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The World of Lonza

**Lonza**

## Closer Than You Think

Lonza is a leading supplier to the pharmaceutical, healthcare and life-science industries. Our products and services help these industries bring life sustaining goods and services to people around the world.



## << Our vision and mission

We strive to be the leading supplier using science and technology to improve the quality of life. We work with passion using advanced technologies, to transform life science into new possibilities for our customers. >>

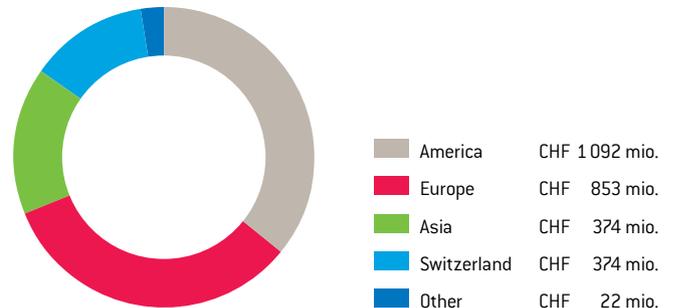
## >> Key Figures Lonza 2010

million CHF	2010
Sales	2 680
EBIT	374
Profit for the period	284

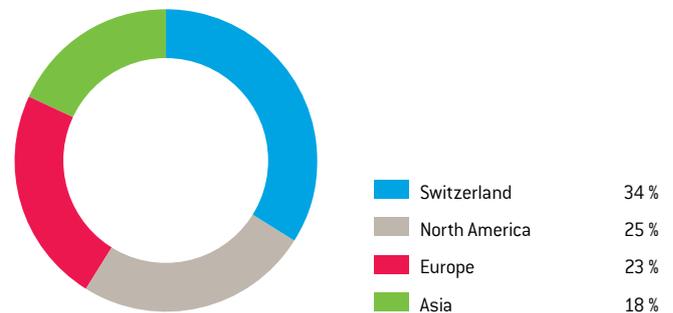
## >> Leading Lonza Products and Services

- Basic Chemicals
- Biocidal Actives for Water, Wood and Hygiene Markets
- Carniking™ for Animal Nutrition
- Carnipure™ for Human Nutrition
- Cell Biology Products for Research
- Cell and Gene Therapy
- Corrosion Inhibitors for Various Industrial Applications
- Custom Manufacturing for Agrochemicals
- Custom Manufacturing for Antibody Drug Conjugates
- Custom Manufacturing for Biopharmaceuticals
- Custom Manufacturing for High Active Pharmaceutical Ingredients
- Custom Manufacturing for Peptides
- Custom Manufacturing for Small Molecules
- Custom Manufacturing for Vaccines
- Custom Media and Disposables
- Diketene and HCN Derivates
- Drug Discovery Services
- Formulated Solutions for Sanitizers and Disinfectants
- Endotoxin Detection
- GS Gene Expression System™
- High-Performance Materials
- ISO Certified Custom Manufacturing Service
- Meta™ for slug and snail control
- Microreactor Technology
- Molecular Biology Products for Research
- Natural Enhancer for Skin Actives
- Niacin for Animal / Human Nutrition
- Oleochemical Derivatives for Food, Textile, Personal Care, Metal, Plastics and Water Markets
- Preservatives for Skin Care, Hair Care, Sun Protection and Household Cleaning
- Rapid Testing Solutions
- ResistAid™ for Human Nutrition
- Testing and Regulatory Services
- XS Microbial Expression Technology™

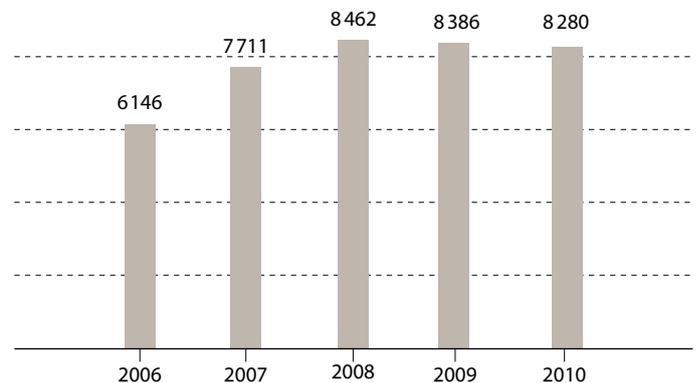
## >> Third-Party Sales by Geographical Location of Customers 2010



## >> Employees by Region 2010



## >> Headcount over 5 Years



Lonza is headquartered in Basel, Switzerland, and is listed on the SIX Swiss Exchange.

