin, for a healthier, more radiant and smoother look.
- The Modifect® EV bioactive functional is a multifunctional cosmetic ingredient designed to help provide a more youthful appearance. It helps to detoxify and fortify the skin against oxidative damage, showing a reduction in the appearence of age spots, a smoother skin texture.
- The NAB® Rhodiola Extract bioactive functional is a multifunctional adaptogenic plant extract, well-known for helping to protect the skin against the stresses of modern urban life.

Crop Protection

Crop Protection, especially molluscicides, faced ongoing customer destocking after a dry 2018 summer in Europe, aggressive competition from China and further dry weather in 2019.

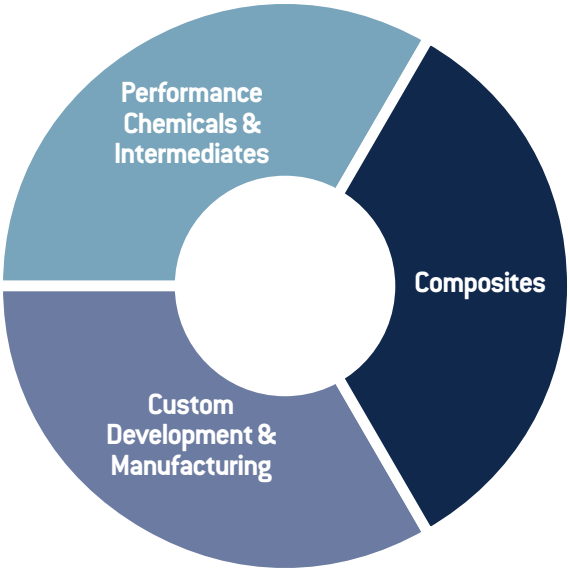
During 2019, we successfully gained label extensions in a number of key agricultural and horticultural products. Label expansion includes the use of the fungicide Esteem® in grapes for wine production. This enables growers to control powdery mildew and suppress botrytis throughout the growing season. Other examples include Foschek® as a foliar application in avocados and the herbicide Oxy 500 for post plant pre-emergence weed control in potatoes.

The first important milestone has been reached in the USA with the registration of Barrachlor™ (Chlorothalonil). This is the first product coming out of our crop protection geographical expansion project.

After a successful launch in Q2 in Malaysia, the tank-mix adjuvants for crop protection — Celenco™ Ag+ has been further rolled out in Thailand. We will continue to expand the Celenco™ portfolio in Brazil by adding two new tank-mix products for herbicides based on water and oil.

The successful launch of our ready formulated Axcela® for slug and snail control in New Zealand in 2018 has been rewarded with first sales growth during 2019. In Australia we have successfully obtained registration for Axcela®. Label expansions for Metaldehyde formulations were also successful in Brazil and Japan in 2019.

Specialty Chemical Services (SCS)



>1,000 Customers Worldwide

>200 Offerings

>1,000 Custom Solutions (realized over the last 45 years)

Our SCS business provides solutions for composite materials and processing additives for technically demanding industries, like electronics, transportation and aerospace. We also provide performance intermediates & chemicals for many industrial applications, such as agro intermediates, food & feed ingredients, cosmetics, non-current good manufacturing practices (non-cGMP) intermediates, and custom development & manufacturing.

Performance Chemicals & Intermediates
We are a partner of choice for our customers, ensuring security of supply with the highest quality in specialty chemicals. We are committed to the highest environmental, health and safety standards in our two state-of-the-art sites in Visp (CH) and Nansha (CN). Our cracker in Visp is the backbone of a comprehensive, fully backward integrated chemical network. Originating from this enabling technology, we offer a variety of performance chemicals based on special technologies like Hydrocyanic Acid- (HCN), Acetylene-, Ethylene- and Ketene/Diketene- chemistry.

We are also the leading manufacturer of vitamin B3. Our dedicated plants in Visp and in Nansha produce Niacin (nicotinic acid) and Niacinamide. As the leading supplier in the global feed and food industry, we are committed to providing nutritional ingredients of unsurpassed quality.

Composites
We are a leading supplier of specialized resins to the composite and high performance materials industry. We are also a leading supplier of Primaset® thermoset resins. In addition, we offer the Lonzacure® range of special curing agents for high performance materials such as Epoxy, Polymide, Polyurea and Polyurethane. Our composite thermoset resin systems are used in modern consumer electronics to help enhance performance, as well as in the production of lightweight, reliable structural and interior elements for passenger aircraft.

Custom Development & Manufacturing
Our Custom Development and Manufacturing Business has a strong footprint in the realization of modern plant protection products. Increasingly, we also use our extensive process development expertise to serve our other markets, namely Home & Personal Care, Hygiene, Food Additives and Supplements. In particular, the food markets benefit from our biotechnical custom development and manufacturing capabilities at our cutting edge fermentation plant in Kouřim (CZ). Our services also include full life-cycle management for customers' products.

Our products and services, offered to the agricultural markets derive from our strong focus on customer needs with a high level of expertise in chemical and biological technology. We support

our customers in the production of modern herbicides, fungicides and insecticides, including biologically derived products, such as biopesticides. We can also offer full life-cycle management for customers' products.

Highlights and Initiatives 2019

The SCS business was negatively impacted by ongoing geopolitical tensions, raw material supply challenges and unfavorable cyclical end-markets. The weak market demand for consumer electronics has been magnified by the US-China trade dispute, impacting the composites business in 2019. Custom manufacturing closed ahead of its 2018 performance level. Competitive pressure from China and supply chain challenges resulted in lower volumes of industrial intermediates. Demand for agrochemical ingredients was down, and the vitamin B3 business was impacted by lower volumes due to the African Swine Fever in Asia and low prices at the beginning of the year.

Discover More

For further information about our businesses, visit one of the following websites: Lonza Specialty Ingredients / Wood Protection / Crop Protection / Personal Care / Professional Hygiene

Performance Chemicals & Intermediates
In response to the growing demand for non-current good manufacturing practice (non-cGMP) intermediates for pharma, agro intermediates and food & feed applications, we invested in a capacity expansion in our Visp (CH) site to produce pharma and other intermediates.

Custom Development & Manufacturing
Based on our heritage and exceptional track record of more than 1,000 customized solutions for various markets, we launched the YOU initiative in 2019, to place our customer firmly at the center of our business (For more information, please go to our LinkedIn account). With our ability to offer chemical and biotechnological manufacturing services, building on a long legacy of technical excellence and process development expertise, we enable our customers to take their innovation to their markets in a rapid and reliable manner.

Our recent expansion into new markets shows early signs of success. For example the China Blue Sky initiatives – from the Ministry of Environmental Protection for The People's Republic of China – revealed the need for a reliable, rapid supplier of key raw materials and solutions. We have the right technologies to solve customers' challenges as they deal with supply problems caused by the changes in Chinese industry and sustainability requirements. With our cracker in Visp (CH), we are backward integrated into raw chemicals to solve customer supply issues.

Financial Statements

Consolidated Balance Sheet

Assets[1]

Million CHF	Notes[2]	2019	2018
Non-current assets			
Property, plant and equipment	7	3,817	3,152
Intangible assets	6	3,073	3,312
Goodwill	6	3,651	3,748
Other non-current assets	8	237	153
Non-current income tax receivables		0	13
Deferred tax assets	22	23	29
Total non-current assets		**10,801**	**10,407**
Current assets			
Inventories	10	1,392	1,250
Trade receivables	11	759	692
Current tax receivables		14	31
Other receivables, prepaid expenses and accrued income	12	341	256
Cash and cash equivalents	13	505	461
Assets held for sale[3]		29	824
Total current assets		**3,040**	**3,514**
Total assets		**13,841**	**13,921**

[1] At 31 December
[2] See the accompanying notes to the consolidated financial statements
[3] In 2019, assets held for sale relate to a land in Guangzhou (2018: CHF 34 million). In 2018, there were also assets (CHF 790 million) that were related to discontinued operations (see note 5.3)

Equity and Liabilities[1]

Million CHF	Notes[2]	2019	2018
Equity			
Share capital	26	74	74
Share premium		3,314	3,314
Treasury shares		(51)	(71)
Retained earnings and reserves		3,157	2,901
Total equity attributable to equity holders of the parent		6,494	**6,218**
Non-controlling interests		71	72
Total equity		**6,565**	**6,290**
Liabilities			
Non-current provisions	14	145	131
Employee benefit liabilities	24	511	507
Other non-current liabilities	16	549	281
Non-current debt	15	2,766	3,621
Deferred tax liabilities	22	630	711
Total non-current liabilities		**4,601**	**5,251**
Current provisions	14	52	56
Other current liabilities	16	1,216	1,112
Trade payables	17	453	428
Current debt	15	774	441
Current tax payables	22	180	150
Liabilities held for sale[3]		0	193
Total current liabilities		**2,675**	**2,380**
Total liabilities		**7,276**	**7,631**
Total equity and liabilities		**13,841**	**13,921**

[1] At 31 December
[2] See the accompanying notes to the consolidated financial statements
[3] In 2018, there were liabilities (CHF 193 million) that were related to discontinued operations (see note 5.3)

Consolidated Income Statement[1]

Million CHF	Notes[2]		2019	2018
Sales	3		5,920	5,542
Cost of goods sold			(3,665)	(3,449)
Gross profit			**2,255**	**2,093**
Marketing and distribution			(313)	(344)
Research and development	23		(123)	(110)
Administration and general overheads[3]			(826)	(732)
Other operating income	20.1		68	50
Other operating expenses	20.2		(89)	(115)
Result from operating activities (EBIT)[4]			**972**	**842**
Financial income	21.1		22	85
Financial expenses	21.2		(142)	(119)
Net financial result			**(120)**	**(34)**
Share of loss of associates / joint ventures	9		(3)	(1)
Profit before income taxes			**849**	**807**
Income taxes	22		(86)	(148)
Profit from continuing operations			**763**	**659**
Loss from discontinued operations, net of tax	5.3		(117)	(96)
Profit for the period			**646**	**563**
Attributable to:				
Equity holders of the parent			645	559
Non-controlling interest			1	4
Profit for the period			**646**	**563**
Earnings per share for profit from continuing operations attributable to equity holders of the parent:				
Basic earnings per share – EPS basic	27	CHF	10.28	8.80
Diluted earnings per share – EPS diluted	27	CHF	10.22	8.77
Earnings per share for profit attributable to equity holders of the parent:				
Basic earnings per share – EPS basic	27	CHF	8.70	7.51
Diluted earnings per share – EPS diluted	27	CHF	8.65	7.48

1 For the year ended 31 December
2 See the accompanying notes to the consolidated financial statements
3 Includes the amortization of acquisition-related intangible assets (2019: CHF 169 million, 2018: CHF 164 million)
4 Result from operating activities (EBIT) excludes interest income and expenses as well as financial income and expenses that are not interest related (see note 21) and Lonza's share of profit / loss from associates and joint ventures

Consolidated Statement of Comprehensive Income[1]

Million CHF	Notes[2]		2019		2018
Profit for the period			**646**		**563**
Other comprehensive income					
Items that will not be reclassified to profit or loss:					
Remeasurement of net defined benefit liability	24	(43)		7	
Income tax on items that will not be reclassified to profit or loss	22.2	7	(36)	(1)	6
Items that are or may be reclassified subsequently to profit or loss:					
Exchange differences on translating foreign operations		(153)		(222)	
Cash flow hedges - effective portion of changes in fair value		1		(17)	
Cash flow hedges - reclassified to profit or loss		(6)		1	
Income tax on items that are or may be reclassified to profit or loss	22.2	0	(158)	3	(235)
Other comprehensive income for the period, net of tax			**(194)**		**(229)**
Total other comprehensive income for the period			**452**		**334**
Total comprehensive income attributable to:					
Equity holders of the parent			452		333
Non-controlling interests			0		1
Total comprehensive income for the period			**452**		**334**

[1] For the year ended 31 December
[2] See the accompanying notes to the consolidated financial statements

Consolidated Statement of Cash Flows[1]

Million CHF	Notes[2]	2019	2018
Profit for the period		646	563
Adjustments for non-cash items:			
– Income taxes	22	63	146
– Net financial result		124	43
– Share of loss of associates / joint ventures		3	2
– Depreciation of property, plant and equipment (incl. right-of-use of leased assets)	7	351	333
– Amortization of intangibles	6	193	193
– Reversal of impairment	4,7	(7)	0
– Impairment losses on property, plant, equipment, intangibles and assets held for sale	4,6,7	16	77
– Goodwill impairment		0	85
– Increase in provisions	14	67	61
– Increase / (decrease) in employee benefit liability		2	(3)
– Loss on disposal of property, plant and equipment		6	8
– Amortization of other liabilities / assets		(22)	(33)
– Share-based payments	25	56	29
– Non-cash items related to discontinued operations (incl. recycling of accumulated foreign exchange losses)	5.3	126	0
– Non-cash customer payment[3]		(14)	0
Income taxes paid		(137)	(143)
Interest paid		(71)	(82)
Total before change in net working capital		1,402	1,279
Increase in inventories		(171)	(207)
Increase in trade receivables		(106)	(5)
Increase in trade payables		40	77
(Increase) / decrease other net working capital		(81)	106
Use of provisions	14	(56)	(45)
Decrease in other payables, net		(42)	(123)
Net cash provided by operating activities		**986**	**1,082**
Purchase of property, plant and equipment	7	(757)	(528)
Purchase of intangible assets	6	(29)	(47)
Acquisition of subsidiaries, net of cash acquired	5	(24)	(28)
Disposal of subsidiaries, net of cash disposed of	5.3	620	(1)
Purchase of unconsolidated investments		(15)	(11)
Proceeds from unconsolidated investments		1	1
Prepayment of leases	7.2	(21)	0
Capitalized contract costs		(3)	(1)
Net proceeds from sales and purchases of other assets		4	2
Increase in loans and advances		(69)	(41)
Interest received		5	1
Dividends received		3	1
Net cash used for investing activities		**(285)**	**(652)**

Million CHF	Notes[2]	2019	2018
Repayment of straight bond	15	(300)	(340)
Repayment of bank loan	15	(198)	0
Issuance / (repayment) of syndicated loan	15	(119)	29
Issuance / (repayment) of term loan	15	265	0
Increase / (decrease) in debt	15	(94)	152
Payment of lease liabilities		(33)	0
Increase in other non-current liabilities		60	29
Capital injection from owners of the non-controlling interests		1	0
Purchase of treasury shares		(48)	(77)
Dividends paid[4]	27	(206)	(206)
Net cash used for financing activities	27	**(672)**	**(413)**
Effect of currency translation on cash		(6)	(14)
Net increase in cash and cash equivalents		23	3
Cash and cash equivalents at 1 January		482	479
Cash and cash equivalents at 31 December		505	482
Cash and cash equivalents classified as held for sale	5.3	0	(21)
Cash and cash equivalents at 31 December (as reported)		505	461

[1] For the year ended 31 December
[2] See the accompanying notes to the consolidated financial statements
[3] Payment from customer in the form of quoted equity instruments
[4] Includes dividends of CHF 2 million (2018: CHF 1 million) paid to minority shareholders of a subsidiary

Consolidated Statement of Changes in Equity

Million CHF	Notes[1]	Attributable to equity holders of the parent: Share capital	Share premium	Retained earnings	Hedging reserve	Translation reserve	Treasury shares	Total	Non-controlling interests	Total equity
At 1 January 2018		**74**	**3,314**	**3,139**	**3**	**(338)**	**(59)**	**6,133**	**48**	**6,181**
Profit for the period		0	0	559	0	0	0	559	4	563
– Remeasurement of defined benefit liability		0	0	6	0	0	0	6	0	6
– Exchange differences on translating foreign operations		0	0	0	0	(218)	0	(218)	(3)	(221)
– Cash flow hedges		0	0	0	(14)	0	0	(14)	0	(14)
Other comprehensive income, net of tax		0	0	6	(14)	(218)	0	(226)	(3)	(229)
Total comprehensive income for the period		**0**	**0**	**565**	**(14)**	**(218)**	**0**	**333**	**1**	**334**
Dividends	27	0	0	(205)	0	0	0	(205)	(1)	(206)
Recognition of share-based payments	25	0	0	34	0	0	0	34	0	34
Movements in treasury shares		0	0	(65)	0	0	(12)	(77)	0	(77)
Acquisition of subsidiary with non-controlling interests		0	0	0	0	0	0	0	24	24
At 31 December 2018		**74**	**3,314**	**3,468**	**(11)**	**(556)**	**(71)**	**6,218**	**72**	**6,290**
Profit for the period		0	0	645	0	0	0	645	1	646
– Remeasurement of defined benefit liability		0	0	(36)	0	0	0	**(36)**	0	(36)
– Exchange differences on translating foreign operations		0	0	0	0	(151)	0	(151)	(1)	(152)
– Cash flow hedges		0	0	0	(6)	0	0	(6)	0	(6)
Other comprehensive income, net of tax		0	0	(36)	(6)	(151)	0	(193)	(1)	(194)
Total comprehensive income for the period		**0**	**0**	**609**	**(6)**	**(151)**	**0**	**452**	**0**	**452**
Dividends	27	0	0	(204)	0	0	0	(204)	(2)	(206)
Recognition of share-based payments	25	0	0	76	0	0	0	76	0	76
Movements in treasury shares		0	0	(68)	0	0	20	(48)	0	(48)
Capital injection from owners of the non-controlling interests		0	0	0	0	0	0	0	1	1
At 31 December 2019		**74**	**3,314**	**3,881**	**(17)**	**(707)**	**(51)**	**6,494**	**71**	**6,565**

[1] See the accompanying notes to the consolidated financial statements

Translation reserve
The translation reserve of the consolidated statement of changes in equity comprises all foreign exchange differences arising from the translation of the financial statements of foreign entities including the impact on translating monetary items that form a net investment in a foreign operation.

Notes to the Consolidated Financial Statements

Note 1
Accounting Principles

1.1
Lonza Group

Lonza Group Ltd and its subsidiaries (hereafter "the Group" or "Lonza") operate under the name Lonza. Lonza Group Ltd is a limited liability company incorporated and domiciled in Switzerland. The Group is headquartered in Basel, Switzerland. Lonza is one of the world's leading and most-trusted suppliers to the pharmaceutical, biotech and specialty ingredients markets. It harnesses science and technology to create products that support safer and healthier living and enhance the overall quality of life. Benefiting from its regulatory expertise, Lonza is able to transfer its know-how from pharma to hygiene and fast-moving consumer goods all the way to coatings and composites and the preservation and protection of agricultural goods and other natural resources.

1.2
Basis of Preparation

The consolidated financial statements for 2019 and 2018 are reported in Swiss francs (CHF), rounded to millions, and based on the annual accounts of Lonza Group Ltd (Company) and its subsidiaries at 31 December, which have been drawn up according to uniform Group accounting principles. The consolidated accounts are prepared in accordance with International Financial Reporting Standards (IFRS) and with Swiss law. They are prepared on the historical cost basis, except that derivative financial instruments and contingent considerations are stated at their fair values and the employee benefit liability is stated at the fair value of plan assets less the present value of the defined benefit obligation.

On 1 November 2018, Lonza entered into a definitive agreement with Platinum Equity to sell Lonza's Water Care business and operations. The results of the Water Care business are disclosed separately in the consolidated income statement as discontinued operations. Therefore, income statement related notes do not include the results from the Water Care business for 2019 and 2018. Refer to the notes for further information.

On 25 February 2019, Lonza announced the alignment of the scope of its segments to promote synergies, strengthen its market offerings and increase operational efficiency within each of its two operating segments: Pharma Biotech & Nutrition and Specialty Ingredients. Consequently, segment information for 2018 was restated (see note 2).

Further, the Group has made minor presentational changes to several notes (e.g. non-current and current liabilities, provisions) to increase the understandability of the information provided and restated comparative information accordingly.

1.3
Changes in Accounting Standards

There are new or amended standards that became applicable for the current reporting period. The Group has incorporated these standards and amendments into its accounting policies as a result of adopting the following standards:

- IFRS 16 Leases
- IFRIC 23 Uncertainty over Income Tax Treatments
- Prepayment Features with Negative Compensation (Amendments to IFRS 9)
- Long-term Interests in Associates and Joint Ventures (Amendments to IAS 28)
- Plan Amendment, Curtailment or Settlement (Amendment to IAS 19)
- Annual Improvement to IFRS Standards 2015 – 2017 Cycle

Aside from IFRS 16, the adoption of the other standards did not have any significant impact on the Group's financial statements.

IFRS 16 Leases introduced a single, on balance sheet accounting model for lessees. As a result, the Group, as a lessee, has recognized right-of-use assets representing its right to use the

underlying assets and lease liabilities representing its obligation to make lease payments. Lessor accounting remains similar to previous accounting policies.

The Group has initially adopted IFRS 16 Leases from 1 January 2019 and applied the modified retrospective method, under which the cumulative effect of initial application is recognized in retained earnings at 1 January 2019. Consequently, comparative 2018 information has not been restated. The Group elected to use the transition practical expedient allowing the standard to be applied only to contracts that were previously identified as leases applying IAS 17 and IFRIC 4 at the date of initial application.

Nature of Lease Contracts

The Group has lease contracts for various items of buildings, machinery, vehicles and other equipment. Before the adoption of IFRS 16, the Group classified each of its leases (as lessee) at the inception date as either a finance lease or an operating lease. A lease was classified as a finance lease if it substantially transferred all of the risks and rewards incidental to ownership of the leased asset to the Group; otherwise it was classified as an operating lease. Finance leases were capitalized at the commencement of the lease at the inception date fair value of the leased property or, if lower, at the present value of the minimum lease payments.

Lease payments were apportioned between interest (recognized as in the financial result) and reduction of the lease liability. In an operating lease, the leased property was not capitalized and the lease payments were recognized as rent expense in profit or loss on a straight-line basis over the lease term.

Upon adoption of IFRS 16, the Group applied a single recognition and measurement approach for all leases, except for short-term leases and leases of low-value assets.

Summary of Impacts on Group's Financial Statements

At transition, for leases classified as operating leases under IAS17, lease liabilities were measured at the present value of remaining lease payments, discounted at the Group's incremental borrowing rate for each asset class as at 1 January 2019. Right-of-use assets were measured at an amount equal to the lease liability, adjusted by the amount of any prepaid or accrued lease payments.
The Group applied the following practical expedients when applying IFRS 16 to leases previously classified as operating leases under IAS 17 (in addition to the general practical expedients described in the chapter "Leases" below):

- Exemption not to recognize right-of-use assets and liabilities for leases for which the lease term ends within 12 months of the date of initial application
- Exemption not to recognize lease contracts for which the underlying asset is of low value ("low value assets")
- Exclusion of initial direct costs when measuring the right-of-use assets at the date of initial application

The impact on transition is summarized below:

Transition Impacts from the Recognition of Right-of-use of Leased Assets and Lease Liabilities as of 1 January 2019

Million CHF	1 Jan 2019
Right-of-use assets presented in property, plant & equipment[1]	238
Right-of-use assets presented in assets held for sale	15
Lease liabilities[1]	236
Lease liabilities classified as liabilities held for sale	15

[1] The difference between the initial right-of-use and the lease liabilities at transition date is due to a prepaid lease, that was reflected as part of the Group's non-current assets at the end of 2018

For the lease liabilities for leases that were previously classified as operating leases, the Group discounted lease payments using its incremental borrowing rate on 1 January 2019. The weighted-average rate applied is 3.6%.

Million CHF	1 Jan 2019
Operating lease commitments (undiscounted) reported on 31 December 2018 applying IAS 17	249
Discounting effect when using the Group's weighted average incremental borrowing rate on 1 January 2019	(65)
Finance lease liabilities (discounted) reported on 31 December 2018 applying IAS 17	11
Effect of electing to account for short-term and low value leases off balance sheet	(3)
Adjustments as a result of a different treatment of extension and termination options	25
Lease liabilities related to discontinued operations and classified as liabilities held for sale on 31 December 2018	(15)
Additional lease liabilities subject to IFRS 16	35
Total lease liabilities recognised under IFRS 16 on 1 January 2019	**236**

Impact for the Period

The Group recognized the following amounts related to leases previously classified as operating leases in the income statement for the year ended 31 December 2019:

Impact for the Period

Million CHF	2019
Depreciation of right-of-use assets	(31)
Interest expenses	(9)

Lease payments (equal to operating lease payments under IAS 17) amounted to CHF 33 million for the year ended 31 December 2019. Consequently, applying IFRS 16 had a favorable impact of CHF 33 million on the Group's EBITDA and CHF 2 million on the Group's EBIT in 2019, relative to 2018.

1.4 Accounting Standards Issued, but Not Yet Effective

The following revised standards have been issued, but are not yet effective. They have not been applied early in these consolidated financial statements. The current status of the expected effects is disclosed below.

Standard / Interpretation Effective date	Effective date	
Amendments to References to Conceptual Framework in IFRS Standards	1 January 2020	Reporting year 2020
Definition of a Business – Amendments to IFRS 3	1 January 2020	Reporting year 2020
Definition of Material – Amendments to IAS 1 and IAS 8	1 January 2020	Reporting year 2020
Interest Rate Benchmark Reform – Amendments to IFRS 9, IAS 39 and IFRS 7	1 January 2020	Reporting year 2020

These amendments are not expected to have a significant impact on the Group's consolidated financial statements.

1.5 Significant Accounting Policies

Principles of Consolidation

The consolidated financial statements represent the accounts for the year ended 31 December of Lonza Group Ltd and its subsidiaries. Subsidiaries are those entities controlled, directly or indirectly, by Lonza Group Ltd. Control is achieved when the Group is exposed, or has rights, to variable returns from its involvement with the entity and has the ability to affect those returns through its power over the entity. Consolidation of a subsidiary begins when the Group obtains control over the subsidiary and ceases when the Group loses control of the subsidiary. Changes in ownership interests in subsidiaries are accounted for as equity transactions if they occur after control has already been obtained and if they do not result in a loss of control. The significant subsidiaries included in the consolidated financial statements are shown in note 33.

The full consolidation method is used, whereby the assets, liabilities, income and expenses are incorporated in full, irrespective of the extent of any non-controlling interests. Payables, receivables, income and expenses between Lonza consolidated companies are eliminated. Intercompany profits included in year-end inventories of goods produced within Lonza are eliminated, as well as unrealized gains on transactions between subsidiaries. Unrealized losses are also eliminated unless the transaction provides evidence of an impairment of the asset transferred.

The Group's interests in equity-accounted investees comprise interests in associates and joint ventures, as disclosed in note 9. Associates are those entities in which the Group has significant influence, but not control or joint control, over the financial and operating policies. A joint venture is an arrangement in which the Group has joint control, whereby the Group has rights to the net assets of the arrangement, rather than rights to its assets and obligations for its liabilities. Associates and interests in joint ventures are accounted for in the consolidated financial statements using the equity method of accounting. They are recognized initially at cost, which includes transaction costs.

Subsequent to the initial recognition, the consolidated financial statements include the Group's share of the profit and loss and other comprehensive income of equity-accounted investees, until the date on which significant influence or joint control ceases. Dividends paid during the year reduce the carrying value of the investments.

Segment Reporting

For the purpose of segment reporting, the Group's Executive Committee (EC) is considered to be the Group's Chief Operating Decision Maker. The determination of the Group's operating segments is based on the organizational units for which information is reported to the EC on a regular basis. The information provided is used as the basis of the segment revenue and profit disclosures reported in note 2. Selected segment balance sheet information and performance measures are also routinely provided to the EC.

In 2019, Lonza realigned its business structure. The former Pharma & Biotech segment and the former Consumer Health & Nutrition business unit within the Consumer Health division (formerly part of Lonza Specialty Ingredients) are now combined in the Lonza Pharma Biotech & Nutrition (LPBN) segment. The former Consumer Product Ingredients business unit (formerly part of the Consumer Health division within Lonza Specialty Ingredients) remained part of the Specialty Ingredients segment.

Revenues are primarily generated from the sale of products. The Pharma Biotech & Nutrition segment also derives revenues from rendering of services as well as the sale or licensing of products or technology to third parties. Residual operating activities from certain global activities are reported as "Corporate." These include the EC and global group functions for communications, human resources, finance (including treasury and tax), legal, environmental and safety services. Transfer prices between operating segments are set on an arm's length basis. Operating assets and liabilities consist of property, plant and equipment, goodwill and intangible assets, trade receivables/payables, inventories and other assets and liabilities, such as provisions, which can be reasonably attributed to the reported operating segments. Non-operating assets and liabilities mainly include current and deferred income tax balances, post-employment benefit assets/liabilities and financial assets/liabilities such as cash, investments and debt.

Revenue Recognition

Revenue is measured based on the consideration specified in the contract with a customer and excludes amounts collected on behalf of third parties. Revenues are recognized when a customer obtains control of a good or service and thus has the ability to direct the use and obtain the benefits from the good or service. In the custom manufacturing business, customer agreements may foresee payments at or near inception of contracts, which typically relate to setup efforts (e.g. system preparation, facility modification) for new customer-dedicated production facilities. Such setup efforts typically do not represent separate performance obligations, as no good or service is transferred to the customer. The payments for these setup efforts comprise part of the expected transaction price and are deferred as contract liabilities (non-current deferred income) until performance obligations are satisfied. Product sales are recognized when control of the products has been transferred, i.e. when the products are delivered to the customer, the customer has full discretion over the sales channel and pricing of the products, and there is no unfulfilled obligation that could affect the customer's acceptance of the products. Delivery occurs when the products have been shipped to the specific location, the risks of obsolescence and loss have been transferred to the customer, and either the customer has accepted the products in accordance with the sales contract, the acceptance provisions have lapsed, or the Group has objective evidence that all criteria for acceptance have been satisfied. Contracts with customers may include volume discounts based on aggregate sales over a specified period. Revenues from these sales are recognized based on the price specified in the contract, net of the estimated volume discounts.

Accumulated experience is used to estimate and provide for such discounts, using the expected value method, and revenues are only recognized to the extent that it is highly probable that no significant reversal will occur. A contract liability is recognized for expected volume discounts payable to customers in relation to sales made until the end of the reporting period. Revenues from providing services are recognized in the accounting period in which these services are rendered. For most services revenue recognition over time is appropriate. This is done with reference to output (i.e. analysis delivered) to measure the amount of revenue to be recognized. Revenue recognition over time is not applied for customer service contracts where the consideration depends on a defined outcome or result and its achievement cannot be estimated. In this case, revenues are only recognized at the point in time when the service has been completed and accepted by the customer.

Research & Development

Research & development costs are generally charged against income as incurred. Development costs are only capitalized when the related products meet the recognition criteria of an internally generated intangible asset, which mainly require the technical feasibility of completing the intangible asset, the probability of future economic benefits, the reliable measurement of costs and the ability and intention of the Group to use or sell the intangible asset. Fixed assets (buildings, machinery, plant, equipment) used for research purposes are valued similarly to other fixed assets. Such assets are capitalized and depreciated over their estimated useful lives.

Expenses for research & development include associated wages and salaries, material costs, depreciation on fixed assets, as well as overhead costs.

Other Operating Income and Other Operating Expenses

Other operating income and other operating expenses include items not assignable to other functions of the consolidated income statement. They mainly include gains and losses from the disposal of intangible assets, property, plant and equipment and other non-current assets, income and expenses from the release and recognition of provisions, income and expense related to restructuring, gains and losses from currency-related operating derivative instruments, as well as operating exchange rate gains and losses.

Net Financial Result

Net financial result comprises interest payable on borrowings calculated using the effective interest method, the interest expenses on the net defined-benefit liability, the finance charge for finance leases, dividend income, foreign exchange gains and losses arising on financial assets and liabilities, gains and losses on hedging instruments that are recognized in the income statement and gains/losses on sale of financial assets. Interest income/expense is recognized in the income statement as it accrues, taking into account the effective yield of the asset or liability or an applicable floating rate. Dividend income is recognized in the income statement on the date that the dividend is declared. Interest income and expense include the amortization of any discount or premium or other differences between the initial carrying amount of an interest-bearing instrument and its amount at maturity calculated on an effective interest rate basis.

Foreign Currencies

Items included in the financial statements of each of the Group's entities are measured using the currency of the primary economic environment in which the entity operates ("the functional currency"). The consolidated financial statements are presented in Swiss francs (CHF), which is the Group's presentation currency. For consolidation purposes the balance sheet of foreign consolidated companies is translated to CHF with the exchange rate on the balance sheet date. Income, expenses and cash flows of the foreign consolidated companies are translated into CHF using the monthly average exchange rates during the year (unless this average is not a reasonable approximation of the cumulative effect of the rates prevailing on the transaction dates, in which case income and expenses are translated at the dates of the transactions). Exchange rate differences arising from the different exchange rates applied in balance sheets and income statements are recognized in other comprehensive income. In the individual company's financial statements, transactions in foreign currencies are translated at the foreign exchange rate applicable at the date of the transaction. Monetary assets and liabilities denominated in foreign currencies at the balance sheet date are translated at the foreign exchange rate ruling at that date. All resulting foreign exchange gains and losses are recognized in the individual company's profit or loss statement, except when they arise on monetary items that form a part of the Group's net investment in a foreign entity. In such a case, the exchange gains and losses are recognized in other comprehensive income.

Hedge Accounting

The Group uses derivatives to manage its exposures to foreign currency, interest rate and commodity price risks. The instruments used may include interest rate swaps, commodity swaps, forward exchange contracts, FX swaps and options. The Group generally limits the use of hedge accounting to certain significant transactions. At inception of designated hedging relationships, the Group documents the risk management objective and strategy for undertaking the hedge. The Group also documents the economic relationship between the hedged item and the hedging instrument, including whether the changes in cash flows of the hedged item and hedging instrument are expected to offset each other.

Cash Flow Hedging
This is a hedge of the exposure to variability in cash flows that is attributable to a particular risk associated with a recognized asset or liability or a highly probable forecast transaction and could affect profit or loss. The hedging instrument is recorded at fair value. The effective portion of the hedge is included in other comprehensive income and any ineffective portion is reported in cost of goods sold (instruments to manage the commodity price exposure), other operating income/expenses (instruments to manage the foreign currency exposure related to sales or purchases) or financial income/expenses (foreign currency exposure related to debt repayment or interest exposure on the Group's debt). If the hedging relationship is the hedge of the foreign currency risk of a firm commitment or highly probable forecasted transaction that results in the recognition of a non-financial item, the cumulative changes in the fair value of the hedging instrument that have been recorded in other comprehensive income are included in the initial carrying value of the non-financial item at the date of recognition. For all other cash flow hedges, the cumulative changes in the fair value of the hedging instrument that have been recorded in other comprehensive income are included in cost of goods sold, other operational income/expenses or other financial income/expense (based on the principles explained above) when the forecasted transaction affects net income.

Fair Value Hedging
This is a hedge of the exposure to changes in fair value of a recognized asset or liability, or an unrecognized firm commitment, or an identified portion of such an asset, liability or firm commitment, that is attributable to a particular risk and could affect profit or loss. The hedging instrument is recorded at fair value and the hedged item is recorded at its previous carrying value, adjusted for any changes in fair value that are attributable to the hedged risk. Changes in the fair values are reported in cost of goods sold (instruments to manage the commodity price exposure), other operating income/expenses (instruments to manage the foreign

currency exposure related to sales or purchases) or financial income/expenses (foreign currency exposure related to debt repayment or interest exposure on the Group's debt).

Capitalized Contract Costs

The Group recognizes contract assets mainly consisting of contract fulfillment costs that are incurred after a contract is obtained but before goods or services have been delivered to the customer. These costs arise from long-term contracts in the custom manufacturing business for customer specific production facility expansions or modifications on Lonza's premises. They typically include costs for commissioning, qualification and startup, as well as for activities relating to process development and technology transfer.

Property, Plant and Equipment

Property, plant and equipment are stated at cost less accumulated depreciation and accumulated impairment losses. The assets are depreciated on a component basis over their estimated useful lives, which vary from 10 to 50 years for buildings and structures, and 5 to 16 years for production facilities, machinery, plant, equipment and vehicles. Fixed assets are depreciated using the straight-line method over their estimated useful lives. Subsequent expenditure incurred to replace a component of an item of property, plant and equipment that is accounted for separately, including major inspection and overhaul expenditure, is capitalized. Other subsequent expenditure is capitalized only when it increases the future economic benefits embodied in the item of property, plant and equipment. Borrowing costs incurred with respect to qualifying assets are capitalized and included in the carrying value of the assets.

All other expenditure is recognized in the income statement as an expense as incurred. The residual values and the useful life of items of property, plant and equipment are reviewed and adjusted, if appropriate, at each balance sheet date.

Leases

The Group assesses at contract inception whether a contract is, or contains, a lease. That is, if the contract conveys the right to control the use of an identified asset for a period of time in exchange for consideration.

Lonza applies a single recognition and measurement approach for all leases, except for short-term leases and leases of low-value assets. Lonza recognizes lease liabilities to make lease payments and right-of-use assets representing the right to use the underlying assets.

Right-of-use assets are measured at cost, less any accumulated depreciation and impairment losses, and adjusted for any remeasurement of lease liabilities. The cost of right-of-use assets includes the amount of lease liabilities recognized, initial direct costs incurred, restoration costs and lease payments made at or before the commencement date less any lease incentives received. Right-of-use assets are depreciated on a straight-line basis over the shorter of the lease term and the estimated useful lives of the assets. If ownership of the leased asset transfers to Lonza at the end of the lease term or the cost of the right-of-use asset reflects the exercise of a purchase option, depreciation is calculated using the estimated useful life of the asset.

Lease liabilities are initially measured at the present value of the lease payments, considering fixed payments (including in-substance fixed payments), variable lease payments that are based on an index or a rate, amounts expected to be payable by the lessee under residual value guarantees, the exercise price of a purchase option if the lessee is reasonably certain to exercise that option, and payments of penalties for terminating the lease, if the lease term reflects the lessee exercising that option, less any lease incentives receivable.

Extension and termination options are included in a number of property and equipment leases across the Group. These terms are used to maximize operational flexibility in terms of managing contracts. In determining the lease term, management considers all facts and circumstances that create an economic incentive to exercise an extension option, or not exercise a termination option. Extension options (or periods after termination options) are only included in the lease term if the lease is reasonably certain to be extended (or not terminated). The majority of extension and termination options held are exercisable only by the Group and not by the respective lessor. This assessment is reviewed if a significant event or a significant change in circumstances occurs which affects this assessment and that is within the control of the lessee.

In calculating the present value of lease payments, Lonza uses its incremental borrowing rate at the lease commencement date if the interest rate implicit in the lease is not readily determinable. The incremental borrowing rate is derived from market information, the weighted average duration of the lease and the underlying specifics of the leased asset. After the commencement date, the amount of lease liabilities is increased to reflect the accretion of interest and reduced for the lease payments made.

Lonza applies the short-term lease recognition exemption to its short-term leases (i.e., those leases that have a lease term of 12 months or less from the commencement date and do not contain a purchase option). It also applies the lease of low-value assets recognition exemption to leases of other movables that are considered to be of low value. Lease payments on short-term leases and leases of low value assets are recognized as expense on a straight-line basis over the lease term.

In some circumstances, Lonza could act as a lessor. In case of a sublease, Lonza would account for the head lease and the sub-lease as two separate contracts. The sublease will be classified as a finance or operating lease by reference to the right-of-use asset arising from the head lease.

Intangible Assets

Purchased intangible assets with a finite useful life are stated at cost less accumulated amortization and accumulated impairment losses. Intangible assets acquired in a business combination are recognized at their fair value. Intangibles include software, licenses, patents, trademarks and similar rights granted by third parties, capitalized product development costs and capitalized computer software development costs. Costs associated with internally developed or maintained computer software programs are recognized as an expense as incurred. Costs that are directly associated with the production of identifiable and unique software products controlled by the Group, and that will probably generate future economic benefits exceeding costs beyond one year, are recognized as intangible assets. Those direct costs include the software development employee costs and an appropriate portion of relevant overheads. Intangible assets are amortized using the straight-line method over their estimated useful lives, which is the lower of the legal duration and the economic useful life. Useful lives vary from 3 to 5 years for software, 5 to 35 years for patents, trademarks and similar rights and 4 to 16 years for development costs. All intangible assets in Lonza have finite useful lives, except for the Capsugel trade name acquired in 2017 and the trademarks acquired in 2011 through the Arch Chemicals business combination and 2007 through the Cambrex business combination. The Group considers that these trademarks have an indefinite useful life as they are well established in the respective markets and have a history of strong performance. The Group intends and has the ability to maintain these trademarks for the foreseeable future.

Goodwill and Business Combinations

Business combinations are accounted for using the acquisition method. The consideration transferred in a business combination is measured at fair value at the date of acquisition and includes the cash paid plus the fair value at the date of exchange of assets, liabilities incurred or assumed and equity instruments issued by the Group. The fair value of the consideration transferred also includes contingent consideration arrangements at fair value. Directly attributable acquisition-related costs are expensed in the period the costs are incurred and the services are received and reported within administration and general overhead expenses. At the date of acquisition, the Group recognizes the identifiable assets acquired, the liabilities assumed and any non-controlling interests in the acquired business. The identifiable assets acquired and the liabilities assumed are initially recognized at fair value. Where the Group does not acquire 100% ownership of the acquired business, non-controlling interests are recorded as the proportion of the fair value of the acquired net assets attributable to the non-controlling interests. Goodwill is recorded as the surplus of the consideration transferred over the Group's interest in the fair value of the acquired net assets. Any goodwill and fair value adjustments are recorded as assets/liabilities of the acquired business in the functional currency of that business.

When the initial accounting for a business combination is incomplete at the end of a reporting period, provisional amounts are recognized. During the measurement period, the provisional amounts are retrospectively adjusted and additional assets and liabilities may be recognized to reflect new information obtained about the facts and circumstances that existed at the acquisition date which, had they been known, would have affected the measurement of the amounts recognized at that date. The measurement period does not exceed 12 months from the date of acquisition. Goodwill is not amortized but is tested annually for impairment. Changes in ownership interests in subsidiaries are accounted for as equity transactions if they occur after control has already been obtained and if they do not result in a loss of control. Goodwill may also arise upon investments in associates and joint ventures, being the surplus of the cost of investment over the Group's share of the fair value of the net identifiable assets. Such goodwill is recorded within investments in associates and joint ventures.

Inventories

Inventories are reported at the lower of cost (purchase price or production cost) or market value (net realizable value). In determining net realizable value, any costs of completion and selling costs are deducted from the realizable value. The cost of inventories is calculated using the weighted average method. Prorated production overheads are included in the valuation of inventories. Adjustments are made for inventories with a lower market value or which are slow moving. Unsalable inventory is fully written off. Costs include all expenditures related directly to specific projects and an allocation of fixed and variable overheads incurred in the Group's contract activities based on normal operating capacity.

Receivables

With the adoption of IFRS 9, effective on 1 January 2018, receivables are carried at the original invoice amount less allowances made for doubtful accounts, volume rebates and similar allowances. A receivable represents a right to consideration that is unconditional and excludes contract assets. An allowance for doubtful accounts is recorded for expected credit losses over the term of the receivables. These estimates are based on specific indicators, such as the ageing of customer balances and specific credit circumstances. Expenses for doubtful trade receivables are recognized within the cost of goods sold. Volume rebates and similar allowances are recorded on an accrual basis consistent with the recognition of the related sales, using estimates based on existing contractual obligations, historical trends and the Group's experience. Receivables are written off (either partly or in full) when there is no reasonable expectation of recovery.

For trade receivables, the Group applies the simplified approach prescribed by IFRS 9, which requires/permits the use of the lifetime expected loss provision from initial recognition of the receivables. The Group measures an allowance for doubtful accounts equal to the credit losses expected over the lifetime of the trade receivables.