Over a century ago, Lonza began as a small Swiss electricity company, producing a few chemicals on the banks of the river Lonza in the Valais region of the Swiss Alps. Today, Lonza is a leading supplier to the pharmaceutical, healthcare, and life-science industries.

## Lonza at-a-glance

Lonza is the global leader in the production and support of active pharmaceutical ingredients both chemically and biotechnologically. Biopharmaceuticals are one of the key growth drivers of the pharmaceutical and biotechnology industries.

Lonza has strong capabilities in large and small molecules, peptides, amino acids and niche bioproducts which play an important role in the development of novel medicines and healthcare products. In addition, Lonza is a leader in cell-based research, endotoxin detection and cell therapy manufacturing. Furthermore, the company is a leading provider of chemical and biotech ingredients to the nutrition, hygiene, preservation, agro and personal care markets.

From 1897 to the present day combining Swiss tradition with global experience, the company has had an enterprising character, adapting its offerings and services to the needs of customers and to changing technologies. Throughout our history, we have maintained a strong culture of performance, results, and dependability that is valued by all of our customers.

The following pages provide an overview over our seven markets: Bio-Research, Pharma&Biotech, Nutrition, MicrobialControl, Agriculture, MaterialsScience and PersonalCare.

The matrix below shows which business units serve which markets.

Markets	Divisions – Business Units		
	Life Science Ingredients Nutrition Ingredients Microbial Control Performance Intermediates	Custom Manufacturing Chemical Manufacturing Biological Manufacturing Development Services	Bioscience Therapeutic Cell Solutions Testing Solutions Research Solutions
BioResearch			
Pharma&Biotech			
Nutrition			
MicrobialControl			
Agriculture			
MaterialsScience			
PersonalCare			

## BioResearch

We serve the BioResearch market with cell and molecular biology products as well as quality control products for basic drug discovery and applied research.



« Products and services designed to get the most reliable results out of your experiment. »



We provide the tools life-science researchers need to discover biological pathways and to develop and test therapeutics. We serve customers in pharmaceutical, biopharmaceutical, biotechnology and personal care companies, and in academic and government research institutions around the world.

## Tools Life-Science Researchers Need

Lonza's research solutions help researchers around the world discover new lifesaving treatments for conditions like Alzheimer's and Parkinson's disease.

Lonza is an industry leader in electrophoresis technologies, cell-based research tools, and endotoxin detection. We deliver a complete range of reagents, equipment, consumables, software and services to meet the ever-changing needs of our customers.

Endotoxin is a toxin from bacteria. If introduced into the bloodstream, it can cause illness and even death in humans and animals. The presence of endotoxin in cell culture systems can be problematic for researchers. If high quantities of endotoxin are present, this can impact biological activities and lead to cell fatality. Therefore, it is important that endotoxin levels in cell culture media and supplements be measured and controlled. Cell culture systems are used for a variety of applications such as the development of a drug candidate. Pharmaceutical and medical device companies worldwide use Lonza's Testing Solutions to help assure their products, such as injectable drugs, vaccines and implantable medical devices, like pacemakers, are safe for human and animal use.

[www.lonza.com/research](http://www.lonza.com/research)  
[www.lonza.com/4D-Nucleofector](http://www.lonza.com/4D-Nucleofector)  
[www.lonza.com/drugdiscovery](http://www.lonza.com/drugdiscovery)  
[www.lonza.com/rts](http://www.lonza.com/rts)

### >> Research Solutions

Our primary cells, culture media, transfection and molecular biology products are optimized to help researchers build relevance, consistency and efficiency in their most critical projects. Some of our primary brands include BioWhittaker™, Clonetics™, FlashGel™, MycoAlert™, NuSieve™, MetaPhor™, Nucleofection™, PAGEr™, Poietics™, SeaKem™ and StellARray™.

For drug discovery, we offer products and services around specific disease-related research areas, such as cardiovascular diseases, central nervous system diseases, obesity and respiratory diseases. We deliver biologically relevant cell biology solutions, including custom cell isolation, expansion and transfection services, biomarker discovery, mechanism of action and compound profiling services, and assay-ready primary cells.

Development risk and attrition rates remain two of the greatest challenges to a successful biopharmaceutical research program. To help clients mitigate both aspects, Lonza offers Applied Protein Services – a platform of immunogenicity, stability and protein engineering services that provides a window into the future of a biologic. This platform is effective at improving the quality, safety, efficacy and manufacturability of antibodies, therapeutic proteins, peptides and vaccines. By supporting the successful selection, optimization and development of promising drug candidates, our Applied Protein Services platform improves a client's likelihood of biologic development success.

### >> Testing Solutions

Lonza's Testing Solutions, endotoxin detection platform, offers quality control testing products for researchers including endotoxin detection assay kits, instruments and software. In addition, we offer Endotoxin Testing Services that includes routine and customized endotoxin testing, combining Lonza's technical expertise with full service reporting.