Financial Instruments

Since 1 January 2018, with the adoption of IFRS 9 the Group has classified its financial assets in the following measurement categories, which are disclosed in note 29: amortized cost or fair value through profit or loss (including hedging instruments). At initial recognition, the Group measures a financial asset at its fair value plus, in the case of a financial asset not at fair value through profit or loss, transaction costs that are directly attributable to the acquisition of the financial asset. Transaction costs of financial assets carried at fair value through profit or loss are expensed in profit or loss.

Amortized Cost
Assets that are held for collection of contractual cash flows where those cash flows represent solely payments of principal and interest are measured at amortized cost, less provision for impairment. Interest income from these financial assets is included in other financial income using the effective interest rate method. The Group derecognizes a financial asset when the contractual rights to the cash flows from the asset expire, or it transfers the rights to receive the contractual cash flows in a transaction in which substantially all the risk and rewards of ownership of the financial asset are transferred. Any interest in such transferred financial assets that is created or retained by the Group is recognized as a separate asset or liability. Assets at amortized cost are mainly comprised of accounts receivable, cash and cash equivalents and loans and advances.

Equity Investments at Fair Value Through Profit or Loss
These are equity investments in non-quoted companies that are kept for strategic reason and in investment vehicles that invest in the Group's target markets. These assets are subsequently measured at fair value. Dividends are recognized as financial income in profit or loss unless the dividend clearly represents a recovery of part of the cost of the investment. Other net gains and losses are recognized as a financial income or a financial expense in the income statement.

Fair Value Through Profit or Loss
These are primarily contingent consideration assets (and liabilities) that are initially recorded and subsequently carried at fair value with changes in fair value recorded as a financial income or a financial expense in the income statement.

Fair Value Through Profit or Loss – Hedging Instruments
These are derivative financial instruments that are used to manage the exposures to foreign currency, interest rates and commodity prices. These instruments are initially recorded and subsequently carried at fair value. Apart from those derivatives designated as qualifying cash flow hedging instruments, all changes in fair value are recorded as cost of goods sold (instruments to manage the commodity price exposure), other operating income/expenses (instruments to manage the foreign currency exposure related to sales or purchases) or financial income/expenses (foreign currency exposure related to debt repayment or interest exposure on the Group's debt).

The fair value of derivatives (forward exchange contract, FX swaps, commodity swaps and interest rate swaps) is estimated by discounting the difference between the contractual forward price and the current forward price for the residual maturity of the contract using a credit-adjusted risk-free rate. Current forward prices are provided by banks or other financial service providers.

Debt Instruments
These are initially recorded at cost, which is the proceeds received net of transaction costs. They are subsequently stated at amortized cost; any difference between the net proceeds and the redemption value is recognized in the income statement over the period of the debt instrument using the effective interest method.

Cash and Cash Equivalents

Cash and cash equivalents include cash in hand, in postal and bank accounts, as well as short-term deposits and highly liquid funds that have an original maturity of less than three months.

Impairment

Assets that are subject to amortization and depreciation are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. Goodwill and intangible assets with indefinite useful lives are tested for impairment annually, and whenever there is an indication that the assets may be impaired. An impairment loss is recognized for the amount by which the asset's carrying amount exceeds its recoverable amount. The recoverable amount is the higher of an asset's fair value less cost of disposal and value in use. For the purposes of assessing impairment, assets are grouped at the lowest levels for which there are separately identifiable cash flows (cash-generating units).

Calculation of recoverable amount – In assessing value in use, the estimated future cash flows are discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset.

Reversal of impairment – An impairment loss is reversed if the subsequent increase in recoverable amount can be related objectively to an event occurring after the impairment loss was recognized. An impairment loss in respect of goodwill is not reversed. In respect of other assets, an impairment loss is reversed if there has been a change in the estimates used to determine the recoverable amount. An impairment loss is reversed only to the extent that the asset's carrying amount does not exceed the carrying amount that would have been determined, net of depreciation or amortization, if no impairment loss had been recognized.

Assets Held for Sale and Discontinued Operations

Disposal groups comprising assets and liabilities are classified as held-for-sale if it is highly probable that they will be recovered primarily through sale rather than through continuing use.

Such disposal groups are generally measured at the lower of their carrying amount and fair value less cost to sell. Any impairment loss on a disposal group is allocated first to goodwill and then to the remaining assets and liabilities on a pro rata bases, except that no loss is allocated to inventories, financial assets or deferred tax assets, which continue to be recognized in accordance with the Group's other accounting policies. Impairment losses on initial classification as held-for-sale and subsequent gains and losses on remeasurement are recognized in profit or loss. Once classified as held-for-sale, intangible assets and property, plant and equipment are no longer amortized or depreciated. A discontinued operation is a component of the entity that has been disposed of or is classified as held for sale and that represents a separate major line of business or geographical area of operations or is part of a single coordinated plan to dispose of such a line of business or area of operations. Classification as a discontinued operations occurs at the earlier of disposal or when the operation meets the criteria to be classified as held-for-sale.

The income statement activity of the discontinued operations is presented separately in the consolidated income statement. The comparative consolidated income statement and consolidated statement of comprehensive income are restated to show the discontinued operations separately from continuing operations. Balance sheet and cash flow information related to discontinued operations are disclosed separately in the notes.

Deferred Taxes

Tax expense is calculated using the balance-sheet liability method. Additional deferred taxes are provided wherever temporary differences exist between the tax base of an asset or liability and its carrying amount in the consolidated accounts for the year.

Deferred tax assets and liabilities are recognized for the future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases and, for deferred tax assets, operating loss and tax credit carry-forwards.

Deferred tax assets and liabilities are measured using enacted or substantially enacted tax rates in the respective jurisdictions in which Lonza operates that are expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. In assessing the recoverability of deferred tax assets, management considers whether it is probable that some portion or all of the deferred tax assets will not be realized. For transactions and other events recognized in other comprehensive income or directly in equity, any related tax effect is recognized in other comprehensive income or in equity.

Liabilities for income taxes, mainly withholding taxes, which could arise on the remittance of retained earnings, principally relating to subsidiaries, are only recognized where it is probable that such earnings will be remitted in the foreseeable future.

Employee Benefits

Employee-benefit liabilities as stated in the consolidated balance sheet include obligations from defined-benefit pension plans, other post-employment benefits (medical plans) as well as other long-term employee-related liabilities, such as long-term vacation accounts.

Defined-Benefit Plans (Pension and Medical Plans)

Most of Lonza's subsidiaries operate their own pension plans. Generally, they are funded by employees' and employers' contributions. In addition, the Group operates three medical plans in the United States. The Group's net obligation in respect of defined-benefit plans is calculated separately for each plan by estimating the amount of future benefit that employees have earned in the current and prior periods, discounting that amount and deducting the fair value of any plan assets. The calculation of defined-benefit obligations is performed annually by a qualified external actuary using the projected unit credit method. When the calculation results in a potential asset for the Group, the recognized asset is limited to the present value of economic benefits available in the form of any future refunds from the plan or reductions in future contributions to the plan. To calculate the present value of economic benefits, consideration is given to any applicable minimum funding requirements. Remeasurements of the defined-benefit liability, which comprise actuarial gains and losses and the return on plan assets (excluding interest) and the effect of the asset ceiling (if any, excluding interest), are recognized immediately in other comprehensive income.

The Group determines the net interest expense on the net defined-benefit liabilities for the period by applying the discount rate used to measure the defined-benefit obligation at the beginning of the annual period to the net defined-benefit liability, taking into account any changes in the net defined-benefit liability during the period as a result of contributions and benefit payments. Net interest expense and other expenses related to defined-benefit plans are recognized in profit or loss. While the net interest expense is disclosed within financial expenses, the other expenses related to defined-benefit plans are allocated to the different functions of the operating activities. When the benefits of a plan are changed or when a plan is curtailed, the resulting change in benefit that related to past service or the gain or loss on curtailment is recognized immediately in profit or loss. The Group recognizes gains and losses on the settlement of a defined-benefit plan when the settlement occurs.

Provisions

A provision is recognized in the balance sheet when (i) the Group has a legal or constructive obligation as a result of a past event, (ii) it is probable that an outflow of economic benefits will be required to settle the obligation, and (iii) a reliable estimate of the amount of the obligation can be made. If the effect is material, provisions are determined by discounting the expected

future cash flows at a pre-tax rate that reflects current market assessments of the time value of money and the risks specific to the liability. A provision for restructuring is recognized when the Group has approved a detailed and formal restructuring plan, and the restructuring has either commenced or been announced publicly. Future operating costs are not provided for.

Provisions for environmental liabilities are made when there is a legal or constructive obligation for the Group that will result in an outflow of economic resources. Provisions are made for remedial work where there is an obligation to remedy environmental damage, as well as for containment work where required by environmental regulations.

Share Capital

Ordinary shares are classified as equity. Incremental costs directly attributable to the issue of new shares or options are shown in equity as a deduction, net of tax, from the proceeds. Where any Group company purchases Lonza Group Ltd's equity share capital (treasury shares), the consideration paid, including any directly attributable incremental costs (net of income taxes), is deducted from equity attributable to the Group's equity holders until the shares are cancelled, reissued or disposed of.

Dividend

Dividend distribution to Lonza's shareholders is recognized as a liability in the Group's financial statements in the period in which the dividends are approved by the Lonza shareholders.

Share-Based Compensation

The Group operates various equity-settled, share-based compensation plans. The fair value of the employee services received in exchange for the grant of shares and other share-based compensations is recognized as an expense. The total amount to be expensed over the vesting period is determined by reference to the fair value of the shares granted. At each balance sheet date, the entity revises its estimates of the number of shares that are expected to become vested. It recognizes the impact of the revision of original estimates, if any, in the income statement, and a corresponding adjustment to equity over the remaining vesting period.

1.6 Significant Accounting Estimates and Judgments

Key Assumptions and Sources of Estimation Uncertainty

Use of Estimates

The preparation of the financial statements and related disclosures in conformity with International Financial Reporting Standards requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenue and expenses. Actual results could differ from those estimates. Estimates are used in impairment tests, accounting for allowances for doubtful receivables, inventory obsolescence, depreciation, employee benefits, taxes, restructuring provisions and contingencies. Estimates and assumptions are reviewed periodically and the effects of revisions are reflected in the financial statements in the period they are determined to be necessary. The key assumptions about the future key sources of estimation uncertainty that entail a significant risk of causing a material adjustment to the carrying value of assets and liabilities within the next financial year are described below.

Impairment Test of Property, Plant and Equipment, Intangible Assets and Goodwill

The Group has carrying values with regard to property, plant and equipment of CHF 3,582 million (2018: CHF 3,152 million), goodwill of CHF 3,651 million (2018: CHF 3,748 million) and intangible assets of CHF 3,073 million (2018: CHF 3,312 million) (see notes 6 and 7). The intangible assets include trademarks acquired through business combinations with a carrying value of CHF 353 million (2018: CHF 363 million), which have an indefinite useful life and are not systematically amortized. Goodwill and intangible assets with indefinite useful lives are reviewed annually for impairment. To assess if any impairment exists, estimates are made of the future cash flows expected to result from the use of the asset and its possible disposal. Actual outcomes could vary significantly from such estimates of discounted future cash flows. Factors such as changes in the planned use of buildings, machinery or equipment, or closure of facilities, the presence or absence of competition, technical obsolescence or lower-than-anticipated sales of products with capitalized rights could result in shortened useful lives or impairment. The impairment analysis as explained in note 6 is most sensitive to the discount rate used for the discounted cash flow model, as well as the expected future cash-inflows and the growth rate used for calculation purposes. The key assumptions used to determine the recoverable amount for the different cash-generating units are further explained in note 6.2.

Pensions

Many of the Group's employees participate in post-employment plans. The calculations of the recognized assets and liabilities from such plans are based upon statistical and actuarial calculations. In particular, the present value of the defined-benefit obligation is influenced by assumptions on discount rates used to arrive at the present value of future pension liabilities and assumptions on future increases in salaries and benefits.

Furthermore, the Group's independent external actuaries use statistically based assumptions, covering areas such as future withdrawals of participants from the plan and estimates of life expectancy. At 31 December 2019, the present value of the Group's defined-benefit obligation was CHF 3,478 million (2018: CHF 3,132 million). The plan assets at fair value amounted to CHF 3,004 million (2018: CHF 2,664 million), resulting, compared with the present value of the pension obligation, in a funded status deficit of CHF 474 million (2018: CHF 468 million) (see note 24.1). The actuarial assumptions used may differ materially from actual results due to changes in market and economic conditions, higher or lower withdrawal rates or longer or shorter lifespans of participants and other changes in the factors being assessed. These differences could affect the fair value of assets or liabilities recognized in the balance sheet in future periods.

Business Combinations
Where the Group acquires control of another business, the identifiable assets acquired, the liabilities assumed and any non-controlling interests in the acquired business shall be recognized, separately from goodwill. The process of assessing fair values requires in particular management involvement and judgment in the recognition and measurement of the following items:

- Intellectual property, such as patents, licenses, trademarks, customer relations, technologies and similar rights
- Contingencies, such as legal and environmental matters
- Contingent consideration arrangements
- The recoverability of any accumulated tax losses previously incurred by the acquired company

In all cases, management makes an assessment based on the underlying economic substance of the items in order to fairly present these items.

Environmental Provisions
Lonza is exposed to environmental liabilities and risks relating to its operations, principally in respect of provisions for remediation costs, which at 31 December 2019 amounted to CHF 144 million (2018: CHF 139 million), as disclosed in note 14. Provisions for non-recurring remediation costs are made when there is a legal or constructive obligation and the cost can be reliably estimated. It is difficult to estimate any future action required by Lonza to correct the effects on the environment of prior disposal or release of chemical substances by Lonza or other parties, and the associated costs, pursuant to environmental laws and regulations. The material components of the environmental provisions consist of costs to clean and refurbish contaminated sites and to treat and contain contamination at sites. The Group's future remediation expenses are affected by a number of uncertainties that include, but are not limited to, the method and extent of remediation and the responsibility attributable to Lonza at the remediation sites, relative to that attributable to other parties. The Group permanently monitors the various sites identified as at risk for environmental exposures. Lonza believes that its provisions are adequate, based upon currently available information; however, given the inherent difficulties in estimating liabilities in this area, there is no guarantee that additional costs will not be incurred beyond the amounts provided. Due to the uncertainty both of the amount and timing of future expenses, the provisions provided for environmental remediation costs could be affected in future periods.

Income Taxes
At 31 December 2019, deferred tax assets of CHF 23 million (2018: CHF 29 million), non-current tax receivables of CHF 0 million (2018: CHF 13 million), current tax receivables of CHF 14 million (2018: CHF 31 million), deferred tax liabilities of CHF 630 million (2018: CHF 711 million) and current tax payables of CHF 180 million (2018: CHF 150 million) are included in the consolidated balance sheet. Significant estimates are required in determining the current and deferred assets and liabilities for income taxes. Some of these estimates are based on interpretations of existing tax laws or regulations. Management believes that the estimates are reasonable and that the recognized liabilities for income tax-related uncertainties are adequate. Various internal and external factors may have favorable or unfavorable effects on the actual amounts of estimated income tax assets and liabilities. These factors include, but are not limited to, changes in tax laws, regulations and/or rates, changing interpretations of existing tax laws or regulations and changes in overall levels of pre-tax earnings. Such changes that arise could affect the assets and liabilities recognized in the balance sheet in future periods.

Critical Accounting Judgments in Applying the Group's Accounting Policies

In the process of applying the Group's accounting policies, management has made the following judgments that have the most significant effect on the amounts recognized in the financial statements (apart from those involving estimations, which are dealt with above).

Revenue Recognition
The Group has recognized revenues for sales of goods during the year to customers who have the right to rescind the sale if the goods do not meet the agreed quality. The Group believes that, based on past experience with similar transactions, the quality delivered will be accepted. Therefore, it is appropriate to recognize revenue on these transactions in the reporting period.

Revenues are recognized only when, according to management's judgment, performance obligations are satisfied, control over the assets have been transferred to the customer and no future performance obligation exists. For certain transactions, recognition of revenues is based on the performance of the conditions agreed in particular contracts, the verification of which requires evaluation and judgments by management.

The Group is required to determine the transaction price in respect of each of its contracts with customers. In making such judgment, the Group assesses the impact of any variable consideration in the contract, due to potential refunds, contractual price changes, batch success fees, estimated breakage, discounts or penalties, additional commission paid by distributors, profit sharing and the existence of any significant financing components. In determining the impact of variable consideration the Group uses accumulated experience to estimate the impact of variable consideration.

The Group has various contractual agreements that contain several components promised to the customer. As these contracts may include multiple performance obligations, the transaction price must be allocated to the performance obligations on a relative stand-alone selling price basis. Management estimates the stand-alone selling price at contract inception based on observable prices of the type of product likely to be provided and the services rendered in similar circumstances to similar customers. If a discount is granted, it is allocated to both performance obligations based on their relative stand-alone selling prices. Contractually agreed upfront or other one-time payments are allocated to the performance obligation to which they relate.

Intangible Assets

The Group considers the Capsugel trade name acquired through the business combination in 2017 as well as the trademarks acquired in 2011 through the Arch Chemicals business combination and in 2007 through the Cambrex business combination to have indefinite useful lives, as they are well established in the respective markets and have a history of strong performance.

The Group intends and has the ability to maintain these trademarks for the foreseeable future. The assumption of an indefinite useful life is reassessed whenever there is an indication that a trademark may have a definite useful life. In addition, intangible assets with indefinite useful lives are tested for impairment on an annual basis (see note 6).

Note 2
Operating Segments

2.1
General Information

According to the requirements of IFRS 8 "Operating Segments" Lonza identified the following two market-focused segments for 2019: Lonza Pharma Biotech & Nutrition and Lonza Specialty Ingredients.

On 25 February 2019, Lonza announced the realignment of the scope of its segments to promote synergies, strengthen its market offerings and increase operational efficiency within each of its two operating segments: Pharma Biotech & Nutrition and Specialty Ingredients. Prior period segment results were restated to conform to the current presentation.

The two operating segments are described as follows:

Pharma Biotech & Nutrition

The newly formed Pharma Biotech & Nutrition segment combines the former Pharma & Biotech segment and the Consumer Health & Nutrition business, formerly part of the Consumer Health Division within Lonza Specialty Ingredients. These businesses share technologies and innovation insights in dosage form and delivery systems and apply them to pharmaceutical and nutritional capsule offerings.

In the Pharma Biotech & Nutrition segment, Lonza is one of the world's leading providers of technology platforms along the value chain from pre-clinical to commercial, including drug substance and drug product. This comprises development and manufacture of customized active pharmaceutical ingredients (APIs) and biopharmaceuticals as well as formulation services and delivery systems for pharmaceutical and nutritional applications. Lonza's offerings to consumer health companies are complemented with small portfolio of science-backed ingredients (nutritional supplements).

Lonza manufactures products that are at the forefront of powerful new treatments for cancer, diabetes, immune system disorders, heart conditions, Alzheimer's and Parkinson's diseases, inflammation and many other medical diseases and conditions. Lonza's customers cover a wide spectrum: from the world's largest pharmaceutical companies, to the broad range of biotechnology firms, medical research and testing organizations, as well as smaller start-ups pioneering breakthrough medical treatments, and consumer health and nutrition companies.

Specialty Ingredients

The newly aligned Specialty Ingredients segment retains the former Consumer & Resource Protection and Consumer Product Ingredients businesses. The segment alignment enables better leveraging of operational, asset, technological and knowledge overlaps along a common microbial-control platform. The segment operates two businesses: Microbial Control Solutions and Specialty Chemical Services.

The Microbial Control Solutions business serves consumer and technical markets by safeguarding resources and peoples' wellbeing. In consumer markets, the segment has offerings in professional hygiene, and home and personal care. In technical markets, the segment has offerings in paints and coating, wood protection, material protection and crop protection.

The Specialty Chemicals Services business serves selected attractive specialty chemical niche markets, where a high level of customization or exclusivity is required. It serves markets with demand for its solutions in electronics, aerospace, food and feed ingredients, agro chemicals and diversified specialty chemicals.

Corporate

Corporate includes mainly corporate functions, such as finance and accounting, legal, communication, information technology and human resources.

2.2
Information About Reportable Segment Profit or Loss, Assets and Liabilities including Reconciliations

In the following table, revenues and profit or loss are disclosed by the two reportable segments and corporate, which include the costs of the corporate functions, including eliminations, and adds up to the Group total. Lonza does not allocate financial result, income and expenses from associates and joint ventures as well as taxes to the reportable segments. The information disclosed by the operating segments is the same as that reported monthly to the Group's Executive Committee.

Year ended

31 December 2019

Million CHF	Pharma Biotech & Nutrition	Specialty Ingredients	Total Operating Segments	Corporate / Eliminations	Continuing Operations
Sales third-party	4,167	1,693	5,860	60	5,920
Intersegment sales[1]	7	36	43	(43)	0
Total sales	**4,174**	**1,729**	**5,903**	**17**	**5,920**
Result from operating activities (EBIT)	**952**	**170**	**1,122**	**(150)**	**972**
– Percentage return on sales in %	22.8	10.0	19.1	n.a.	16.4
Included in result from operating activities (EBIT):					
Research and development	(139)	(48)	(187)	(1)	(188)
Depreciation and amortization	(396)	(99)	(495)	(49)	(544)
Impairment, net of reversal of impairment	5	(10)	(5)	(4)	(9)
Restructuring expenses	(5)	(21)	(26)	(4)	(30)
Environmental expenses	0	(2)	(2)	(18)	(20)
Major components of reportable segment net assets:					
Goodwill	3,111	540	3,651	0	3,651
Investments in associates / joint ventures	7	1	8	53	61
Intangible assets	2,812	235	3,047	26	3,073
Property, plant & equipment	2,906	749	3,655	162	3,817
Other non-current operating assets	32	3	35	4	39
Net Working Capital	804	336	1,140	(242)	898
Other non-current operating liabilities	261	22	283	121	404
Net Operating Assets (NOA)[2]	**6,293**	**1,301**	**7,594**	**(171)**	**7,423**
Return on Net Operating Assets (RONOA)[3] in %	15.3	12.5	n.a.	n.a.	12.9
Return on invested capital (ROIC)[3] in %	9.9	9.7	n.a.	n.a.	9.1
Investing activities in non-current assets:					
Additions to property, plant and equipment	607	88	695	62	757
Additions to property, plant and equipment from acquisitions	62	0	62	0	62
Additions to intangible assets	17	3	20	9	29
Additions to goodwill and intangible assets from acquisitions	16	0	16	0	16
Additions to investment in associates / joint ventures	6	0	6	51	57
Number of employees (Full-Time Equivalent)	11,148	2,504	13,652	1,816	15,468

[1] Intersegment sales were based on prevailing market prices
[2] Net Operating Assets comprises all operating assets less operating liabilities
[3] Refer to section "Alternative Performance Measures" for details on the calculation methodology

Year ended
31 December 2018

Million CHF	Pharma Biotech & Nutrition[4]	Specialty Ingredients[4]	Total Operating Segments	Corporate / Eliminations	Continuing Operations
Sales third-party	3,755	1,749	5,504	38	5,542
Intersegment sales[2]	14	43	57	(57)	0
Total sales	**3,769**	**1,792**	**5,561**	**(19)**	**5,542**
Result from operating activities (EBIT)	**827**	**193**	**1,020**	**(178)**	**842**
– Percentage return on sales in %	22.0	11.0	18.5	n.a.	15.2
Included in result from operating activities (EBIT):					
Research and development	(121)	(39)	(160)	0	(160)
Depreciation and amortization	(370)	(96)	(466)	(43)	(509)
Impairment, net of reversal of impairment	(32)	(10)	(42)	(34)	(76)
Restructuring expenses	(6)	(5)	(11)	0	(11)
Environmental expenses	0	0	0	(41)	(41)
Major components of reportable segment net assets:					
Goodwill	3,202	546	3,748	0	3,748
Investments in associates / joint ventures	1	1	2	8	10
Intangible assets	3,023	256	3,279	33	3,312
Property, plant & equipment	2,333	719	3,052	100	3,152
Other non-current operating assets	13	24	37	4	41
Net Working Capital	566	308	874	(198)	676
Other non-current operating liabilities	259	13	272	114	386
Net Operating Assets (NOA)[2]	**5,676**	**1,294**	**6,970**	**(175)**	**6,795**
Return on Net Operating Assets (RONOA)[3] in %	14.6	14.5	n.a.	n.a.	12.1
Return on invested capital (ROIC)[3] in %	8.3	9.8	n.a.	n.a.	8.0
Investing activities in non-current assets:					
Additions to property, plant and equipment	386	73	459	52	511
Additions to intangible assets	31	4	35	12	47
Additions to goodwill and intangible assets from acquisitions	89	0	89	0	89
Additions to investment in associates / joint ventures	0	0	0	3	3
Number of employees (Full-Time Equivalent)	9,982	2,592	12,574	1,851	14,425

[1] Intersegment sales were based on prevailing market prices
[2] Net Operating Assets comprises all operating assets less operating liabilities
[3] Refer to section "Alternative Performance Measures" for details on the calculation methodology
[4] Restated to reflect the 2019 realignment of Lonza's segments into Pharma Biotech & Nutrition and Specialty Ingredients

2.3 Measurement of Operating Segment Profit or Loss

The accounting principles applied to the operating segments are based on the same accounting principles used for the consolidated financial statements. Lonza evaluates the performance of its operating segments on the basis of the result from operating activities (EBIT) as well as the CORE result from operating activities.

2.4 Geographical Information

Year ended
31 December 2019

Million CHF	Revenue from external customers (sales)	Property, plant and equipment	Intangible assets	Goodwill	Other non-current assets	Total
Belgium	306	82	1,432	2,462	18	3,994
Czech Republic	5	29	0	0	0	29
Denmark	106	5	0	10	0	15
France	217	91	135	9	2	237
Germany	223	4	21	63	0	88
Ireland	338	0	0	0	0	0
Italy	27	0	0	10	0	10
Netherlands	45	26	0	31	0	57
Spain	22	114	0	0	0	114
Sweden	157	0	0	0	0	0
Switzerland	576	1,330	73	63	187	1,653
United Kingdom	149	142	64	8	9	223
Rest of Europe	76	0	0	1	0	1
Europe	**2,247**	**1,823**	**1,725**	**2,657**	**216**	**6,421**
Canada	77	1	166	28	0	195
Mexico	44	12	25	0	0	37
United States	2,506	1,392	872	952	13	3,229
Rest of North and Central America	16	5	0	0	0	5
North and Central America	**2,643**	**1,410**	**1,063**	**980**	**13**	**3,466**
Brazil	66	7	19	0	1	27
Rest of Latin America	20	0	0	0	0	0
Latin America	**86**	**7**	**19**	**0**	**1**	**27**
China	281	228	78	4	1	311
India	80	18	26	2	1	47
Indonesia	22	25	16	0	0	41
Japan	209	47	46	0	3	96
Singapore	77	246	42	0	0	288
Thailand	29	0	34	0	0	34
Rest of Asia	145	4	1	0	1	6
Asia	**843**	**568**	**243**	**6**	**6**	**823**
Africa	**19**	**2**	**1**	**0**	**0**	**3**
Australia & New Zealand	**78**	**7**	**22**	**8**	**1**	**38**
Other countries	**4**	**0**	**0**	**0**	**0**	**0**
Total	**5,920**	**3,817**	**3,073**	**3,651**	**237**	**10,778**

Year ended
31 December 2018

Million CHF	Revenue from external customers (sales)	Property, plant and equipment	Intangible assets	Goodwill	Other non-current Assets	Total
Belgium	272	82	1,565	2,549	0	4,196
Czech Republic	5	29	0	0	0	29
Denmark	60	3	0	11	0	14
France	226	93	144	10	2	249
Germany	246	4	24	66	0	94
Ireland	263	0	0	0	0	0
Italy	29	0	0	10	0	10
Netherlands	34	7	1	32	12	52
Spain	23	120	0	0	0	120
Sweden	128	0	0	0	0	0
Switzerland	471	993	77	53	119	1,242
United Kingdom	162	94	63	8	6	171
Rest of Europe	94	1	0	0	0	1
Europe	**2,013**	**1,426**	**1,874**	**2,739**	**139**	**6,178**
Canada	70	0	174	27	0	201
Mexico	46	8	26	0	0	34
United States	2,490	1,102	937	968	5	3,012
Rest of North and Central America	2	2	0	0	0	2
North and Central America	**2,608**	**1,112**	**1,137**	**995**	**5**	**3,249**
Brazil	62	8	20	0	0	28
Rest of Latin America	20	0	0	0	0	0
Latin America	**82**	**8**	**20**	**0**	**0**	**28**
China	235	238	84	4	1	327
India	78	19	28	2	1	50
Indonesia	22	27	17	0	0	44
Japan	178	45	48	0	3	96
Singapore	79	267	46	0	3	316
Thailand	28	0	33	0	0	33
Rest of Asia	126	3	0	0	0	3
Asia	**746**	**599**	**256**	**6**	**8**	**869**
Africa	**10**	**2**	**1**	**0**	**0**	**3**
Australia & New Zealand	**78**	**5**	**24**	**8**	**1**	**38**
Other countries	**5**	**0**	**0**	**0**	**0**	**0**
Total	**5,542**	**3,152**	**3,312**	**3,748**	**153**	**10,365**

2.5 Information About Major Customers

In 2019, Lonza's largest customer accounted for 5.3% and the second, third, fourth and fifth largest customers for 4.9%, 3.4%, 3.4% and 2.0% in relation to total Group sales, respectively. No other customer accounted for 2.0% or more of Lonza's total sales. Out of the five largest customers, the first three as well as the fifth largest customers are related to the Pharma Biotech & Nutrition segment. The fourth largest customer is related to the Specialty Ingredients segment.

In 2018, Lonza's largest customer accounted for 5.0% and the second, third, fourth and fifth largest customers for 4.7%, 3.8%, 3.1% and 2.0% in relation to total Group sales, respectively. No other customer accounted for 2.0% or more of Lonza's total sales. Out of the five largest customers, the third-largest relates to the Specialty Ingredients segment, whereas the other largest customers relate to the Pharma Biotech & Nutrition segment.

Note 3 Revenues

Disaggregation of Third-Party Revenues

Lonza derives revenue in its business models of Contract Development and Manufacturing (primarily in the Pharma Biotech & Nutrition segment) and sale of products (in both operating segments). These business models and the markets Lonza operates in are the basis for disaggregating revenue into categories that depict how the nature, amount, timing and uncertainty of revenue and cash flows are affected by economic factors.

The **Pharma Biotech & Nutrition** segment derives its revenues primarily from long-term supply agreements with pharmaceutical customers. This segment typically provides a range of product and manufacturing services, over the whole range from research to commercial supply. Lonza supports customer's research activities as well as the whole life cycle of a customer product from development of a drug substance to commercial supply. Lonza concluded that the revenues of the Pharma Biotech & Nutrition segment shall not be further disaggregated.

The **Specialty Ingredients** segment focuses on product sales. Within this segment, there is a separation between divisions, which focus on different markets and operating distinct technology and asset platforms:

- Microbial Control Solutions delivers future-proof Microbial Control technologies and related applications to consumer facing and resource protection markets.
- Specialty Chemical Services is an asset-driven business with attractive growth levels in technically demanding industries and applications, as well as capabilities in custom development and manufacturing.

Million CHF	2019	2018
Pharma Biotech & Nutrition	**4,167**	**3,755**
Specialty Ingredients	**1,693**	**1,749**
Microbial Control Solutions	1,031	1,035
Specialty Chemicals Solutions	662	714
Other Revenues	**60**	**38**
Total Group	**5,920**	**5,542**

Contract Assets and Liabilities

The Group recognized contract assets mainly consisting of contract fulfillment costs that are incurred after a contract is obtained but before goods or services have been delivered to the customer. These costs arise from long-term contracts in the custom manufacturing business for customer-specific production facility expansions or modifications on Lonza's premises. They typically include costs for commissioning, qualification and startup, as well as for activities relating to process development and technology transfer. The assets are amortized on a straight-line basis over the term of the specific contract they relate to, consistent with the pattern of recognition of the associated revenue. Additionally, if services rendered by Lonza exceed the payment received, a contract asset is recognized.

Contract liabilities mainly consist of upfront and other one-time payments, typically resulting from long-term contracts in the custom manufacturing business. These payments make up part of the expected transaction price and are deferred until batches are released. Additionally, if the payments received exceed services rendered, a contract liability is recognized. The non-current portion of deferred revenue is included in other long-term liabilities in the consolidated balance sheet.

The Group has recognized the following revenue-related contract assets and liabilities:

Million CHF	2019	2018
Trade receivables	759	692
Total trade receivables	**759**	**692**

Million CHF	2019	2018
Accrued income	190	159
Capitalized contract cost	31	31
Total contract assets	**221**	**190**

Million CHF	2019	2018
Non-current deferred income	250	247
Current deferred income	359	412
Total contract liabilities	**609**	**659**

Movement in Capitalized Costs to Fulfill a Contract

Million CHF	2019	2018
At 1 January	**31**	**31**
Asset recognised from costs incurred to fulfill a contract at 31 December	3	1
Amortisation and impairment loss recognised as cost of providing services during the period	(3)	(1)
At 31 December	**31**	**31**

Movement in Contract Liabilities

Million CHF	2019	2018
At 1 January	**659**	**547**
Revenue recognized that was included in the contract liability balance at the beginning of the period	(421)	(342)
Increases due to cash received, excluding amounts recognised as revenue during the period	373	454
Currency translation effects	(2)	0
At 31 December	**609**	**659**

Note 4
Restructuring

Year ended
31 December 2019

Million CHF	Pharma Biotech & Nutrition	Specialty Ingredients	Corporate	Total
Impairment of property, plant and equipment and intangible assets[1]	(5)	11	3	9
Restructuring charges	5	21	4	30
Total	**0**	**32**	**7**	**39**

Year ended
31 December 2018

Million CHF	Pharma Biotech & Nutrition	Specialty Ingredients	Corporate	Total
Impairment of property, plant and equipment and intangible assets[1]	32	10	35	77
Restructuring charges	6	5	0	11
Total	**38**	**15**	**35**	**88**

[1] Net of reversal of impairment (2019: CHF 7 million; 2018: CHF 0 million)

In 2019 the Specialty Ingredients segment recognized impairment losses of CHF 11 million related to production assets in Visp (CH) and Grangemouth (UK). These costs were included in cost of goods sold (CHF 9 million) and other operating expense (CHF 2 million).

The 2019 restructuring charges of the Specialty Ingredients segment relate to shut down costs of production assets in Visp (CH) and Grangemouth (UK), as well as projects to improve business efficiency. These costs were included in cost of goods sold (CHF 10 million), administration and general overheads (CHF 7 million) and other operating expenses (CHF 4 million).

In 2018, Lonza recognized an impairment loss of CHF 29 million related to production facilities in Walkersville, MD (USA) subsequent to the transfer of the cell-therapy activities to Portsmouth, NH (USA) and Houston, TX (USA). The costs were included in cost of goods sold of the Pharma Biotech & Nutrition segment.

The Specialty Ingredients segment recognized in 2018 impairment losses of CHF 10 million for production assets in Nansha (CN) and Visp (CH). These costs were included in cost of goods sold.

In 2018, the impairment loss of Corporate was related to the site in Guangzhou (CN): The local government requested Lonza to close its Guangzhou (CN) manufacturing site several years ago. In response, Lonza entered into an agreement with a third-party property development company to jointly develop the original land into commercial properties. According to the agreement, Lonza provided the land and the property development company offered the funds and assumed construction responsibilities. In 2017, Lonza obtained its entitled portion of commercial properties based on the agreement. A non-cash income of the property's estimated fair value was recognized in 2017 based on a valuation performed by an independent external property valuation specialist.

In 2018, Lonza made the decision to dispose of this property. In connection with this disposal efforts, Lonza has classified this property as held for sale, and recorded an impairment in 2018 based on estimated fair value less cost to sell. The impairment loss of CHF 35 million was included in "Other operating expenses".

In 2018, organizational changes of the Group's finance and information technology functions resulted in restructuring charges (CHF 11 million) which were included within both segments under administration and general overhead costs.

Note 5
Business Combinations and Sale of Businesses

5.1
Acquisitions – 2019

Acquisition of Fill and Finish Business from Novartis in Stein, Switzerland

Effective 31 July 2019, Lonza purchased a sterile drug product fill & finish business from Novartis in Stein (CH). The total consideration for this business amounts to CHF 71 million (spread over two years), of which CHF 15 million has been paid as of 31 December 2019.

Portions of the valuations of the acquired assets and liabilities were performed by an independent valuation provider.

The business is reported within the Pharma Biotech & Nutrition segment and did not have a significant impact on the consolidated financial statements for the year ended 31 December 2019, with the exception of the acquired property, plant & equipment.

The net identifiable assets acquired and liabilities assumed of the 2019 acquisitions are set out in the table below and have been determined on a provisional basis:

Million CHF	Stein business	Other	Total
Current assets	1	13	14
Property, plant & equipment	60	2	62
Current liabilities	0	(1)	(1)
Net identifiable assets	**61**	**14**	**75**
Goodwill	10	6	16
Total consideration	**71**	**20**	**91**
Cash consideration	15	14	29
Deferred consideration (present value)	56	6	62
Total consideration transferred	**71**	**20**	**91**
Cash consideration	15	14	29
Cash and cash equivalents acquired	0	(5)	(5)
Cash outflow on acquisition	**15**	**9**	**24**

5.2 Acquisitions – 2018

Acquisition of Octane Biotech Inc.

Effective 31 October 2018, Lonza acquired 52% of the shares of Octane Biotech Inc. ("Octane"). As a result, Lonza increased its equity interest in Octane to 80%, obtaining control of the company. The total consideration related to the 2018 acquisition amounts to USD 58 million (CHF 58 million), of which USD 28 million (CHF 28 million) was paid in cash in 2018 and USD 30 million (CHF 30 million) is related to a contingent consideration arrangement. The contingent payments are based on the achievement of performance-related and regulatory-related milestones and the range of undiscounted outcomes is between zero and USD 74 million (CHF 72 million at 2019 year-end rates) at the acquisition date.

Lonza and Octane have been collaborating since 2015 on the development of the Cocoon™ system, a patient-scale, closed and automated cell-therapy manufacturing system. The increase in ownership will allow Lonza to further develop the technology to support the growing need for scalable autologous manufacturing. Octane's 24 employees at the current site in Kingston, ON (CA) will continue to support activities as the Cocoon™ system is further developed.

The Octane business is reported within the Pharma Biotech & Nutrition segment and did not have a significant impact on the consolidated financial statements for the year ended 31 December 2018, with the exception of the acquired goodwill and intangible assets and the related deferred tax liabilities.

The Octane identifiable assets acquired and liabilities assumed are set out in the table below:

Million CHF	
Intangible assets	
Technology	132
Receivables	4
Deferred tax liabilities	(35)
Debt	(3)
Other operating payables	(4)
Net identifiable assets	**94**
Cash consideration	28
Contingent consideration	30
Total consideration transferred	**58**
Fair value of Lonza's pre-existing interest in Octane	36
Non-controlling interests	24
Fair value of net identifiable assets	(94)
Goodwill	**24**

Lonza recognized a financial gain of CHF 32 million from fair valuing its interest in Octane held by the Group prior to the transaction. This gain is classified as financial income for 2018.

5.3 Divestment – 2019

On 1 November 2018 Lonza announced that it had entered into a definitive agreement with Platinum Equity to sell Lonza's Water Care business and operations. The sale of the former Water Care business and operations was completed on 28 February 2019. Final settlement negotiations with Platinum Equity (the acquirer) are in process, thus the loss from discontinuing operations, including related tax amounts, reflects the Group's current estimates.

In the 2018 consolidated financial statements, the Water Care related assets and liabilities were classified as a disposal group in assets/liabilities held for sale and its results from operations were disclosed as discontinued operations.

The results from the Water Care business, which are presented as discontinued operations, are as follows:

Million CHF	2019	2018
Sales	74	516
Cost of goods sold	(57)	(370)
Gross profit	**17**	**146**
Marketing and distribution	(12)	(70)
Research and development	(1)	(8)
Administration and general overheads	(9)	(47)
Other operating income	0	2
Other operating expenses	0	(4)
Result from operating activities (EBIT)	**(5)**	**19**
Net financial result	(1)	(9)
Share of loss of associates / joint ventures	0	(1)
Profit / (loss) before income taxes from discontinued operations	**(6)**	**9**
Income taxes	0	2
Profit / (loss) from operating activities, net of tax	**(6)**	**11**
Loss on sale of discontinued operations	(43)	(107)
Income tax on sale of discontinued operations	(68)	0
Loss from discontinued operations, net of tax	**(117)**	**(96)**
	CHF	CHF
Basic earnings per share	(1.58)	(1.29)
Diluted earnings per share	(1.58)	(1.29)

As a result of the closing of the transaction on 28 February 2019, the accumulated exchange rate translation reserve losses related to the Water Care business of CHF 13 million were reclassified to the income statement in 2019.

The 2019 loss from discontinued operations, net of tax of CHF 117 million includes the loss from operating activities (CHF 6 million), estimated income taxes on the sale of the Water Care business (CHF 68 million), the accumulated exchange rate translation impact (CHF 13 million), divestiture related costs (CHF 7 million) and other effects.

The loss from the discontinued operations of CHF 117 million (2018: loss of CHF 96 million) is attributable entirely to the equity holders of the parent.

The main elements of the cash flows of the Water Care discontinued operations are as follows:

Million CHF	2019	2018
Net cash used for operating activities	(20)	(15)
Net cash used for investing activities	0	(11)
Net cash used for financing activities	0	0
Net cash flows for the year	**(20)**	**(26)**

On 28 February 2019 the sale of Water Care was completed. The effect of the disposal of Water Care on the balance sheet is as follows:

Effect of the Disposal of Water Care on the Consolidated Balance Sheet

Million CHF	
Goodwill	(90)
Intangible assets	(301)
Property, plant & equipment	(102)
Other non-current assets	(13)
Inventories	(136)
Trade receivables	(164)
Other receivables	(12)
Cash and cash equivalents	(12)
Deferred tax liabilities	92
Non-current liabilities	3
Trade payables	45
Other current liabilities	47
Net assets disposed of	**(643)**
Consideration received, satisfied in cash	632
Net debt and net working capital adjustments	(12)
Cash inflow on disposal	**620**

At 31 December 2018, the assets and liabilities held for sale related to the Water Care disposal were as follows:

Million CHF	
Goodwill	99
Intangible assets	296
Property, plant & equipment	100
Other non-current assets	16
Inventories	118
Trade receivables	131
Other receivables	9
Cash and cash equivalents	21
Assets held for sale	**790**
Deferred tax liabilities	98
Employee benefit liability	3
Trade payables	34
Other current liabilities	55
Other liabilities	3
Liabilities directly associated with assets held for sale	**193**

The cumulative expense recognized in other comprehensive income related to the Water Care operations as of 31 December 2018 was as follows:

Million CHF	
Remeasurements of net defined benefit liability, net of taxes	1
Exchange differences on translating foreign operations, net of taxes	15
Cumulative expense recognized in other comprehensive income	**16**

Note 6
Intangible Assets and Goodwill

6.1
Cost and Accumulated Amortization and Impairment

Intangible assets include software purchased from third parties, related software implementation costs, as well as patents, trademarks, client relationships acquired and development costs. Their amortization is included in the line item "Administration and general overheads" of the consolidated income statement.

Year ended
31 December 2019

Million CHF	Goodwill	Capsugel trade name / Arch Chemicals and Cambrex Trademarks	Patents, trademarks, client relationship	Computer software	Technologies / Development cost	Construction in progress	Total
Cost							
At 1 January	**3,748**	**363**	**1,955**	**163**	**1,471**	**2**	**7,702**
Additions	0	0	6	14	9	0	29
Disposals	0	0	(8)	(2)	0	0	(10)
Acquisition of subsidiaries	16	0	0	0	0	0	16
Currency translation differences	(113)	(10)	(35)	(2)	(42)	0	(202)
At 31 December	**3,651**	**353**	**1,918**	**173**	**1,438**	**2**	**7,535**
Accumulated amortization and impairment							
At 1 January	**0**	**0**	**(335)**	**(130)**	**(177)**	**0**	**(642)**
Amortization	0	0	(76)	(16)	(101)	0	(193)
Disposals	0	0	7	2	0	0	9
Currency translation differences	0	0	7	0	8	0	15
At 31 December	**0**	**0**	**(397)**	**(144)**	**(270)**	**0**	**(811)**
Net carrying amount 31 December	**3,651**	**353**	**1,521**	**29**	**1,168**	**2**	**6,724**

The Capsugel trade name acquired through the business combination in 2017 as well as the trademarks acquired through the acquisitions of Arch Chemicals (2011) and Cambrex (2007) are considered to have indefinite useful lives. As a result, these intangible assets with a carrying amount of CHF 353 million as of 31 December 2019 (2018: CHF 363 million) are not systematically amortized.

Development costs as of 31 December 2019 predominantly include technologies acquired with the acquisitions of Capsugel, amounting to CHF 1,000 million (2018: CHF 1,120 million), Octane of CHF 117 million (2018: CHF 123 million), and the Arch Chemical acquisition of CHF 29 million (2018: CHF 34 million).

Year ended

31 December 2018

Million CHF	Goodwill	Capsugel trade name / Arch Chemicals and Cambrex Trademarks	Patents, trademarks, client relationship	Computer software	Technologies / Development cost	Construction in progress	Total
Cost							
At 1 January	**4,002**	**631**	**2,025**	**155**	**1,388**	**2**	**8,203**
Additions	0	0	22	15	10	0	47
Disposals	0	0	(2)	(8)	(4)	0	(14)
Acquisition of subsidiaries	24	0	0	0	132	0	156
Reclassification to asset held for sale	(184)	(260)	(63)	0	(7)	0	(514)
Currency translation differences	(94)	(8)	(27)	1	(48)	0	(176)
At 31 December	**3,748**	**363**	**1,955**	**163**	**1,471**	**2**	**7,702**
Accumulated amortization and impairment							
At 1 January	**0**	**(1)**	**(289)**	**(120)**	**(90)**	**0**	**(500)**
Amortization	0	0	(80)	(19)	(94)	0	(193)
Disposals	0	0	2	8	1	0	11
Impairment losses	(85)	0	(1)	0	0	0	(86)
Reclassification to asset held for sale	85	1	30	1	3	0	120
Currency translation differences	0	0	3	0	3	0	6
At 31 December	**0**	**0**	**(335)**	**(130)**	**(177)**	**0**	**(642)**
Net carrying amount 31 December	**3,748**	**363**	**1,620**	**33**	**1,294**	**2**	**7,060**

6.2 Impairment Tests for Cash-Generating Units Containing Goodwill and Intangible Assets with Indefinite Useful Lives

Following the 2019 realignment of the Group's business structure, Lonza has identified several cash-generating units within its two operating segments:

Pharma Biotech & Nutrition

The various technologies (mammalian, chemical, etc.) applied within the segment are the cash-generating units identified and subject to impairment testing of goodwill and intangible assets with indefinite useful lives.

Specialty Ingredients

The segment's business units are the cash-generating units identified and subject to impairment testing of goodwill and intangible assets with indefinite useful lives.

The following cash-generating units maintain carrying amounts of goodwill as presented below (at year-end exchange rates):

Million CHF	2019	2018
Chemical and Nutrition business (representing a group of cash-generating units)	2,652[1]	0
Consumer Health & Nutrition	0[1]	1,216[2]
Chemical – Development and Manufacturing (representing a group of cash-generating units)	38[1]	1,563
Specialty Ingredients (representing a group of cash-generating units)	525	534
Bioscience Solutions / Cell Therapy / Viral Therapeutics (representing a group of cash-generating units)	363	373[2]
Mammalian & Microbial – Operations and Development Services	35[3]	24
Cell Therapy / Viral Therapeutics (representing a group of cash-generating units)	23	23
Microbial Control Solutions	11	11
Specialty Chemicals Services	4	4
Total carrying amounts of goodwill	**3,651**	**3,748**

[1] The CGUs Chemical and Consumer Health & Nutrition have been combined in the group of CGUs Chemical & Nutrition business
[2] Restated to reflect the 2019 transfer of a business from Consumer Health & Nutrition to Bioscience (reclassification of goodwill CHF 54 million)
[3] Increase in 2019 resulted from the acquisition of a business in Stein, Switzerland (see note 5.1)

The following cash-generating units maintain carrying amounts of intangible assets with indefinite useful lives as presented below (at year-end exchange rates):

Million CHF	2019	2018
Chemical and Nutrition business (representing a group of cash-generating units)	238[1]	0
Chemical – Development and Manufacturing (representing a group of cash-generating units)	0[1]	148
Consumer Health and Nutrition	0[1]	99
Specialty Ingredients (representing a group of cash-generating units)	89	89
Bioscience Solutions / Cell Therapy / Viral Therapeutics (representing a group of cash-generating units)	26	27
Total carrying amounts of intangible assets with indefinite useful life	**353**	**363**

[1] The CGUs Chemical and Consumer Health & Nutrition have been combined in the group of CGUs Chemical & Nutrition business

The recoverable amount of the above cash-generating units is based on the value-in-use calculation. The supporting cash flow projections for 2020 to 2024 are based on the Lonza business strategy review and exclude any future cash inflows and outflows expected to arise from the growth potential of future capital expenditures.

The cash flow projections beyond the five-year period, of the most significant cash-generating units below, are based on the concept of perpetual growth rates, which do not necessarily reflect the Group's strategic objective targets for the future growth potential of the underlying businesses. The key assumptions and the approach to determining the value in use of the significant cash-generating units carrying significant goodwill are based on the following:

The combined Chemical & Nutrition business represents the group of cash-generating units which consists of Chemical Development and Manufacturing of Drug Substances and Drug Products as well as Consumer Health & Nutrition. This business includes Capsugel (acquired in 2017) and InterHealth Nutraceuticals (acquired in 2016). The cash flow projections for 2020–2024 are based on a 6.9% average sales growth with increasing EBIT margins. The cash flow projections beyond the five-year period are based on 2.0% growth rate. A pre-tax discount rate of 6.1% has been used in discounting the projected cash flows.

The Specialty Ingredients business includes the cash-generating units of Consumer Product Ingredients, Agro Ingredients and Coatings & Composites. These cash-generating units are the combination of the activities acquired through the Arch Chemicals acquisition in 2011, the former Life Science Ingredients activities from Lonza. The cash flow projections for 2020–2024 are based on a 3.4% average sales growth. The cash flow projections beyond the five-year period are based on a 2.0% growth rate. A pre-tax discount rate of 6.4% has been used in discounting the projected cash flows.

The Bioscience Solutions/Cell Therapy/Viral Therapeutics businesses include the Cambrex Corporation, acquired in 2007, the amaxa business, acquired in 2008, MODA Technology Partners and Vivante cGMP Solutions, acquired in 2010, Triangle Research Labs, acquired in 2016 as well as PharmaCell, acquired in 2017. The cash flow projections for 2020–2024 are based on an 17.3% (2018: 8.3%) average sales growth. The cash flow projections beyond the five-year period are extrapolated using a 2.0% (2018: 0.5%) growth rate. A pre-tax discount rate of 6.3% (2018: 8.6%) has been used in discounting the projected cash flows.

A sensitivity analysis for the cash-generating units and groups of cash-generating units to which a significant amount of goodwill or intangible assets with indefinite useful lives are allocated was performed. The analysis was based on changes in key inputs which management considers to be reasonably possible

- a reduction in cash flows by 10%
- or an increase in discount rate by one percentage point
- or a reduction in the perpetual growth rate by one percentage point.

Management concluded that no impairment loss would need to be recognized on goodwill or intangible assets with indefinite useful lives in any of the cash-generating units (or group of cash-generating units).

Note 7
Property, Plant and Equipment

Million CHF	2019	2018
Property, plant and equipment own assets[1]	3,581	3,152
Right-of-use of leased assets	236	0
Total	**3,817**	**3,152**

[1] In 2018, finance leases were reported as part of property, plant & equipment

7.1
Property Plant and Equipment Own Assets

Year ended
31 December 2019

Million CHF	Land	Buildings and structures	Production facilities	Construction in progress	Total
Cost					
At 1 January reported as per IAS 17	**99**	**1,982**	**4,538**	**551**	**7,170**
Finance lease assets transferred to right-of-use of leased assets	0	(19)	(8)	0	(27)
At 1 January reported as per IFRS 16	**99**	**1,963**	**4,530**	**551**	**7,143**
Additions	0	28	76	653	757
Disposals	(1)	0	(19)	0	(20)
Acquisition of subsidiaries	0	21	41	0	62
Transfers / reclassification	0	25	188	(213)	0
Currency translation differences	1	(18)	(54)	(13)	(84)
At 31 December	**99**	**2,019**	**4,762**	**978**	**7,858**
Accumulated depreciation and impairment					
At 1 January reported as per IAS 17	**(4)**	**(1,049)**	**(2,965)**	**0**	**(4,018)**
Finance lease assets transferred to right-of-use of leased assets	0	14	4	0	18
At 1 January reported as per IFRS 16	**(4)**	**(1,035)**	**(2,961)**	**0**	**(4,000)**
Depreciation charge	0	(64)	(256)	0	(320)
Disposals	0	0	9	0	9
Impairment losses (note 4)	0	(4)	(9)	0	(13)
Reversal of impairment losses (note 4)	0	3	4	0	7
Transfers / reclassification	(1)	(1)	2	0	0
Currency translation differences	(1)	13	28	0	40
At 31 December	**(6)**	**(1,088)**	**(3,183)**	**0**	**(4,277)**
Net carrying amount 31 December	**93**	**931**	**1,579**	**978**	**3,581**

Year ended
31 December 2018

Million CHF	Land	Buildings and structures	Production facilities	Construction in progress	Total
Cost					
At 1 January	**96**	**2,023**	**4,588**	**406**	**7,113**
Additions	0	15	93	420	528
Disposals	0	(9)	(216)	0	(225)
Reclassification to asset held for sale[1]	0	(102)	(83)	(14)	(199)
Transfers / reclassification	3	67	190	(260)	0
Currency translation differences	0	(12)	(34)	(1)	(47)
At 31 December	**99**	**1,982**	**4,538**	**551**	**7,170**
Accumulated depreciation and impairment					
At 1 January	**(3)**	**(974)**	**(2,938)**	**0**	**(3,915)**
Depreciation charge	0	(66)	(267)	0	(333)
Disposals	0	9	209	0	218
Impairment losses (note 4)	0	(67)	(9)	0	(76)
Transfer to asset held for sale[1]	0	46	20	0	66
Transfers / reclassification	(1)	1	0	0	0
Currency translation differences	0	2	20	0	22
At 31 December	**(4)**	**(1,049)**	**(2,965)**	**0**	**(4,018)**
Net carrying amount 31 December	**95**	**933**	**1,573**	**551**	**3,152**

[1] Includes the Water Care related assets with a net book value of CHF 100 million as well as the building of Lonza's former Guangzhou (CN) site

Commitments for capital expenditure in property, plant and equipment amounted to CHF 411 million at year-end 2019 (2018: CHF 407 million), mainly related to capital expenditures at the Portsmouth site and for Lonza's Swiss based operations. The carrying amount of property, plant and equipment under finance lease contracts at year-end 2018 (CHF 9 million) is now reported as part of right-of-use assets and detailed in a separate note. No assets were pledged for security of own liabilities in 2019 and 2018.

7.2
Leases

Right-of-use of Leased Assets

Year ended
31 December 2019

Million CHF	Buildings and structures	Others	Total
Net carrying amount on 31 December 2019	227	9	236
Additions for the year ended	23	1	24
Depreciation for the year ended	(27)	(4)	(31)
Impairment for the year ended	0	0	0

Lonza predominantly leases office buildings, together with warehouses, equipment and vehicles. For leased real estate, the weighted average duration of lease contracts as of December 2019 was approximately 6 years, including the assessment of extension and termination options.

Lease Expenses

Leases are presented as follows in the income statement:

Million CHF	2019
Expenses related to short-term leases and low value assets[1]	(19)
Expenses related to variable lease payments not included in lease liabilities[1]	(7)
Other rent expenses (including incidental expenses)[1]	(4)
Depreciation of right-of-use of leased assets[1]	(31)
Interest expenses[2]	(9)
Total	**(70)**

[1] Included in cost of good sold and administrative expenses
[2] Included in finance cost

As of 31 December 2019, the Group has entered into two significant leases that will start in the first half of 2020. The expected impact on the Group's assets is estimated at approximately CHF 123 million, thereof CHF 21 million was prepaid as of 31 December 2019. During the year ended 31 December 2018, CHF 57 million was recognized as an expense in the consolidated income statement in respect of operating leases.

Note 8
Other Non-Current Assets

Million CHF	2019	2018
Contingent consideration related to sale of business (see note 29.6)	20	31
Capitalized contract costs (see note 3)	31	31
Investments in associates / joint ventures (see note 9)	61	10
Other investments	24	12
Defined benefit pension plan asset (see note 24.1)	10	7
Loans and advances (see note 15)	72	46
Other assets	19	16
Total	**237**	**153**

Loans and advances at 31 December 2019 include a CHF 69 million loan to BioAtrium AG. This associate company represents a strategic partnership between Sanofi and Lonza (see note 9).

Note 9
Investments in Joint Ventures and Associates

The following table summarizes the carrying amounts of interests in joint ventures and associates, which are accounted for using the equity method.

Million CHF	2019	2018
Balance sheet value		
Interests in joint ventures	8	2
Interests in associates	53	8
Total	**61**	**10**
Net income statement effect		
Share of profit / (loss) of joint ventures	0	(1)
Share of profit / (loss) of associates	(3)	0
Total	**(3)**	**(1)**

In 2019 the Group received dividends of CHF 3 million (2018: none) from associates and joint ventures.

In April 2019, the Group established together with Chr. Hansen Holding A/S a strategic partnership in developing and manufacturing live biotherapeutic products for Pharma Biotech & Nutrition customers. This partnership brings together Chr. Hansen's extensive know-how in developing, upscaling and manufacturing bacteria strains and Lonza's strong capabilities in pharma contract manufacturing and outstanding formulation and drug delivery technologies. The phased investment of approximately EUR 90 million will be shared equally between the parties over a period of three years and will be deployed to build cGMP-compliant pharma production capabilities. Lonza accounts for its 50% share in BacThera AG (name of the legal entity founded for the strategic partnership) as a joint venture in accordance with IFRS 11. The investment in BacThera had no significant financial impact on the Group's consolidated financial statements 2019.

BioAtrium AG was founded in 2017 for the strategic partnership with Sanofi. This strategic partnership build and operate a large-scale mammalian cell culture facility for monoclonal antibody production in Visp (CH). The total commitment of both partners is estimated to be CHF 290 million and is equally shared between the two parties. The facility is expected to be operational in 2020. Lonza continues to account for its share in BioAtrium AG as investment in associates in accordance with IAS 28. In 2019 Lonza converted loans of CHF 44 million to equity of BioAtrium and granted additional loans of CHF 69 million. There has been no significant financial impact on Lonza's 2019 consolidated income statement.

Note 10
Inventories

Million CHF	2019	2018
Inventories	1,506	1,359
Value adjustments	(114)	(109)
Total	**1,392**	**1,250**

Million CHF		2019		2018
Raw materials	28%	390	25%	315
Work in progress	10%	134	9%	115
Finished goods	47%	660	51%	639
Other	15%	208	14%	181
Total	**100%**	**1,392**	**100%**	**1,250**

By Operating Segments

Million CHF		2019		2018[1]
Pharma Biotech & Nutrition	77%	1,069	65%	816
Specialty Ingredients	23%	323	35%	434
Total	**100%**	**1,392**	**100%**	**1,250**

[1] Restated to reflect the 2019 realignment of Lonza's segments into Pharma Biotech & Nutrition and Specialty Ingredients

The cost of inventories recognized as expenses during the period and included in Cost of goods sold amounted to CHF 3,629 million (2018: CHF 3,599 million).

Inventory Value Adjustments

Million CHF	Raw materials	Work in progress and finished goods	Other	Total 2019	Total 2018
At 1 January	**16**	**54**	**39**	**109**	**111**
Increase	11	67	4	82	205
Reversal / Utilization of write-downs	(4)	(62)	(6)	(72)	(201)
Transfer to assets held for sale	0	0	0	0	(4)
Currency translation differences	0	(5)	0	(5)	(2)
At 31 December	**23**	**54**	**37**	**114**	**109**

Note 11
Trade Receivables

Million CHF	2019	2018
Receivables from customers	775	706
Allowances for credit losses	(16)	(14)
Total	**759**	**692**

The Group's credit risk is diversified due to the large number of entities comprising the Lonza customer base and the dispersion across many different industries and regions. Management has a credit policy in place and the exposure to credit risk is monitored on an ongoing basis. At 31 December 2019, there were no significant concentrations of credit risk. The maximum exposure to credit risk is equal to the carrying amounts.

Reconciliation of Changes in Allowance Accounts for Credit Losses

Million CHF	2019	2018
Balance at the beginning of the year	**14**	**23**
Write-offs	(6)	(5)
Increase in provision for credit losses	9	8
Decrease in provision for credit losses	(1)	(10)
Reclassification to assets held for sale	0	(2)
Balance at the end of the year	**16**	**14**

In general, Lonza does not require collateral in respect of trade and other receivables, but uses credit insurance for country risk where appropriate.

Accounts Receivable Securitization Programs

In 2019 Lonza maintained a securitization program for its US businesses with Wells Fargo Bank, N.A.

Under the program, Lonza sells certain U.S. and Canadian trade accounts receivable to Wells Fargo Bank, N.A. through a wholly owned subsidiary, Capsugel Funding LLC.

The amount of receivables that are eligible for funding under the program is subject to change based upon the level of eligible receivables, with a maximum amount of USD 110 million (2018: USD 55 million) at 31 December 2019.

Under the program, the payment by Wells Fargo Bank, N.A. for a portion of the purchase price is deferred until the transferred underlying receivables have been completely settled. Lonza's maximum exposure related to the receivables sold is equal to the deferred purchase price component, which is substantially higher than the average expected credit loss on the receivables. As a result, Lonza continues to recognize all of the transferred receivables in the consolidated balance sheet.

As of 31 December 2019, the consolidated balance sheet includes receivables which Lonza sold to Wells Fargo Bank, N.A. for which it obtained funds of USD 92 million (2018: USD 55 million). These are disclosed as other current liabilities (see note 16).

Note 12
Other Receivables, Prepaid Expenses and Accrued Income

Million CHF	2019	2018
Other receivables	73	52
Prepaid taxes and social security payments	4	6
Prepaid expenses and accrued income	241	181
Derivative financial instruments (see note 29.5)	21	17
Current advances	2	0
Total	**341**	**256**

Other receivables include accruals and receivables for taxes, other than income taxes.

Note 13
Cash and Cash Equivalents

Million CHF	2019	2018
Cash	429	401
Time deposits	76	60
Total	**505**	**461**

Note 14
Provisions

Million CHF	Environmental	Restructuring	Other	Total
At 1 January 2019	**139**	**22**	**26**	**187**
Increase	25	23	21	69
Used	(19)	(18)	(19)	(56)
Discount effect	1	0	0	1
Reversed	(2)	0	0	(2)
Currency translation differences	0	(1)	(1)	(2)
At 31 December 2019	**144**	**26**	**27**	**197**
– Thereof current	12	20	20	52
– Thereof non-current	132	6	7	145

Environmental

The environmental provision comprises the estimated probable future expenses for environmental remediation and protection of CHF 122 million (2018: CHF 118 million) for the plant in Visp (CH) as well as for various other plants of the acquired legacy Arch Chemicals business. The provision is expected to be utilized within ten years. The legacy Arch related provisions include environmental risks for existing as well as divested plants.

Restructuring

The restructuring provision primarily reflects the expected employee termination costs related to ongoing restructuring programs (see note 4).

Other

Other provisions are predominately associated with customer claims and the asset retirement obligations of Lonza's Singapore-based operations.

Note 15
Net Debt

The net debt comprises:

Million CHF	2019	2018
Debt		
Non-current debt	2,766	3,621
Current debt	774	441
Total debt	**3,540**	**4,062**
Loans and advances (floating interest rates)		
Non-current loans and advances	(72)	(46)
Current advances	(2)	0
Cash and cash equivalents	(505)	(461)
Cash and cash equivalents classified as held for sale (see note 5.3)	0	(21)
Total loans and advances and cash and cash equivalents	**(579)**	**(528)**
Net debt	**2,961**	**3,534**

Non-current Debt

Million CHF		2019		2018
Straight bonds		764		914
Syndicated loan (2019 – 2024)		137		254
Term loan		671		982
German private placement		1,048		1,082
Other long-term debt				
– Banks and other financial institutions	0		197	
– Others	146	146	182	379
Finance lease liabilities		0		10
Total non-current debt		2,766		**3,621**

Straight Bonds – Fixed Interest Rates

Million CHF	2019	2018
0.125% CHF 250 million, 2016/2021, due 1 November 2021, issued at 100.037%	249	249
1.25% CHF 175 million, 2015/2023, due 22 September 2023, issued at 100.133%	175	175
0.625% CHF 150 million, 2015/2020, due 22 September 2020, issued at 100.135%	150	150
0.2% CHF 125 million, 2017/2021, due 12 July 2021, issued at 100.179%	125	125
0.7% CHF 110 million, 2017/2024, due 12 July 2024, issued at 100.222%	110	110
3% CHF 105 million, 2012/2022, due 11 October 2022, issued at 100.74%	105	105
1.75% CHF 300 million, 2013/2019, due 10 April 2019, issued at 100.45%	0	300
Total including current portion	**914**	**1,214**
Less current portion of straight bonds	(150)	(300)
Total non-current straight bonds	**764**	**914**

Current Debt

Million CHF		2019		2018
Due to banks and other financial institutions		6		103
Others		44		37
Leases		0		1
Non-current debt due within one year				
– Term Loan	541		0	
– Straight bond (2013 – 2019)	0		300	
– Straight bond (2015 – 2020)	150		0	
– Others	33	724	0	300
Total current debt		**774**		441

Debt: Movements in Carrying Value of Recognised Liabilities

Million CHF	2019	2018
At 1 January, as previously reported	**4,062**	**4,246**
Impact from change in accounting policies[1]	(11)	n.a.
At 1 January	**4,051**	**4,246**
Repayment of straight bond	(300)	(340)
Issuance / (repayment) of term loan	265	0
Issuance / (repayment) of syndicated loan	(119)	29
Repayment of bank loan	(198)	0
Increase / (decrease) in other debt	(94)	152
Changes from financing cash flows	**(446)**	**(159)**
Amortization of financing costs and discounts	**5**	**6**
Business combinations	**0**	**3**
Net foreign currency transaction gains	(66)	(41)
Currency translation effects	(4)	7
Changes in foreign exchanges rates	**(70)**	**(34)**
At 31 December	**3,540**	**4,062**

[1] Following the implementation of IFRS 16 as of 1 January 2019, the definition of debt has changed to exclude lease liabilities. As a consequence, total debt was reduced by lease liabilities of CHF 11 million (non-current CHF 10 million, current CHF 1 million)

Breakdown of Total Debt by Currencies

Million CHF	2019 Average Interest Rate %	2019 %	2019	2018 Average Interest Rate %	2018 %	2018
CHF	0.84	29	1,032	1.32	38	1,531
EUR	0.91	37	1,300	1.04	32	1,295
USD	3.12	34	1,208	3.03	30	1,236
Total		**100**	**3,540**		**100**	**4,062**

Following the 2019 assignment of Lonza's investment grade credit rating by S&P, Lonza refinanced and extended its syndicated Term and Revolving Bank Facilities Agreement effective 6 September 2019.

Term Loan

In 2019, Lonza issued term loan tranches of EUR 500 million, USD 500 million and USD 200 million carrying floating interest rates and repayable in 2020, 2024 and 2025 respectively. The newly issued term loan effectively replaces the EUR 450 million and USD 489 million term loan tranches issued in 2017 with maturity dates in 2020 and 2022 and the bank loan of USD 200 million (classified within Others in 2018). The net proceeds received in 2019 totalled CHF 265 million.

German Private Placement

The dual-currency German private placement (Schuldscheindarlehen) of EUR 700 million and USD 200 million tranches carry fixed and floating interest rates (LIBOR/EURIBOR + margin) respectively, and are repayable in 2021 (EUR 325 million), 2022 (USD 150 million), 2023 (EUR 375 million) and 2024 (USD 50 million). The single-tranche German private placement (Schuldscheindarlehen) of USD 100 million carry floating interest rates (LIBOR + margin) and is repayable in 2024.

Syndicated Loan

In 2019 Lonza signed a syndicated loan with a consortium of banks on the following terms: Credit facility of CHF 1,000 million, of which CHF 80 million and USD 65 million was used as of 31 December 2019, due 2024, at floating interest rates.

The new syndicated loan effectively replaces the syndicated loan signed in 2017 of which CHF 259 million were used as of 31 December 2018.

Others

Other current and non-current debt compromise industrial revenue bonds of USD 187 million issued by governmental institutions in the United States (repayable in 2020, 2022, 2025, 2030 and 2047).

Note 16
Other Non-Current and Current Liabilities

Other Non-Current Liabilities

Million CHF	2019	2018
Non-current deferred income (see note 3)	250	247
Lease liabilities	219	0
Contingent consideration	28	28
Other liabilities[1]	52	6
Total other non-current liabilities	549	281

[1] Other liabilities mainly include the remaining payments due related to the 2019 acquisition from Novartis in Stein, Switzerland

Other Current Liabilities

Million CHF	2019	2018
Accrued liabilities and other payables	469	379
Current deferred income (see note 3)	359	412
Lease liabilities	25	0
Derivative financial instruments (see note 29.5)	26	17
Liability related to securitization program (see note 11)	89	54
Contingent consideration	2	2
Other financial liabilities	238	238
Accrued interest payables	8	10
Total other current liabilities	1,216	1,112

Note 17
Trade Payables

Million CHF	2019	2018
Payable to third parties	453	428
Total	**453**	**428**

Payables to third parties principally comprise amounts outstanding for trade purchases and ongoing costs. The carrying amount of trade payables approximates their fair value.

Note 18
Material and Energy Costs

Million CHF	2019	2018
Material costs	1,685	1,725
Energy costs	103	97
Total	**1,788**	**1,822**

Note 19
Personnel Expenses

Million CHF	2019	2018
Wages and salaries	1,309	1,221
Operating expenses defined benefit pension plans (note 24.1)	52	46
Other social security contributions	304	277
Other personnel expenses	150	74
Total	**1,815**	**1,618**

Note 20
Other Operating Income and Expenses

20.1
Other Operating Income

Million CHF	2019	2018
Gain from foreign exchange rate differences and other operating derivative instruments	10	29
Supplier rebates and insurance benefits	8	8
Research & development tax credits	4	3
Release of provisions	2	2
Gain from disposal of property, plant and equipment and other assets	7	0
Sundry income	37	8
Total	**68**	**50**

20.2
Other Operating Expenses

Million CHF	2019	2018
Loss from foreign exchange rate differences and other operating derivative instruments	(17)	(41)
Loss from disposal of property, plant and equipment and other assets	(13)	(9)
Increase in provisions	0	(6)
Settlement of customer claims / litigations	(16)	(9)
Impairment of Corporate assets Guangzhou site (CN) (see note 4)	(3)	(35)
Sundry expense	(40)	(15)
Total	**(89)**	**(115)**

Note 21
Net Financial Result

21.1
Interest and Other Financial Income

Million CHF	2019	2018
Interest income	6	1
Fair value adjustment on Lonza's pre-acquisition investment in Octane (see note 5.2)	0	32
Foreign exchange rate differences, including impact from currency related financial derivative instruments	0	52
Interest related financial derivative instruments	13	0
Other financial income	3	0
Total	**22**	**85**

21.2
Interest and Other Financial Expenses

Million CHF	2019	2018
Interest expenses	(72)	(75)
Amortization of debt fees and discounts	(5)	(7)
Interest IAS19 on employee benefit liabilities (see notes 24.1 and 24.2)	(9)	(10)
Interest expenses on IFRS 16 lease liabilities	(9)	0
Foreign exchange rate differences, including impact from currency related financial derivative instruments	(31)	0
Interest related financial derivative instruments	0	(13)
Negative impact from fair value adjustment on contingent purchase price consideration (see note 29.6)	(4)	0
Net losses on investments measured at fair value through profit or loss	(2)	(5)
Other financial expenses	(10)	(9)
Total	**(142)**	**(119)**

Interest expenses comprise interest expenses on the Group's debt (refer to note 15), the accounts receivable securitization program (see note 11) as well as other interest.

Note 22
Taxes

22.1
Income Taxes

Major components of tax expenses

Million CHF	2019	2018
Current taxes	(137)	(114)
Deferred tax expense relating to the origination and reversal of temporary differences	47	(33)
Deferred tax income resulting from tax rate changes	4	(1)
Total	**(86)**	**(148)**

Lonza Group Ltd and the operating company Lonza Ltd are domiciled in Switzerland. The maximum rate of all income taxes on companies domiciled in Switzerland is 8% (2018: 8%) for holding companies and 22% for operating companies in the Canton of Valais (2018: 22%). Following the implementation of the Swiss Tax Reform effective 2020, income tax rates for holding companies will increase and income tax rates in the Canton of Valais are expected to decrease.

Since the Group operates across the world, it is subject to income taxes in several different tax jurisdictions. Lonza uses, as the Group's tax rate, the ordinary tax rate for a legal entity in the Canton of Valais in Switzerland. The Group's effective tax rate for 2019 is 10% (2018: 18%). Capital taxes of CHF 25 million (2018: CHF 23 million) are included in administration and general overheads.

Reconciliation of Tax Expense

Million CHF	2019	2018
Profit before income taxes	849	807
Tax at the group rate (2019: 22% / 2018: 22%)	183	176
Deviation from average group tax rate	(52)	(8)
Non-deductible expenses	4	4
Tax-free earnings	(37)	(25)
Deferred tax effect from tax rate changes	(4)	1
Changes in prior year estimates (including valuation allowances)	(22)	15
Tax on unremitted earnings	0	(19)
Effect of non-recognition of deferred tax assets	13	3
Other	1	1
Total	**86**	**148**
Current tax expenses credited directly to equity	**11**	**7**

The components of deferred income tax balances are included in the following captions in the consolidated balance sheet:

Components of Deferred Income Tax Balances

	2019		2018	
Million CHF	Assets	Liabilities	Assets	Liabilities
Current provisions	16	21	14	30
Non-current provisions / Employee benefit liabilities	223	38	211	72
Intangible assets	0	691	3	747
Inventories, net	9	49	4	46
Property, plant and equipment	16	203	18	214
Other assets	2	0	16	21
Tax loss carry-forwards and tax credits	129	0	182	0
Netting of deferred tax assets and deferred tax liabilities	(372)	(372)	(419)	(419)
Total	**23**	**630**	**29**	**711**

The development of deferred tax (expenses)/income can be explained as follows:

Million CHF	2019	2018
Deferred tax assets	23	29
Deferred tax liabilities	(630)	(711)
Net deferred tax liability, at 31 December	**(607)**	**(682)**
Less deferred tax liabilities net, at 1 January	682	717
Decrease in deferred tax liabilities, net	**75**	**35**
Currency translation differences	(13)	(18)
Acquisition of subsidiaries	0	35
Movements of deferred (tax assets) / liabilities recognized in other comprehensive income	(7)	1
Movements of deferred (tax assets) / liabilities recognized in equity	(8)	0
Deferred tax expense related to discontinued operations	4	1
Reclassification current to deferred taxes	0	5
Reclassification to assets held for sale	0	(93)
(Expense) / income recognized in income statement	**51**	**(34)**

Unrecognized Tax Losses: Expiry

Million CHF	2019	2018
Within 1 year	0	0
Between 2 to 5 years	94	14
After 5 years	39	21
Unlimited	144	335
Total	**277**	**370**

In addition to the unrecognized tax losses shown in the above table, the Group has additional unrecognized tax losses for US State Tax purposes in the amount of CHF 572 million at 31 December 2019 (2018: CHF 517 million). These losses expire in more than 5 years.

In assessing whether it is probable that future taxable profit will be available to utilize these tax loss carry- forwards, management considers whether such benefits are recoverable on the basis of the current situation of the company and the future economic benefits outlined in specific business plans for each relevant subsidiary.

Deferred tax liabilities have not been established for withholding tax and other taxes that would be payable on the remittance of earnings of foreign subsidiaries, where such amounts are currently regarded as permanently reinvested. The total unremitted earnings of the Group that would be subject to withholding tax or other taxes upon remittance, but which are regarded as permanently reinvested, were CHF 673 million at 31 December 2019 (2018: CHF 689 million).

The adoption of IFRS 23 did not have significant impact on the Group's financial statements.

22.2 Disclosure of Tax Effects on Each Component of Other Comprehensive Income

Million CHF	2019 Before-tax Amount	2019 Tax (Expense) Benefit	2019 Net-of-tax Amount	2018 Before-tax Amount	2018 Tax (Expense) Benefit	2018 Net-of-tax Amount
Exchange differences on translating foreign operations	(153)	0	(153)	(222)	1	(221)
Cash flow hedges	(5)	0	(5)	(16)	2	(14)
Remeasurement of defined-benefit liability	(43)	7	(36)	7	(1)	6
Other comprehensive income	**(201)**	**7**	**(194)**	**(231)**	**2**	**(229)**

Note 23 Research & Development Costs

Research & development (R&D) costs include all primary costs directly related to this function, as well as internal services and imputed depreciation. These costs are incurred for:

- Development of new products and services
- Improvement of existing products and services
- Development of new production processes
- Improvement of existing production processes
- Cost for patents
- Purchase price for product and process know-how to the extent not capitalized

The R&D costs amounted to CHF 188 million (2018: CHF 160 million) and represent the full range of R&D activity. However, the consolidated income statement discloses research & development costs of only CHF 123 million (2018: CHF 110 million), as the remainder of such costs are absorbed in Cost of goods sold for R&D products and services sold.

Note 24 Employee Benefit Liabilities

The tables below reconcile the Group's employee benefit liabilities in the consolidated balance sheet as well as the related remeasurement in the statement of other comprehensive income:

Million CHF	2019	2018
Defined benefit pension plans (see note 24.1)	484	475
Post-employment medical benefits (see note 24.2)	25	28
Non-current vacation accrual (Swiss entities)	2	3
Other employee benefit liabilities	0	1
Total	**511**	**507**

Million CHF	2019	2018
Remeasurement for:		
Defined-benefit pension plans (see note 24.1)	44	(5)
Post-employment medical benefits (see note 24.2)	(1)	(2)
Total	**43**	**(7)**

24.1 Defined-Benefit Pension Plans

The Group operates defined-benefit pension plans in various countries, with the major plans being in Switzerland, Great Britain and the United States (as described below). For pension accounting purposes, these plans are considered as defined-benefit plans.

Pension Plan in Switzerland

The Group's Swiss pension plan is governed by the Swiss Federal Law on Occupational Retirement, Survivors and Disability Pension Plans (BVG), and is funded through a legally separate trustee-administered pension fund (Pensionskasse der Lonza). The Board of Trustees is responsible for the investment of the assets, which cannot revert to the Company. The cash funding of these plans, which may from time to time involve special payments, is designed to ensure that present and future contributions should be sufficient to meet future liabilities.

The plan contains a cash balance benefit formula, accounted for as a defined-benefit plan. Employer and employee contributions are defined in the pension fund rules in terms of an age-related sliding scale of percentages of pay. Under Swiss law, the company guarantees the vested benefit amount as confirmed annually to members. Interest may be added to member balances at the discretion of the Board of Trustees. The risks linked to retirement benefits (disability and death) have been reinsured until 31 December 2020. The investment risk is not reinsured.

Retirement benefits are based on the accumulated retirement capital (made up of yearly contributions and the interest thereon), which can either be drawn as a life-long annuity or as a lump-sum payment or a combination of both. The Board of Trustees may adjust the annuity at its discretion subject to the plan's funded status including sufficient free funds as determined according to Swiss statutory valuation rules. Retirement benefits and related plan assets of plan participants with a retirement date on or before 31 December 2007 were transferred to an insurance company. The insurance company guarantees these retirement benefits and bears the investment, death and disability risks.

Pension Plan in the UK

The Group operates two major plans in the UK which are closed to new entrants. In addition, both schemes are registered under UK legislation, are contracted out of the State Second Pension and are subject to the scheme funding requirements outlined in UK legislation. The plans are managed by corporate trustee bodies, which oversee investment strategy and general regulatory compliance. Both pension plans are linked to final salaries and service.

Pension Plans in the United States

Lonza currently sponsors three qualified defined-benefit pension plans in the United States. All of the defined-benefit pension plans are fully frozen with respect to future benefit accruals (with the exception of a small group of participants). All eligible U.S. employees currently participate in a defined-contribution retirement plan. Pension benefits for the majority of U.S. pension plan participants are generally based on final average pay and credited service as of the date of termination or as of the date benefit accruals were frozen (if earlier), and are payable as a lifetime pension. Participants in the Cash Balance formula under the Pension Plan of Arch Chemicals are covered under an account-based formula that is credited each year with interest based on the yield on ten-year U.S. Treasury securities. Participants in these plans may commence benefit payments upon attainment of normal retirement age or, if applicable, as of an early retirement age (usually age 55) provided the criteria for early retirement have been met as of the participant's termination of employment with the Company. Participants in the Cash Balance plan may elect to commence benefits upon termination of employment either in a single lump sum or as a lifetime annuity, or they may defer payment to a later date.

Pension benefit payments from the qualified pension plans are paid from a trustee-administered fund. The plan is subject to minimum funding requirements and subject to further regulation under the Internal Revenue Code and the Employees Retirement Income Security Act of 1974 (ERISA). Actuarial valuations are completed each year for each plan to determine the contribution requirement. The plan sponsor may elect to contribute more than the minimum, in which case the excess amounts may under certain circumstances be used to offset future funding requirements.

Million CHF	Defined benefit obligation	Fair value of plan assets	Net defined benefit liability
At 1 January 2018	**3,264**	**(2,730)**	**534**
Included in profit or loss			
Current service cost	53	0	53
Past service credit	(7)	0	(7)
Interest expense / (income)	51	(42)	9
Included in other comprehensive income			
Actuarial loss / (gain) arising from:			
– Demographic assumptions	(14)	0	
– Financial assumptions	(121)	0	
– Experience adjustment	32	0	(103)
Return on plan assets excluding interest income	0	98	98
Remeasurements loss / (gain)	(103)	98	(5)
Effect of movements in exchange rates	(33)	28	(5)
Other			
Contributions paid:			
– Employers	0	(109)	(109)
– Plan participants	22	(22)	0
Benefits paid	(111)	111	0
Reclassification to liabilities held for sale	(4)	2	(2)
At 31 December 2018	**3,132**	**(2,664)**	**468**
– Thereof present value of funded defined-benefit obligation	3,108		
– Thereof present value of unfunded defined-benefit obligation	24		
Included in profit or loss			
Current service cost	50	0	50
Past service credit	2	0	2
Interest expense / (income)	56	(48)	8
Included in other comprehensive income			
Actuarial loss / (gain) arising from:			
– Demographic assumptions	(50)	0	
– Financial assumptions	288	0	
– Experience adjustment	77	0	315
Return on plan assets excluding interest income	0	(271)	(271)
Remeasurements loss / (gain)	315	(271)	44
Effect of movements in exchange rates	1	1	2
Other			
Contributions paid:			
– Employers	0	(100)	(100)
– Plan participants	25	(25)	0
Benefits paid	(103)	103	0
At 31 December 2019	**3,478**	**(3,004)**	**474**
– Thereof present value of funded defined-benefit obligation	3,454		
– Thereof present value of unfunded defined-benefit obligation	24		

The defined-benefit pension plans are reported as follows in the consolidated balance sheet:

Million CHF	2019	2018
Defined benefit pension plan asset	10	7
Defined benefit pension plan liability	(484)	(475)
Defined benefit pension plan liability classified as held for sale	0	(2)

As a result of a plan amendment of the Swiss plan in 2018 (reduction of the conversion rate), the Group recognized a past service credit of CHF 10 million.

The Group expects to pay CHF 81 million in contributions to defined-benefit pension plans in 2020.

The defined benefit obligation and plan assets are disaggregated by country as follows:

	2019					2018				
Million CHF	CH	US	UK	Rest of World	Total	CH	US	UK	Rest of World	Total
Present value of defined-benefit obligation	2,082	541	769	86	3,478	1,888	504	664	76	3,132
Fair value of plan assets	(1,831)	(446)	(690)	(37)	(3,004)	(1,642)	(397)	(588)	(37)	(2,664)
Total net defined-benefit liability	**251**	**95**	**79**	**49**	**474**	**246**	**107**	**76**	**39**	**468**

The significant actuarial assumptions at the reporting date (expressed as weighted averages) were as follows:

	2019			2018		
In %	CH	US	UK	CH	US	UK
Discount rate	0.29	3.18	2.08	0.83	4.20	2.86
Future salary increases	1.00	0.00	3.22	1.00	0.00	3.41
Future pension increases	n.a.	0.00	2.33	n.a.	0.00	2.47

Assumptions regarding future mortality are based on actuarial advice in accordance with published statistics and experience in each territory[1]. These assumptions translate into an average life expectancy in years for a pensioner retiring at age 65:

	2019			2018		
In years	CH	US	UK	CH	US	UK
Retiring at the end of the reporting period						
– Male	21.7	20.0	21.6	21.7	21.0	21.4
–- Female	23.5	22.0	24.2	23.5	23.0	24.1
Retiring 20 years after the end of the reporting period						
– Male	23.3	22.0	23.3	23.2	22.0	23.1
– Female	25.0	24.0	25.9	25.0	24.0	25.8

[1] For the Pension Plan in Switzerland BVG 2015 mortality tables were applied

The sensitivity of the defined-benefit obligation to changes in the relevant actuarial assumptions is:

		31.12.2019		31.12.2018	
Effect in million CHF	Change in assumption	Increase	Decrease	Increase	Decrease
Discount rate	0.25%	(131)	140	(113)	121
Future salary increases	0.25%	15	(15)	13	(13)
Life expectancy	1 year	131	(132)	109	(110)

The above sensitivity analyses are based on a change in an assumption while keeping all other assumptions constant. In practice, this is unlikely to occur, and changes in some of the assumptions may be correlated. When calculating the sensitivity of the defined-benefit obligation to significant actuarial assumptions the same method (present value of the defined-benefit obligation calculated with the projected unit credit method at the end of the reporting period) has been applied as when calculating the pension liability recognized within the balance sheet.

The methods and types of assumptions used in preparing the sensitivity analyses did not change compared with the previous period.

At 31 December the weighted average duration of the defined-benefit obligation for the major plans as well as the Group in total is:

Million CHF	2019	2018
Group	15.6	15.2
CH	15.4	15.1
UK	19.2	18.9
US	11.4	11.0

Plan assets comprise:

			2019				2018	
Million CHF	Quoted	Unquoted	Total	%	Quoted	Unquoted	Total	%
Equity instruments	835	0	835	28	652	0	652	24
Debt instruments								
– Investment-grade (AAA to BBB)	1,160	0	1,160		1,146	0	1,146	
– Non-investment-grade (below BBB)	63	0	63		37	0	37	
	1,223	0	1,223	41	1,183	0	1,183	44
Real-estate	157	112	269	9	122	106	228	9
Cash and cash equivalents	104	0	104	3	77	0	77	3
Other	550	23	573	19	496	28	524	20
Total	**2,869**	**135**	**3,004**	**100**	**2,530**	**134**	**2,664**	**100**

24.2 Post-Employment Medical Benefits

Lonza's post-employment medical benefit plans are not funded and are provided under defined-benefit plans. They consist of post-retirement healthcare benefits in the United States, such as drug coverage and other medical benefits, as well as limited death benefits.