Lonza offers industry-leading Limulus Amebocyte Lysate (LAL) based assays that allow researchers to perform their own screening. LAL is derived from the blood cells (amebocytes) of the horseshoe crab, *Limulus polyphemus*, which clots in the presence of endotoxin.

LAL is used to detect endotoxin in samples such as cell culture media, raw materials and pharmaceuticals. Lonza offers Kinetic-QCL™ and Kinetic Chromogenic LAL as well as instruments and WinKQCL™ Endotoxin Detection and Analysis Software. Setting us apart from our competition, we also offer a genetically engineered, sustainable alternative for endotoxin testing: PyroGene™ Recombinant Factor C, a non-animal based, endotoxin specific assay that mimics the reaction in the horseshoe crab clotting cascade.

## Pharma&Biotech

We support emerging and established innovators of novel therapeutics from discovery through commercial supply with our manufacturing expertise, advanced technologies and high-quality products.



« Together ... turning promising discoveries into viable products. »



Our products and services increase quality, enhance manufacturing processes, remove bottlenecks, reduce time to results, improve regulatory compliance, and lower costs. We provide the competitive advantage.

# Taking You to Market Faster with Innovative Custom Solutions

For 30 years Lonza has been helping emerging and established pharmaceutical and biotech companies increase product quality, improve production processes, navigate the development and regulatory process, lower the cost of goods, and get to market faster.

Lonza's world class technology platforms include:

- GS Gene Expression System™
- XS Microbial Expression Technologies™
- Advanced Chemical Synthesis
- Peptide Synthesis
- Cell and Gene Therapy
- Endotoxin and Microbial Detection
- MODA™ QC Micro Data Management

From early development through commercial launch and mature market supply, Lonza can help take your product to the next level.

## >> Partner of Choice

Lonza continues to be the partner of choice for customers looking for an edge in the pharmaceutical and biotech market. Our industry-leading products and services have helped companies of every size, at every stage of development increase quality, enhance their manufacturing processes, remove bottlenecks, reduce time to results, improve regulatory compliance, and lower costs. Our broad experience in mammalian and microbial fermentation, advanced chemical and peptide synthesis as well as cellular and gene therapies allow our customers to advance their products to market faster and more efficiently.

## >> Taking You to the Next Level

At Lonza, we continually strive to enhance our offering to meet growing customer demands for next generation therapeutics. Our latest addition of MODA™ QC microbiology data management platform as well as our new viral-based therapeutics facility demonstrate our commitment to the life-science market. At any stage of your program – whether investigating a new drug compound, choosing a lead candidate, optimizing a process, scaling-up, or evaluating the quality and safety of products, our life-cycle management experience and innovative solutions give you the peace of mind you expect.

## >> Practical Knowledge, Unique Solutions

As service providers, we understand the day-to-day challenges pharmaceutical and biotechnology innovators face, and we're driven to find answers. Often this means delivering one of our cutting-edge products, such as a sustainable alternative to LAL-based assays for endotoxin detection, closed-system disposables, continuous-flow microreactors and carbonylation-derived chemicals. At other times, it means leveraging our broad-based manufacturing and development experience with small and large molecules, primary and stem cell expansion, protein design and cell-line construction to provide a tailored solution that meets your immediate and long-term objectives.

## >> Quality Through Innovation

Innovation is in our nature. It is the way we work, which is why we are able to offer the pharmaceutical and biotech market advanced technologies that transform life science into new possibilities. We recognize that every organization has unique needs and those needs are likely to change over time. So throughout our relationship, we innovate, we remain flexible, we adapt and we continue to adjust as goals change.

## Nutrition

We add value to our customers' products through our portfolio of branded nutritional ingredients.



« Nutritional ingredients backed by scientific evidence, regulatory compliance and marketing support. »

Based on solid scientific evidence, Lonza's nutritional ingredients provide a wide range of health benefits and can be used for various applications in humans and animals.

# High-quality Branded Nutritional Ingredients

Lonza's expertise extends into many applications in both human and animal nutrition including:

- food and feed fortification
- pet food
- dietary supplements
- functional food and beverages
- infant formula

These products are utilized in many areas of health and well-being including:

- cardiovascular, gut and immune health
- sports nutrition
- brain function
- weight management
- reproductive performance
- energy metabolism
- growth and carcass benefits



## >> Niacin / Niacinamide

As the world's largest manufacturer Lonza provides Vitamin B<sub>3</sub> in the form of niacin as well as niacinamide. Both forms are essential precursors for coenzymes involved in cell metabolism for all species and are therefore widely used in food and feed fortification.