The post-retirement healthcare plans are not open to new members and grandfathered participants must meet specific age/service requirements to participate.

The movements in the defined-benefit obligation are as follows:

Million CHF	2019	2018
At 1 January	28	36
Included in profit or loss		
Current service cost	0	1
Past service credit	(1)	(4)
Interest expense	1	1
Included in other comprehensive income		
Actuarial loss / (gain) arising from:		
– Demographic assumptions	0	0
– Financial assumptions	1	(2)
– Experience adjustment	(2)	0
Total remeasurements gain	(1)	(2)
Effect of movements in exchange rates	0	0
Other		
Contributions paid by:		
– Employers	0	0
– Plan participants	0	0
Benefits paid	(2)	(3)
Reclassification to liabilities held for sale	0	(1)
At 31 December	25	28

In 2018 the medical benefit plans were amended. Following the elimination of certain benefits, the Group recognized a past service credit of CHF 4 million.

The significant actuarial assumptions were as follows:

In %	2019	2018
Discount rate	3.18	4.20
Medical-cost trend rate	6.60	7.00

The sensitivity of the defined-benefit obligation to changes in the relevant actuarial assumptions is:

		31.12.2019		31.12.2018	
Effect in million CHF	Change in assumption	Increase	Decrease	Increase	Decrease
Discount rate	0.25%	(1)	1	(1)	1
Medical-cost trend rate	1.00%	1	(1)	1	(1)
Life expectancy	1 year	0	0	0	0

For the medical plan the same mortality assumptions are applied as for the pension plans in the United States (see note 24.1).

In addition, the sensitivity analyses are based on the same methodology as for the pension plans.

Note 25
Share-Based Payments

Long-Term Incentive Plan (LTIP)

History and Participation
The LTIP is an equity-based plan introduced in 2006 for the Executive Committee and a segment of key employees.

Objective
The LTIP has been designed to align the interests of participants with those of Lonza's shareholders and to serve as a retention tool. LTIP participants are eligible to receive a number of Lonza shares at the end of the vesting period, provided that certain challenging performance conditions are met at the end of the three-year performance period.

Equity Awards
Under the LTIP, participants are awarded the right to receive a number of Lonza registered shares in the future. Depending on the level of the job, the target equity award grant is between 10% and 150% of the annual base salary. The grant is made at target and the payout level can be between 0% and 200%.

The Executive Committee members have a target of 125% and the CEO has a target of 150% of base salary with payout levels between 0% and 200% maximum. Any pro-ration is applied in relation to the entire length of the three-year performance period. The LTIP plan design and target setting is determined at the beginning of the three-year performance period. For 2019 the plan design included minimum, target and stretch goals. The 2019 LTIP budget value for the Executive Committee was approved as submitted at the AGM 2019 and administered in accordance with this approval.

Vesting will depend on achievement of the performance conditions and cannot exceed the maximum amount (200%) of granted equity awards.

Restriction and Vesting
The central feature of the plan is that key participants will only receive title and ownership of the shares after a three-year vesting period and only if the performance metrics required for vesting are partially or fully met.

Vesting Targets
For the 2019 LTIP the performance metrics were CORE earnings per share (EPS) and return on invested capital (ROIC) with 50% weight for each measure.

With the payout value directly linked to these key financial metrics, these two measures focus on Lonza's financial performance that will drive the valuation of Lonza with investors. The value of the LTIP will be ultimately driven by the share price at the time of payout, further linking the LTIP to the interests of the shareholders.

Overview of Vesting Conditions for LTIP
The 2018 and 2019 LTIP awards are subject to CORE EPS and ROIC performance measures, each with an equal weighting. The Nomination and Compensation Committee (NCC) deems these long-term performance measures appropriate to align the interests of the Executive Committee with Lonza's financial performance and in turn the interests of our Shareholders.

The respective performance targets at the threshold (50%), target (100%) and maximum (200%) payout levels were recommended by the NCC and approved by the Board of Directors in April 2019. These financial performance targets for the 2021 year end are commercially sensitive at this time and will not be disclosed publicly until after the awards have vested.

CORE EPS Approved at AGM 2019 (LTIP 2019)
The 2019 LTIP award threshold performance level was determined to be approximately 112% of the CORE EPS threshold performance level for the 2018 LTIP award. The maximum performance level was determined to be above the pro-rated Mid-Term Guidance 2022 and is a double-digit percentage figure above threshold performance levels.

ROIC Approved at AGM 2019 (LTIP 2019)
ROIC (return on invested capital) is defined as adjusted net operating profit after tax divided by invested capital. This measures the return the company generates on its investments both organic, and inorganic expansion. The measure is a reflection of the effect of decisions taken by Executive Committee members and senior management over the course of the relevant LTIP performance period. The 2019 LTIP award threshold performance level was determined to be approximately 110% of the ROIC threshold performance level set for the 2018 LTIP award. The maximum performance level was determined to be above the pro-rated Mid-Term Guidance 2022 and is close to a double-digit percentage figure above threshold performance levels.

Treatment of LTIP in Change of Control Situations
Under the LTIP rules, if a Change of Control occurs, all unvested granted shares shall immediately vest and the granted price shall be the price at which the shares are sold in the transaction resulting in the Change of Control.

Actual Performance and Payout for the LTIP 2017
Performance under the 2017 LTIP exceeded the target for CORE EPS, generating a 200% payout on 50% of the total award. Performance under the 2017 LTIP exceeded also the target for CORE RONOA, generating a 122% payout on the remaining 50% of the total award. The total 2017 LTIP payout equaled 161%. See page [200] from Remuneration Report for full details on targets and target achievements.

Actual Performance and Payout for the LTIP 2017

	Actual Performance	Payout in %
CORE EPS (earnings per share)[1]	13.62	200
CORE RONOA (return on net operating assets)[1]	30.2%	122
Total payout		**161**

[1] CORE results exclude exceptional items such as restructuring charges, impairments and amortization of acquisition-related intangible assets, which can differ from year to year CORE metrics are not IFRS metrics, but are used by management in addition to IFRS to assess performance

Details of Long-Term Incentive Plans

	Grant Date	Share Price in CHF	Granted Equity Awards	Fair Value at Grant Date in CHF	Vesting Date
LTIP 2016	01 02 2016	156.30	108,744	24,730,180	31 01 2019
LTIP 2017	01 02 2017	180.90	106,578	17,353,964	31 01 2020
LTIP 2017 Capsugel	27 07 2017	233.10	76,641	16,078,516	31 01 2020
LTIP 2018	01 02 2018	258.90	106,893	29,888,566	31 01 2021
LTIP 2019	01 02 2019	261.90	110,026	29,824,362	31 01 2022

Vesting Conditions at Grant Date

	Market Price in CHF	Granted Equity Awards	Fair Value of Equity Awards in CHF	Expected EPS / RONOA / ROIC at Grant Date	Probability Minimum Targets	Volatility Employees	Total Probability	Total Cost at Grant Date in CHF
LTIP 2016 CORE RONOA	156.30	54,372	156.30	150%	150%	3%	97%	12,365,090
LTIP 2016 CORE EPS	156.30	54,372	156.30	150%	150%	3%	97%	12,365,090
LTIP 2017 CORE RONOA	180.90	53,289	180.90	100%	100%	10%	90%	8,676,982
LTIP 2017 CORE EPS	180.90	53,289	180.90	100%	100%	10%	90%	8,676,982
LTIP 2017 CAPSUGEL CORE RONOA	233.10	38,321	233.10	100%	100%	10%	90%	8,039,363
LTIP 2017 CAPSUGEL CORE EPS	233.10	38,320	233.10	100%	100%	10%	90%	8,039,153
LTIP 2018 ROIC	258.90	53,447	258.90	120%	100%	10%	90%	14,944,423
LTIP 2018 CORE EPS	258.90	53,446	258.90	120%	100%	10%	90%	14,944,143
LTIP 2019 ROIC	261.90	55,013	261.90	115%	100%	10%	90%	14,912,181
LTIP 2019 CORE EPS	261.90	55,013	261.90	115%	100%	10%	90%	14,912,181

Development Within 2019 of the LTIP

	Equity Awards Outstanding 01 01 2019	Equity Awards Granted During 2019	Equity Awards Forfeited During 2019	Vested Equity Awards During 2019	Equity Awards Lapsed During 2019	Equity Awards Outstanding 31 12 2019
LTIP 2016	98,525	0	0	(95,630)	2,895	0
LTIP 2017	102,975	0	(9,265)	0	0	93,710
LTIP 2017 Capsugel	70,794	0	0	0	0	70,794
LTIP 2018	106,257	0	(6,097)	0	0	100,160
LTIP 2019	0	110,026	(525)	0	0	109,501
Total equity awards	**378,551**	**110,026**	**15,887**	**(95,630)**	**2,895**	**374,165**

Development Within 2018 of the LTIP

	Equity Awards Outstanding 01 01 2018	Equity Awards Granted During 2018	Equity Awards Forfeited During 2018	Vested Equity Awards During 2018	Equity Awards Lapsed During 2018	Equity Awards Outstanding 31 12 2018
LTIP 2015	103,223	0	0	(103,113)	(110)	0
LTIP 2016	104,667	0	(6,142)	0	0	98,525
LTIP 2017	106,578	0	(3,603)	0	0	102,975
LTIP 2017 Capsugel	76,641	0	(5,847)	0	0	70,794
LTIP 2018	0	106,893	(636)	0	0	106,257
Total equity awards	**391,109**	**106,893**	**(16,228)**	**(103,113)**	**(110)**	**378,551**

The estimated fair value of the granted equity awards in 2019 was CHF 261.90 (2018: CHF 279.61). The weighted average share price of the vested shares in 2019 was CHF 227.42 (2018: CHF 109.20). The outstanding granted equity awards on 31 December 2019 had a weighted average share price of CHF 231.97 (2018: 221.20) and a remaining weighted average contractual life of 11 months (2018: 13 months). The costs were calculated using the market price at grant date, including probabilities as per conditions of vesting. The amounts for equity awards are expensed on a straight-line basis over the vesting period, based on estimates of equity awards that will eventually vest.

Compensation of the Board of Directors

Objective and Benchmarks
In accordance with their respective duties and responsibilities, compensation levels for the Board of Directors are set at the median of the benchmarking peer group. The benchmarking peer group consists of Swiss companies of various sectors that are comparable in type of business, complexity of operations, size and global presence to Lonza. The Board of Directors regularly review the compensation of its members, including the Chairman, based on a proposal by the Nomination and Compensation Committee and on advice from an independent advisor, including relevant benchmarking information.

Structure and Level of Compensation
The Chairman of the Board of Directors and its Members receive their compensation as 50% in Lonza Group Shares and 50% in cash. This is paid in quarterly installments during the 2019 financial year.

The number of shares granted for Board of Directors' compensation is based on the average closing share price of the last five business days of each quarter. Share restrictions lapse after three years from the grant date. Shares are eligible for a dividend. This structure of Board of Directors' compensation is closely aligned with our Shareholders' interests.

The members of the Board of Directors do not receive variable compensation. The members of the Board of Directors are reimbursed for travel and other related expenses associated with their responsibilities as members of the Board of Directors of Lonza. The position and associated compensation of the Chairman of the Board of Directors and its Members was approved by Shareholders at the 2019 Annual General Meeting (AGM). This reflects compensation levels and structure which are unchanged compared to the previous year.

Compensation Components
For the period from the AGM 2019 to the AGM 2020, the members of the Board of Directors receive fixed gross compensation for Board of Directors' membership and additional compensation for committee Chairmen and committee members as described in the table below.

The compensation of the Chairman of the Board of Directors includes their compensation as a member of the Innovation and Technology Committee of the Board of Directors. The additional compensation for the role of Chief Executive Officer *ad interim* held during 2019 is included in the compensation of the Executive Committee, found on page [201].

Further, the compensation of the committee Chairmen amounts to CHF 280,000 and includes the committee membership fee. In the case of multiple committee memberships, this attracts one committee membership fee only. The additional responsibilities of Vice-Chairman and Lead Independent Director do not attract any additional fees.

Compensation Board of Directors Annual General Meeting (AGM)

2019 to 2020 (excl. social security contributions)

In CHF	Base Annual Fee	Committee Membership Fee	Committee Chairman Fee
Chairman of the Board of Directors[1]	600,000	–	–
Board of Directors Member[2]	200,000	40,000	80,000
	The additional responsibilities of Vice-Chairman and Lead Independent Director[3] do not attract any additional fees		
Form of payout	50% in Lonza Group shares and 50% in cash. This is paid in quarterly installments during the 2019 financial year		

[1] The compensation of the Chairman of the Board of Directors includes their compensation as a member of the Innovation and Technology Committee of the Board of Directors. The additional compensation for the role of Chief Executive Officer *ad interim* held during 2019 is included in the compensation of the Executive Committee, found on page [201]
[2] The compensation of the committee Chairmen amounts to CHF 280,000 and includes the committee membership fee. In the case of multiple committee memberships, this attracts one committee membership fee only
[3] The roles and responsibilities of such Lead Independent Director are in line with sect. 19 para. 2 of the Swiss Code of Best Practice for Corporate Governance, requiring adequate control mechanisms, and commensurate to such position

Development of Compensation for Board of Directors in 2019

Grant Date	Total Number of Shares	Share Price in CHF	Fair Values of Shares	Cash[1] in CHF	Total in CHF	Blocked Until
31 03 2019	1,203	297.34	357,700	360,000	717,700	31 03 2022
30 06 2019	1,005	326.56	328,193	330,000	658,193	30 06 2022
30 09 2019	970	338.44	328,287	330,000	658,287	30 09 2022
31 12 2019	926	353.68	327,508	330,000	657,508	31 12 2022
Total	**4,104**	**326.92**	**1,341,688**	**1,350,000**	**2,691,688**	

[1] Excluding social security and withholding tax

The amount of CHF 2,691,688 was recognized as an expense in the year 2019.

Development of Compensation for Board of Directors in 2018

Grant Date	Total Number of Shares	Share Price in CHF	Fair Values of Shares	Cash[1] in CHF	Total in CHF	Blocked Until
31 03 2018	1,537	225.84	347,116	348,750	695,866	31 03 2021
30 06 2018	1,368	262.58	359,209	360,000	719,209	30 06 2021
30 09 2018	1,091	329.54	359,528	360,000	719,528	30 09 2021
31 12 2018	1,369	261.62	358,158	360,000	718,158	31 12 2021
Total	**5,365**	**265.43**	**1,424,011**	**1,428,750**	**2,852,761**	

[1] Excluding social security and withholding tax

The amount of CHF 2,852,761 was recognized as an expense in the year 2018.

Development of Compensation for Board of Directors in 2017

Grant Date	Total Number of Shares	Share Price in CHF	Fair Values of Shares	Cash[1] in CHF	Total in CHF	Blocked Until
31 03 2017	1,832	185.72	340,239	341,250	681,489	31 03 2020
30 06 2017	1,679	207.06	347,654	348,750	696,404	30 06 2020
30 09 2017	1,380	252.04	347,815	348,750	696,565	30 09 2020
31 12 2017	1,325	262.68	348,051	348,750	696,801	31 12 2020
Total	**6,216**	**222.61**	**1,383,759**	**1,387,500**	**2,771,259**	

[1] Excluding social security and withholding tax

The amount of CHF 2,771,259 was recognized as an expense in the year 2017.

Development of Compensation for Board of Directors in 2016

Grant Date	Total Number of Shares	Share Price in CHF	Fair Values of Shares	Cash[1] in CHF	Total in CHF	Blocked Until
31 03 2016	1,930	160.98	310,690	311,250	621,940	31 03 2019
30 06 2016	2,149	158.38	340,359	341,250	681,609	30 06 2019
30 09 2016	1,847	184.14	340,107	341,250	681,357	30 09 2019
31 12 2016	1,937	175.48	339,905	341,250	681,155	31 12 2019
Total	**7,863**	**169.28**	**1,331,061**	**1,335,000**	**2,666,061**	

[1] Excluding social security and withholding tax

The amount of CHF 2,666,061 was recognized as an expense in the year 2016.

Recognition in the Consolidated Financial Statements
All of the equity-settled share-based payments had an impact on the 2019 "Profit before income taxes" amounting to an expense of CHF 56 million (2018: CHF 29 million).

Note 26
Changes in Shares and Share Capital Movements

	31.12.2019	Change in Year	31.12.2018	Change in Year	31.12.2017
Total number of shares	**74,468,752**	**0**	**74,468,752**	**0**	**74,468,752**
Treasury shares					
Free shares	(179,950)	42,645	(222,595)	3,325	(225,920)
Total treasury shares	**(179,950)**	**42,645**	**(222,595)**	**3,325**	**(225,920)**
Total shares ranking for dividend at 31 December	**74,288,802**	**42,645**	**74,246,157**	**3,325**	**74,242,832**
Share capital movements					
Share Capital in CHF	**74,468,752**	**0**	**74,468,752**	**0**	**74,468,752**

The share capital on 31 December 2019 comprised 74,468,752 registered shares (2018: 74,468,752) with a par value of CHF 1 each, amounting to CHF 74,468,752 (2018: CHF 74,468,752).

Contingent and Authorized Capital

Contingent Capital: The share capital of Lonza Group Ltd may be increased through the issuance of a maximum of 7,500,000 fully paid-in registered shares with a par value of CHF 1 each up to a maximum aggregate amount of CHF 7,500,000.

Authorized Capital: The Board of Directors shall be authorized to increase, at any time until 6 May 2021, the share capital of Lonza Group Ltd through the issuance of a maximum of 7,500,000 fully paid-in registered shares with a par value of CHF 1 each up to a maximum aggregate amount of CHF 7,500,000. The capital increases in the form of contingent capital and authorized capital may increase the share capital of Lonza Group Ltd by a maximum aggregate amount of CHF 7,500,000. The details and conditions are set out in Articles 4^{bis} to 4^{quater} of the Company's Articles of Association.

At 31 December 2019, Lonza Group Ltd had a fully paid-in registered capital of CHF 74,468,752 and a contingent capital of CHF 7,500,000. Reserves in the amount of CHF 37,234,376 (2018: CHF 37,234,376) included in the financial statements of the parent company cannot be distributed.

Dividend

On 18 April 2019, at the Annual General Meeting, shareholders approved the distribution of a dividend of CHF 2.75 per share in respect of the 2018 financial year (financial year 2017: CHF 2.75). The dividend distribution totaled CHF 204 million (2018: CHF 205 million).

A dividend payment per share of CHF 2.75 (financial year 2018: CHF 2.75) is proposed by the Board of Directors to be made after the 31 December 2019 balance sheet date, subject to approval by the shareholders at the Annual General Meeting on 28 April 2020.

Note 27
Earnings Per Share

	2019	2018
Weighted average number of outstanding shares (basic)		
Weighted average number of outstanding shares	74,109,308	74,408,243
Weighted average number of outstanding shares (diluted)		
Weighted average number of outstanding shares	74,109,308	74,408,243
– Adjustments for dilutive share units and shares	455,494	314,902
Weighted average number of shares for diluted earnings per share	74,564,802	74,723,145

	2019			2018		
Million CHF	Continuing operations	Discontinued operations	Total	Continuing operations	Discontinued operations	Total
Profit for the period (equity holders of the parent)	762	(117)	645	655	(96)	559
– Impact from dilution	0	0	0	0	0	0
Diluted profit for the period	762	(117)	645	655	(96)	559
Basic earnings per share in CHF	**10.28**	**(1.58)**	**8.70**	**8.80**	**(1.29)**	**7.51**
Diluted earnings per share in CHF	**10.22**	**(1.58)**	**8.65**	**8.77**	**(1.29)**	**7.48**
Dividends paid for the period			**204**			**205**
Dividends per share for the period in CHF			**2.75**			**2.75**
Dividends declared after the balance sheet date			**204**			**204**
Dividends per share declared after the balance sheet date in CHF			**2.75**			**2.75**

Note 28
Related Parties

Identity of Related Parties

The Group has a related-party relationship with associates, joint ventures (see note 9 and 33), pension and other post-retirement plans (see note 24) as well as with the Board of Directors and the members of the Executive Committee.

Transactions with Key Management Personnel

Board of Directors

In 2019 payments to acting members of the Board of Directors of Lonza Group Ltd totaled CHF 2,869 million[1] (2018: CHF 3,034 million[1]), 46.77% (2018: 46.93%) of which was received in the form of shares. The Director fees are paid 50% in cash and 50% in shares; the value of the employer's social security contributions is added to the cash payments. The value of the granted shares is determined at the relevant market price at grant date. The shares vest three years after the date of grant and are eligible for a dividend.

Members of the Board of Directors and their immediate relatives control 56,609 (2018: 62,245) or 0.08% (2018: 0.08%) of the voting shares of Lonza Group Ltd. None of the Directors owns shares in the Group's subsidiaries or associates.

Executive Committee Compensation

The acting members of the Executive Committee received, for their contributions and time served in 2019, CHF 7,162 million[2] (2018: CHF 10,502 million[2] in cash and additional benefits. Share-based compensation includes 10,762 LTIP shares granted (2018: 18,925 shares), the value of share-based STIP payments, equivalent to a total value of CHF 2,819 million (2018: CHF 4,900 million). No termination benefits were paid out in 2018. In 2019 termination benefits were paid out to the departing members of the Executive Committee according to their employment agreements equal to CHF 5,002 million (CHF 2,727 million in cash and in shares equivalent to a value of CHF 2,275 million).

[1] Including social security and withholding tax
[2] Including incentive payout in March of the following year

The compensation for the Board of Directors and the Executive Committee (termination benefits included) was as follows:

Million CHF	2019	2018
Short-term benefits[1]	7,071	10,062
Post-employment benefits and other benefits[2]	1,618	2,051
Share-based payments	4,160	6,324
Other compensation[3]	5,002	0
Total	**17,851**	**18,437**

1 Including social security and withholding tax
2 Including incentive payout in March of the following year
3 Compensation received by Executive Committee members who departed during 2019 (Mr. Ridinger and Mr. Funk) for the period following their departure or retirement from the Executive Committee. This includes cash payments (base salary, other benefits and STIP) and share awards (LTIP) which were made in line with contractual obligations and applicable LTIP plan rules

The remuneration is included in "Personnel expenses" (see note 19). For additional information, please refer to the 2019 Lonza Remuneration Report.

Note 29
Financial Risk Management

29.1
Overall Risk Management Policy

Lonza is exposed in particular to credit and liquidity risk, as well as to risks from movements in foreign currency exchange rates, interest rates and market prices that affect its assets, liabilities, and forecasted transactions.

Lonza's overall risk management policy aims to limit these risks through operational and finance activities.

The Board of Directors has overall responsibility for the establishment and oversight of Lonza's risk management framework. Financial risk management is carried out by a central treasury department (Group Treasury). Group Treasury is responsible for implementing the policy, and identifies, evaluates and hedges financial risks in close cooperation with Lonza's business units. Group Treasury also has the sole responsibility for carrying out foreign exchange transactions and executing financial derivative transactions with third parties.

Lonza's risk management policies are established to identify and analyze the risks faced by Lonza, to set appropriate risk limits and controls, and to monitor risks and adherence to limits. Risk management policies and systems are reviewed regularly to reflect changes in market conditions and Lonza's activities. The Lonza Audit Committee oversees how management monitors compliance with Lonza's risk management policies and procedures and reviews the adequacy of the risk management framework in relation to the risks faced by Lonza. The Lonza Audit Committee is assisted in its oversight role by Internal Audit (Lonza Audit Services). Internal Audit undertakes both regular and ad hoc reviews of risk management controls and procedures, the results of which are reported to the Audit Committee.

29.2
Credit Risk

Credit risk is the risk of financial loss to Lonza if a customer or counterparty to a financial instrument fails to meet its contractual obligations, and mainly arises from Lonza's receivables from customers.

Accounts Receivable

Lonza's exposure to credit risk is influenced mainly by the individual characteristics of each customer. Risk control assesses the credit quality of the customer, taking into account its financial position, past experience and other factors. In monitoring customer credit risk, customers are grouped according to their credit characteristics, including geographic location, industry, and existence of previous financial difficulties.

Purchase limits are established for each customer, which are reviewed regularly. For customers domiciled in specific countries with high risk, Lonza has credit risk insurance covering the maximum exposure. The maximum credit risk is equal to the carrying amount of the respective assets. There are no commitments that could increase this exposure to more than the carrying amounts. In general, Lonza does not require collateral in respect of trade and other receivables, but uses credit insurance for country risk where appropriate. Lonza has a history of low credit losses on accounts receivable. Credit losses that occurred in the past were primarily related to very few single customers. Furthermore, none of Lonza's businesses had a heightened exposure to credit losses in the past and based on Lonza's best estimate this is not expected to change in the foreseeable future.

Consequently, the bad debt allowance (see note 11) represents primarily the credit risk of specific customers.

Aging of Trade Receivables

Million CHF	2019	2018
Not past due	562	521
Past due 1-30 days	125	113
Past due 31-120 days	60	53
Past due more than 120 days	28	19
Total	**775**	**706**

Financial Instruments and Cash Deposits

Credit risk from balances with banks and financial institutions is managed by the Group's treasury department. Counterparty credit ratings are reviewed regularly. The carrying amount of financial assets represents the maximum credit exposure.

The maximum exposure to credit risk at the reporting date was as follows:

Million CHF	2019	2018
Financial assets at amortized cost		
Trade receivables, net	759	692
Other receivables	73	52
Accrued income	190	159
Current advances	2	0
Non-current loans and advances	72	46
Cash and cash equivalents	505	461
Total financial assets at amortized cost	**1,601**	**1,410**
Financial assets at fair value		
Derivative financial instruments		
– Currency-related instruments[1]	21	16
– Interest-related instruments[1]	0	1
Contingent consideration from sale of business	20	31
Total financial assets at fair value	**41**	**48**
Total	**1,642**	**1,458**

[1] Included in Other receivables, prepaid expenses and accrued income (see note 12)

29.3 Liquidity Risk

Liquidity risk is the risk that Lonza will not be able to meet its financial obligations as they fall due. Lonza's approach to managing liquidity is to ensure that it will always have sufficient liquidity to meet its liabilities when due, under both normal and stressed conditions, without incurring unacceptable losses or risking damage to Lonza's reputation. Group Treasury maintains flexibility in funding also using bilateral and syndicated credit lines. Lonza has concluded the following lines of credit: Committed credit lines of CHF 1,160 million (CHF 143 million used as of 31 December 2019), which are committed for up to five years and uncommitted credit lines of CHF 131 million (CHF 0 used as of 31 December 2019).

The table below analyzes the Group's financial liabilities and derivative financial liabilities in relevant maturity groupings, based on the remaining period at the balance sheet date to the contractual maturity date. The amounts disclosed in the table are the contractual undiscounted cash flows, including interest payments. Balances due within 12 months are equal to their carrying balances, as the impact of discounting is not significant.

Year ended

31 December 2019

Million CHF	Carrying Amount	Contractual Cash Flows[1]	Between 0 and 6 Months	Between 7 and 12 Months	Between 1 and 2 Years	Between 2 and 3 Years	Between 3 and 5 Years	Over 5 Years
Straight bond (2012 – 2022)	105	115	0	3	3	109	0	0
Straight bond (2015 – 2020)	150	151	0	151	0	0	0	0
Straight bond (2015 – 2023)	175	183	0	2	2	2	177	0
Straight bond (2016 – 2021)	249	251	0	0	251	0	0	0
Straight bond (2017 – 2021)	125	125	0	0	125	0	0	0
Straight bond (2017 – 2024)	110	115	0	1	1	1	112	0
Syndicated loan (2019 – 2024)	137	150	1	1	1	1	146	0
German private placement	1,048	1,110	6	12	370	158	564	0
Term loan	1,212	1,301	8	551	16	16	513	197
Other debt due to banks and financial institutions	6	6	6	0	0	0	0	0
Other debt due to others	223	266	46	34	3	25	5	153
Total debt	**3,540**	**3,773**	**67**	**755**	**772**	**312**	**1,517**	**350**
Other non-current liabilities	265	327	0	0	75	31	51	171
– Thereof lease liabilities	219	280	0	0	31	28	51	171
Other current liabilities	733	767	750	17	0	0	0	0
– Thereof lease liabilities	25	34	17	17	0	0	0	0
Trade payables	453	453	453	0	0	0	0	0
Derivative financial instruments	26	26	8	0	0	8	10	0
Contingent consideration	30	30	0	2	5	4	18	1
Total financial liabilities	**5,047**	**5,376**	**1,278**	**774**	**852**	**355**	**1,596**	**522**

Year ended

31 December 2018

Million CHF	Carrying Amount	Contractual Cash Flows[1]	Between 0 and 6 Months	Between 7 and 12 Months	Between 1 and 2 Years	Between 2 and 3 Years	Between 3 and 5 Years	Over 5 Years
Straight bond (2012 – 2022)	105	118	0	3	3	3	109	0
Straight bond (2013 – 2019)	300	305	305	0	0	0	0	0
Straight bond (2015 – 2020)	150	152	0	1	151	0	0	0
Straight bond (2015 – 2023)	175	186	0	2	2	2	180	0
Straight bond (2016 – 2021)	249	251	0	0	0	251	0	0
Straight bond (2017 – 2021)	125	126	0	0	0	126	0	0
Straight bond (2017 – 2024)	110	115	0	1	1	1	2	110
Syndicated loan (2017 – 2022)	254	269	1	1	3	3	261	0
German private placement	1,082	1,176	7	14	21	386	595	153
Term loan	982	1,045	11	11	511	12	500	0
Other debt due to banks and financial institutions	300	338	107	4	7	7	14	199
Other debt due to others	219	289	40	3	39	4	30	173
Finance lease liabilities	11	15	1	1	1	1	3	8
Total debt	**4,062**	**4,385**	**472**	**41**	**739**	**796**	**1,694**	**643**
Trade payables	428	428	428	0	0	0	0	0
Other current liabilities	618	618	618	0	0	0	0	0
Derivative financial instruments	17	17	7	4	0	0	3	3
Contingent consideration	30	30	0	2	5	4	18	1
Total financial liabilities	**5,155**	**5,478**	**1,525**	**47**	**744**	**800**	**1,715**	**647**

[1] Including interest payments

29.4 Market Risk

Market risk is the risk that changes in market prices will affect Lonza's income or the value of its holdings of financial instruments. Lonza is exposed to market risk from changes in currency exchange and interest rates and commodities. The objective of market risk management is to manage and control market risk exposures within acceptable parameters, while optimizing the return on risk. Lonza has established a treasury policy of which the objective is to reduce the volatility relating to these exposures. Lonza enters into various derivative transactions based on Lonza's treasury policy that establishes guidelines in areas such as counterparty exposure and hedging practices. Counterparties to agreements are major international financial institutions with at least investment grade rating. Positions are monitored using techniques such as market value and sensitivity analyses. All such transactions are carried out within the guidelines set by the Audit Committee.

Foreign Exchange Risk

The Group operates across the world and is exposed to movements in foreign currencies affecting the Group financial result and the value of Group equity. Foreign exchange risk arises because the amount of local currency paid or received for transactions denominated in foreign currencies may vary due to changes in exchange rates ("transaction exposures") and because the foreign currency denominated financial statements of the Group's foreign subsidiaries may vary upon consolidation into the Swiss-franc-denominated Group Financial Statements ("translation exposures"). Foreign exchange risks arise primarily on transactions that are denominated in USD, EUR and GBP.

In managing its exposure regarding the fluctuation in foreign currency exchange rates, Lonza has entered into a variety of currency swaps and forward contracts. These agreements generally include the exchange of one currency against another currency at a future date. Lonza adopts a policy of considering hedging for all the committed contractual exposure. The planned exposure is hedged within certain ranges. Hedge ratios are determined by the risk committee and depend on market expectation, risk bearing ability and risk appetite.

The table below shows the impact on post-tax profit if at 31 December a currency had strengthened (+) or weakened (–) versus the Swiss franc, with all other variables held constant as a result of the currency exposures outlined in the tables below:

		Post-tax Profit 2019		Post-tax Profit 2018	
Million CHF	Sensitivity	+	-	+	-
USD	+/- 10%	18.3	(18.3)	8.7	(8.7)
EUR	+/- 10%	20.0	(20.0)	(5.5)	5.5
GBP	+/- 10%	5.2	(5.2)	3.3	(3.3)

The summary quantitative data relating to the Group's exposure to currency risks as reported to the management of the Group is as follows:

Year ended

31 December 2019

Million CHF	USD	GBP	EUR	SGD	DKK	Other	Total
Other investments	18	0	1	0	0	1	20
Non-current financial assets	3	0	20	0	0	0	23
Trade receivables, net	109	46	42	14	1	0	212
Other receivables, prepaid expenses and accrued income	14	18	4	3	0	4	43
Cash and cash equivalents	71	14	31	5	0	6	127
Non-current and current debt	(1,034)	0	(1,300)	0	0	0	(2,334)
Other non-current liabilities	(34)	0	0	(6)	0	(1)	(41)
Other current liabilities	(23)	(3)	(13)	(21)	0	0	(60)
Trade payables	(21)	(3)	(32)	(15)	0	(4)	(75)
Group internal loans	1,858	0	1,056	0	0	0	2,914
Gross balance sheet exposure	**961**	**72**	**(191)**	**(20)**	**1**	**6**	**829**
Currency-related instruments	(757)	(14)	416	0	0	0	(355)
Net exposure	**204**	**58**	**225**	**(20)**	**1**	**6**	**474**

Year ended

31 December 2018

Million CHF	USD	GBP	EUR	SGD	DKK	Other	Total
Other investments	10	0	0	0	0	1	11
Non-current financial assets	0	0	31	0	0	0	31
Trade receivables, net	113	35	55	0	2	1	206
Other receivables, prepaid expenses and accrued income	5	20	3	4	0	1	33
Cash and cash equivalents	100	15	31	3	1	22	172
Assets held for sale	2	0	2	0	0	0	4
Non-current and current debt	(841)	0	(1,295)	0	0	0	(2,136)
Other non-current liabilities	(1)	0	0	(5)	0	(1)	(7)
Other current liabilities	(27)	(1)	(2)	(14)	0	(2)	(46)
Trade payables	(30)	(2)	(32)	(14)	0	(3)	(81)
Group internal loans	1,307	0	1,049	0	0	0	2,356
Gross balance sheet exposure	**638**	**67**	**(158)**	**(26)**	**3**	**19**	**543**
Currency-related instruments	(531)	(27)	92	0	0	0	(466)
Net exposure	**107**	**40**	**(66)**	**(26)**	**3**	**19**	**77**

The following exchange rates were applied during the year:

Balance Sheet Year-End Rates		2019	2018
EU	Euro	1.0856	1.1267
USA	Dollar	0.9684	0.9852
Great Britain	Pound Sterling	1.2725	1.2546
Singapore	Singapore Dollar	0.7194	0.7230
China	Renminbi	0.1391	0.1432

Income Statement Year-Average Rates		2019	2018
EU	Euro	1.1124	1.1550
USA	Dollar	0.9938	0.9786
Great Britain	Pound Sterling	1.2689	1.3057
Singapore	Singapore Dollar	0.7285	0.7253
China	Renminbi	0.1439	0.1480

Interest Rate

Risk arises from movements in interest rates which could affect the Group financial result or the value of Group equity. Changes in interest rates may cause variations in interest income and expense. In addition, they may affect the market value of certain financial assets, liabilities and hedging instruments. The primary objective of the Group's interest rate management is to protect the net interest result.

Lonza's policy is to manage interest cost using a mix of fixed and variable rate debt. Group policy is to maintain at least 50% of its borrowings in fixed-rate instruments. In order to manage this mix in a cost-efficient manner, Lonza enters into interest rate swaps and cross-currency interest rate swaps to exchange at specified intervals, the difference between fixed and variable interest amounts calculated by reference to a corresponding notional principal amount. Lonza adopts a policy of having one-third of the debt on a short-term basis and two-thirds of the debt on a long-term basis. The mix between floating and fixed rates depends on the market view of Lonza.

Lonza's exposure to interest rate risk was as follows:

Million CHF	2019	2018
Net Debt (see note 15)	2,961	3,534
Net debt at fixed interest rates[1]	(2,313)	(2,523)
Interest risk exposure	648	1,011

[1] Including effects from interest rate swap and cross currency interest rate swaps

If the interest rates had increased/decreased by 1% in 2019, with all other variables held constant, post-tax profit would have been CHF 5.8 million lower/higher (2018: CHF 8.3 million lower/higher).

Commodity Price Risk

Lonza needs liquefied petroleum gas (LPG) as raw material for a cracker in Visp (CH). Butane, naphtha or propane can be used as feedstock for the cracker. The raw material ultimately used depends on its availability and specifications. The annual demand is approximately 100,000 metric tons. In order to minimize the risk of higher raw material prices, Lonza hedges the commodity price risk via swaps. At 31 December 2019, if the propane/naphtha price had weakened/strengthened by 10%, with all other variables held constant, other comprehensive income would have been CHF 1 million lower/higher (2018: CHF 2 million lower/higher).

29.5 Overview of Derivative Financial Instruments

The following table shows the contract or underlying principal amounts and fair values of derivative financial instruments by type of contract at 31 December 2019 and 2018. Contract or underlying principal amounts indicate the volume of business outstanding at the balance sheet date and do not represent amounts at risk. The fair values are determined by using the difference of the prices fixed in the outstanding derivative contracts from the actual market conditions which would have been applied at the year-end if we had to recover these trades.

Financial Instruments at Fair Value Through Profit or Loss

	Contract or underlying principal amount		Positive fair values		Negative fair values		Total net fair values	
Million CHF	2019	2018	2019	2018	2019	2018	2019	2018
Currency-related instruments								
– Forward foreign exchange rate contracts	68	400	1	7	0	0	1	7
– Currency swaps	1,429	753	20	9	(8)	(4)	12	5
Total currency-related instruments	**1,497**	**1,153**	**21**	**16**	**(8)**	**(4)**	**13**	**12**
Interest-related instruments								
– Cross currency interest rate swaps	0	75	0	1	0	0	0	1
Total interest-related instruments	**0**	**75**	**0**	**1**	**0**	**0**	**0**	**1**
Total financial instruments at fair value through profit or loss	**1,497**	**1,228**	**21**	**17**	**(8)**	**(4)**	**13**	**13**

Financial Instruments Effective for Hedge-Accounting Purposes

	Contract or underlying principal amount		Positive fair values		Negative fair values		Total net fair values	
Million CHF	2019	2018	2019	2018	2019	2018	2019	2018
Interest-related instruments								
– Interest rate swaps	426	433	0	0	(17)	(6)	(17)	(6)
Total interest-related instruments	**426**	**433**	**0**	**0**	**(17)**	**(6)**	**(17)**	(6)
Commodity-related instruments								
– Naphtha swap	6	20	0	0	(1)	(5)	(1)	(5)
– Propane swap	9	11	0	0	(0)	(2)	(0)	(2)
Total commodity-related instruments	**15**	**31**	**0**	**0**	**(1)**	**(7)**	**(1)**	**(7)**
Total financial instruments effective for hedge-accounting purposes	**441**	**464**	**0**	**0**	**(18)**	**(13)**	**(18)**	**(13)**

Offsetting of Financial Asset and Financial Liabilities

The Group enters into derivative transactions under International Swaps and Derivatives Association (ISDA) master netting agreements with the respective counterparties in order to mitigate counterparty risk. Under such agreements the amounts owed by each counterparty on a single day in respect of all transactions outstanding in the same currency are aggregated into a single net amount that is payable by one party to the other. The ISDA agreements do not meet the criteria for offsetting in the balance sheet as the Group does not have a currently enforceable right to offset recognized amounts, because the right to offset is only enforceable on the occurrence of future events, such as a default or other credit events.

The following table sets out the carrying value of derivative financial instruments and the amounts that are subject to master netting agreements.

	Assets		Liabilities	
Million CHF	2019	2018	2019	2018
Forward foreign exchange rate contracts	1	7	0	0
Currency swaps	20	9	(8)	(4)
Interest rate swaps	0	0	(17)	(6)
Cross currency interest rate swaps	0	1	0	0
Commodity-related instruments	0	0	(1)	(7)
Carrying value of derivative financial instruments	**21**	**17**	**(26)**	**(17)**
Derivatives subject to master netting agreements	(10)	(4)	10	4
Collateral arrangements[1]	0	0	0	0
Net amount	**11**	**13**	**(16)**	**(13)**

[1] The Group has not entered into any collateral arrangements

Financial Instruments by Type/Currency

Million CHF	2019	2018
Forward foreign exchange rate contracts, currency swaps and FX options		
USD	849	847
EUR	551	175
GBP	12	65
JPY	28	26
AUD	8	14
SGD	10	10
CAD	17	3
DKK	2	5
CZK	14	4
ILS	4	4
NZD	2	0
Total currency related instruments	**1,497**	**1,153**
Commodity swap	15	31
Cross currency interest rate swap	0	75
Interest rate swap	426	433
Total financial instruments	**1,938**	**1,692**

Positive fair values of derivatives are included as part of "Other receivables, prepaid expenses and accrued income". Negative fair values of derivatives are included as part of "Other current liabilities". Hedge accounting was applied to cash flow hedges on highly probable payments in foreign currencies and for raw materials (naphtha/propane).

29.6 Financial Instruments Carried at Fair Value

The Group applied the following hierarchy for determining and disclosing the fair value of financial instruments by valuation technique:

- Level 1: quoted (unadjusted) prices in active markets for identical assets or liabilities
- Level 2: inputs other than quoted prices included within level 1 that are observable for the asset or liability, either directly or indirectly.
- Level 3: inputs for the asset or liability that are not based on observable market data (unobservable inputs).

				2019				2018
Million CHF	Level 1	Level 2	Level 3	Total for Value	Level 1	Level 2	Level 3	Total for Value
Assets								
Other investments	0	24	0	24	0	12	0	12
Derivative financial instruments	0	21	0	21	0	17	0	17
Contingent consideration related to sale of business	0	0	20	20	0	0	31	31
Liabilities								
Derivative financial instruments	0	(26)	0	(26)	0	(17)	0	(17)
Contingent consideration	0	0	(30)	(30)	0	0	(30)	(30)
Net assets and liabilities measured at fair value	**0**	**19**	**(10)**	**9**	**0**	**12**	**1**	**13**

In 2019 there were no transfers between Level 1 and Level 2 fair value measurements. Details of the determination of Level 3 fair value measurements are set out below.

Contingent Consideration Arrangements Related to Sale of Business

Million CHF	2019	2018
At 1 January	**31**	**40**
Payments received	(7)	(8)
Gains and losses included in the income statement[1]	(3)	0
Currency translation effects	(1)	(1)
At 31 December	**20**	**31**

[1] Includes unwinding of discount of CHF 1 million

The agreement to sell the Peptides business includes a contingent consideration arrangement under which Lonza will receive a defined percentage of the net sales of the disposed business for the financial years 2017–2021 (estimated to be CHF 20 million at year-end 2019 exchange rates). Lonza's estimate of the net present value of these future payments is reflected as a receivable in the consolidated balance sheet as of 31 December 2019.

Contingent Consideration Arrangements

Million CHF	2019	2018
At 1 January	**30**	**0**
Arising from business combinations	0	30
At 31 December	**30**	**30**

Lonza is party to certain contingent consideration arrangements arising from business combinations. The fair values are determined considering the expected payments. The expected payments are determined by considering the possible scenarios of regulatory approvals and forecast sales, which are the most significant unobservable inputs. The estimated fair value would increase if the forecast sales were higher or if the likelihood of obtaining regulatory approval was higher. At 31 December 2019 the total potential payments under contingent consideration arrangements could be up to CHF 73 million (2018: CHF 73 million), primarily related to the Octane acquisition (see note 5.2). The estimated future payments amount to CHF 30 million at 31 December 2019.

29.7 Carrying Amounts and Fair Values of Financial Instruments by Category

The carrying values less impairment provision of trade receivables are assumed to approximate to their fair values due to the short-term nature of trade receivables. The fair value of financial liabilities for disclosure purposes is estimated by discounting the future contractual cash flows at the current market interest rate that is available to the Group for similar financial instruments.

The fair value of interest rate swaps is calculated as the present value of the estimated future cash flows. The fair value of forward foreign exchange contracts is determined using quoted forward exchange rates at the balance sheet date. The table below shows the carrying amounts and fair values of financial instruments by category.

Carrying Amounts and Fair Values of Financial Instruments by Category (IFRS 9)

At

December 2019

Million CHF	Financial Instruments Mandatorily at Fair Value Through Profit or Loss	Fair value – Hedging instruments	Financial Assets at Amortized Cost	Financial Liabilities at Amortized Cost	Carrying Amount	Fair Value
Other investments	24	0	0	0	24	24
Trade receivables, net	0	0	759	0	759	759
Other receivables	0	0	73	0	73	73
Accrued income	0	0	190	0	190	190
Current advances	0	0	2	0	2	2
Non-current loans	0	0	72	0	72	72
Cash and cash equivalents	0	0	505	0	505	505
Contingent consideration from sale of business	20	0	0	0	20	20
Derivative financial instruments						
– Currency-related instruments	0	21	0	0	21	21
Total financial assets	**44**	**21**	**1,601**	**0**	**1,666**	**1,666**
Debt						
– Straight bonds[1]	0	0	0	914	914	939
– Other debt	0	0	0	2,626	2,626	2,626
Current liabilities	0	0	0	733	733	733
Non-current liabilities	0	0	0	265	265	265
Trade payables	0	0	0	453	453	453
Contingent consideration	30	0	0	0	30	30
Derivative financial instruments						
– Currency-related instruments	0	8	0	0	8	8
– Interest-related instruments	0	17	0	0	17	17
– Commodity-related instruments	0	1	0	0	1	1
Total financial liabilities	**30**	**26**	**0**	**4,991**	**5,047**	**5,073**

[1] The fair value of straight bonds for disclosure purposes is Level 1 and is calculated based on the observable market prices of the debt instruments

At
December 2018

Million CHF	Financial Instruments Mandatorily at Fair Value Through Profit or Loss	Fair value – Hedging instruments	Financial Assets at Amortized Cost	Financial Liabilities at Amortized Cost	Carrying Amount	Fair Value
Other investments	12	0	0	0	12	12
Trade receivables, net	0	0	692	0	692	692
Other receivables	0	0	52	0	52	52
Accrued income	0	0	159	0	159	159
Non-current loans	0	0	46	0	46	46
Cash and cash equivalents	0	0	461	0	461	461
Contingent consideration from sale of business	31	0	0	0	31	31
Derivative financial instruments						
– Currency-related instruments	0	16	0	0	16	16
– Commodity-related instruments	0	1	0	0	1	1
Total financial assets	**43**	**17**	**1,410**	**0**	**1,470**	**1,470**
Debt						
– Straight bonds[1]	0	0	0	1,214	1,214	1,231
– Other debt	0	0	0	2,848	2,848	2,848
Current liabilities	0	0	0	618	618	618
Trade payables	0	0	0	428	428	428
Contingent consideration	30	0	0	0	30	30
Derivative financial instruments						
– Currency-related instruments	0	4	0	0	4	4
– Interest-related instruments	0	6	0	0	6	6
– Commodity-related instruments	**0**	**7**	**0**	**0**	**7**	**7**
Total financial liabilities	**30**	**17**	**0**	**5,108**	**5,155**	**5,172**

[1] The fair value of straight bonds for disclosure purposes is Level 1 and is calculated based on the observable market prices of the debt instruments

29.8 Capital Management

The Board's policy is to maintain a strong capital base so as to retain investor, creditor and market confidence and to sustain future development of the business. The Board of Directors monitors both the demographic spread of shareholders and the return on capital, which Lonza defines as total shareholders' equity, excluding non-controlling interest, and the level of dividends to ordinary shareholders.

The Board seeks to maintain a balance between the higher returns that might be possible with higher levels of borrowing and the advantages and security afforded by a sound capital position. Lonza's target is to achieve a return on invested capital in excess of 10% by 2022. In 2019, the return was 9.1% (2018: 8%). In comparison, the weighted average interest expense on interest-bearing borrowings (excluding liabilities with imputed interest) was 1.64% (2018: 1.75%).

From time to time, Lonza purchases its own shares on the market; the timing of these purchases depends on market prices. Primarily, the shares are intended to be used for issuing shares under Lonza's share programs. Lonza does not have a defined share buy-back plan. Neither Lonza Group Ltd nor any of its subsidiaries is subject to externally imposed capital requirements.

Note 30 Share Ownership of the Members of the Board of Directors and the Executive Committee

Board of Directors

Based on information available to Lonza, the members of the Board of Directors and parties closely associated with them held, as of 31 December 2019: 56,609 (2018: 62,245)[1] registered shares of Lonza Group Ltd and controlled 0.08% (2018: 0.08%) of the share capital.

None of the members of the Board of Directors or Executive Committee owns shares in the Group's subsidiaries or associates.

Board of Directors	2019	2018
Albert M. Baehny	3,087	1,149
Patrick Aebischer	1,523	5,889
Werner Bauer	26,194	25,801
Angelica Kohlmann	598	205
Christoph Mäder	3,152	2,692
Barbara Richmond	4,340	3,947
Margot Scheltema	10,241	9,781
Jürgen Steinemann	6,876	6,043
Olivier Verscheure	598	205
Antonio Trius	n.a.	6,533
Total	**56,609**	**62,245**

[1] Spouse, children below 18, any legal entities that they own or otherwise control, or any legal or natural person who is acting as their fiduciary

Executive Committee

The members of the Executive Committee and parties closely associated with them held, as of 31 December 2019: 19,137 (2018:107,572) shares and controlled 0.03% (2018: 0.14%) of the share capital. The individual control rights are proportional to the holdings shown below.

Executive Committee[1]	2019	2018
Sven Abend	5,000	10,000
Rodolfo J. Savitzky	11,019	6,116
Stefan Stoffel	3,118	n.a.
Marc Funk[2]	n.a.	36,353
Richard Ridinger[2]	n.a.	53,351
Fridtjof Helemann[2]	n.a.	1,752
Total[2]	**19,137**	**107,572**

[1] All active Executive Committee members have met or are in line to meet the shareholding guidelines
[2] Marc Funk, Richard Ridinger and Fridtjof Helemann stepped down from the Executive Committee during 2019

Note 31
Enterprise Risk Management

The Enterprise Risk Management (ERM) program is a critical platform for Lonza's global organization and business as it provides a mechanism and structure for prudently addressing risk responsibility and management in each and every organization. Lonza pursues a comprehensive risk management program as an essential element of sound corporate governance and is committed to continuously embedding risk management in its daily culture.

Lonza's ERM process is performed in four steps: Step 1: Identification (through risk workshops with Executive Committee members and their leadership teams), assessment and assignment of risks; Step 2: Consolidation, review and prioritization of risks; Step 3: Presentation of consolidated risk overview to the Executive Committee and Board of Directors; and Step 4: Follow-up on high-priority risks. Through this process, Lonza has identified and focuses on 16 high-level thematic risk categories.

Each identified risk category is assessed according to its probability of occurrence and its negative impact on the Group:

- The probability of occurrence is assessed for the period until year-end 2021, with a risk range from unlikely to highly probable.
- Any potential negative effect of a risk is assessed according to its impact on the annual Group's EBIT, the Group's reputation and the Group's operations.

Risks have been identified for each segment and for the corporate functions, and they are tracked if they are continuing risks or if there is a year-on-year increase or decrease. The risk scenarios identified in 2019 were presented to the Executive Committee and to the Board of Directors at their meetings in November and December 2019, respectively. Financial risk management is disclosed in note 29.

Note 32
Events After Balance Sheet Date

The Consolidated Financial Statements for 2019 were approved for issue by the Board of Directors on 4 March 2020 and are subject to approval by the Annual General Meeting on 28 April 2020.

Note 33
Principal Subsidiaries and Joint Ventures

Selection criteria: at least CHF 10 million net sales 3rd parties, CHF 10 million total assets 3rd parties or more than 30 FTE

Name	Town/Country	Currency[1]	Share Capital	Holding Direct	Holding Indirect
Arch Chemicals, Inc.	Richmond US	USD	1,000		100%
Arch Personal Care Products, L.P.	Camden County US	USD	1,000		100%
Arch Treatment Technologies, Inc.	Richmond US	USD	n/a		100%[3]
Arch UK Biocides Limited	Castleford GB	GBP	1,644,236		100%
Arch Wood Protection (Aust) Pty Ltd	Trentham AU	AUD	100		100%
Arch Wood Protection (NZ) Limited	Auckland NZ	NZD	6,099,999		100%
Arch Wood Protection Canada Corp.	Mississauga CA	CAD	n/a		100%[3]
Arch Wood Protection, Inc.	Wilmington US	USD	100		100%
Bend Research, Inc.	Portland US	USD	1,000		100%
Capsugel Australia Pty Ltd	Sydney AU	AUD	6,368,270		100%
Capsugel Belgium NV	Bornem BE	EUR	301,801,345	99.9%[2]	0.1%[2]
Capsugel Brasil Importação e Distribuição de Insumos Farmacêuticos e Alimentos Ltda.	Rio de Janeiro BR	BRL	29,776,852		100%
Capsugel Canada Corp.	Vancouver CA	CAD	n/a		100%[3]
Capsugel de México, S. de R.L. de C.V.	Puebla ME	MXN	870,004,052		100%
Capsugel Distribucion, S. de R.L. de C.V.	Puebla ME	MXN	20,000,000		100%
Capsugel France SAS	Colmar FR	EUR	1,280,000		100%
Capsugel Healthcare Private Limited	Gurugram IN	INR	2,985,075,930		99.9%
Capsugel Japan Inc.	Sagamihara JP	JPY	100,000,000		100%
Capsugel Manufacturing, LLC	Wilmington US	USD	n/a		100%[3]
Capsugel Ploermel SAS	Ploërmel FR	EUR	42,674,272		100%
Capsugel, Inc.	Wilmington US	USD	10		100%
Diacon Technologies Limited	Richmond CA	CAD	598		100%
InterHealth Nutraceuticals Incorporated	Los Angeles US	USD	15,200		100%
LLC Capsugel	Domodedovo (Moscow Region) RU	RUB	150,000		100%
Lonza (China) Investments Co. Ltd.	Guangzhou CN	USD	84,000,000	100%	
Lonza AG	Visp CH	CHF	60,000,000	100%	
Lonza America Inc.	Wilmington US	USD	8,306	100%	
Lonza Biologics Inc.	Wilmington US	USD	1,000		100%
Lonza Biologics Ltd.	Guangzhou CN	USD	45,000,000		100%
Lonza Biologics plc	Slough GB	GBP	14,500,000		100%
Lonza Biologics Porriño S.L.	Porriño ES	EUR	10,295,797.11		100%
Lonza Biologics Tuas Pte. Ltd.	Singapore SG	USD	25,000,000		100%
Lonza Bioscience Sarl	Saint-Beauzire FR	EUR	8,848,695		100%
Lonza Bioscience Singapore Pte Ltd	Singapore SG	USD	1		100%
Lonza Chemicals Singapore Pte Ltd	Singapore SG	SGD	10,000		100%

Name	Town/Country	Currency[1]	Share Capital	Holding Direct	Holding Indirect
Lonza Biotec s.r.o.	Kouřim CZ	CZK	282,100,000		100%
Lonza Cologne GmbH	Cologne DE	EUR	1,502,000		100%
Lonza Copenhagen ApS	Vallensbaek Strand DK	DKK	150,000		100%
Lonza Costa Rica, S.A.	Heredia CR	CRC	10,000		100%
Lonza do Brasil Especialidades Quimicas Ltda.	Sao Paolo BR	BRL	119,648,389	15.4%[2]	84.6%[2]
Lonza Guangzhou Ltd	Guangzhou CN	USD	12,000,000		100%
Lonza Guangzhou Nansha Ltd	Guangzhou CN	USD	139,600,000		100%
Lonza Houston Inc.	Wilmington US	USD	289,9		100%
Lonza, LLC	Wilmington US	USD	n/a		100%[3]
Lonza India Private Limited	Mumbai IN	INR	23,458,580		99.9%[2]
Lonza Japan Ltd (Lonza Japan Kabushiki Kaisha)	Tokyo JP	JPY	100,000,000	100%	
Lonza Microbial Control Asia Pacific Pte Ltd	Singapore SG	SGD	183,085		100%
Lonza Milano, S.r.l.	Milano IT	EUR	52,000		100%
Lonza Nanjing Ltd	Nanjing CN	USD	14,000,000		100%
Lonza Netherlands B.V.	Maastricht NL	EUR	2,115,232		100%
Lonza NZ Limited	New Plymouth NZ	NZD	1,000,000		100%
Lonza Rockland, Inc.	Wilmington US	USD	100		100%
Lonza Sales AG	Basel CH	CHF	2,000,000	100%	
Lonza Shanghai International Trading Ltd.	Shanghai CN	USD	200,000		100%
Lonza Suzhou Ltd.	Suzhou CN	USD	19,000,000		100%
Lonza Swiss Finanz AG[4]	Basel CH	CHF	100,000	100%	
Lonza Swiss Licences AG	Basel CH	CHF	100,000	100%	
Lonza (Thailand) Co., Ltd.	Bangkok TH	THB	170,000,000		100%
Lonza Verviers SPRL	Verviers BE	EUR	18,750		100%
Lonza Walkersville, Inc.	Wilmington US	USD	10		100%
Micro-Macinazione SA	Monteggio CH	CHF	1,000,000		100%
MW Encap Limited	London GB	GBP	301,000		100%
Octane Biotech Inc.	Ontario CA	CAD	n/a		80%[3]
P.T. Capsugel Indonesia	Cibinong Bogor Jawa Barat IN	USD	59,300,000		100%
Powdersize, LLC	Wilmington US	USD	n/a		100%[3]
Suzhou Capsugel Limited (JV)	Suzhou CN	USD	29,700,000		75%
Xcelience, LLC	Wilmington US	USD	n/a		100%[3]
BioAtrium AG	Visp CH	CHF	87,700,000		50%
BacThera AG	Visp CH	CHF	11,000,000		50%

[1] Abbreviation of currencies in accordance with ISO standards
[2] Rounded amount
[3] No par value
[4] This entity does not meet above mentioned thresholds. It was included due to its significance for group financings

Statutory Auditor's Report

To the General Meeting of Lonza Group Ltd, Basel

Report on the Audit of the Consolidated Financial Statements

Opinion

We have audited the consolidated financial statements of Lonza Group Ltd and its subsidiaries (the Group), which comprise the consolidated balance sheet as at 31 December 2019 and the consolidated income statement, consolidated statement of comprehensive income, consolidated statement of cash flows and consolidated statement of changes in equity for the year then ended, and notes to the consolidated financial statements, including a summary of significant accounting policies.

In our opinion the accompanying consolidated financial statements give a true and fair view of the consolidated financial position of the Group as at 31 December 2019, and its consolidated financial performance and its consolidated cash flows for the year then ended in accordance with International Financial Reporting Standards (IFRS) and comply with Swiss law.

Basis for Opinion

We conducted our audit in accordance with Swiss law, International Standards on Auditing (ISAs) and Swiss Auditing Standards. Our responsibilities under those provisions and standards are further described in the Auditor's Responsibilities for the Audit of the Consolidated Financial Statements section of our report. We are independent of the Group in accordance with the provisions of Swiss law and the requirements of the Swiss audit profession, as well as the IESBA Code of Ethics for Professional Accountants, and we have fulfilled our other ethical responsibilities in accordance with these requirements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Key Audit Matters

Revenue recognition

Recoverability of goodwill and intangible assets

Income taxes

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the consolidated financial statements of the current period. These matters were addressed in the context of our audit of the consolidated financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

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Revenue recognition

Key Audit Matter

The Group's recognition of revenue in a complete and accurate manner is exposed to various risks. There are two distinct risk factors that trigger revenue recognition as a key audit matter:

— custom manufacturing agreements in the Pharma Biotech & Nutrition segment, and

— linkage of certain of management's incentive compensation to annual revenue targets.

Due to current market forces, the relevance of long-term product supply agreements with the Group's Pharma Biotech & Nutrition customers continues to increase. Under these agreements, the Group constructs and launches new or reworked suites dedicated to client specific manufacturing, which are owned and operated by the Group. Extending over multiple periods such agreements often combine milestone and upfront payments during a construction phase, the rendering of project management services and the delivery of goods. To a certain degree the identification and measurement of these different components as separable revenue streams and performance obligations is subject to management's judgment and interpretation of the customer contract.

This gives rise to the risk that revenue could be misstated due to the incorrect identification, separation and valuation of contractual components and related performance obligations, resulting in an inappropriate timing of revenue recognition.

Performance targets embedded in management's compensation incentive plans based on targeted results and achievement of such targets are partially contingent on the timing of revenue recognition. There is a risk of fraud in revenue recognition due to the incentives management may feel to achieve the targeted results.

Our response

For significant existing, new and amended customer manufacturing agreements in the Pharma Biotech & Nutrition segment, we assessed the appropriateness of the identification, separation and valuation of contract elements and the timing of revenue recognition by making our own independent assessment. Furthermore, we challenged and assessed the qualification of performance obligations of significant new and amended contracts and their valuation by management.

As a response to the risk of fraud in revenue recognition, we performed sample testing of revenue recorded during the year and focused on revenue transactions taking place before and after year-end as well as deferred revenue transactions to determine that revenue is recognized in the correct period. We tested the accuracy of revenues recorded, based on inspection of customer acceptance certificates, shipping documents and delivery notes. Furthermore, we tested manual journal entries on a sample basis and controls over the recording of revenue in the relevant IT systems.

We also performed audit procedures to assess the adequacy and accuracy of the Group's revenue recognition disclosures, as presented in the Group's consolidated financial statements.

For further information on revenue recognition refer to the following:

— Note 1 Accounting Principles

— Note 3 Revenues

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Recoverability of goodwill and intangible assets

Key Audit Matter

As a result of previous acquisitions, the Group maintains significant amounts of goodwill and acquired intangible assets on the consolidated balance sheet (approximately 48% of total assets).

There is uncertainty in estimating the recoverable amount of cash generating units (CGU) in which goodwill and intangible assets are included, which principally arises from the inputs used in both forecasting and discounting future cash flows. A combination of the significance of the asset balances and the inherent judgment and uncertainty in the assumptions used by management to:

— identify the appropriate CGUs;

— allocate goodwill and intangible assets to the CGUs appropriately;

— estimate accurately the related future cash flows; and

— determine appropriate discount rates and long term growth rates,

means that an assessment of recoverability of carrying value is an area of key judgment in preparing the consolidated financial statements.

A potential risk of impairment exists due to several factors, including:

— Dependency on certain significant capital intensive technologies and customers;

— Market demand and competition.

Under IFRS, the Group is required to at least annually test goodwill for impairment and assess if impairment triggers for intangible assets exist.

Our response

Our audit procedures included, but were not limited to, evaluating the appropriateness of management's identification of the Group's CGUs, the allocation of goodwill to CGUs and testing the design and implementation of key controls embedded in the Group's impairment assessment process. We also performed an assessment over triggering events for impairment of material intangible assets.

We evaluated the process and controls by which future cash flow forecasts were prepared by management, including testing underlying calculations and reconciling them to the latest Board of Directors approved financial targets. We analyzed the Group's previous ability to forecast cash flows accurately and challenged the reasonableness of current forecasts by comparing key assumptions to historical results, economic and industry forecasts (external market assumptions) and internal planning data.

We also assessed the appropriateness of the Group's valuation methodology applied and its derivation of discount rates and long-term growth rates by using our own valuation specialists. We ascertained the extent of change in the assumptions that either individually or collectively would be required for the goodwill and intangible assets to be potentially impaired.

Furthermore, we performed a sensitivity analysis around the key assumptions of the Group's recoverability analysis calculations, in particular discount rates and long-term growth rates, and discussed potential variations in key assumptions with management. We assessed the likelihood of such variations and the related disclosures of the sensitivity analyses in the Group's consolidated financial statements.

For further information on the recoverability of goodwill and intangible assets refer to the following:

— Note 1 Accounting Principles

— Note 5 Business Combinations and Sale of Businesses

— Note 6 Intangible Assets and Goodwill

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Income taxes

Key Audit Matter

Lonza Group operates across a number of different tax jurisdictions (primarily Europe, the US and China) giving rise to cross-border transactions and complex taxation arrangements being subject to various country specific tax laws. During the normal course of business local tax authorities may challenge financing arrangements between Group entities, transfer-pricing arrangements relating to the Group's manufacturing and supply chain and the ownership of intellectual property rights.

In 2019, Lonza Group sold its Water Care business, which triggered certain income tax relevant transactions. These transactions required management to make certain assumptions and estimates related to the measurement and recognition of estimated income taxes.

The Group has also recognized provisions against uncertain tax positions, the estimation of which is subject to management's judgement. Judgment is also required in the recognition and measurement of deferred tax assets, which result from losses brought forward.

The enactment of the Swiss tax reforms triggered a change in the applied tax rate and other tax regulations for certain of the Group's legal entities.

Based on these complexities, uncertainties and management's judgment involved, we identified the accounting for income taxes as a key audit matter.

Our response

Our audit approach included the use of local tax specialists in all key jurisdictions to evaluate tax provisions and potential exposures as of 31 December 2019. In response to the sale of the Water Care business, we assessed the Group's estimates of income taxes. As part of these procedures, we agreed taxes paid and other inputs to previously filed tax forms or returns and assessed the Group's methodology used in determining its estimates relative to the provisions. We challenged management's estimates through our knowledge of the Group's tax status circumstances. This included obtaining and considering certain of the procedures performed by the Group's external tax advisors related to the sale of the Water Care business.

We obtained explanations from management regarding the known uncertain tax positions and analyzed existing correspondence with taxation authorities to identify uncertain tax positions. We assessed the adequacy of management's taxation provisions by considering country specific direct tax risks, transfer-pricing risks, compliance risks and potential penalties and fines. We challenged and evaluated the judgements made by management in assessing the quantification and probability of significant exposures and the level of liability required for specific cases.

In respect of deferred tax assets, we considered the appropriateness of management's assumptions and estimates. We assessed management's view of the likelihood of generating suitable future taxable profits to support the recognition of deferred tax assets. This included our consideration of whether internal budgets and management assumptions for concerned legal entities support the related conclusions.

We assessed the income tax impacts of the Swiss tax reforms by recalculating and reconciling the recorded amounts to the relevant tax regulations.

Furthermore, we evaluated whether income tax related items were appropriately disclosed in the Group's consolidated financial statements.

For further information on income taxes refer to the following:

— Note 1 Accounting Principles

— Note 22 Taxes

Other Information in the Annual Report

The Board of Directors is responsible for the other information in the annual report. The other information comprises all information included in the annual report, but does not include the consolidated financial statements, the stand-alone financial statements of the Company, the remuneration report and our auditor's reports thereon.

Our opinion on the consolidated financial statements does not cover the other information in the annual report and we do not express any form of assurance conclusion thereon.

In connection with our audit of the consolidated financial statements, our responsibility is to read the other information in the annual report and, in doing so, consider whether the other information is materially inconsistent with the consolidated financial statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

Responsibility of the Board of Directors for the Consolidated Financial Statements

The Board of Directors is responsible for the preparation of the consolidated financial statements that give a true and fair view in accordance with IFRS and the provisions of Swiss law, and for such internal control as the Board of Directors determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, the Board of Directors is responsible for assessing the Group's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the Board of Directors either intends to liquidate the Group or to cease operations, or has no realistic alternative but to do so.

Auditor's Responsibilities for the Audit of the Consolidated Financial Statements

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Swiss law, ISAs and Swiss Auditing Standards will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements.

As part of an audit in accordance with Swiss law, ISAs and Swiss Auditing Standards, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

— Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.

— Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Group's internal control.

— Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made.

— Conclude on the appropriateness of the Board of Directors' use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the consolidated financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to continue as a going concern.

- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the Group audit. We remain solely responsible for our audit opinion.

We communicate with the Board of Directors or its relevant committee regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide the Board of Directors or its relevant committee with a statement that we have complied with relevant ethical requirements regarding independence, and communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

From the matters communicated with the Board of Directors or its relevant committee, we determine those matters that were of most significance in the audit of the consolidated financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report, unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

Report on Other Legal and Regulatory Requirements

In accordance with article 728a para. 1 item 3 CO and the Swiss Auditing Standard 890, we confirm that an internal control system exists, which has been designed for the preparation of consolidated financial statements according to the instructions of the Board of Directors.

We recommend that the consolidated financial statements submitted to you be approved.

KPMG AG

Michael Blume
Licensed Audit Expert
Auditor in Charge

Cyrill Kaufmann
Licensed Audit Expert

Zurich, 4 March 2020

KPMG AG, Räffelstrasse 28, PO Box, CH-8036 Zürich

Financial Statements of Lonza Group Ltd

Balance Sheet – Lonza Group Ltd

Assets[1]

CHF	Notes	2019	2018
Non-current assets			
Long-term financial assets:	2.2		
– from subsidiaries and associates		3,657,458,381	3,674,129,333
Investments	2.1	5,595,326,379	5,542,478,046
Property, plant and equipment		207,534	412,130
Prepaid expenses and accrued income:			
– from third parties		11,214,185	9,638,290
Total non-current assets		**9,264,206,479**	**9,226,657,799**
Current assets			
Cash and cash equivalents		48,487,475	19,880,760
Short term financial assets:			
– from third parties		2,077,288	0
– from subsidiaries and associates		256,103,811	15,445,556
Other short-term receivables:			
– from third parties		122,625	565
– from subsidiaries and associates		44,485,368	31,804,261
Prepaid expenses and accrued income:			
– from third parties		26,817,061	22,290,629
– from subsidiaries and associates		68,680,303	36,448,006
Total current assets		**446,773,931**	**125,869,777**
Total assets		**9,710,980,410**	**9,352,527,576**

[1] At 31 December

Shareholders' Equity and Liabilities[1]

CHF	Notes	2019	2018
Shareholders' equity			
Share capital	2.6	74,468,752	74,468,752
Legal capital reserves:	2.7		
– Reserves from capital contributions		2,677,762,695	2,882,051,469
Legal retained earnings reserves:			
– General legal retained earnings		37,234,376	37,234,376
Voluntary retained earnings:			
– Available earnings			
– Profit brought forward		2,202,123,954	1,562,511,342
– Profit / (loss) for the year		567,960,057	639,612,612
Treasury shares	2.8	(51,259,293)	(71,170,859)
Total shareholders' equity		**5,508,290,541**	**5,124,707,692**
Non-current liabilities			
Long-term interest-bearing liabilities:	2.5		
– from third parties		1,871,252,000	2,331,849,070
– from subsidiaries and associates		535,000,000	235,000,000
Long-term provisions:			
– from third parties		154,267	214,599
Total non-current liabilities		**2,406,406,267**	**2,567,063,669**
Current liabilities			
Trade accounts payables:	2.3		
– from third parties		8,171,782	3,242,847
– from subsidiaries and associates		192,137	6,511,789
Short-term interest-bearing liabilities:	2.4		
– from third parties		542,790,000	90,164,000
– from subsidiaries and associates		1,025,547,703	1,380,743,701
Short-term provisions:			
– from third parties		49,075,340	14,067,507
Accrued expenses and deferred income:			
– from third parties		156,716,986	156,913,038
– from subsidiaries and associates		13,789,654	9,113,333
Total current liabilities		**1,796,283,602**	**1,660,756,215**
Total liabilities		**4,202,689,869**	**4,227,819,884**
Total shareholders' equity and liabilities		**9,710,980,410**	**9,352,527,576**

[1] At 31 December

Income Statement – Lonza Group Ltd

CHF	Notes	2019	2018
Income	2.9		
Dividend income		411,312,800	1,682,141,585
Royalties income		182,690,629	156,275,700
Other financial income	2.10	170,337,180	457,957,079
Other operating income		6,698,818	1,164,879
Total income		771,039,427	**2,297,539,243**
Expenses			
Other financial expenses	2.11	92,781,701	89,596,230
Personnel expenses		45,903,900	27,161,328
Other operating expenses	2.12	28,609,929	60,843,531
Impairment losses on investments	2.9	2,008,791	1,479,719,563
Depreciation on equipment		136,779	159,104
Direct taxes		33,638,270	446,875
Total expenses		203,079,370	**1,657,926,631**
Profit for the year		567,960,057	**639,612,612**

Notes to the Financial Statements – Lonza Group Ltd

Note 1
Principles

1.1
General Aspects

These financial statements were prepared according to the provisions of the Swiss Law on Accounting and Financial Reporting (32nd title of the Swiss Code of Obligations). Where not prescribed by law, the significant accounting and valuation principles applied are described below.

1.2
Financial Assets

Financial assets include short- and long-term loans to subsidiaries and associates. Loans granted in foreign currencies are translated at the rate at the balance sheet date.

1.3
Treasury Shares

Treasury shares are recognized at acquisition cost and deducted from shareholders' equity at the time of acquisition. In case of a resale, the gain or loss is recognized through the shareholders' equity as increase or decrease of available earnings brought forward.

1.4
Share-based Payments

When treasury shares are used for share-based payment programs, the difference between the acquisition costs and any consideration paid by the employees at grant date is recognized as other financial expenses or income.

1.5
Short-/Long-Term Interest-Bearing Liabilities

Interest-bearing liabilities are recognized in the balance sheet at nominal value. Discounts and issue costs for bonds or syndicate loans are recognized as prepaid expenses and amortized on a straight-line basis over the principal's maturity period. Premiums are recognized as accrued expenses and amortized on a straight-line basis over the principal's maturity period.

1.6
Currency- and Interest-Related Instruments

Currency- and interest-related instruments with a short-term holding period are valued at their fair value as at the balance sheet date. A valuation adjustment reserve has not been accounted for.

1.7
Presentation of a Cash Flow Statement and Additional Disclosures in the Notes

As Lonza Group Ltd has prepared its consolidated financial statements in accordance with a recognized accounting standard (International Financial Reporting Standards IFRS), it has decided to forgo presentation of a cash flow statement, information on interest-bearing liabilities and audit fees in the note disclosures as would be required by Swiss law.

Note 2
Information on Balance Sheet and Income Statement Items

2.1 Investments

Lonza Group Ltd holds the following direct subsidiaries as of 31 December 2019. For indirect principal subsidiaries, please see the list in note 33.

		Capital in CHF 1,000		Share in capital and voting rights in %	
		31.12.2019	31.12.2018	31.12.2019	31.12.2018
Arch Quimica, S.A. de C.V.	Mexico, MX	MXN 0	MXN 109	0%	28%
Capsugel Belgium NV	Bornem BE	EUR 301,801	EUR 0	99.9%	0%
Capsugel Holdings S.à.r.l	Luxembourg, LU	EUR 0	EUR 78,025	0%	100%
Capsugel Middle East Sàrl	Beirut LB	LPB 5,000	LPB 0	0.1%	0%
Lonza AG	Visp, CH	CHF 60,000	CHF 60,000	100%	100%
Lonza America Inc.	Allendale, US	USD 8	USD 8	100%	100%
Lonza Bioproducts AG	Basel, CH	CHF 100	CHF 100	100%	100%
Lonza do Brasil Especialidades Quimicas Ltda.	Sao Paulo, BR	BRL 119,648	BRL 18,387	15.4%	99.9%
Lonza (China) Investments Co. Ltd	Guangzhou, CN	USD 75,500	USD 75,500	100%	100%
Lonza Finance International NV	Bornem, NL	EUR 43,062	EUR 0	100%	0%
Lonza Holding Singapore Pte Ltd	Singapore, SG	USD 100,000	USD 100,000	100%	100%
Lonza Japan Ltd (Lonza Japan Kabushiki Kaisha)	Tokyo, JP	JPY 100,000	JPY 100,000	100%	100%
Lonza Licences AG	Basel, CH	CHF 100	CHF 100	100%	100%
Lonza Sales AG	Basel, CH	CHF 2,000	CHF 2,000	100%	100%
Lonza Swiss Finanz AG	Basel, CH	CHF 100	CHF 100	100%	100%
Lonza Swiss Licences AG	Basel, CH	CHF 100	CHF 100	100%	100%
Aravis Venture 1, L.P.	Grand Cayman, Cayman Islands	USD 58,824	USD 58,824	31%	31%
International School of Basel AG	Reinach, CH	CHF 20,525	CHF 20,525	1.6%	1.6%
Seed Fund Cycle-C3E (A), L.P.	Montreal, CA	CAD 42,000	CAD 42,000	2.4%	2.4%

In 2019 Lonza Group Ltd established the subsidiary Lonza Finance International NV in the Netherlands. The capital injection in 2019 was EUR 43,061,500.

Capsugel Holdings S.à r.l. Luxembourg has been put into liquidation on March 7, 2019. After the liquidation on December 27, 2019 the shares in Capsugel Belgium and in Capsugel Middle East were distributed to Lonza Group Ltd being the sole Shareholder of the Company.

2.2 Long-Term Financial Assets

Lonza Group Ltd issued subordination agreements of CHF 95 million (2018: CHF 95 million) on loans to subsidiaries and associates.

2.3 Trade Accounts Payables

Trade accounts payables include liabilities to personnel welfare institutions of CHF 588,669 at 31 December 2018 (2018: CHF 755,518).

2.4 Short-Term Interest-Bearing Liabilities

CHF	31.12.2019	31.12.2018
Bank loans	0	90,164,000
Syndicated loan Facility A EUR 500 Mio	542,790,000	0
Total short-term interest-bearing liabilities	542,790,000	90,164,000

2.5 Long-Term Interest-Bearing Liabilities

Following the 2019 assignment of Lonza's investment grade credit rating by S&P, Lonza refinanced and extended its syndicated Term and Revolving Bank Facilities Agreement effective 6 September 2019.

Term Loans In 2019, Lonza issued term loan tranches of EUR 500 million, USD 500 million and USD 200 million carrying floating interest rates and repayable in 2020, 2024 and 2025 respectively. The newly issued term loan effectively replaces the EUR 450 million and USD 489 million term loan tranches issued in 2017 with maturity dates in 2020 and 2022 and the bank loan of USD 200 million (classified within Others in 2018). The net proceeds received in 2019 totalled CHF 265 million.

German Private Placement The dual-currency German private placement (Schuldscheindarlehen) of EUR 700 million and USD 200 million tranches carry fixed and floating interest rates (LIBOR/EURIBOR + margin) respectively, and are repayable in 2021 (EUR 325 million), 2022 (USD 150 million), 2023 (EUR 375 million) and 2024 (USD 50 million). The single-tranche German private placement (Schuldscheindarlehen) of USD 100 million carry floating interest rates (LIBOR + margin) and is repayable in 2024.

Syndicated Loan In 2019 Lonza signed a syndicated loan with a consortium of banks on the following terms: Credit facility of CHF 1,000 million, of which CHF 80 million and USD 65 million was used as of 31 December 2019, due 2024, at floating interest rates.

The new syndicated loan effectively replaces the syndicated loan signed in 2017 of which CHF 259 million were used as of 31 December 2018.

CHF	31.12.2019	31.12.2018
Long-term interest-bearing liabilities	1,871,252,000	2,331,849,070

2.6 Share Capital and Authorized Capital

The share capital on 31 December 2019 comprised 74,468,752 registered shares (2018: 74,468,752) with a par value of CHF 1 each, amounting to CHF 74,468,752 (2017: CHF 74,468,752).

Contingent Capital The share capital of Lonza Group Ltd may be increased through the issuance of a maximum of 7,500,000 fully paid-in registered shares with a par value of CHF 1 each up to a maximum aggregate amount of CHF 7,500,000.

Authorized Capital The Board of Directors shall be authorized to increase, at any time until 6 May 2021, the share capital of the Company through the issuance of a maximum of 7,500,000 fully paid-in registered shares with a par value of CHF 1 each up to a maximum aggregate amount of CHF 7,500,000. The capital increases in the form of contingent capital and authorized capital may increase the share capital of Lonza Group Ltd by a maximum aggregate amount of CHF 7,500,000. The details and conditions are set out in Articles 4^{bis} to 4^{quater} of the Company's Articles of Association.

At 31 December 2019, Lonza Group Ltd had a fully paid-in registered capital of CHF 74,468,752 and a contingent capital of CHF 7,500,000.

Reserves in the amount of CHF 37,234,376 (2018: CHF 37,234,376) included in the financial statements of the parent company cannot be distributed.

2.7 Reserves from Capital Contributions

CHF	2019
Reserves from Capital Contributions at 1.1.2018	3,086,833,393
Dividend payout May 2018	(204,781,924)
Reserves from Capital Contributions at 31.12.2018	**2,882,051,469**
Dividend payout April 2019	(204,288,774)
Reserves from Capital Contributions at 31.12.2019	**2,677,762,695**

2.8 Treasury Shares

CHF	Total shares	Average rate in CHF	Number of transaction
Treasury shares at 1.1.2018, weighted average price	**225,920**	**261.99**	
Acquisitions 2018	246,039	311.38	10
Distribution to board members	(5,321)	266.63	4
Distribution to E-STIP share plans	(17,103)	226.40	1
Distribution to LTIP share plans	(223,357)	270.29	2
Distribution to other share plans	(3,583)	264.00	1
Treasury shares at 31.12.2018, weighted average price	**222,595**	**319.73**	
Treasury shares at 1.1.2019, weighted average price	**222,595**	**319.73**	
Acquisitions 2019	169,195	281.99	3
Distribution to board members	(4,547)	303.66	4
Distribution to LTIP share plans	(207,293)	279.30	3
Treasury shares at 31.12.2019, weighted average price	**179,950**	**284.85**	

2.9 Dividend Income/Impairment Losses on Investments

Dividend income in 2019 includes a dividend distribution from Lonza Holding Singapore of USD 192,000,000. In 2018: Dividend income includes a dividend distribution from Capsugel Holdings S.à.r.l. of EUR 1,265,000,000 (CHF 1,479,597,560) considered as a capital repayment and at the same time an impairment loss on Capsugel Holdings S.à.r.l. of CHF 1,479,597,560.

2.10 Other Financial Income

Other financial income in 2019 includes interest income from loans to subsidiaries and associates of CHF 136,359,921 (2018: CHF 118,562,375 and the realized gain on the sale of Lonza Europe BV of CHF 298,166,268 to Lonza Group Ltd's indirect subsidiary Capsugel Belgium NV).

2.11
Other Financial Expenses

CHF	31.12.2019	31.12.2018
Bank interest and fees	49,051,557	46,525,631
Interest on deposits subsidiaries	12,782,555	9,884,381
Amortization of discounts and issue costs	4,423,998	4,948,909
Loss on treasury shares	11,055,579	28,237,309
Net exchange rate loss	15,468,012	0
Total financial expenses	**92,781,701**	**89,596,230**

2.12
Other Operating Expenses

CHF	2019	2018
Consulting expenses	24,730,948	17,107,848
Administrative expenses	3,630,745	5,244,963
Other operating expenses	248,236	38,490,720
Total other operating expenses	**28,609,929**	**60,843,531**

Other operating expenses include in 2018 transaction-related costs incurred for the integration of Capsugel and the sale of Lonza's Water Care business and operations.

Note 3
Other Information

3.1
Full-time Equivalents

At 31 December 2019, Lonza Group Ltd had 80 employees (2018: 75).

3.2
Contingent Liabilities, Guarantees and Pledges

At 31 December 2019, indemnity liabilities, guarantees and pledges in favor of third parties totaled CHF 1,101,407,478 (2018: CHF 1,601,661,688). The company is a member of the Lonza Group value-added-tax group in Switzerland and is thereby jointly and severally liable to the federal tax authorities for value-added-tax debts of the group.

3.3
Major Shareholders

In accordance with Art. 663c of the Swiss Code of Obligations: See Significant Shareholders section in the Corporate Governance Report.

3.4
Share Ownership of the Members of the Board of Directors and the Executive Committee

In accordance with Art. 663c para. 3 of the Swiss Code of Obligations: See note 30 in the Consolidated Financial Statements and Remuneration Report.

3.5
Shares for Members of the Board and Granted Equity Awards for Employees

According to the share-based payments (see note 25), Lonza Group Ltd allocates treasury shares and equity awards as follows:

	2019		2018	
	Number of shares/ granted equity awards	Value in CHF 1	Number of shares/ granted equity awards	Value in CHF 1
Shares allocated to members of the Board of Directors	4,547	1,380,759	5,321	1,418,718
Granted equity awards allocated to members of the Executive Committee	16,562	4,337,588	10,859	2,820,733
Granted equity awards allocated to other employees	7,067	1,850,847	7,602	1,968,158
Total	**28,176**	**7,569,194**	**23,782**	**6,207,609**

In 2019 Lonza Group Ltd employed 2 members of the Executive Committee (2018: 2).

3.6
Significant Events after the Balance Sheet Date

There are no significant events after the balance sheet date which could impact the book value of the assets or liabilities or which should be disclosed here.

Proposal of the Board of Directors

Concerning the Appropriation of Available Earnings and Reserves from Capital Contributions

CHF	2019
Available earnings brought forward	2,202,123,954
Profit for the year	567,960,057
Available earnings at the disposal of the Annual General Meeting	**2,770,084,011**
Payment of a dividend (out of available earnings brought forward) in 2019 of CHF 1.375 per share on the share capital eligible for dividend of CHF 74,288,802	(102,147,103)
Available earnings carry-forward	**2,667,936,908**

CHF	2019
Legal capital reserves qualified as reserves from capital contributions	2,677,762,695
Reserves from capital contributions	**2,677,762,695**
Payment of a dividend (out of reserves from capital contributions) in 2019 of CHF 1.375 (2018: CHF 2.75) per share on the share capital eligible for dividend of CHF 74,288,802 (2018: 74 286 827)	(102,147,103)
Reserves from capital contributions carry-forward	**2,575,615,592**

CHF	2019
Proposed payment of a dividend out of available earnings brough forward	102,147,103
Proposed payment of a dividend out of reserves from capital contributions	102,147,103
Total proposed payment of a dividend	**204,294,206**

If the Annual General Meeting approves the above proposal for appropriation of available earnings and distribution of reserves from capital contribution, the dividend of total CHF 2.75 pro share will be paid. 50% of such dividend will be paid out (as repayment from reserves from capital contribution without deduction of Swiss withholding tax in accordance with Art. 5 para. 1^{bis} of the Federal Law on Withholding Tax). The last trading day with entitlement to receive the dividend is 29 April 2020. As from 30 April 2020 (ex-date), the shares will be traded ex-dividend. The dividend will be payable from 5 May 2020.

KPMG

Statutory Auditor's Report

To the General Meeting of Lonza Group Ltd, Basel

Report on the Audit of the Financial Statements

Opinion

We have audited the financial statements of Lonza Group Ltd, which comprise the balance sheet as at 31 December 2019, and the income statement for the year then ended, and notes to the financial statements, including a summary of significant accounting policies.

In our opinion the financial statements for the year ended 31 December 2019 comply with Swiss law and the company's articles of incorporation.

Basis for Opinion

We conducted our audit in accordance with Swiss law and Swiss Auditing Standards. Our responsibilities under those provisions and standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are independent of the entity in accordance with the provisions of Swiss law and the requirements of the Swiss audit profession and we have fulfilled our other ethical responsibilities in accordance with these requirements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Report on Key Audit Matters based on the circular 1/2015 of the Federal Audit Oversight Authority

We have determined that there are no key audit matters to communicate in our report.

Responsibility of the Board of Directors for the Financial Statements

The Board of Directors is responsible for the preparation of the financial statements in accordance with the provisions of Swiss law and the company's articles of incorporation, and for such internal control as the Board of Directors determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the Board of Directors is responsible for assessing the entity's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the Board of Directors either intends to liquidate the entity or to cease operations, or has no realistic alternative but to do so.

Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Swiss law and Swiss Auditing Standards will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with Swiss law and Swiss Auditing Standards, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made.
- Conclude on the appropriateness of the Board of Directors' use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the entity's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the entity to cease to continue as a going concern.

We communicate with the Board of Directors or its relevant committee regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide the Board of Directors or its relevant committee with a statement that we have complied with relevant ethical requirements regarding independence, and communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

From the matters communicated with the Board of Directors or its relevant committee, we determine those matters that were of most significance in the audit of the financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report, unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

Report on Other Legal and Regulatory Requirements

In accordance with article 728a para. 1 item 3 CO and the Swiss Auditing Standard 890, we confirm that an internal control system exists, which has been designed for the preparation of financial statements according to the instructions of the Board of Directors.

We further confirm that the proposed appropriation of available earnings complies with Swiss law and the company's articles of incorporation. We recommend that the financial statements submitted to you be approved.

KPMG AG

Michael Blume
Licensed Audit Expert
Auditor in Charge

Cyrill Kaufmann
Licensed Audit Expert

Zurich, 4 March 2020

KPMG AG, Räffelstrasse 28, CH-8036 Zurich

Alternative Performance Measures

The information included in the financial report includes certain Alternative Performance Measures (APMs) which are not accounting measures as defined by IFRS (non GAAP measures), in particular the CORE results, the (CORE) RONOA, the (CORE) ROIC and the Operational Free Cash Flow.

These APMs may not be comparable to similarly titled measures disclosed by other companies and should not be viewed in isolation or as alternatives to Lonza's consolidated financial position and financial results based on IFRS.

(CORE) RONOA/NOA

Reconciliation of NOA to CORE NOA

Net operating assets (NOA) allow for an assessment of the Group's operating performance independently from financing activities. NOA contains all operating assets (excluding goodwill) less operating liabilities and is defined as property, plant and equipment, intangible assets, net working capital and long-term net operating assets minus operating liabilities.

CORE NOA adjusts NOA for intangible assets acquired through a business combination.

Reconciliation of NOA to CORE NOA

Million CHF	2019	2018
Non-current operating assets excluding goodwill	6,929	6,505
Inventories	1,392	1,250
Trade receivables	759	692
Other operating receivables	295	240
Trade payables	(453)	(428)
Other operating liabilities	(1,499)	(1,464)
NOA	**7,423**	**6,795**
Acquisition-related intangible assets	(2,999)	(3,238)
CORE NOA	**4,424**	**3,557**

Reconciliation of RONOA and CORE RONOA

RONOA is calculated by dividing the Group's EBIT by the NOA (average). CORE RONOA is calculated by dividing the Group's CORE EBIT by the CORE NOA (average).

Reconciliation of RONOA and CORE RONOA

Million CHF	2019	2018
NOA (average)[1]	7,512	6,956
EBIT	972	842
RONOA	**12.9%**	**12.1%**
CORE NOA (average)[1]	4,363	3,713
CORE EBIT	1,245	1,165
CORE RONOA	**28.5%**	**31.4%**

[1] Calculated at historical monthly averages

CORE Results

Lonza believes that disclosing CORE results of the Group's performance enhances the financial markets' understanding of the company because the CORE results enable better comparison across years. The CORE results concept, which is used in the internal management of the business, is based on the IFRS results, excluding the following adjustments:

- Amortization of intangible assets resulting from business combinations
- Impairments (including reversal of impairments) of intangible assets, property, plant & equipment, goodwill and assets held for sale
- Restructuring programs in excess of CHF 0.5 million
- Acquisition and integration costs related to business combinations
- Costs related to divestitures of businesses as well as disposal gains and losses
- Impacts from discontinued operations
- Environmental remediation costs related to divested / inactive sites as well as remediation projects in excess of CHF 10 million
- Defined benefit plan settlements and curtailments in excess of CHF 10 million
- Lonza's share of profit or loss from associates and joint ventures

Reconciliation of EBIT to EBITDA (Continuing Business)

Million CHF	2019	2018
Result from operating activities (EBIT)	**972**	**842**
Depreciation of property, plant and equipment	351	322
Amortization of intangible assets	193	188
Impairment and reversal of impairment on property, plant, equipment and intangibles	9	77
Earnings before interests, taxes and depreciation (EBITDA)	**1,525**	**1,429**

Reconciliation of EBITDA to CORE EBITDA (Continuing Business)

Million CHF	2019	2018
Earnings before interests, taxes and depreciation (EBITDA)	**1,525**	**1,429**
Restructuring costs / income	30	11
Income / expense resulting from acquisition and divestitures	45	30
Environmental-related expenses	20	41
CORE EBITDA	**1,620**	**1,511**

CORE Results

Reconciliation of IFRS Results to CORE Results 2019

Million CHF	IFRS Results	Amortization of intangible assets from acquisitions	Impairments[1]	Reversal of impairments	Restructuring costs/income	Income/expense resulting from acquisition and divestures[2]	Environmental-related expenses	Other	CORE results
Sales	**5,920**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5,920**
Cost of goods sold	(3,665)	0	10	(7)	13	0	19	0	(3,630)
Gross profit	**2,255**	**0**	**10**	**(7)**	**13**	**0**	**19**	**0**	**2,290**
Marketing and distribution	(313)	0	0	0	0	0	0	0	(313)
Research and development	(123)	0	0	0	1	0	0	0	(122)
Administration and general overheads	(826)	169	1	0	11	45	0	0	(600)
Other operating income	68	0	0	0	0	0	(3)	0	65
Other operating expenses	(89)	0	5	0	5	0	4	0	(75)
Result from operating activities (EBIT)	**972**	**169**	**16**	**(7)**	**30**	**45**	**20**	**0**	**1,245**
Financial income	22	0	0	0	0	0	0	0	22
Financial expenses	(142)	0	0	0	0	4	0	0	(138)
Net financial result	**(120)**	**0**	**0**	**0**	**0**	**4**	**0**	**0**	**(116)**
Share of loss of associates / joint ventures	(3)	0	0	0	0	0	0	3	0
Profit before income taxes	**849**	**169**	**16**	**(7)**	**30**	**49**	**20**	**3**	**1,129**
Income taxes[3]	(86)	(17)	(2)	0	(3)	(5)	(2)	0	(115)
Profit from continuing operations	**763**	**152**	**14**	**(7)**	**27**	**44**	**18**	**3**	**1,014**
Profit / (loss) on sale of discontinued operations, net of income taxes	(117)	0	0	0	0	121	0	0	4
Profit for the period	**646**	**152**	**14**	**(7)**	**27**	**165**	**18**	**3**	**1,018**
Non-controlling interests	(1)	0	0	0	0	0	0	0	(1)
Profit for the period, attributable to the equity holders of the parent	**645**	**152**	**14**	**(7)**	**27**	**165**	**18**	**3**	**1,017**
Number of Shares Basic	74,109,308								74,109,308
Number of Shares Diluted	74,564,802								74,564,802
Earnings per share for profit from continuing operations attributable to equity holders of the parent:									
Basic earnings per share – EPS basic (CHF)	**10.28**								**13.67**
Diluted earnings per share – EPS diluted (CHF)	**10.22**								**13.59**
Earnings per share for profit attributable to equity holders of the parent:									
Basic earnings per share – EPS basic (CHF)	**8.70**								**13.72**
Diluted earnings per share – EPS diluted (CHF)	**8.65**								**13.64**

[1] Impairment charges relate to production assets in Visp and Kouřim
[2] Income/expense resulting from acquisition and divestitures
Result from operating activities (EBIT):
– Integration cost resulting from the acquisition of Capsugel (CHF 41 Million) and other acquisitions
Net financial result:
– Negative impact from fair value adjustment on contingent purchase price consideration
Discontinued operations:
– Water Care loss from discontinued operations and related divestiture expenses
[3] Tax impact calculated based on the estimated average Group tax rate of: 10.2%

Reconciliation of IFRS Results to CORE Results 2018

Million CHF	IFRS results	Amortization of intangible assets from acquisitions	Impairments[1]	Restructuring costs/income	Income/ expense resulting from acquisition and divestures[2]	Environmental-related expenses	Other	CORE results
Sales	**5,542**	**0**	**0**	**0**	**0**	**0**	**0**	**5,542**
Cost of goods sold	(3,449)	0	42	5	0	39	0	(3,363)
Gross profit	**2,093**	**0**	**42**	**5**	**0**	**39**	**0**	**2,179**
Marketing and distribution	(344)	0	0	0	0	0	0	(344)
Research and development	(110)	0	0	0	0	0	0	(110)
Administration and general overheads	(732)	164	0	3	30	0	0	(535)
Other operating income	50	0	0	0	0	0	0	50
Other operating expenses	(115)	0	35	3	0	2	0	(75)
Result from operating activities (EBIT)	**842**	**164**	**77**	**11**	**30**	**41**	**0**	**1,165**
Financial income	85	0	0	0	(32)	0	0	53
Financial expenses	(119)	0	0	0	0	0	1	(118)
Net financial result	**(34)**	**0**	**0**	**0**	**(32)**	**0**	**1**	**(65)**
Share of profit / (loss) of associates / joint ventures	(1)	0	0	0	0	0	1	0
Profit before income taxes	**807**	**164**	**77**	**11**	**(2)**	**41**	**2**	**1,100**
Income taxes[3]	(148)	(30)	(14)	(2)	0	(7)	0	(201)
Profit from continuing operations	**659**	**134**	**63**	**9**	**(2)**	**34**	**2**	**899**
Profit / (loss) on sale of discontinued operations, net of income taxes	(96)	3	69	1	18	0	1	(4)
Profit for the period	**563**	**137**	**132**	**10**	**16**	**34**	**3**	**895**
Non-controlling interests	(4)	0	0	0	0	0	0	(4)
Equity holders of the parent	**559**	**137**	**132**	**10**	**16**	**34**	**3**	**891**
Number of Shares Basic	74,408,243							74,408,243
Number of Shares Diluted	74,723,145							74,723,145
Earnings per share for profit from continuing operations attributable to equity holders of the parent:								
Basic earnings per share – EPS basic (CHF)	**8.80**							**12.03**
Diluted earnings per share – EPS diluted (CHF)	**8.77**							**11.98**
Earnings per share for profit attributable to equity holders of the parent:								
Basic earnings per share – EPS basic (CHF)	**7.51**							**11.97**
Diluted earnings per share – EPS diluted (CHF)	**7.48**							**11.92**

[1] Impairment charges relate to the market revaluation of land in Guangzhou (CHF 35 Million), the production facilities in Walkersville subsequent to the transfer of the cell-therapy activities to Portsmouth and Houston (CHF 29 Million) as well as other production assets in Nansha and Visp

[2] Income/expense resulting from acquisition and divestitures
Result from operating activities (EBIT):
– Integration cost resulting from the acquisition of Capsugel (CHF 28 Million) and other acquisitions
Net financial result:
– Fair value adjustment on Lonza's pre-acquisition in Octane
Discontinued operations:
– Water Care loss from discontinued operations and related divestiture expenses

[3] Tax impact calculated based on the estimated average Group tax rate of: 18.3%

Return on Invested Capital from Continuing Operations

Lonza's return on invested capital (ROIC) is defined as net operating profit after taxes (NOPAT) divided by the average invested capital of Lonza Group.

In 2019 and 2018, the development of ROIC by component was as follows:

Components of Net Operating Profit After Taxes for the Twelve Months Ended 31 December

Million CHF	2019	2018
CORE result from operating activities (CORE EBIT)	**1,245**	**1,165**
Amortization of acquisition-related intangibles assets	(169)	(164)
Share of result of associates / joint ventures and interest on operating leases	(3)	(1)
Debt impact of operating leases (ROIC)[1]	0	4
Net operating profit before taxes	**1,073**	**1,004**
Taxes[2]	(104)	(184)
Net operating profit after taxes (NOPAT)	969	820
Average invested capital	**10,648**	**10,254**
ROIC (in %)	**9.1**	**8.0**

[1] Adjustment for financial year 2018 to reflect the expected impact from the adoption of IFRS 16 Leases on the operating profit. Following the adoption of IFRS 16, this adjustment is not required for the financial year 2019
[2] Group tax rate of 10.2% for 2019 and 18.3% for 2018

The invested capital represents the average of the monthly balances of the following components:

Components of Average Invested Capital for the Twelve Months Ended 31 December

Million CHF	2019	2018
CORE net operating assets	**4,363**	**3,713**
Goodwill	3,722	3,786
Acquisition-related intangible assets	3,149	3,244
Other assets[1]	219	320
Net current and deferred tax liabilities	(805)	(809)
Average invested capital	**10,648**	**10,254**

[1] Investments in associates / joint ventures and operating cash. Also includes the present value of operating leases for 2018 only (from 2019, leases are part of CORE net operating assets)

Operational Free Cash Flow

Components of Operational Free Cash Flow[1]

Million CHF	2019	2018
Earnings before interests, taxes and depreciation (EBITDA)	**1,489**	**1,442**
Change of operating net working capital[2]	(336)	(29)
Capital expenditures in tangible and intangible assets	(786)	(575)
Disposal of tangible and intangible assets	15	8
Change of other assets and liabilities[3]	17	2
Operational free cash flow (before acquisitions / disposals)	**399**	**848**
Acquisition of subsidiaries	(24)	(28)
Disposal of subsidiaries	620	0
Operational free cash flow	**995**	**820**

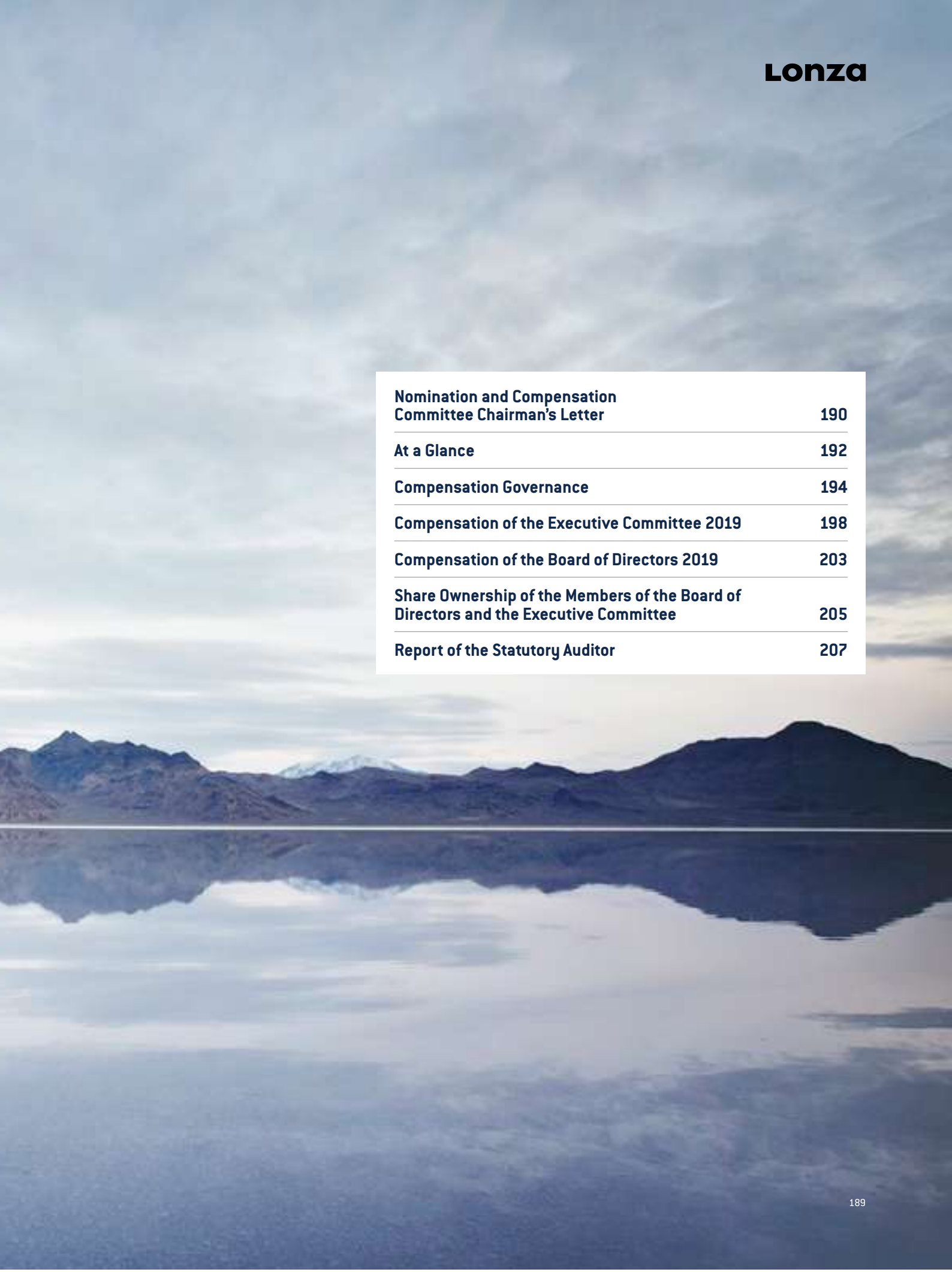
[1] Operational Free Cash Flow represents Lonza Group incl. Discontinued Operations
[2] Includes in 2019 non-cash amortization of current deferred income of CHF 18 million, recognized in the income statement through EBITDA
[3] Includes in 2019 non-cash amortization of non-current deferred income of CHF 9 million (2018: CHF 30 million), recognized in the income statement through EBITDA

Statement of Value Added

	Note[1]		2019 Million CHF	2019 %		2018[2] Million CHF	2018[2] %
Origin of value added							
Income from production			6,068			5,764	
Dividend earned			0			0	
Total income			**6,068**	**100.0**		**5,764**	**100.0**
Services bought from third parties							
Material costs	18		(1,685)			(1,725)	
Energy costs	18		(103)			(97)	
Other operating expenses excl. capital taxes			(915)			(875)	
Gross value added			**3,365**			**3,067**	
Depreciation on property, plant and equipment as well as amortization on intangibles, impairment / reversal of impairment	6, 7		(553)			(585)	
Income from application of the equity method	9		(3)			(1)	
Total net value added			**2,809**	**46.3**		**2,481**	**43.0**
Distribution of value added							
To staff							
– Wages and salaries	19		1,309			1,221	
– Pensions	19		52			46	
– Other social security contributions	19		304			277	
– Other personnel expenses	19		150			74	
Total personnel cost			**1,815**	**64.6**		**1,618**	**65.2**
To public authorities							
– Income and capital taxes	22		111	3.9		170	6.9
To lenders							
– Financial expenses, net	21.1, 21.2		120	4.3		34	1.4
To shareholders							
– Dividends paid[3]			206	7.3		206	8.3
To the company							
– Profit for the period from continuing operations		762			655		
– Dividends paid	27	(204)	558	19.9	(205)	450	18.1
To non-controlling interests							
– Profit for the period from continuing operations		1			4		
– Dividends paid		(2)	(1)	0.0	(1)	3	0.1
Total			2,809	100.0		2,481	100.0
Distribution of value added per employee			CHF			CHF	
Wages and salaries			84,884			81,416	
Pensions			3,372			3,067	
Other social security contributions			19,713			18,470	
Other personnel expenses			9,727			4,934	
Total per employee			**117,696**			**107,887**	

[1] See the accompanying notes to the consolidated financial statements
[2] Prior year results restated in order to provide comparable information for continuing business
[3] Including dividend paid to non-controlling interests

Remuneration



Nomination and Compensation Committee Chairman's Letter

Christoph Mäder
Chairman of the Nomination and Compensation Committee

Dear Stakeholders,

In my role as Chairman of the Nomination and Compensation Committee (NCC) and on behalf of its fellow members, I am pleased to introduce our 2019 Remuneration Report, which adheres to the Swiss Ordinance Against Excessive Compensation for Stock-Exchange-Listed Companies. In this report, we outline the current compensation policies and the decisions made in relation to 2019 compensation for the Executive Committee of Lonza.

This year we have taken further steps to enhance our reporting on remuneration principles and outcomes. It includes: 1) my summary letter; 2) a visual "At a Glance" section presenting company performance and remuneration outcomes; 3) the use of more tables throughout the report to further support the transparency of our remuneration disclosure; and 4) consistent with our commitment in 2018, we present for the first time, retrospective target disclosure for the 2019 STIP and 2017 LTIP, found on page [199/200].

As in previous years, 2019 saw active engagement with our shareholders, the financial regulators and proxy advisors to ensure we continue to develop an open and transparent dialogue. Our discussions covered matters raised at the 2019 Annual General Meeting (AGM) following the publication of the 2018 Annual Report, as well as the changes to the Executive Committee and overall Company developments.

No changes were made to the Executive Committee Compensation Policies in 2019. The composition of the Executive Committee did however change during 2019. Mr. Funk, previously the Chief Operating Officer (COO) Lonza Pharma & Biotech (LPB), became the new Chief Executive Officer (CEO) as of 1 March 2019, following the step down of Mr. Ridinger from the role of CEO on 28 February 2019. Also as of 1 March 2019, Mr. Stoffel, previously Head of Lonza Pharma & Biotech (LPB) Strategic Growth Projects and Ibex™ became Chief Operating Officer (COO) Lonza Pharma Biotech & Nutrition (LPBN) and a member of the Executive Committee. Upon both appointments, the NCC determined their compensation as per the Executive Committee Compensation Policies. Mr. Helemann retired from his role as Group Chief Human Resources Officer (CHRO) and Executive Committee member on 31 March 2019. Furthermore, it was announced in November that Mr. Funk would step down as Chief Executive Officer. Until a permanent successor is found, Mr. Baehny, the Chairman of the Board of Directors, took on the additional responsibility of Chief Executive Officer *ad interim* and Executive Committee member, leading the Company on a temporary basis until a successor is in place, for which a search commenced in 2019. In line with the Swiss Code of Best Practice for Corporate Governance, I was appointed Lead Independent Director by the Board of Directors.

As outlined in the 2018 AGM invitation, from July 2018, the NCC proposed that base salary levels for existing Executive Committee members would not be increased for three years. Consistent with this decision, in 2019, with the exception of promotional increases, no changes to base salary were made for Executive Committee members. The Short-term Incentive Plan (STIP) and Long-term Incentive Plan (LTIP) target award levels also remained unchanged in 2019.

We delivered strong full-year 2019 Group results, resulting in on target performance outcomes in 2019. This reflects mixed performance across the segments whereby the Pharma Biotech & Nutrition businesses performed very well with above target outcomes, and the Specialty Ingredients business fell below the expected target performance. The Lonza Group performance outcomes against all three performance targets (sales, CORE EBITDA and operational free cash flow) resulted in the STIP paying out at 102.24% of target for the Executive Committee. Overall Group performance in 2019 also had an impact on the 2017 LTIP, which vested at the beginning of this year at 161.00% of target, as a result of strong CORE EPS and CORE RONOA performance over the three year performance period.

As per our commitment to set our long-term incentive performance target above Mid-Term Guidance 2022 and in line with Lonza's future growth ambitions, the threshold performance targets for the 2019 LTIP award were set at approximately 112% and 110% of the equivalent threshold target for the 2018 LTIP, for CORE EPS and ROIC respectively. This was first communicated in our 2019 AGM invitation and we present detail on this again on page [200]. As communicated, CORE EPS and ROIC remain the most effective long-term measures of performance for Lonza. CORE EPS aligns the Executive Committee with the interests of shareholders and ROIC, which is the return the company generates on its investments (for example Ibex™), and effectively measures the outcomes of the decisions taken by Executive Committee members and senior management, over the course of the three year LTIP performance period.

Finally, during the year the NCC determined that there would be no change to Board of Director fee levels for the period AGM 2019 to AGM 2020, compared to the previous period.

On behalf of the NCC, we would like to thank our shareholders again for their continued dialogue, feedback and input. We reiterate our commitment to ensuring that the remuneration practices for the Executive Committee are aligned with our future strategy and ensure a strong on-going competitive market position. We look forward to further conversations in the coming year.

Yours sincerely

Christoph Mäder
Chairman of the Nomination and Compensation Committee

At a Glance

Lonza's approach to compensation is designed to attract and retain talent with competitive compensation programs. Our compensation programs are performance-based, linking employee rewards with company and individual performance. Executive compensation is aligned with the short-term and long-term objectives of the wider business; results are measured based on achievement of specific short and long-term objectives.

Our performance objectives are defined to achieve a balance between short-term and long-term outcomes. We encourage strategic decisions that drive competitive advantage but discourage executives from taking unnecessary or excessive risks that may threaten the financial health, reputation or sustainability of the Company.

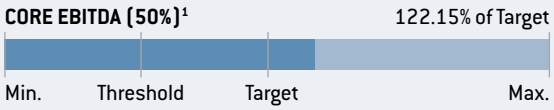
2019 Executive Committee Compensation Policy Table

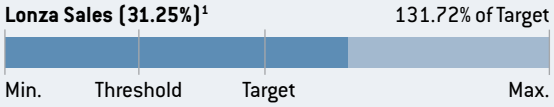
Annual base salary (ABS)	Benefits	STIP	LTIP	Shareholding guidelines
Fixed amount paid in return for the day-to-day duties and responsibilities performed	Post-employment and other benefits to complement Lonza's total compensation offering	Short-term variable compensation component, rewards for annual company and individual performance	Long-term variable compensation component, rewards for long-term company performance. Aligns interests of the Executive Committee with Shareholders	Shareholding guideline to align interests of the Executive Committee with Shareholders
Type of compensation				
100% cash	Pension and other benefits such as company car and expense allowances and insurances	100% cash; or 50% cash and 50% equity, if shareholding guidelines have not been met	100% equity vesting subject to a three year performance period	
Levels				
Consideration for • experience of individual; • direct role responsibilities; and • market levels observed at companies in the relevant industry to Lonza	Aligned with company wide and country specific benefits policies	Target levels: • CEO — 100% of ABS • Other EC — 75% of ABS Minimum = 0% of target Maximum = 200% of target	Target levels: • CEO — 150% of ABS • Other EC — 125% of ABS Minimum = 0% of target Maximum = 200% of target	• CEO — 300% of ABS • Other EC — 200% of ABS To be accumulated over 5 years
Performance measures				
		May be a mix of financial and individual measures, typically with weighting of 80% and 20% respectively 2019 was based on 100% financial measures 50% CORE EBITDA[1] 31.25% Lonza sales 18.75% Operational free cash flow	50% CORE EPS[1] 50% ROIC	

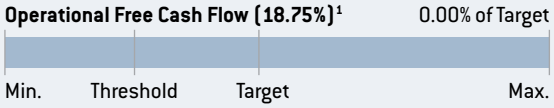
[1] CORE results exclude exceptional expenses and income related to e.g. restructuring, environmental-remediation, acquisitions and divestitures, impairments and amortization of acquisition-related intangible assets, which can differ significantly from year to year

2019 Performance Outcomes

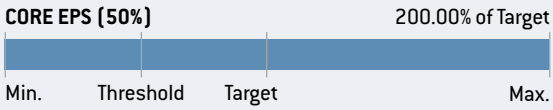
2019 STIP

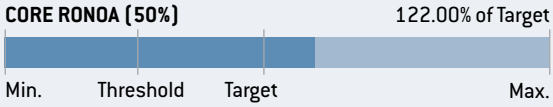






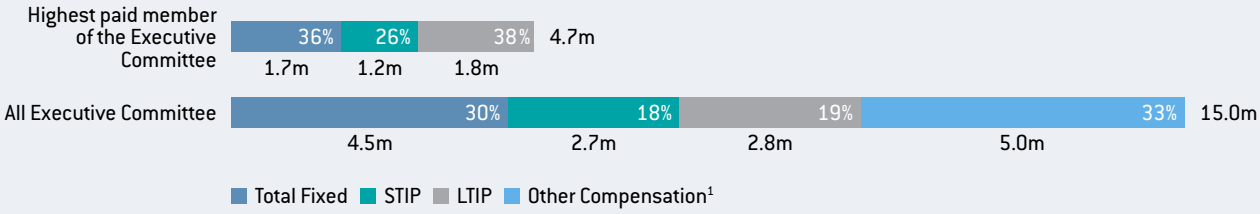
2017 LTIP Award





[1] Includes 10% CORE EBITDA, 6.25% Lonza Sales and 3.75% operational free cash flow distributed from 20% individual performance element

2019 Executive Committee Total Remuneration Paymix



[1] Compensation received by Executive Committee members who departed during 2019 (Mr. Ridinger and Mr. Funk) for the period following their departure from the Executive Committee. This includes cash payments (base salary, other benefits and STIP) and share awards (LTIP) which were made in line with contractual obligations and applicable LTIP plan rules

Board of Directors

Compensation Board of Directors Annual General Meeting (AGM) 2019 to 2020 (excl. social security contributions)

In CHF	Base Annual Fee	Committee Membership Fee	Committee Chairman Fee
Chairman of the Board of Directors[1]	600,000	–	–
Board of Directors Member[2]	200,000	40,000	80,000
	The additional responsibilities of Vice-Chairman and Lead Independent Director[3] do not attract any additional fees		
Form of payout	50% in Lonza Group shares and 50% in cash. This is paid in quarterly installments during the 2019 financial year.		

[1] The compensation of the Chairman of the Board of Directors includes their compensation as a member of the Innovation and Technology Committee. The additional compensation for the role of Chief Executive Officer *ad interim* held during 2019 is included in the compensation of the Executive Committee, found on page [201]
[2] The compensation of the committee chairmen amounts to CHF 280,000 and includes the committee membership fee. In the case of multiple committee memberships, this attracts one committee membership fee only
[3] The roles and responsibilities of such Lead Independent Director are consistent with sect. 19 para. 2 of the Swiss Code of Best Practice for Corporate Governance, requiring adequate control mechanisms, and commensurate to such position

Compensation Governance

Rules in the Articles of Association

Lonza's Articles of Association contain rules regarding the approval of compensation by the Shareholders' Meeting (Article 22), the supplementary amount in the event of changes in the Executive Committee (Article 23), compensation of the members of the Board of Directors and the Executive Committee, including the principles applicable to performance-related compensation (Article 24), the agreements with members of the Board of Directors and the Executive Committee (Article 25) and loans to members of the Board of Directors and the Executive Committee (Article 27).

Responsibilities of the Board of Directors

As outlined in the Organizational Regulations (Article 2.8), the Board of Directors takes decisions on the following matters:

1 The determination of the compensation for the members of the Board of Directors in accordance with the Articles of Association, subject to approval of the compensation of the Board by the Shareholders' Meeting pursuant to the Articles of Association;
2 The proposals to the Shareholders' Meeting regarding approval of the compensation of the Board of Directors and the Executive Committee; and
3 The preparation of the Remuneration Report.

Responsibilities of the Nomination and Compensation Committee

The Nomination and Compensation Committee (NCC) has the following roles and responsibilities as outlined in the Nomination and Compensation Committee Charter:

1 To recommend and review compensation policies and plans for approval by the full Board of Directors;
2 To review periodically and make recommendations to the Board of Directors regarding any variable incentive and the extent to which the plans meet their objectives;
3 To advise the Board of Directors on the compensation of its members, to evaluate the performance of the CEO on a regular basis and to determine his/her compensation based on performance and subject to approval of the compensation of the Executive Committee by the Shareholders' Meeting pursuant to the Articles of Association;
4 To review and approve the compensation proposals for members of the Executive Committee subject to approval by the Shareholders' Meeting pursuant to the Articles of Association;
5 To recommend to the Board of Directors proposals to be submitted to the Annual Shareholders' Meeting for approval regarding total amounts of compensation of the Board and the Executive Committee pursuant to the Articles of Association;
6 To support the Board of Directors in preparing the Remuneration Report;
7 To inform the Board of Directors about compensation policies and programs as well as benchmark compensation of key peer companies; and
8 To inform the Board of Directors about the terms of employment for the members of the Executive Committee.

The NCC continuously reviews the aspects of executive compensation and compliance with good governance standards and also in light of continuous growth, transformation of the Company and inclusion in the Swiss Market Index (SMI) in 2017.

Shareholders' Meeting

The Shareholders' Meeting approves annually the compensation of the Board of Directors and the Executive Committee in accordance with Article 22 of Lonza's Articles of Association.

External Advisors

Lonza continues to engage with New Bridge Street (NBS)[1] and other external advisors on an ad hoc basis as required. In 2019, the NCC were provided with external market insight from Agnès Blust Consulting (ABC)[1] reflecting a total cost of approximately CHF 10,000. The Group CHRO and the relevant HR specialists prepare the NCC meeting materials and provide the related materials for such meetings. These individuals have an advisory function without voting rights.

Market Benchmarking

Lonza reviews the competitive environment and compensation for all employees, including the Board of Directors and Executive Committee, through regular competitive benchmarking, to ensure our total compensation levels remain competitive to attract and retain our talent.

The total compensation (base salary, variable elements and fringe benefits) of the members of the Executive Committee in particular is benchmarked on a regular basis against a relevant industry peer group.

The primary peer group serves as the essential reference point. It reflects companies of various different sizes. To ensure the market outputs are relevant for Lonza, all market data is adjusted to reflect differences in revenue and market value. When conducting the market benchmarking, the first secondary peer group of Swiss companies is used as a cross-reference. The US market peer groups are used solely for information purposes.

Benchmarking Peer Group Example

Primary Peer Group	Secondary Peer Group
European pharmaceutical / chemical sector businesses[1]	• Swiss companies[2] in other sectors • US pharmaceutical[3] • US chemical companies[4]

1 Arkema, AstraZeneca, BASF, Bayer, Beiersdorf, Clariant, Croda International, DSM Koninklijke, Evonik Industries, Givaudan, Henkel, Hikma Pharmaceuticals, Lanxess, Merck, Novartis, Qiagen, Reckitt Benckiser, Roche Holdings, Sonova Holding AG, Symrise, UCB, Umicore, Wacker Chemie
2 ARYZTA AG, Barry Callebaut AG, Emmi AG, Forbo Holding AG, Geberit AG, Georg Fischer AG, Logitech International S.A., OC Oerlikon Corporation AG, Panalpina Welttransport (Holding) AG, Sonova Holding AG, Sulzer
3 Allergan plc, Baxter, Becton Dickinson Bioscience, Bristol Myers Squibb, Catalent, Mylan Inc., 3M Drug Delivery Systems, Perrigo Company, , West Pharmaceutical Services, Zoetis Inc.
4 Ashland, Celanese Corporation, Danaher, Estee Lauder Companies, Eastman Chemical Company, FMC Corporation, International Flavors and Fragrances Inc., Westlake Chemical Corporation

A review of the benchmarking peer groups was last conducted in 2017. The NCC determined that the above peer groups remain relevant for benchmarking purposes. In view of the associated commitments relating to a freeze of the compensation levels, no adjustments were made to the peer groups and no detailed benchmarking was conducted in 2019.

1 NBS is part of AON's Performance, Reward and Talent Group. AON has further consulting arrangements with Lonza Human Resources. ABC have no other consulting arrangements

Compensation in Case of Appointment

Total compensation for an incoming Executive Committee member will be directly aligned with the Executive Committee compensation policies. The Nomination and Compensation Committee (NCC) will also consider making equity or cash awards in lieu of compensation that the individual has forfeited at their previous employer, as a result of accepting the Lonza appointment. The time horizon, type and value of any award will be directly informed by the details of the awards being forfeited. In such cases, award levels will be equivalent to or less than the level of the awards being forfeited at the previous employer. Details of any such buyout award for Executive Committee members will be disclosed at the time of grant, in the relevant Remuneration Report.

Compensation in Case of Termination

The below provisions are consistent with the employment agreements for all Executive Committee members. Our Executive Committee members are not entitled to any severance payments in accordance with Swiss Mandatory Laws.

Compensation in Case of Termination

Termination Type	Treatment of Compensation
Death, disability and retirement **Termination by the company without cause**	• Payment of base salary and benefits over the 12 month notice period, except in the case of retirement. In the case of death, this is paid out to the next of kin • Pro-rata STIP payment relating to year of termination, measured up to the end of the notice period (payout relating to the period as an Executive Committee member is subject to shareholder vote at the relevant Annual General Meeting) • Unvested LTIP awards will be pro-rated, based on number of months employed (including the notice period) during the 36-month performance period
Resignation by the Executive	• Payment of base salary and benefits over the 12-month notice period • No entitlement to STIP award with respect to the plan year in which employment is terminated, except if both of the following occur: I. Termination is after 31 December of the plan year; and II. Executive was not released from their obligation to work • All unvested LTIP awards will lapse
Termination by the company for cause	• Payment of base salary and benefits depending on termination reasons up to 12-month notice period • No entitlement to STIP award relating to plan year in which employment is terminated • All unvested LTIP awards will lapse
Change of control[1]	• Payment of base salary and benefits up to point of transaction if moving to new entity following transaction or up to the end of the notice period, if terminated by the Company without cause • Within 18 months following a change of control, a STIP payment will be made on a pro-rata basis reflecting the period up to the end of the notice period. The payment will also be based on actual (to the extent that it may be determined) or presumed achievement and, and if to the extent that the executive is released from an obligation to work, target achievement (100%) will be assumed • Unvested share awards shall vest immediately and the granted price shall be the price at which the shares are sold in the transaction resulting in the Change of Control

[1] If employment is terminated by the Company without cause or an Executive Committee member terminates the employment due to good reason, as outlined in Employment contract

Non-Compete Clause

Under the terms of the employment agreement of the Executive Committee, members whose employment is terminated agree that they will not, for a period of six months following the end of the notice period, be partially or fully employed by any entity that materially competes with the Company or any of its business segments. In case of a breach of the non-competition clause, the executive shall pay damages to the Company. As compensation for the period of non-competition, the executive will receive a monthly consideration equal to the executive's last monthly base salary minus any new income the executive earns in the relevant month. The Company may elect to fully or partially release the departing Executive Committee member from this non-competition obligation no later than ten (10) months prior to the end of the notice period.

Clawback

The Lonza Clawback Policy, enhanced in 2018, applies to Executive Committee members and covers all new and outstanding STIP and LTIP awards. It allows Lonza to recover any relevant compensation from Executive Committee members in instances of gross misconduct, material misstatement of performance and error in calculation of performance, for example.

Shareholding Guidelines

The NCC feels strongly that the Executive Committee and other senior managers should have a defined Lonza shareholding to strengthen their alignment with our Shareholders' interests. Lonza operates a minimum shareholding guideline for the Executive Committee and other senior managers. The below minimum shareholding levels are to be achieved within the specified five-year period which begins on the date of commencing the relevant role. Progress towards achieving the guideline levels is measured in January of each calendar year.

The NCC periodically reviews the minimum shareholding requirements. No changes were made to these levels during 2019.

Shareholding Guidelines

CEO	300% of base salary
Other Executive Committee members	200% of base salary
Other senior managers	Annual LTIP grant value

Compensation of the Executive Committee 2019

Compensation Policy and 2019 Outcomes

Base Salary

Objective and overview	• Paid as a fixed amount in return for the performed day-to-day duties and responsibilities • Base salary forms the basis of total compensation • Paid out in cash, and reviewed annually, taking into consideration the responsibilities of the position, the personal performance of the Executive Committee member and base salary increases made across the Company
2019 implementation	• With the exception of promotional increases, no changes to base salary were made for existing Executive Committee members during 2019

Benefits

Objective and overview	• Complements the total compensation offering on a country or market specific basis • Includes pension and other benefits such as company car allowance, expense allowance, life and health insurance and child's tuition fees (if applicable)
2019 implementation	• Administered in 2019 in accordance with the Company wide pension and benefits policies

Short-term Incentive Plan (STIP)

Objective and overview	• A component of variable compensation, it provides the potential for an annual incentive payment based on performance of the Group and the executive versus annual targets • STIP performance conditions are defined for each financial year ahead of the relevant annual bonus cycle based on the company's short-term objectives, and may be a mix of financial and individual measures, typically with a weighting of 80% and 20% respectively • The Nominations and Compensation Committee (NCC) can apply judgment to determine the mix of financial and individual measures in any given year • The CEO and the Executive Committee members are not present while the Board of Directors and the NCC discuss their individual performance evaluations
Levels	• CEO: 100% of base salary at target • Other Executive Committee members: 75% of base salary at target • Minimum payout is 0% of target levels • Maximum payout up to 200% of target levels
Payout method	• 100% in cash if shareholder guidelines have been met. See page [197] for details • 50% cash and 50% Lonza Group shares when shareholder guidelines have not been met
2019 Performance conditions and payout	• The 2019 STIP for Executive Committee members was based on 100% financial performance measures with the financial performance results derived from the audited 2019 financial results:

	Weighting	2019 Group Performance Target	2019 Actual Performance[2]	2019 Achievement (% of target)
CORE EBITDA[1]	50%	1,590	1,601	122.15%
Lonza sales[1]	31.25%	5,764	5,808	131.72%
Operational free cash flow[1]	18.75%	660	524	0%
Total	–	–	–	**102.24%**

[1] Includes 10% CORE EBITDA, 6.25% Lonza sales and 3.75% operational free cash flow distributed from 20% individual performance element
[2] Adjusted for items which have not been initially considered for target setting. E.g. acquisitions, disposals, impact of new IFRS Accounting Standards

- This Group performance results in a proposed payout of 102.24% target STIP for all Executive Committee members
- The 2019 STIP will be paid to Executive Committee members in May 2020 subject to Shareholder approval at the Lonza Group 2020 Annual General Meeting

Long-term Incentive Plan (LTIP)

Objective and overview

- Part of the variable compensation component, the LTIP has been designed to align the interests of participants with those of Lonza's Shareholders. It also contributes towards the offering of a competitive total reward package
- Executive Committee members are awarded the conditional right to receive a number of Lonza shares in the future, provided that certain performance conditions are achieved over a three-year performance period
- The LTIP plan design and performance targets are determined at the beginning of each three-year performance period

Levels

- CEO : 150% of base salary at target
- Other Executive Committee members : 125% of base salary at target
- Minimum payout is 0% of target levels
- Maximum payout is up to 200% of target levels

Payout ranges

Payout ranges from 0% to 200% of target opportunity levels

Performance	Payout (% of target)
Minimum	0%
Threshold	50%
Target	100%
Maximum	200%

2017 LTIP award — performance conditions and payout

The 2017 LTIP award was based on the below financial performance conditions:

	Weighting	2019 Group Performance Target	2019 Actual Performance[1]	2019 Achievement (% of target)
CORE EPS (earnings per share)	50%	12.10	13.62	200.00%
CORE RONOA (return on net operating assets)	50%	29.6%	30.2%	122.00%
Total	–	–	–	**161.00%**

[1] Adjusted for items which have not been initially considered for target setting. E.g. acquisitions, disposals, impact of new IFRS Accounting Standards

- This resulted in a payout of 161.00% of target LTIP for Executive Committee members
- CORE RONOA was changed to ROIC for 2018 LTIP awards onward

2019 LTIP award

Overview
The 2019 LTIP budget value for the Executive Committee was approved by the Board of Directors and submitted to the AGM 2019. Following shareholder approval at this meeting, the awards were subsequently administered. Similar to previous years, the 2019 LTIP awards include minimum, threshold, target and stretch goals, as outlined above.

Performance measures and target setting
The 2019 LTIP awards are subject to CORE EPS and ROIC performance measures, each with an equal weighting. These long-term performance measures remain appropriate to measure the long-term performance of Lonza. They align the interests of the Executive Committee with Lonza's financial performance and in turn the interests of our Shareholders. The respective performance targets at the threshold (50%), target (100%) and maximum (200%) payout levels were recommended by the NCC and approved by the Board of Directors in April 2019. These financial performance targets for the 2021 year end are commercially sensitive at this time and will not be disclosed publicly until after the awards have vested.

CORE EPS
The 2019 LTIP award threshold performance level was determined to be approximately 112% of the Core EPS threshold performance level for the 2018 LTIP award. The maximum performance level was determined to be above the pro-rated Mid-Term Guidance 2022 and is a double-digit percentage figure above threshold performance levels.

ROIC
ROIC (return on invested capital) is defined as adjusted net operating profit after tax divided by invested capital. This measures the return the company generates on its investments both organic, and inorganic expansion. The measure is a reflection of the effect of decisions taken by Executive Committee members and senior management over the course of the relevant LTIP performance period. The 2019 LTIP award threshold performance level was determined to be approximately 110% of the ROIC threshold performance level set for the 2018 LTIP award. The maximum performance level was determined to be above the pro-rated Mid-Term Guidance 2022 and is close to a double-digit percentage figure above threshold performance levels.

Compensation for Highest Paid Executive Committee Member

The table below shows the breakdown of compensation for the highest-paid Executive Committee member. 2019 reflects compensation for Mr. Ridinger and includes both (1) amounts received in the capacity of Chief Executive Officer and Executive Committee member up to and including 28 February 2019 and (2) amounts received in relation to the contractual notice period in 2019, 1 March 2019 - 31 December 2019.

Million CHF	2019	2018
Fixed compensation		
Base salary	1.200	1.150
Retirement benefits / other benefits[1]	0.518	0.527
Variable compensation		
Short-term incentive (cash)[2]	1.227	1.681
Long-term incentive (grant value)[3]	1.800	1.650
Total	**4.745**	**5.008**
Ratio of fixed to variable compensation	49.04%	43.02%

1 Social security and pension fund as well as company car and health insurance. The social security and pension fund amounts disclosed on this line represent the full costs of the employer contributions for 2019 and 2018. The table shows the fair value of the other benefits
2 The proposed 2019 STIP will be paid in May 2020 subject to shareholder approval at the 2020 AGM. The highest paid Executive Committee member already meets the shareholding requirement and will therefore receive full cash payout of the STIP 2019. The STIP was calculated using the base salary of 31 December 2019
3 The fair value was calculated using base salary and market value at grant date. It is possible that the eventual value at vesting will be higher or lower (or even zero)

Aggregate Compensation of the Executive Committee[1]

The table below shows the aggregated breakdown of all compensation provided Executive Committee members in 2019 and 2018. This includes compensation for active Executive Committee members. Compensation for departed Executive Committee members, for the periods following their departure from the Executive Committee, is found in "Other compensation".

The fixed compensation and long-term incentive levels are consistent with the budgets approved by shareholders during the 2019 AGM. The 2019 short-term incentive (cash) levels are subject to shareholder approval at the 2020 AGM.

Million CHF	2019	2018
Fixed compensation		
Base salary[2]	3.071	3.800
Retirement benefits / other benefits[3]	1.442	1.870
Variable compensation		
Short-term incentive (cash)[4,5]	2.650	4.833
Long-term incentive (grant value)[6]	2.818	4.900
Other compensation[7]	5.002	
Total	**14.983**	**15.403**
Ratio of fixed to variable compensation (average of Executive Committee members)	62.27%	49.41%

1 Average of 5.17 members in 2019 and average of 5.00 members in 2018. Mr. Ridinger and Mr. Helemann stepped down from the Executive Committee on 28 February 2019 and 31 March 2019 respectively. Mr. Stoffel became an Executive Committee member effective 1 March 2019. Mr. Funk stepped down from the Executive Committee at the end of November 2019. At the same time Mr. Baehny was appointed CEO *ad interim* by the Board of Directors
2 Base salary levels include compensation for Mr. Baehny in relation to the role of CEO *ad interim* for the month of December 2019. See page [202] for full details
3 Social security, pension fund and other benefits. The social security and pension fund amounts disclosed on this line represent the full costs of the employer contributions for 2019 and 2018. The table shows the fair value of the other benefits as well as compensation for unused vacation days during past years as a member of the Executive Committee
4 The STIP achievement for 2019 was 102.24% (2018: 140.10%) and will be paid out in May 2020 subject to shareholder approval at the 2020 AGM
5 All Executive Committee members met the minimum shareholding requirement in 2019 (see page [197])
6 The fair value in 2019 and 2018 was calculated using the market value at grant date. It is possible that the eventual value at vesting will be higher or lower (or even zero)
7 Compensation received by Executive Committee members who departed during 2019 (Mr. Ridinger and Mr. Funk) for the period following their departure from the Executive Committee. This includes cash payments (base salary, other benefits and STIP) and share awards (LTIP) which were made in line with contractual obligations and applicable LTIP plan rules

There was no change to base salary levels in 2019 for active Executive Committee members, however a decrease in the aggregated base salary levels paid to Executive Committee members is observed when comparing 2019 to 2018. This is due to a number of changes to the Executive Committee during the year. 2019 aggregated base salary levels shown in the aggregated table on the previous page reflect the time when the individuals sat on the Executive Committee during 2019.

The proposed STIP payments for 2019 are reflective of the 2019 Group financial performance versus the performance targets set, as outlined on page [199] of this report. The performance outcomes result in a proposed payout of 102.24% of target levels. This outcome is lower than what was achieved in 2018, resulting in a reduction in the aggregated proposed STIP payout levels for 2019.

The 2019 LTIP grant value reflect a lower aggregate levels compared to 2018, albeit there was no change to policy levels during 2019. The difference in value is driven primarily by the changes to the Executive Committee during 2019, whereby for select individuals, their outstanding LTIP awards were treated as per plan rules.

Mr. Baehny became the Chief Executive Officer (CEO) *ad interim* in November 2019. The Nominations and Compensation Committee (NCC) determined that from 1 December 2019 until the time that the responsibility of CEO *ad interim* is relinquished, Mr. Baehny will receive the equivalent of CHF 400,000 per annum for this added responsibility. This is in addition to the CHF 600,000 per annum fee received for the role as Chairman of the Board of Directors. Mr. Baehny's CEO *ad interim* base salary is included in the Aggregate Compensation of the Executive Committee table above for the period 1 December to 31 December 2019. Details on compensation for the role of Chairman of the Board of Directors can be found on page [203].

No loans or credits were outstanding as of 31 December 2019. During 2019, no payments (or waiver of claims) were made to current or former Executive Committee members, nor to persons closely linked to them. No member of the Executive Committee benefits materially from any contract between a Lonza company and a third party.

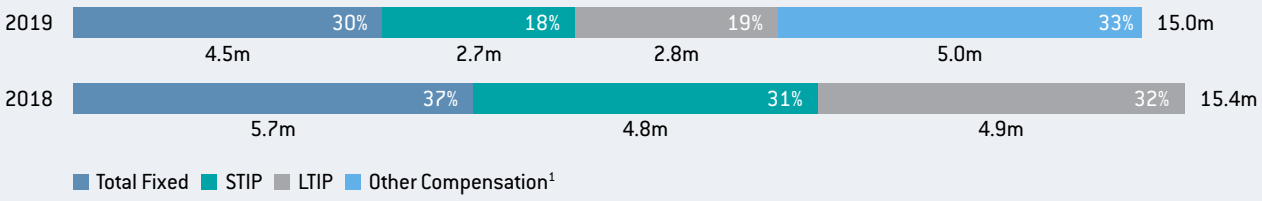
Payment to Departed Executive Committee Members in 2019

Mr. Ridinger stepped down as Chief Executive Officer at the end of February 2019 in order to retire from his executive role. As outlined in his employment contract, base salary, benefits and STIP are paid during the contractual notice period. All outstanding LTIP awards are treated in accordance with the applicable LTIP plan rules.

In addition, Mr. Helemann retired from his role as CHRO at the end of March 2019. He received a pro-rata STIP for 2019 and all outstanding LTIP awards are treated in accordance with the applicable LTIP plan rules.

Following the step down of Mr. Funk from the role of Chief Executive Officer, base salary, benefits and STIP will be paid over the contractual notice period commencing in November 2019. Further, all outstanding LTIP awards are treated in accordance with the applicable LTIP plan rules.

Pay Mix: Fixed vs. Performance Related Pay



[1] Compensation received by Executive Committee members who departed during 2019 (Mr. Ridinger and Mr. Funk) for the period following their departure from the Executive Committee. This includes cash payments (base salary, other benefits and STIP) and share awards (LTIP) which were made in line with contractual obligations and applicable LTIP plan rules

Compensation of the Board of Directors 2019

Policy

Objective and Market Benchmarking
In accordance with their respective duties and responsibilities, compensation levels for the Board of Directors are set at the median of the benchmarking peer group. The benchmarking peer group consists of Swiss companies of various sectors that are comparable in type of business, complexity of operations, size and global presence to Lonza. The Board of Directors regularly review the compensation of its members, including the Chairman, based on a proposal by the Nomination and Compensation Committee and on advice from an independent advisor, including relevant benchmarking information.

Structure and Level of Compensation
The Chairman of the Board of Directors and its Members receive their compensation as 50% in Lonza Group Shares and 50% in cash. This was paid in quarterly installments during the 2019 financial year.

The number of shares granted for Board of Directors' compensation is based on the average closing share price of the last five business days of each quarter. Share restrictions lapse after three years from the grant date. Shares are eligible for a dividend. This structure of Board of Directors' compensation is closely aligned with our Shareholders' interests.

The members of the Board of Directors do not receive variable compensation. The members of the Board of Directors are reimbursed for travel and other related expenses associated with their responsibilities as members of the Board of Directors of Lonza.

The position and associated compensation of the Chairman of the Board of Directors and its Members was approved by Shareholders at the 2019 Annual General Meeting (AGM). This reflects compensation levels and structure which are unchanged compared to the previous year.

Compensation Components
For the period from the AGM 2019 to the AGM 2020, the members of the Board of Directors receive fixed gross compensation for Board of Directors' membership and additional compensation for committee Chairmen and committee members as described in the table below.

The compensation of the Chairman of the Board of Directors includes his compensation as a member of the Innovation and Technology Committee of the Board of Directors of the Board of Directors. The additional compensation for the role of Chief Executive Officer *ad interim* held during 2019 is included in the compensation of the Executive Committee, found on page [201].

Further, the compensation of the committee chairmen amounts to CHF 280,000 and includes the committee membership fee. In the case of multiple committee memberships, this attracts one committee membership fee only. The additional responsibilities of Vice-Chairman and Lead Independent Director do not attract any additional fees.

Board of Directors

Compensation Board of Directors Annual General Meeting (AGM) 2019 to 2020 (excl. social security contributions)

In CHF	Base Annual Fee	Committee Membership Fee	Committee Chairman Fee
Chairman of the Board of Directors[1]	600,000	–	–
Board of Directors Member[2]	200,000	40,000	80,000
	The additional responsibilities of Vice-Chairman and Lead Independent Director[3] do not attract any additional fees		
Form of payout	50% in Lonza Group shares and 50% in cash. This was paid in quarterly installments during the 2019 financial year		

1 The compensation of the Chairman of the Board of Directors includes their compensation as a member of the Innovation and Technology Committee. The additional compensation for the role of Chief Executive Officer *ad interim* held during 2019 is included in the compensation of the Executive Committee, found on page [201]
2 The compensation of the committee chairmen amounts to CHF 280,000 and includes the committee membership fee. In the case of multiple committee memberships, this attracts one committee membership fee only
3 The roles and responsibilities of such Lead Independent Director are in line with sect. 19 para. 2 of the Swiss Code of Best Practice for Corporate Governance, requiring adequate control mechanisms, and commensurate to such position

Implementation

The Board of Director compensation approved by shareholders reflects the July to June period (12 months) following each AGM. As such, any year-on-year change for this period impacts the financial years within which this period falls. An increase in Board of Directors compensation was approved by shareholders at the 2018 AGM, for the period July 2018 to June 2019. As a result, an increase in compensation levels is observed between the 2018 and 2019 financial years. Compensation levels for the 2019 to 2020 AGM periods remain unchanged.

No loans or credits were outstanding as of 31 December 2019. During 2019, no payments (or waiver of claims) were made to current or former Board members nor to persons closely linked to them. No member of the Board of Directors benefits materially from any contract between a Lonza company and a third party.

For a full review of the historical development of compensation for the Board of Directors, see note 25 in the Lonza Financial Report.

Compensation of the Board of Directors in 2019

	2019					2018				
	Net Cash Payment	Number of Shares	Value of Shares[1]	Social Security and Taxes[2]	Total[3]	Net Cash Payment	Number of Shares	Value of Shares[1]	Social Security and Taxes[2]	Total[3]
Albert M. Baehny[4]	272,599	914	299,487	54,802	626,888	238,636	964	261,954	47,728	548,318
Patrick Aebischer[5]	125,125	425	139,251	27,970	292,346	124,651	526	139,429	28,524	292,604
Werner Bauer	109,593	363	118,943	20,814	249,350	109,566	451	119,558	20,868	249,992
Jean-Daniel Gerber[8]	n.a.	n.a.	n.a.	n.a.	n.a.	31,925	154	34,779	6,150	72,854
Angelica Kohlmann	106,743	363	118,943	24,525	250,211	38,694	319	89,747	59,780	188,221
Christoph Mäder[5]	124,659	425	139,251	28,508	292,418	120,167	504	134,461	27,537	282,165
Barbara Richmond	60,234	363	118,943	91,283	270,459	60,104	451	119,558	91,412	271,074
Margot Scheltema[5]	75,771	425	139,251	120,229[6]	335,251	75,733	526	139,429	64,267	279,429
Rolf Soiron[8]	n.a.	n.a.	n.a.	n.a.	n.a.	51,163	249	56,234	10,175	117,572
Jürgen Steinemann	65,034	363	118,943	54,966	238,943	64,904	451	119,558	55,096	239,558
Antonio Trius[7]	12,945	100	29,734	19,872	62,551	54,936	451	119,558	129,538[6]	304,032
Olivier Verscheure	51,777	363	118,943	79,491	250,211	38,694	319	89,747	59,780	188,221
Total	**1,004,480**	**4,104**	**1,341,687**	**522,461**	**2,868,628**	**1,009,173**	**5,365**	**1,424,012**	**600,855**	**3,034,040**

1 The fair values were calculated using the average closing share price of the last five business days of each quarter, see note 25 in the Financial Report
2 The social security amounts disclosed in this column represent the full costs of the employer and employee social security contributions and withholding tax
3 Total compensation amounts refer to gross payments, including social security and withholding tax, except where stated otherwise
4 This compensation includes Albert M. Baehny's committee membership. Albert M. Baehny is also a member of the Innovation and Technology Committee. The additional compensation for the role of Chief Executive Officer *ad interim* held during 2019 is included in the compensation of the Executive Committee, found on page [201]
5 Patrick Aebischer, Christoph Mäder and Margot Scheltema are Chairmen of a Board of Directors Committee
6 Includes additional social security provision for Margot Schelteman in 2019 and Antonio Trius in 2018
7 Antonio Trius chose not to stand for re-election at the AGM 2019
8 Rolf Soiron and Jean-Daniel Gerber chose not to stand for re-election at the AGM 2018

Share Ownership of the Members of the Board of Directors and the Executive Committee

Board of Directors

Based on information available to Lonza, the members of the Board of Directors and parties closely associated with them held, as of 31 December 2019: 56,609 (2018: 62,245)[1] registered shares of Lonza Group Ltd and controlled 0.08% (2018: 0.08%) of the share capital.

None of the members of the Board of Directors or Executive Committee owns shares in the Group's subsidiaries or associates.

Board of Directors	2019	2018
Albert M. Baehny	3,087	1,149
Patrick Aebischer	1,523	5,889
Werner Bauer	26,194	25,801
Angelica Kohlmann	598	205
Christoph Mäder	3,152	2,692
Barbara Richmond	4,340	3,947
Margot Scheltema	10,241	9,781
Jürgen Steinemann	6,876	6,043
Olivier Verscheure	598	205
Antonio Trius	n.a.	6,533
Total	**56,609**	**62,245**

[1] Spouse, children below 18, any legal entities that they own or otherwise control, or any legal or natural person who is acting as their fiduciary

Executive Committee

The members of the Executive Committee and parties closely associated with them held, as of 31 December 2019: 19,137 (2018: 107,572) shares and controlled 0.03% (2018: 0.14%) of the share capital. The individual control rights are proportional to the holdings shown below.

Executive Committee[1]	2019	2018
Sven Abend	5,000	10,000
Rodolfo J. Savitzky	11,019	6,116
Stefan Stoffel	3,118	n.a.
Marc Funk[2]	n.a.	36,353
Richard Ridinger[2]	n.a.	53,351
Fridtjof Helemann[2]	n.a.	1,752
Total[2]	**19,137**	**107,572**

[1] All active Executive Committee members have met or are in line to meet the shareholding guidelines
[2] Marc Funk, Richard Ridinger and Fridtjof Helemann stepped down or retired from the Executive Committee during 2019

Report of the Statutory Auditor

To the General Meeting of Lonza Group Ltd, Basel

We have audited the remuneration report dated 31 December 2019 of Lonza Group Ltd for the year ended 31 December 2019. The audit was limited to the information according to articles 14 – 16 of the Ordinance against Excessive compensation in Stock Exchange Listed Companies (Ordinance) contained in the sections *"Compensation for Highest Paid Executive Committee Member", "Aggregate Compensation of the Executive Committee", "Payment to Departed Executive Committee Members in 2019"* and *"Compensation of the Board of Directors 2019 - Implementation"* of the remuneration report.

Responsibility of the Board of Directors

The Board of Directors is responsible for the preparation and overall fair presentation of the remuneration report in accordance with Swiss law and the Ordinance against Excessive compensation in Stock Exchange Listed Companies (Ordinance). The Board of Directors is also responsible for designing the remuneration system and defining individual remuneration packages.

Auditor's Responsibility

Our responsibility is to express an opinion on the accompanying remuneration report. We conducted our audit in accordance with Swiss Auditing Standards. Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the remuneration report complies with Swiss law and articles 14 – 16 of the Ordinance.

An audit involves performing procedures to obtain audit evidence on the disclosures made in the remuneration report with regard to compensation, loans and credits in accordance with articles 14 – 16 of the Ordinance. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatements in the remuneration report, whether due to fraud or error. This audit also includes evaluating the reasonableness of the methods applied to value components of remuneration, as well as assessing the overall presentation of the remuneration report.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Opinion

In our opinion, the remuneration report for the year ended 31 December 2019 of Lonza Group Ltd complies with Swiss law and articles 14 – 16 of the Ordinance.

KPMG AG

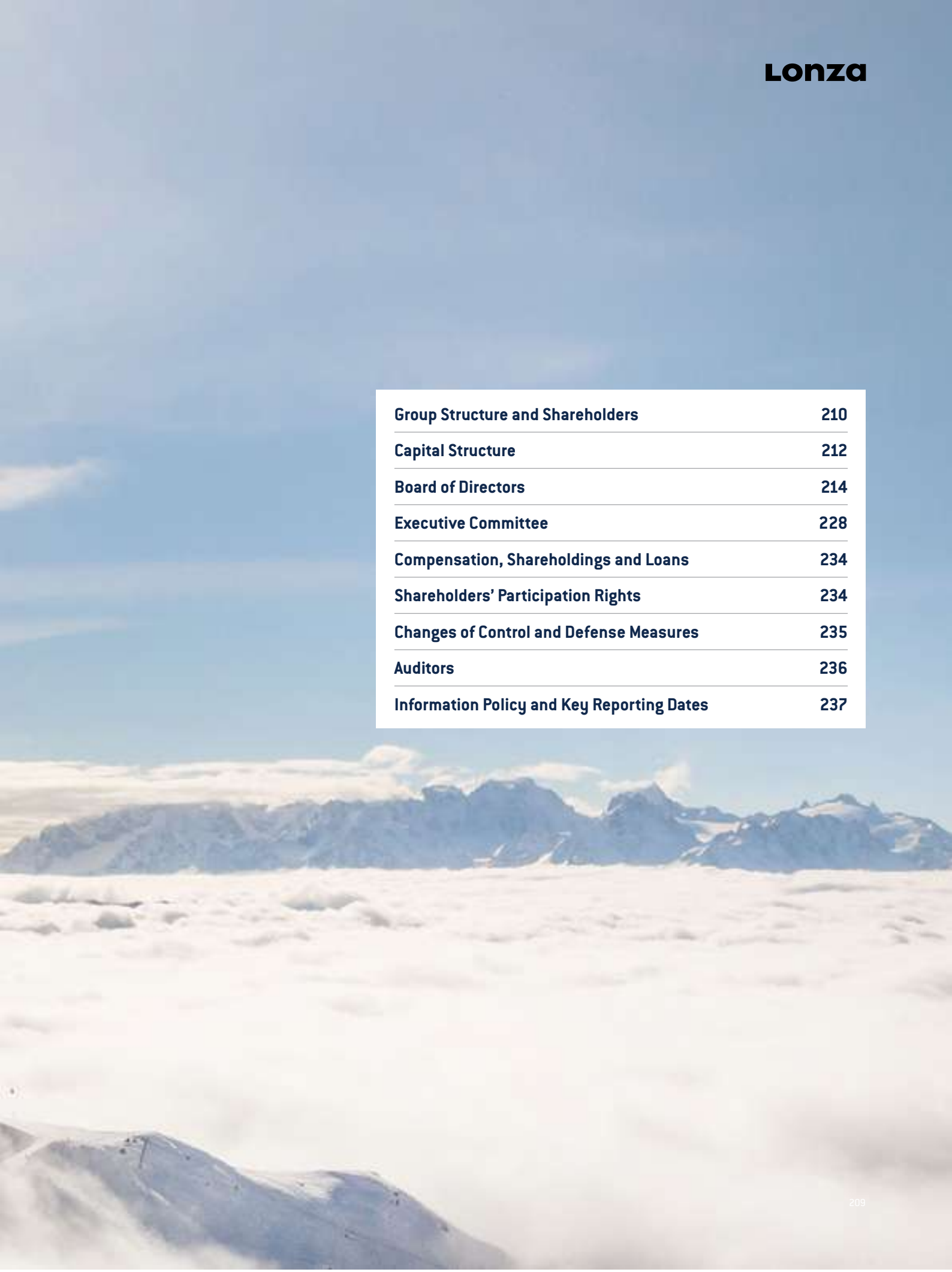
Michael Blume
Licensed Audit Expert
Auditor in Charge

Cyrill Kaufmann
Licensed Audit Expert

Zurich, 4 March 2020

KPMG AG, Räffelstrasse 28, CH-8036 Zurich

Corporate Governance



Group Structure and Shareholders

Lonza Board of Directors

Audit and Compliance Committee (ACC)

Nomination and Compensation Committee (NCC)

Innovation and Technology Committee (ITC)

All sustainability-related matters are with the Chairman of the Board of Directors

Lonza Executive Committee (EC)[1]

Albert M. Baehny
Chief Executive Officer (CEO)
ad interim[2,3]

Rodolfo J. Savitzky
Chief Financial Officer (CFO)

Stefan Stoffel
Chief Operating Officer (COO)
Pharma Biotech & Nutrition

Sven Abend
Chief Operating Officer (COO)
Specialty Ingredients

Lonza

Corporate Functions

Global Business Service Organisation

Lonza Pharma Biotech & Nutrition (LPBN)

Lonza Specialty Ingredients (LSI)

[1] Fridtjof Helemann was Chief Human Resource Officer (CHRO) from 2016 until March 2019
[2] Mark Funk was CEO from March 2019 until 12 November 2019
[3] Richard Ridinger was CEO from May 2012 until February 2019

Operational Group Structure

Segments
In 2019, Lonza's activities were organized in the following two segments:

The Pharma Biotech & Nutrition segment[1] comprised the following offerings:

- CDMO service businesses:
  - Small Molecules
  - Mammalian & Microbial
  - Cell & Gene Technologies
- Product businesses:
  - Bioscience
  - Capsule Systems
  - Nutritional Ingredients

In 2019, the Specialty Ingredients segment[2] comprised the following offerings:

- Microbial Control Solutions
- Specialty Chemical Services

Corporate Functions
The Corporate Functions include Human Resources, Finance & Controlling, Tax, Treasury, Corporate Development, Procurement, Quality, Environment, Health and Safety, Corporate Communications, Investor Relations, Legal / Ethics & Compliance / IP, Engineering, IT, Internal Audit, Insurance and Real Estate Management.

Global Business Services Organization
Our Global Business Services Organization (GBSO) supports our segments, operational units and corporate functions with transactional services in financial, customer service, HR and IT. The GBSO focuses on standardization and automation of processes to drive productivity and higher quality services.

Service delivery through the GBSO is centralized in Manchester (UK) to support EMEA markets and in San José (CR) for the Americas.

Holding Company and Listed Companies
Lonza Group Ltd, with our registered office in Basel (CH), is the ultimate parent company of the Lonza Group. With the exception of Lonza Group Ltd, no company belonging to the Lonza Group is listed. Please refer to the Shares and Participation Certificates section, page [213], for information on the listed shares, the stock exchanges on which Lonza Group Ltd is listed and the market capitalization.

Principal Subsidiaries and Joint Ventures
The principal subsidiaries and joint ventures of the Lonza Group are shown in note 33, Principal Subsidiaries and Joint Ventures, page [160].

Significant Shareholders

According to disclosure notifications filed with Lonza, the following shareholders held more than 3% of the Lonza share capital as of 31 December 2019:

Principal Shareholders	
BlackRock, Inc., New York, NY (USA)	9.67%
Artisan Partners Limited Partnership	3.02%

The current significant shareholders as well as further disclosure notifications registered in 2019 can be found under SIX Swiss Exchange disclosure platform.

Cross-Shareholdings

Lonza Group Ltd has not entered into any cross-shareholdings.

[1] In February 2019, Lonza aligned its structure combining Pharma & Biotech and Consumer Health & Nutrition in the new Pharma Biotech & Nutrition segment
[2] In June 2019, we announced our decision to carve-out the LSI segment, with the intention of it operating independently whilst remaining part of the Lonza Group

Capital Structure

Share Capital

As of 31 December 2019, Lonza's share capital amounted to CHF 74,468,752 fully paid-in and divided into 74,468,752 registered shares with a par value of CHF 1 each.

Shareholder Structure

	31.12.2019		31.12.2018	
	Shareholders in %	Shares in %	Shareholders in %	Shares in %
Switzerland	89.86	17.68	89.26	18.18
United Kingdom	0.61	21.63	0.65	22.77
USA	1.78	8.97	2.3	10.69
Others	7.74	6.37	7.78	5.82
Shares in transit		45.11		42.25
Treasury shares without voting rights	0.01	0.24	0.01	0.29
Total	**100**	**100**	**100**	**100**
Total number of shares		74,468,752		74,468,752

Share Register

	31.12.2019	31.12.2018
Registered shareholders	18,829	16,273
Registered shares with voting rights	29,157,623	29,198,985
Share distribution		
1 - 100	10,239	8,224
101 – 1,000	7,356	6,821
1,001 – 10,000	982	973
10,001 – 100,000	207	209
100,001 – 1,000,000	42	42
Over 1,000,000	3	4
Total registered shareholders	**18,829**	**16,273**

Authorized and Conditional Capital

The Board of Directors is authorized to increase, at any time until 6 May 2021, the share capital of Lonza through the issuance of a maximum of 7,500,000 fully paid-in registered shares with a par value of CHF 1 each up to a maximum aggregate amount of CHF 7,500,000. This authorized capital was created by the Annual General Meeting held on 18 April 2019. The additional terms and conditions of the authorized capital (including the group of beneficiaries who have the right to subscribe for this additional capital) are set out in Article 4ter of the Lonza Articles of Association.

Conditional Capital: Lonza's share capital may be increased through the issuance of a maximum of 7,500,000 fully paid-in registered shares with a par value of CHF 1 each up to a maximum aggregate amount of CHF 7,500,000. This conditional capital was created by the Annual General Meeting on 18 April 2019. The additional terms and conditions of the conditional capital (including the group of beneficiaries who have the right to subscribe for this additional capital) are set out in Article 4bis of the Lonza Articles of Association.

According to Article 4^{quater} of the Lonza Articles of Association, the capital increases in the form of conditional capital and authorized capital may increase Lonza's share capital only by a maximum aggregate amount of CHF 7,500,000, which equates to ≈ 10 % of the existing share capital.

Changes in Capital

	2019	2018	2017	2016
Share capital in CHF	74,468,752	74,468,752	74,468,752	52,920,140
Registered shares	74,468,752	74,468,752	74,468,752	52,920,140
Par value in CHF / share	1	1	1	1

Shares and Participation Certificates

Lonza registered shares, with a par value of CHF 1 each, are listed on the SIX Swiss Exchange (SIX), with secondary listing on the SGX Singapore Exchange. In Switzerland, they have been included in the Swiss Market Index (SMI) since 3 May 2017.

Lonza has not issued any participation certificates ("Partizipationscheine", non-voting shares).

Stock Exchange Listing / Trading:
SIX Swiss Exchange
SGX Singapore Exchange

Common Stock Symbols:
Bloomberg LONN SW
Reuters LONN.S
SIX Financial Information
LONN SGX 06Z

Security Number:
Valor 001384101
ISIN CH0013841017

On 31 December 2019, Lonza had a market capitalization of CHF 26,175 million (2018: CHF 18,967 million).

Profit-Sharing Certificates

Lonza has not issued any non-voting equity security ("Genussscheine", profit-sharing certificates).

Limitations on Transferability and Nominee Registrations

Purchasers of registered shares declaring that they have acquired these shares in their own name and for their own account will be entered without limitation as shareholders with voting rights in the share register. Persons who do not declare to have acquired the respective shares in their own name and for their own account are considered "nominees" and will be entered with voting rights in the share register up to a maximum of 2% of the share capital, unless the actually entitled persons are revealed. The details are set out in Article 6 of the Lonza Articles of Association. This restriction may only be removed by a resolution of the Shareholders' Meeting with a quorum in accordance with Swiss law.

Convertible Bonds

Neither Lonza Group Ltd nor any of its subsidiaries has outstanding convertible bonds.

Options

As of 31 December 2019, no options or warrants to acquire shares issued by or on behalf of Lonza Group Ltd were outstanding.

Board of Directors

The Board of Directors is made up of 9 members.

Name	Nationality	Year of birth	Year of initial appointment	Expiration of current term of office	Independence
Albert M. Baehny	Swiss	1952	2017	2020	CEO *ad interim* since 12 November 2019
Patrick Aebischer	Swiss	1954	2008	2020	Independent
Werner Bauer	Swiss	1950	2013	2020	Independent
Angelica Kohlmann	German-Brazilian	1960	2018	2020	Independent
Christoph Mäder	Swiss	1959	2016	2020	Independent (Lead Independent Director since 12 November 2019)
Barbara Richmond	British	1960	2014	2020	Independent
Margot Scheltema	Dutch	1954	2012	2020	Independent
Jürgen Steinemann	German	1958	2014	2020	Independent
Antonio Trius[1]	Spanish	1955	2013	2019	Independent
Olivier Verscheure	Belgian	1972	2018	2020	Independent

[1] Antonio Trius did not stand for re-election at the AGM 2019

The assessment of the independence of the members of the Board of Directors is made pursuant to Article 14 of the Swiss Code of Best Practice for Corporate Governance. Independent members shall mean non-executive members of the Board of Directors who have never been members of the Executive Committee, or were members thereof more than three years ago, and who have no or comparatively minor business relations with the company.

Since Albert M. Baehny was appointed CEO *ad interim* on 12 November 2019, Lonza's Board of Directors elected Christoph Mäder as Lead Independent Director in accordance with Article 19 of the Swiss Code of Best Practice for Corporate Governance to ensure adequate control mechanisms are in place. Christoph Mäder has been a member of Lonza's Board of Directors and Nomination and Compensation Committee since 2016 and the Chairman of the Nomination and Compensation Committee since 2018. Christoph Mäder is an experienced board member as well as an Executive with extensive experience in mergers & acquisitions, capital markets transactions, industry regulation and governance. In accordance with Article 19 of the Swiss Code of Best Practice for Corporate Governance, the Lead Independent Director is entitled to convene and chair meetings of the Board of Directors on his own, if necessary.

Since 2017, Dr Patrick Aebischer has been a Senior Partner and Member of the Investment Advisory Committee of NanoDimension Management Limited. In 2017 Lonza decided to commit to a limited investment in a venture fund managed by NanoDimension Management Limited. Dr Aebischer abstained from voting on this item. The indirect business relations between Lonza and Dr Aebischer resulting from said commitment are considered comparatively minor relative to Lonza Group Operations; and pursuant to the principles set forth in the preceding paragraph, Dr Aebischer is considered independent.

Limitation of Number of Mandates

According to Article 26 of Lonza's Articles of Association, no member of the Board of Directors may hold more than:

- Eight additional mandates in listed and non-listed companies, out of which not more than four mandates may be in listed companies;
- Ten mandates in associations, charitable foundations, trusts and employee welfare foundations.

The Chairperson of the Board of Directors may not hold more than eight additional mandates in listed and non-listed companies, out of which no more than three may be in listed companies.

Mandates shall mean mandates in the supreme governing body of a legal entity that is required to be registered in the commercial register or a comparable foreign register. Mandates in different legal entities that are under joint control or in the same beneficial ownership are deemed to be a single mandate. Mandates in companies that are controlled by Lonza or that control Lonza are not subject to the limitation set forth above; no member of the Board of Directors may hold more than five mandates at the request of Lonza or companies controlled by it.

All Board members comply with the provisions regarding their mandates. This is verified by Lonza on a regular basis.

Elections and Terms of Office

Each member of the Board of Directors is individually elected by the Annual General Meeting for a term of office of one year until the end of the next Annual General Meeting. Board members may not serve more than nine complete terms of office on the Board of Directors. If deemed in the best interest of the Company, the Board of Directors can extend this limit.

The Chairperson of the Board of Directors is elected by the Shareholders' Meeting. The Vice-Chairman is appointed by the Board of Directors. The members of the Nomination and Compensation Committee are elected by the Shareholders' Meeting on an annual basis. The members of the other Board Committees are appointed by the Board of Directors. The Chairmans of the Board Committees are nominated by the members of the respective Board Committees, except the Chairmen of the Nomination and Compensation Committee that is elected by the Board in corpore.

Internal Organizational Structure

The Board of Directors consists of the Chairman, the Vice-Chairman and the other Board members. In accordance with Lonza's Articles of Association, the number of members must be at least five. The members of the Board of Directors sat on the following committees in 2019:

Name	Audit and Compliance Committee	Nomination and Compensation Committee	Innovation and Technology Committee
Albert M. Baehny			Member
Patrick Aebischer			Chairman
Werner Bauer			Member
Angelica Kohlmann		Member	Member
Christoph Mäder		Chairman	
Barbara Richmond	Member		
Margot Scheltema	Chairman		
Jürgen Steinemann[1]	Member	Member	
Antonio Trius[2]	Member		
Olivier Verscheure			Member

[1] Jürgen Steinemann was appointed member of the Audit and Compliance Committee in 2019
[2] Antonio Trius did not stand for re-election at the AGM 2019

The Board of Directors strives to select the committee members based on their professional background and experience.

Audit and Compliance Committee
The Audit and Compliance Committee meets and consults regularly with the Executive Committee, Lonza Audit Services and the independent external auditors to review the scope and results of their work and their performance, according to the Audit and Compliance Committee Charter.

Among other responsibilities, the Audit and Compliance Committee reviews (i) the external auditors' independence, (ii) the systems of internal control and financial reporting, (iii) the risk management system, (iv) compliance with laws, regulations and policies and (v) Lonza's financial statements and results (including releases). The Audit and Compliance Committee is empowered to decide the tasks assigned to it and regularly informs the full Board of Directors on all matters discussed and decided in its meetings. The members of the ACC benefit from their broad professional backgrounds and experience as finance director, CFO and CEO for their committee work. Internal and external auditors have full and free access to the Audit and Compliance Committee. The Lonza Audit Services are overseen by the Audit and Compliance Committee and have a direct reporting line to the Chairman of the Audit and Compliance Committee.

Nomination and Compensation Committee
The Nomination and Compensation Committee is entrusted with responsibilities that include the review and recommendation of compensation policies and plans (e.g. incentive compensation and equity plans) and the compensation of the members of the Executive Committee. This committee also makes an assessment to ensure that the area of nomination and compensation is in compliance with the standards set forth in the associated charter. Further, the Nomination and Compensation Committee evaluates potential members of the Board of Directors. The Nomination and Compensation Committee is empowered to decide the tasks assigned to it and regularly informs the full Board of Directors on matters discussed in its meetings and submits proposals for Board decision in accordance with the Nomination and Compensation Committee Charter.

Innovation and Technology Committee
The Innovation and Technology Committee monitors potential technology breakthroughs, supports management in driving innovation projects and provides and facilitates contacts, e.g. with academia and research institutions. With regard to the tasks assigned to it, the Innovation and Technology Committee regularly informs the full Board of Directors on all matters discussed and decided in its meetings, in accordance with the Innovation and Technology Committee Charter.

Number of Meetings, Duration and Attendance

Name	Board of Directors	Audit and Compliance Committee	Nomination and Compensation Committee	Innovation and Technology Committee
Number of meetings	9[1]	5	9	5
Average duration	3:46h	3:02h	2:00h	2:00h
Overall attendance	96%	93%	93%	92%

[1] 5 ordinary meetings, 1 ordinary conference call, 2 extraordinary conference calls and the Board Learning Day

The Regulations Governing Internal Organization and Board Committees set out in detail the powers and responsibilities of the Board of Directors, its Committees and the Executive Committee. The Board Committees provide support to the Board of Directors in their respective areas of responsibility. The Board of Directors meets with all members of the Executive Committee at each ordinary Board meeting for business updates and decisions to be taken. The CEO is a permanent guest of the Innovation and Technology Committee and is regularly invited to the meetings of the Nomination and Compensation Committee. The CFO attends all meetings of the Audit and Compliance Committee.

Attendance

Name	Board of Directors	Audit and Compliance Committee	Nomination and Compensation Committee	Innovation and Technology Committee
Meeting Total	**9**	**5**	**9**	**5**
Albert M. Baehny	9			4
Patrick Aebischer	8			4
Werner Bauer	9			5
Angelica Kohlmann	9		9	5
Christoph Mäder	9		9	
Barbara Richmond	9	5		
Margot Scheltema	9	5		
Jürgen Steinemann	7[2]	2[3]	7	
Antonio Trius[1]	3	2		
Olivier Verscheure	9			5

[1] Antonio Trius did not stand for re-election at the AGM 2019. He attended all meetings of the Board of Directors and the Audit and Compliance Committee prior to 18 April 2019
[2] Jürgen Steinemann was excused at one meeting of the Board of Directors as well as the Nomination and Compensation Committee due to conflicting appointments
[3] Jürgen Steinemann only joined the Audit and Compliance Committee after 18 April 2019. He was excused at one meeting of the Audit and Compliance Committee as well as the Nomination and Compensation Committee for family reasons

Areas of Responsibility

In accordance with the law and the Lonza Articles of Association, the Board of Directors is the supreme governance body of the Group. The Board of Directors is responsible for the tasks assigned to it according to (i) Article 18 of the Lonza Articles of Association and (ii) the Regulations Governing Internal Organization and Board Committees (Article 2.8). The Board of Directors defines the strategic direction and is responsible for the ultimate management of Lonza as well as the supervision of the persons entrusted with Group management. It is responsible for issuing the necessary instructions especially with regard to compliance with the law, the Articles of Association, and the regulations and directives. In compliance with the law and the Articles of Association, the Board of Directors has – with the exception of non-delegable and inalienable duties – delegated the management of the company to the Executive Committee. The Board of Directors commits itself to maintaining the highest standards of integrity and transparency in its governance of Lonza. On an annual basis, the Board undertakes a self-assessment process. The aim is to achieve continuous improvement in the functioning of the Board.

All sustainability-related matters are with the Chairman of the Board. Sustainability includes environmental, social and governance-related matters of importance for Lonza and its stakeholders. A sustainability council headed by the Lonza Group General Counsel and Company Secretary manages all material identified topics and is responsible for the sustainability reporting. Lonza's Sustainability Report is discussed by Nomination and Compensation Committee (NCC) and Audit and Compliance Committee (ACC) in accordance with Lonza's financial reporting and ultimately approved by the Board of Directors.

Information and Control Instruments

The Board of Directors ensures that it receives sufficient information from the Executive Committee to perform its supervisory duty and to make the decisions that are reserved for the Board of Directors through several means.

Board Information

The Regulations Governing Internal Organization and Board Committees confer with the CEO and have the duty to inform the Executive Committee and – together with the Chairman – the Board of Directors on the business activities and all important business transactions, including risk issues. In addition, during Board meetings, each member of the Board may request information from the other members of the Board, as well as from the members of the Executive Committee present on all affairs of the Company and the Group. Outside of Board meetings, each member of the Board may request from the members of the Executive Committee information concerning the course of business of the Company and the Group.

Regular Reports to the Board
In addition to the documents required to pass resolutions, the Board of Directors receives the following reports:

- Monthly reports on the sales and earnings performance of the Group structured by segments.
- Reports on the cash flows, debt and debt-equity ratio, plus other relevant key figures for the Group on a quarterly basis.
- Qualitative assessments of the segments on a quarterly basis.
- Reports of the external audit for the full-year results and procedures performed on the half-year results (through the Audit and Compliance Committee).
- In cases involving extraordinary events of considerable commercial relevance, the Board of Directors receives direct, immediate information.
- Risk assessment reports submitted at least once per year; they are designed to provide the Board with a consistent, Group-wide perspective of key risks.

Internal Audit
The Board of Directors, through the Audit and Compliance Committee, is supported by Lonza Audit Services. The Lonza Audit Services Group comprised 9 internal audit positions in 2019, reviewing financial, operational and information technology-related activities of the entire Lonza Group with a risk-based audit program.

The team continually evaluates the adequacy and effectiveness of the system of internal controls as well as compliance with company policies and procedures, and they recommend appropriate actions to correct deficiencies identified. In 2019, they delivered 42 internal audit reports to the Audit and Compliance Committee.

Internal Control System
Lonza has a system of internal financial and accounting policies, procedures and controls to provide a reasonable assurance – given the inherent limitations of all internal control systems to be implemented at an appropriate cost – that transactions are executed in accordance with company authorization. This includes that they are properly recorded and reported in the financial statements, and that assets are properly safeguarded.

Compliance Instruments
In addition to the above-mentioned control instruments, Lonza has implemented various other measures to improve compliance within the Group. The implementation of these measures is supervised by the Audit and Compliance Committee. One of these measures is the issuance of a Code of Conduct, that expresses Lonza's core principles and values in regard to professional business behavior. It also provides assistance in recognizing, understanding and complying with the laws and ethical standards that govern Lonza's business activities.

The Code of Conduct is available to all employees and information about it has been widely circulated within the Group. Lonza employees have to pass iComply tests in online training courses, dealing with topics such as those addressed by the Code of Conduct, in particular antibribery, competition law, and conflicts of interest. In addition to these measures, Lonza offers a "whistleblower" hotline (known as "Lonza Ethics Hotline"), which is operated by an external company. Cases disclosed through the "whistleblower" hotline are ultimately reported to the Audit and Compliance Committee. Lonza periodically reviews and updates its policies to address changes in laws and regulations and strengthen compliance.

Risk Assessment
The Board of Directors carries out risk assessments on a minimum of an annual basis. The objective of the risk assessments is to make the principal risks to which Lonza is exposed more transparent and to improve risk mitigation. In its risk assessment for 2019, the Board of Directors of Lonza identified inter alia commercial, operational and cybersecurity risks for which corresponding risk mitigation measures have been adopted.

For more details on risk management policy, financial risks (credit, liquidity and market risks) and enterprise risk management, please refer to financial note 29, page [144] and note 31, page [158] of the Consolidated Financial Statements.

Leadership

Left to right
Olivier Verscheure, BoD; Werner Bauer, BoD; Stefan Stoffel, COO LPBN; Margot Scheltema, BoD; Christoph Mäder, BoD and LID; Angelica Kohlmann BoD; Sven Abend, COO LSI; Albert M. Baehny, Chairman BoD and CEO a.i.; Jürgen Steinemann, BoD; Barbara Richmond, BoD; Patrick Aebischer, Vice-Chairman BoD; Rodolfo J. Savitzky, CFO; Andreas Bohrer, Company Secretary

CVs Board of Directors

Albert M. Baehny

Nationality: Swiss | Year of birth: 1952

Chairman of the Board of Directors of Lonza Group Ltd since 2018. On 12 November 2019, Albert M. Baehny took on the responsibilities as CEO *ad interim* until a permanent successor is found. He is a member of the Board of Directors of Lonza Group Ltd (since April 2017).

Albert M. Baehny holds a degree in biology from the University of Fribourg (CH).

Current Activities and Functions
Public Company Boards:
- Member of the Board of Directors of Investis Group Holding SA (since 2016)
- Chairman of the Board of Directors of Geberit AG (since 2011)

Former Activities and Functions
- CEO of Geberit Group (2005–2014)
- Head of Group Division Marketing and Sales Europe for Geberit Group (2003–2004)
- Senior Vice-President at Wacker Chemie AG (2001–2002)
- Various Marketing, Sales, Strategic Planning and Global Management Positions with:
  - Vantico (2000–2001)
  - Ciba-Geigy / Ciba Specialty Chemicals (1994–2000)
  - Dow Chemicals Europe (1981–1993)
  - Serono-Hypolab (1979–1981)

Patrick Aebischer

Nationality: Swiss | Year of birth: 1954

Vice-Chairman of the Board of Directors of Lonza Group Ltd (since April 2014), Independent member of the Board of Directors of Lonza Group Ltd (since March 2008).

Patrick Aebischer holds a doctorate in medicine from the University of Geneva (CH). He has received numerous honors, including the Robert Bing Prize of the Swiss Academy of Medicine and the Pfizer Foundation Prize for Clinical Neurosciences.

Current Activities and Functions
Public Company Boards:
- Member of the Board of Directors of Logitech SA (since 2016)
- Member of the Board of Directors of Nestlé SA (since 2015)

Further Appointments:
- Chairman of the Board of Directors of Arctos SA (since 2019)
- Senior Partner of NanoDimension Management Limited (since 2017)
- Scientific technical committee member of the Italian Institute of Technology (since 2015)
- Chairman of the Novartis Venture Fund (since 2014)
- Member of the Singapore Biomedical Sciences International Advisory Council (since 2013)
- Chairman of the Board of Amazentis SA (since 2007)
- Professor of Neurosciences, Swiss Federal Institute of Technology Lausanne (EPFL) (since 2000)

Former Activities and Functions
- Senate member of the Deutsches Zentrum für Neurodegenerative Erkrankungen (DZNE) (2016 – 2019)
- Representative of the EPFL on the boards of various Swiss foundations
- President of the Swiss Federal Institute of Technology of Lausanne (EPFL) (2000–2016)
- Member of the Foundation Board of the World Economic Forum (2013–2016)

Werner Bauer

Nationality: Swiss | Year of birth: 1950

Independent member of the Board of Directors of Lonza Group Ltd (since April 2013).

Werner Bauer holds a diploma and PhD in chemical engineering from the University of Erlangen-Nürnberg (DE). He has received several scientific honors, among others the BioAlps Award 2011 and Honorary Senator from the Technical University of Munich (DE).

Current Activities and Functions

Public Company Boards:

- Member of the Board of Directors of SIG Combibloc Group AG (since 2018)
- Vice-Chairman of the Board of Directors of Givaudan SA (since 2014)

Further Appointments:

- Member of the Board of Directors of the Urs Bühler Innovation Fund (since 2019)
- Vice-Chairman of the Supervisory Board of Bertelsmann SE & Co. KGaA (since 2012)
- Chairman of the Board of Trustees of the Bertelsmann Foundation (since 2003)

Former Activities and Functions

- Member of the Supervisory Board of GEA Group AG (2011–2018)
- Chairman of the Supervisory Board of Nestlé Deutschland AG (2007–2017)
- Executive Vice-President of Nestlé SA, Head of Innovation, Technology, Research and Development (2007–2013)
- Executive Vice-President of Nestlé SA, Head of Technical, Production, Environment, Research & Development (2002–2007)
- Various managerial positions of increasing responsibility at Nestlé (1990–2002)
- Chairman of the Board of Directors of Galderma Pharma SA (2011–2014)
- Member of the Board of Directors of L'OREAL, France (2005–2012)
- Member of the Board of Directors of Alcon Inc., Switzerland (2002–2010)
- Director of the Fraunhofer Institute for Food Technology & Packaging and Professor in Bioprocess Technology at Technical University Munich (DE) (1985–1990)
- Professor of Chemical Engineering at the Technical University of Hamburg (DE) (1980–1985)

Angelica Kohlmann

Nationality: German-Brazilian | Year of birth: 1960

Independent member of the Board of Directors of Lonza Group Ltd (since May 2018).

Angelica Kohlmann holds a MD and doctorate in medicine from Hamburg University (DE).

Current Activities and Functions

- Member International Advisory Board IE University and Business School, Madrid (since 2017)
- Chairperson of the Board of Directors of Bloom Diagnostics AG (since 2014)
- International investor in biotech and tech, based in Switzerland (since 2014)
- Chairperson of the Board of Directors of Kohlmann & Co AG (since 2013)
- Member of the Board of Directors of Teralytics AG (since 2013)
- Chairperson of the Advisory Board Peter Drucker Society Europe / Global Peter Drucker Forum, Vienna (since 2009)

Former Activities and Functions

- Member of the Advisory Board of UBS Unique (2017–2018)
- Director of the Trinnacle Fund Ltd (2016–2017)
- Founder & CEO of Ifitech GmbH, based in Germany (2010–2017)
- International investor in biotech and tech, based in Germany (2000–2013)
- International consultant for strategy, management, investments and restructuring (1992–1999)
- Head of global restructuring Behringwerke AG, Germany (1990–1992)
- Member of the Board Staff Hoechst AG, Germany (1988–1990)
- International Marketing Group Leader at Behringwerke AG (1986–1988)
- MD Anderson Cancer Center, Houston and Memorial Sloan Kettering Cancer Center, New York, USA – various cancer research functions

Christoph Mäder

Nationality: Swiss | Year of birth: 1959

Independent member of the Board of Directors of Lonza Group Ltd (since April 2016). On 12 November 2019 Christoph Mäder has been appointed Lead Independent Director by the Board.

Christoph Mäder holds a Master's degree in law from the University of Basel (CH) and is admitted to the Swiss Bar.

Current Activities and Functions

Public Company Boards:

- Member of the Board of Directors EMS Chemie Holding AG (since 2018)
- Member of the Board of Directors Baloise Holding AG (since 2019)

Further Appointments:

- Member of the Board of Directors Assivalor AG (since 2019)
- Member of the Advisory Board of Accenture Switzerland (since 2019)
- Partner at the law firm Becker-Gurini-Hanhart-Vogt (since 2019)
- Member of the Council of Schweizer Jugend forscht (since 2018)
- Member of the Advisory Board of Vereinigung Schweizerischer Unternehmen in Deutschland (since 2016)
- Member of the Advisory Board of Loeba GmbH (since 2014)

Former Activities and Functions

- Member of the Group Executive Committee of Syngenta (2000–2018)
- Member of the Board Committee of economiesuisse (2008–2019)
- Vice-Chairman of economiesuisse (2011–2017)
- Member of the Executive Board of the Business and Industry Advisory Committee (BIAC) for the Organization for Economic Co-operation and Development (OECD) (2012–2016)
- Member of the Board of scienceindustries (2006–2018)
- Member of the Board of the Basel Chamber of Commerce (2002–2018)
- Head of Legal & Public Affairs for Novartis Crop Protection AG (1999–2000)
- Senior Corporate Counsel for Novartis International AG (1992–1998)

Barbara Richmond

Nationality: British | Year of birth: 1960

Independent member of the Board of Directors of Lonza Group Ltd (since April 2014).

Barbara Richmond holds a first-class degree in management science from the University of Manchester Institute of Science and Technology in England. Barbara Richmond has substantial knowledge as a financial expert, demonstrated by her roles as CFO for various companies. She is a Fellow of the Institute of Chartered Accountants in England and Wales.

Current Activities and Functions

Public Company Boards:

- Group CFO of Redrow plc (since 2010)

Former Activities and Functions

- Group CFO of Inchcape plc (2006–2009)
- Non-Executive Director and Audit Committee Chair of Scarborough Building Society until its merger with The Skipton Building Society (2005–2009)
- Non-Executive Director, Senior Independent Director and Audit Committee Chair of Carclo Group plc (2000–2006)
- Group CFO of Croda International plc (1997–2006) with dual role as Group CFO and President of Active Ingredients and Industrial Chemicals from 2002 to 2006
- Group CFO of Whessoe plc in 1993 (1993–1997)
- Various financial roles in Alstom Group SA (1987–1992)
- Auditor and management consultant for Arthur Andersen (1981–1984)

Margot Scheltema

Nationality: Dutch | Year of birth: 1954

Independent member of the Board of Directors of Lonza Group Ltd (since April 2012).

Margot Scheltema holds a doctorate in international law from the University of Amsterdam and a Master of International Affairs (MIA) from Columbia University in New York, NY (USA). Margot Scheltema has substantial knowledge as a finance, corporate governance and risk management expert, demonstrated by her operative roles in finance and management and supervisory roles in the financial sector (bank, central bank, insurance and pension funds).

Current Activities and Functions
Public Company Boards:
- NEDAP (NE Director) NV (since 2018)

Further Appointments:
- Vice-chair of the Supervisory Board of the Dutch Central Bank (since 2015) (financial institution)
- Chair of the Monitoring Committee of the Dutch Pension Fund Code (since 2014)
- Member of the Central Plan Committee Dutch Planning Bureau (since 2014)
- Council to the Enterprise Chamber of the Amsterdam Court of Appeal (since 2013)
- Member of the Supervisory Board of Warmtebedrijf Rotterdam (since 2011)
- Member of the Supervisory Board of TNT Nederland BV (since 2011)

Former Activities and Functions
- Non-executive Director at Schiphol Group (2010 – 2018)
- Vice-Chair of the Supervisory Board of Triodos Bank (2006 – 2015)
- Member of the Supervisory Board of ASR NV (2008 – 2015)
- External Member of the Audit Committee of the Dutch pension fund ABP (2010 to July 2014) (financial institution)
- Member of the Supervisory Board of the Rijksmuseum (2007 – 2015)
- Member of the AFM External Reporting Committee (2006 – 2012)
- Finance Director of Shell Nederland BV (2004 – 2008)
- Various managerial positions in finance within the Shell Group (1985 – 2004) including Senior M&A Adviser for Shell Oil Products Latin America

Jürgen Steinemann

Nationality: German | Year of birth: 1958

Independent member of the Board of Directors of Lonza Group Ltd (since April 2014).

Jürgen Steinemann holds a degree in economics and business management from the European Business School in Wiesbaden (DE), London (UK) and Paris (FR).

Current Activities and Functions
Public Company Boards:
- Chairman of the Supervisory Board of Metro AG (since 2015)

Further Appointments:
- Managing Director of JBS Holding GmbH (since 2017)
- Chairman of the Supervisory Board of Bankiva B.V. (since 2017)
- Member of the Senior Advisory Board of Tower Brook Capital Partners LP (since 2017)
- Chairman of the Supervisory Board of Big Dutchman AG (since 2019)

Former Activities and Functions
- Member of the Board of Directors of Barry Callebaut AG (2015 – 2019)
- Member of the Supervisory Board of Big Dutchman AG (2015 – 2019)
- Chief Executive Officer of Barry Callebaut Ltd (2009–2015)
- Member of the Board of the Swiss-American Chamber of Commerce (2011–2015)
- Member of the Executive Board and Chief Operating Officer of Nutreco (2001–2009)
- Chief Executive Officer of Loders Croklaan (1999–2001)
- Various senior positions in business-to-business marketing and sales with the former Eridania Béghin-Say Group, ultimately in the "Corporate Plan et Stratégie" unit at the head office in Paris (1990–1998)

Olivier Verscheure

Nationality: Belgian | Year of birth: 1972

Independent member of the Board of Directors of Lonza Group Ltd (since May 2018).

Olivier Verscheure holds a PhD in computer science from the Swiss Federal Institute of Technology, Lausanne (CH) (EPFL, July 1999).

Current Activities and Functions
- Expert in the Strategy Working Group on Data, Computing and Digital Research Infrastructures in the State Secretariat for Education, Research and Innovation (SERI) (since 2019)
- Member of the Foundation Council of SWITCH (since 2019)
- Founder and Executive Director of the Swiss Data Science Center, a joint venture between EPFL and ETH Zürich (since 2016)
- Member of the Executive Committee of Personalized Health and Related Technologies (PHRT), an ETH Domain Strategic Focus Area (since 2017)
- Co-academic Director, Certificate of Advanced Studies (CAS), Data Science and Management, HEC Lausanne and EPFL (since 2018)

Former Activities and Functions
- Lab Program Director and Senior Research Manager at IBM Research Ireland (2010–2016)
- Research Manager and Senior Member of the Research Staff at the IBM T.J. Watson Research Center (1999–2010)

Executive Committee

The members of the Executive Committee are appointed by the Board of Directors. Lonza's Executive Committee performs the duties assigned to it by the Board of Directors under the terms of the Regulations Governing Internal Organization and Board Committees. It is responsible for managing Lonza worldwide and for implementing policies and strategies as defined by the Board of Directors. The Executive Committee supports and coordinates the activities of the segments, the corporate functions and the global business service organization. The Executive Committee is also responsible for leadership development.

Members of the Executive Committee

Name	Nationality	Year of Birth	Function
Albert M. Baehny	Swiss	1952	Chief Executive Officer a.i. (from 12 November 2019)
Rodolfo J. Savitzky	Swiss	1962	Chief Financial Officer
Stefan Stoffel	Swiss	1966	Chief Operating Officer Pharma & Biotech Segment (from 1 March 2019)
Sven Abend	German	1968	Chief Operating Officer Specialty Ingredients Segment
Marc Funk	Swiss	1960	Chief Executive Officer (from 1 March until 12 November 2019)
Richard Ridinger	German	1958	Chief Executive Officer (until 28 February 2019)
Fridtjof Helemann	German	1954	Chief Human Resources Officer (until 31 March 2019)

On 12 November 2019, Albert M. Baehny took on the additional responsibility of Chief Executive Officer on an *ad interim* basis until a permanent successor is found. In line with its designated responsibility and remit, the Nomination and Compensation Committee (NCC) of Lonza's Board of Directors is currently leading the search and evaluation process for a new Chief Executive Officer (CEO). The NCC is recommending potential candidates for assessment by the Board of Directors. The process is expected to be successfully completed with a candidate announced during the course of 2020. To ensure continuing good corporate governance, Lonza appointed Christoph Mäder as Lead Independent Director in accordance with Article 19 of the Swiss Code of Best Practice for Corporate Governance. Christoph Mäder has been a member of Lonza's Board of Directors and Nomination and Compensation Committee since 2016 and the Chairman of the Nomination and Compensation Committee since 2018. Christoph Mäder is an experienced board member as well as an executive with extensive experience in mergers & acquisitions, capital markets transactions, industry regulation and governance. In accordance with Article 19 of the Swiss Code of Best Practice for Corporate Governance, the Lead Independent Director is entitled to convene and chair meetings of the Board of Directors on his own, if necessary.

Limitation of Number of Mandates

According to Article 26 of the Lonza Articles of Association, no member of the Executive Committee may hold more than:

- One additional mandate in a listed company;
- Two additional mandates in non-listed companies;
- Ten mandates in associations, charitable foundations, trusts and employee welfare foundations.

Mandates shall mean mandates in the supreme governing body of a legal entity that is required to be registered in the commercial register or a comparable foreign register. Mandates in different legal entities that are under joint control or in the same beneficial ownership are deemed to be a single mandate. Mandates in companies that are controlled by Lonza or that control Lonza are not subject to the limitation set forth above; no member of the Executive Committee may hold more than five mandates at the request of Lonza or companies controlled by it.

Management Contracts

Lonza Group Ltd has not entered into management contracts with companies or natural persons not belonging to the Group.

CVs Executive Committee

Members of the Executive Committee as of 31 Dec 2019

Albert M. Baehny

Please see CV in Board of Directors section / page [222]

Rodolfo J. Savitzky

Nationality: Swiss | Year of birth: 1962

Chief Financial Officer (CFO) and Member of the Executive Committee (since October 2016).

Rodolfo J. Savitzky holds a degree in industrial and systems engineering from the Tecnológico de Monterrey (MX) and an MBA in finance and economics from the University of Chicago (USA).

Former Activities and Functions

- Vice-President Controller, Lonza Pharma & Biotech (2015–2016)
- Division CFO, Novartis Animal Health (2011–2015)
- Head of Finance Animal Health, Novartis Consumer Health (2006–2011)
- Head of Strategy Planning and Analysis, Novartis Pharmaceuticals (2004–2005)
- Head of Business Planning and Analysis, Novartis Pharmaceuticals (2003–2004)
- Head of Finance Ophthalmics, Novartis Pharmaceuticals (2002–2003)
- Various positions at Procter & Gamble (1990–2001)

Stefan Stoffel

Nationality: Swiss | Year of birth: 1966

Chief Operating Officer (COO) Pharma & Biotech Segment (since March 2019) and Member of the Executive Committee (since March 2019).

Stefan Stoffel holds a Bachelor's degree in engineering from Lucerne University of Applied Sciences and Arts.

Former Activities and Functions

- Head of Lonza Pharma & Biotech Strategic Growth Investments and Ibex™ Solutions (2016–2019)
- Head of Lonza Pharma & Biotech Operations (2013–2016)
- General Manager of Lonza Chemical Operations Business Unit (2010–2013)
- Head of Lonza's Small Molecules Exclusive Synthesis Business Unit (2009–2010)
- Head of Operations for Lonza's Small Molecules Exclusive Synthesis Business Unit (2007–2009)
- Various positions at Lonza in Engineering & Maintenance, Technical Management, Production and Operations Management for Lonza AG and Lonza Inc. (1991–2007)

Sven Abend

Nationality: German | Year of birth: 1968

Chief Operating Officer (COO) Specialty Ingredients Segment (since January 2016) and Member of the Executive Committee (since July 2014).

Sven Abend holds a PhD in chemistry from the Christian-Albrechts-Universität in Kiel and a post-doctorate from the Department of Physics & Astronomy at the University of New York in Stony Brook, NY (USA).

Former Activities and Functions

- CEO of Kolb Ltd in Hedingen (CH) (2012–2014)
- Business Manager for Kolb's divisions focusing on specialty surfactants and custom manufacturing (2010–2012)
- Several senior positions in Global Product Management and ultimately as Director of Corporate Key Account Management at Cognis GmbH in Germany (2003–2010)
- Project Scientist for the R&D Home & Personal Care business at Unilever in the UK (2000–2003)

Former Members of the Executive Committee in 2019

Marc Funk

Nationality: Swiss | Year of birth: 1960

Chief Executive Officer (CEO) (from March 2019 until 12 November 2019) and Member of the Executive Committee (from April 2012).

Marc Funk holds a Master of Law from the University of Geneva (CH) and a Master of Law and Diplomacy from the Fletcher School - Tufts University, MA (USA).

Current Activities and Functions
- Member of the Board of Directors of Swiss Polar Foundation (since 2019)

Former Activities and Functions
- Chief Operating Officer (COO) Pharma & Biotech Segment (2014 – 2019)
- Group General Counsel and Board Secretary Lonza Group Ltd (2009–2014)
- Associate General Counsel of Merck Serono (formerly Serono) (2004–2008)
- Co-CEO and General Counsel of GeneProt (2000–2004)

Richard Ridinger

Nationality: German | Year of birth: 1958

Chief Executive Officer (CEO) and Member of the Executive Committee (from May 2012 until February 2019).

Richard Ridinger holds a degree in chemical engineering from the University of Karlsruhe (DE).

Current Activities and Functions
- Member of the Board of Directors of Novo Advisory Group (since 2019)
- Member of the Board of Directors of Firmenich International SA (since 2016)

Former Activities and Functions
- Transfer and integration of Cognis GmbH into BASF (2011)
- Member of the Management Board and Executive Vice-President "Care Chemicals" of Cognis GmbH (2006–2010)
- SBU Head of "Cognis Care Chemicals" and member of the Cognis Executive Committee (2002–2006)
- Vice-President of the global "Care Chemicals Specialties" business of Cognis GmbH (2000–2002)
- Director of the global Skin Care Ingredients business at Henkel KGaA / Cognis GmbH (1999–2000)
- Various positions at Henkel KGaA in R&D, Engineering and Production Management (1986–1999)

Fridtjof Helemann

Nationality: German | Year of birth: 1954

Chief Human Resource Officer (CHRO) (since 2016 until March 2019) and Member of the Executive Committee (since February 2017 until March 2019).

Fridtjof Helemann holds a degree in engineering from the University of Siegen (DE) and is a Certified Professional Coach from the Coaches Training Institute in California (USA).

Current Activities and Functions
- Mentor at Merryck & Co (since 2019)
- Chairman of GetUp Coaching GmbH (since 2019)

Former Activities and Functions
- Managing Partner and President of Oxford Leadership (2014–2016)
- Partner and CEO Mercer Inc. Central Europe (2011–2014)
- Vice-President and General Manager Central and Eastern Europe at Right Management (2010–2011)
- Corporate Vice-President HR Henkel AG (2003–2009)
- Various HR consulting roles: Partner Hay Group and MD Kienbaum

Compensation, Shareholdings and Loans

Details of Board and Executive Committee compensation are contained in the Remuneration Report, respectively on page [203] and [198] .

Shareholders' Participation Rights

Voting-Rights Restrictions and Representation

Only persons with valid entries in the share register are recognized as shareholders or usufructuaries. A shareholder may only be represented at the Annual General Meeting by a legal representative, another shareholder entitled to vote or the independent proxy. Persons who do not declare to have acquired their shares in their own name and for their own account are considered "nominees" and will only be entered with voting rights in the share register up to a maximum of 2% of the share capital, unless the entitled persons are revealed. The details are set out in Article 6 of the Lonza Articles of Association. This restriction may only be removed by a resolution of a Shareholders' Meeting with a quorum in accordance with Swiss law. Each share has the right to one vote and is entitled to dividend. The shares held by Lonza are not entitled to vote at the Annual General Meeting and bear no dividend. Lonza may use an electronic voting system for all the resolutions to be taken at its Annual General Meeting. The Lonza Articles of Association do not contain any other rules on electronic participation in the Shareholders' Meeting, nor specific rules on the issue of instructions to the independent proxy.

Statutory Quora

Except as otherwise stipulated by law, an absolute majority of the votes represented at the Annual General Meeting is required for resolutions and elections. For certain important matters such as a change of the company purpose and domicile, the dissolution of the company without liquidation, and certain matters relating to capital changes, Article 704 of the Swiss Code of Obligations requires at least two-thirds of the voting rights represented and an absolute majority of the nominal value of shares represented.

Convocation of Shareholders' Meetings

Ordinary Shareholders' Meetings are called in accordance with the law and the Lonza Articles of Association. Extraordinary Shareholders' Meetings must be called upon resolution of a Shareholders' Meeting or if demanded by one or more shareholders representing at least 5% of the share capital. Lonza posts the invitation to shareholders at least 20 days before the Annual General Meeting and publishes it on its website, as well as in the Swiss Official Gazette of Commerce.

Agenda

One or more shareholders representing together shares with a par value of CHF 100,000 may request an item to be included in the agenda of a Shareholders' Meeting. The request to include an item must be submitted in writing at least 40 days before the meeting, stating the item to be included and the motions.

Entry in the Share Register

Purchasers of Lonza shares may submit a request to be entered, without limitation, as shareholders with voting rights in the share register, provided they expressly declare that they have acquired these shares in their own name and on their own account. Special rules exist for persons who do not expressly declare in the entry application that they hold the shares on their own account (nominees) - see Limitations on Transferability and Nominee Registrations, page [213].

There are no special rules in the Lonza Articles of Association concerning a deadline for entry in the share register. The share register will be closed this year on 14 April 2020 at 5:00 pm CEST.

Changes of Control and Defense Measures

Duty to Make an Offer

According to the Swiss Federal Act on Financial Infrastructures and Market Conduct in Securities and Derivatives Trading (Financial Market Infrastructure Act, FMIA), an investor who acquires more than 33⅓% of all voting rights (directly, indirectly or in concert with third parties) whether they are exercisable or not, is required to submit a takeover offer for all shares outstanding. No special opting-out or opting-up dispositions are contained in the Lonza Articles of Association.

Clauses on Change of Control

The employment agreements of the Executive Committee members contain certain clauses on change of control, which are outlined in the Compensation of the Executive Committee section of the Remuneration Report. In addition, Lonza's Long-Term Incentive (LTIP) provides that unvested awards / blocked shares unconditionally vest upon change of control (see Compensation of the Executive Committee section of the Remuneration Report, page [198])

Auditors

Duration of the Mandate and Term of Office of the Auditor in Charge

The auditor, KPMG Ltd, Badenerstrasse 172, 8026 Zurich 4, Switzerland, has held the mandate as the external statutory auditor of Lonza Group Ltd and the Group since 1999.

The auditing company is elected at the Annual General Meeting for a term of one year. The grounds for selection of external auditors are customary criteria such as independence, quality, reputation and cost of services. Michael Blume from KPMG Ltd has been the auditor in charge since April 2014. The Board of Directors proposes that KPMG Ltd be re-elected as auditor for the 2020 business year.

Auditing Fees and Additional Fees

The fees for professional services paid to KPMG Ltd. for the period under review ended 31 December 2019 are as follows:

Million CHF	2019	2018
Audit services	5,186	4,805
Audit-related services		
- Transactions related	2,356	1,730
- Other assurance	0,658	0,358
Tax services	0,040	0,118
Other services	0,059	**0,145**
Total	**8,299**	**7,156**

Audit services are provided as required by law and include the audit of the consolidated financial statement of Lonza Group Ltd as well as the statutory audit of Lonza Group entities.

Audit-related services include other assurance and accounting services provided by auditors but which may not exclusively be provided by the statutory auditor. These services go beyond the legal requirements and may include, inter alia, other attestation services, comfort letters, audits in connection with non-recurring transactions, consents and consultations, including audit services related to the disposal of the Water Care business, the carve-out of LSI and group financings.

Tax services include services regarding tax compliance, tax returns and tax advice, except those services related to the audit of tax.

Other services include advice relating to accounting advice, process improvements, trainings in finance area and regulations.

Supervisory and Control Instruments vis-à-vis the Auditors

The Audit and Compliance Committee is responsible for evaluating the performance and independence of the external auditors on behalf of the Board of Directors. This evaluation occurs at least once a year. The criteria applied for the assessment include professional competence, sufficiency of resources, the ability to provide effective and practical recommendations and coordination of the external auditors with the Audit and Compliance Committee and senior management. In the reporting year, KPMG Ltd attended 5 Audit and Compliance Committee meetings. In those meetings, the external auditors presented the 2019 audit strategy and their 2019 results. The Comprehensive Auditor's Report to the Board of Directors prepared by KPMG summarizes the reports presented to the Audit and Compliance Committee throughout the year.

Within the annual approved budget, there is an amount permissible for non-audit services that the external auditors may perform. Within the scope of the approved and budgeted amount, the Chief Financial Officer can delegate non-audit-related mandates to the external auditors, subject to all applicable auditor independence regulations. The Board of Directors has determined the rotation interval for the auditor in charge to be seven years, as defined by the Swiss Code of Obligations. The Audit and Compliance Committee reviews Lonza's financial reporting process on behalf of the Board of Directors. Lonza's management is responsible for preparing the financial statements and the reporting process, including the system of internal controls. The Audit and Compliance Committee is also responsible for overseeing the conduct of the activities by Lonza management and the external auditors.

The external auditor, KPMG Ltd, is responsible for expressing an opinion on the accounting records and the financial statements prepared in accordance with Swiss law and the Lonza Articles of Association. KPMG Ltd is also responsible for expressing an opinion on the consolidated financial statements (balance sheet, income statement, statement of comprehensive income, cash flow statement, statement of changes in equity and notes) prepared in accordance with the International Financial Reporting Standards (IFRS), which is issued by the International Accounting Standards Board (IASB), and with Swiss law. KPMG also audited the Lonza Remuneration Report 2019 with respect to the information required by Articles 14 to 16 of the Swiss Ordinance Against Excessive Compensation in Stock-Exchange-Listed Companies.

Information Policy and Key Reporting Dates

Lonza pursues a proactive and professional communication policy. Lonza publishes price-sensitive information in accordance with the obligation to disclose price-sensitive facts as required by the SIX Swiss Exchange. Ad hoc notices are made available on its news site. Additionally, Lonza's website provides a news and subscription service that allows interested parties to receive, via e-mail distribution, free and timely notification of price-sensitive facts.

Corporate Communications and Investor Relations report directly to the Chief Executive Officer. On basic matters of general corporate policy, Corporate Communications and Investor Relations receive their directives from the Executive Committee. Lonza makes the Annual Report, the Half-Year Results and Full-Year Results available to all interested parties as a PDF download.

The invitation to the Annual General Meeting is published on our website, and in the Swiss Official Gazette of Commerce. It is also sent by mail to the shareholders entered in the share register. Our website is regularly updated and provides relevant information such as share-price development, news releases and presentations. Media conferences and analyst meetings generally take place at our headquarters or by conference call. Lonza manages an annual program of investor meetings. Shareholders, potential investors and financial analysts are also welcomed at our headquarters in Basel, Switzerland.

Anticipated Key Reporting Dates

The list of all corporate events of special interest is subject to change during the year as dates are adjusted and added. Updated information is found on the Investor Relations page of our website or on page [19] of the Annual Report.

Forward-Looking Statements

Forward-looking statements contained herein are qualified in their entirety as there are certain factors that could cause results to differ materially from those anticipated. Any statements contained herein that are not statements of historical fact (including statements containing the words "outlook," "guidance," "believes," "plans," "anticipates," "expects," "estimates" and similar expressions) should be considered to be forward-looking statements. Investors are cautioned that all forward-looking statements involve risks and uncertainty.

There are a number of important factors that could cause actual results or events to differ materially from those indicated by such forward-looking statements, including the timing and strength of new product offerings; pricing strategies of competitors; the company's ability to continue to receive adequate products from its vendors on acceptable terms, or at all, and to continue to obtain sufficient financing to meet its liquidity needs; difficulty to maintain relationships with employees, customers and other business partners; and changes in the political, social and regulatory framework in which the company operates, or in economic or technological trends or conditions, including currency fluctuations, inflation and consumer confidence, on a global, regional or national basis.

In particular, the assumptions underlying the Outlook 2020 and Mid-Term Guidance 2022 herein may not prove to be correct. The statements in the section on Outlook 2020 and Mid-Term Guidance 2022 constitute forward-looking statements and are not guarantees of future financial performance.

Lonza's actual results of operations could deviate materially from those set forth in the section on Outlook 2020 and Mid-Term Guidance 2022 as a result of the factors described above or other factors. Investors should not place undue reliance on the statements in the section on Outlook 2020 and Mid-Term Guidance 2022. Except as otherwise required by law, Lonza disclaims any intention or obligation to update any forward-looking statements as a result of developments occurring after this presentation was published.

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Product Use and Recommendations

This report has been designed to provide general information about Lonza Group and its products. This report is not intended to provide any instruction on the appropriate use of products produced and supplied by Lonza Group. All recommendations for handling, storage or use of products, whether given in writing, orally,

or to be implied from the results of tests are based on the state of Lonza Group's knowledge at the time such recommendations are made. Notwithstanding any such recommendations, you as the user of such products must make your own determination and satisfy yourself that the products supplied by Lonza Group and the information and recommendations given by Lonza Group are (i) suitable for intended process or purpose, (ii) are in compliance with environmental, health and safety regulations, and other regulations in the regions and countries where they are purchased, offered for sale, marketed, sold, and used and (iii) will not infringe any third party's intellectual property rights.

Disclaimer

Lonza Group Ltd has its headquarters in Basel, Switzerland, and is listed on the SIX Swiss Exchange. It has a secondary listing on the Singapore Exchange Securities Trading Limited ("SGX-ST"). Lonza Group Ltd is not subject to the SGX-ST's continuing listing requirements but remains subject to Rules 217 and 751 of the SGX-ST Listing Manual.

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Lonza

lonza.com

Press Release dated 23 March 2020

23 Mar 2020

Update on COVID-19 (Coronavirus)

A message from Albert M. Baehny (Chairman and CEO a.i.)

As we continue to face uncertain times, I wanted to share an update on how our global business is responding to the challenges of COVID-19 (Coronavirus).

Both segments of our business are working tirelessly in the fight against the Coronavirus. Our Pharma and Biotech segment is continuing to develop and manufacture a large number of life-saving treatments. These enable our customers to protect their most vulnerable patients, whose needs have never been greater. Meanwhile, our Specialty Ingredients segment is continuing to focus on delivering microbial control solutions. More than twenty of our microbial solutions have been shown to be effective against COVID-19 in tests by the US Environmental Protection Agency. These solutions are more critical than ever to maintaining the hygiene and safety of hospitals, homes, schools, and offices across the world.

Before I provide an update on the practical measures we have implemented to protect our business, I would like to pay tribute to our 15,500 employees around the world. Our office-based employees are now facing the personal and professional challenges of home-working, while our lab and manufacturing employees grapple with split shifts and new professional practices, such as social distancing. The resolve and dedication of our workforce has only risen in response to these challenges. I am immensely proud of their courage, as our global business continues to galvanise in the fight against the spread of the Coronavirus.

The senior management at Group level has worked to define five key priorities for the business in response to the spread of the virus:

1. Maintain and protect the health and safety of all employees
2. Ensure business continuity (e.g. using technology to work and replace meetings)
3. Intensive supply chain monitoring (currently monitoring occurs on a daily basis)
4. Maintain the strong balance sheet and focus on cash management
5. Optimise our global footprint as a strength to balance risks

I am also proud of the way in which the leaders in our business functions have worked to anticipate the spread of the disease, and deliver an intelligent and pragmatic response. In January, a dedicated Coronavirus Taskforce was formed by our most senior leaders from Legal, Corporate Development, EHS (Environmental Health and Safety), HR (Human Resources), and Communications. The Taskforce has worked tirelessly to keep abreast of the changing situation and update our global policies to protect both **employee safety** and **business continuity**. These are the two areas of greatest potential impact for our business, and I would like to take this opportunity to focus on each in turn.

Employee safety

As early as January, we had already begun to impose limitations – then a full ban – on all international business travel in response to the spread of the Coronavirus. More recently, we have advised that all office-based employees should commence home-working, and we have worked to deliver additional IT measures to ensure that our systems can support the increase in agile working practices. We have also provided guidance to help employees make optimal use of our remote working technologies and maintain strong levels of cybersecurity.

As a manufacturing company, we understand that our employees based in labs and factories will need to continue to attend work to maintain business continuity. In these environments, we are making specific provisions for each site, so that operations can continue while affording the best possible levels of safety to all employees. Such measures include split shifts alongside strict hygiene and social distancing practices.

Business Continuity

Although many companies are facing increasing restrictions, our work to deliver medical treatments and microbial control solutions has already proved critical in the fight against the Coronavirus. As such, our work has been categorised as “essential” and our license to operate currently remains intact in all markets.

While we are able to control our own operations, we are dependent on suppliers for materials and transport companies to deliver them. In response, we are working diligently across our supply chain to minimise any potential disruptions. Currently, we have not experienced any major disruption in our supply chain and we are already rerouting shipments and working with alternative suppliers where needed.

Nonetheless, we are fully aware that this is an unprecedented situation and – while we continue to do all we can to maintain business continuity – this may not be possible in all areas of our business. If customers have any queries or concerns, they should contact the relevant Business Unit for an update on their specific situation. We are experiencing a high level of customer queries, so I ask customers to be patient while we make investigations to ensure that we can provide detailed and accurate responses.

In closing, I wish to share my thanks with all our stakeholders for their cooperation, patience, and perseverance. In these difficult times, there is inspiration to be taken in watching the world come together and galvanise in the fight against this new threat to our safety. At Lonza, we remain resolved to continue to play our part in this fight, as we work together to advance human health.

With warm regards

Albert M. Baehny

Media Release dated 17 April 2020
Q1 2020 Performance

Lonza

MEDIA RELEASE

Lonza Reports Solid Q1 2020 Performance, with Segments Continuing to Deliver Essential Services for Pharma and Disinfection

Due to COVID-19, Lonza provides the following update outside of the regular reporting cycle:

- Group net sales reached CHF1.6 billion in Q1, up 7.4% quarter-on-quarter[1] in constant exchange rate (CER).
- LPBN net sales increased by 8.3% quarter-on-quarter CER, reaching CHF1.2 billion.
- LSI net sales increased by 3.8% quarter-on-quarter CER, reaching CHF409 million.
- As an essential supplier of products, services and solutions, Lonza's facilities largely remain operational, with a small number of minor disruptions caused by the COVID-19 pandemic.
- The business retains a strong level of liquidity and continues as planned with key strategic growth projects and long-term investments; the carve-out of LSI remains on track.

Quote from Albert M. Baehny, Chairman and CEO *ad interim*, Lonza Group:

"We are pleased to report that we have maintained a positive performance in Q1 2020, despite the challenging economic environment and operating conditions.

Our LPBN segment continues to deliver medical treatments, so that our customers can support their vulnerable patients at a time when their need has never been greater. Meanwhile, our LSI segment continues to develop disinfection solutions, many of which have proved to be effective in controlling the coronavirus.

Our work to control the spread of COVID-19 is not only a commercial imperative; it is also an ethical and moral duty for our business and our industry. We remain fully committed to doing everything possible to maintain the supply of our current solutions, as well as supporting and accelerating the development of any medical treatments to contain the infection.

We have been fortunate not to suffer from any major disruptions to business continuity caused by challenges to supply. Moreover, our business is supported by a strong level of liquidity. This means that we are currently able to continue as planned with our key strategic projects and long-term investments, all of which contribute to support our future success."

[1] All growth rates within this release refer to Q1 2020 compared to Q1 2019 (YoY).

Basel, Switzerland, 17 April 2020 – Today Lonza Group reported Q1 net sales of CHF1.6 billion. This represents an increase of 7.4% compared to the previous year at a constant exchange rate (CER). Group performance was supported by the Lonza Pharma Biotech & Nutrition (LPBN) segment, which reported net sales of CHF1.2 billion, (representing a sales increase of 8.3% quarter-on-quarter at a constant exchange rate). The Lonza Specialty Ingredients (LSI) segment also contributed to Group performance, with sales of CHF409 million, (up 3.8% quarter-on-quarter at a constant exchange rate).

Financial Summary Q1 2020

Sales **CHF million**	**Q1 2020**	***% YoY*** ***Constant exchange rate (CER)***
Lonza Group	1,635	*7.4*
LPBN	1,208	*8.3*
LSI	409	*3.8*

LPBN performance overview

All LPBN sites globally have run to target in Q1 with very few exceptions. Small Molecules as well as Mammalian and Microbial achieved strong momentum and experienced only minimal impacts from COVID-19, with no delays or cancellations to existing clinical programs. Cell and Gene Therapy delivered strong sales growth supported by solid continuing demand, especially in viral vector. All signed projects remained on track in Q1, and COVID-19 has already offered some new and important opportunities, which are currently under review. Biosciences also reported a positive performance, supported by strong sales. However, there was mixed performance within the Capsules business with the pharma business behind the previous year. This was partially offset by an improved level of performance in the Nutrition business, which benefitted from strong demand in the US and in Europe.

LSI performance overview

LSI has started the year with a strong first quarter, mainly driven by strong sales in Microbial Control Solutions. The majority of businesses saw solid performance and positive sales growth, including Professional Hygiene, Home and Personal Care, Material Protection, Paints and Coatings, and Crop Protection. However, there was a softer level of demand for Wood Protection in all regions. The Specialty Chemical Services division was negatively impacted by challenges in some end markets. The Composites business saw weaker levels of demand for consumer electronics. Customer manufacturing was negatively impacted by soft demand in Chemical CDMO, although Fermentation CDMO was slightly ahead of the same quarter last year. Performance Chemicals and Intermediates were impacted by lower prices, which was only partially offset by solid Vitamin B3 demand.

COVID-19 impact

The essential nature of its products, services and solutions means that Lonza has been able to maintain operations in most markets, with a small number of minor disruptions. Operations in Wood Protection sites in Malaysia, South Africa and Oceania were suspended for a few weeks,

and one capsule production site in Colmar (France), experienced a temporary slowdown for a few days. A small number of bulk raw material supplies have been disrupted, and there have been some inbound and outbound logistics delays. However, these disruptions have been minor and the business has currently been able to manage all supply challenges without any negative business impacts.

The LPBN segment has currently received in excess of 40 clinical and commercial enquiries regarding projects relating to COVID-19. While the business cannot participate in every initiative, it is focusing on a small number of key development projects relating to both vaccines and therapeutic treatments, which may help to contain the spread of the pandemic.

Because there have been no disruptions to business continuity caused by the challenges arising from COVID-19, the Group is currently able to continue as planned with key strategic growth projects and long-term investments. The carve-out of the LSI segment also currently remains on track for completion by mid-2020.

Lonza Group has achieved a strong level of liquidity by working to protect cash flows over the last year. It has already refinanced and extended its syndicated Terms and Revolving Bank Facilities in 2019. Lonza is in the final stages of refinancing its debt maturities by having launched a three-year 300 million Swiss Franc Bond, and a seven-year 500 million Eurobond in April 2020, which are currently being finalized.

Lonza is hosting a conference call with Albert M. Baehny, Chairman of the Board of Directors CEO ad interim on Friday, 17 April 2020, 1:00PM - 2:00PM CEST. Please find here registration details and dial-in.

The Lonza Investor Relations and Media teams will be available for further questions only after the call.

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About Lonza
At Lonza, we combine technological innovation with world class manufacturing and process excellence. Together, these enable our customers to deliver their discoveries in the healthcare, preservation, and protection sectors.

We are a preferred global partner to the pharmaceutical, biotech and specialty ingredients markets. We work to prevent illness and promote a healthier world by enabling our customers to deliver innovative medicines that help treat or even cure a wide range of diseases. We also offer a broad range of microbial control solutions, which help to create and maintain a healthy environment.

Founded in 1897 in the Swiss Alps, Lonza today operates in 120 sites and offices in more than 35 countries. With approximately 15,500 full-time employees, we are built from high-performing teams and of individual employees who make a meaningful difference to our own business, as well as the communities in which we operate. The company generated sales of CHF 5.9 billion in 2019 with a CORE EBITDA of CHF 1.6 billion.

Find out more at www.lonza.com and follow us on Twitter @LonzaGroup, LinkedIn @Lonza, or Facebook @LonzaGroupAG.

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Certain matters discussed in this news release may constitute forward-looking statements. These statements are based on current expectations and estimates of Lonza Group Ltd, although Lonza Group Ltd can give no assurance that these expectations and estimates will be achieved. Investors are cautioned that all forward-looking statements involve risks and uncertainty and are qualified in their entirety. The actual results may differ materially in the future from the forward-looking statements included in this news release due to various factors. Furthermore, except as otherwise required by law, Lonza Group Ltd disclaims any intention or obligation to update the statements contained in this news release.

Lonza