## >> Carnipure™ / Carniking™

Our L-carnitine products include Carnipure™ for human nutrition and Carniking™, Carnifeed™ and Carnichrome™ for animal nutrition. As an essential component in energy metabolism L-carnitine offers a wide range of health benefits for humans and animals.

## >> ResistAid™ / LaraFeed™

Extracted from North American larch trees, ResistAid™ and LaraFeed™ contain the polysaccharide arabinogalactan. ResistAid™ is an immune support ingredient containing polyphe-

nols for human nutrition, whereas LaraFeed™ is a prebiotic used in feed products.

## >> DHAid™

Made from naturally occurring microalgae, DHAid™ is a purely vegetarian source of omega-3 DHA. It is allergen-free and free from contaminations discussed for seafood. Health benefits of DHAid™ include the support of brain development and function as well as heart and eye health.

## >> Custom Microbial Fermentation

Lonza offers exclusive fermentation and process development services leveraging the most advanced technologies, capabilities and experience in the industry. Our expertise with proteins, enzymes, secondary metabolites, modified peptides, carbohydrates, biomass/cultures and advanced chemicals helps us meet a wide range of market needs.

[www.niacin.com](http://www.niacin.com)

[www.carnipure.com](http://www.carnipure.com)

[www.carnipure-for-you.com](http://www.carnipure-for-you.com)

[www.carniking.com](http://www.carniking.com)

[www.resistaid.com](http://www.resistaid.com)

[www.dhaid.info](http://www.dhaid.info)

## MicrobialControl

We offer antimicrobial products in the areas of hygiene, wood and water treatment applications.



« Innovative global antimicrobial solutions. »

As developing countries and communities around the world quickly move from small, local farms to large-scale, modern food production techniques, the challenges to deliver safe, high-quality food to consumers continue to grow.

We are a leading global provider of antimicrobial products (disinfectants & sanitizers) essential for safe food production.

## Products and Services for a Healthy Home and Workplace

Lonza's growth and expansion in Microbial Control is primarily from technological innovations – both through acquisitions and internally developed.

All of our Microbial Control products and services share a common focus on providing sustainable solutions for healthy homes and workplaces.



When it comes to disinfectant wipes, Lonza offers market-leading efficacy claims and numerous substrate options.

### >> Hygiene

Our Hygiene line is designed to protect the health and well-being of people and animals. We offer active ingredients, preservatives and formulated products for use in disinfectants, sanitizers, institutional and household cleaning products.

### >> Wood Treatment

As a global leader in the technology and marketing of biocides, Lonza offers solutions for wood treatment and processing aids for the manufacture of wood polymer composites. Our offerings include biocides, surfactants/adjuvants, and wood lubricants.

Our quaternary ammonium compounds and tertiary amines offer stability and consistency which provides effective protection against fungi and molds.

Our solutions for wood preservation provide biocidal efficacy formulations while avoiding

treating vessel corrosion concerns common with chloride quats. Lonza's amine oxides have strong surfactancy enabling excellent dispersing power.

### >> Water Treatment

With more than 40 years of experience in water treatment, Lonza uses its in-depth knowledge along with new innovative technologies to improve the safety and utility of water. We provide specialty biocides and corrosion inhibitors for industrial and recreational water treatment, paper making, and oil-field applications.

### >> Life Science Tools & Services

We offer confidential consultative services to each project – providing insight critical to commercial success. We help customers bring products to market faster and more effectively by sharing our extensive formulation and regulatory expertise.

## Agriculture

We offer custom manufacturing of active ingredients and agrochemical intermediates for agrochemical companies as well as the world's leading molluscicide Meta™ metaldehyde.



« World class and cutting-edge manufacturing of active ingredients generating value for the agrochemical market. »

Lonza's offering for agrochemical customers is based on experience, trust and quality. We provide state-of-the-art custom manufacturing technologies and services for many modern herbicides, insecticides, fungicides. Our dedicated and motivated Meta™ metaldehyde team is committed to the continuing development of new solutions for slug control, providing benefits to farmers and gardeners all over the world.

## Pure Active Ingredients for Safe and Abundant Crop Yields

For more than 25 years agrochemical companies have trusted in Lonza's highly complex ISO-certified custom manufacturing.

Our flexible manufacturing capabilities are coupled with many years of experience in maintaining the highest standards of contamination prevention.

Lonza's molluscicide Meta™ metaldehyde has proved to be a highly efficient specific active ingredient for the control of slugs and snails and has a proven track record of more than 40 years.

Both offerings enable farmers to deliver safe and abundant crops, effectively feeding people around the world.



Meta slug pellets

### >> Agrochemical Offering

Lonza has an excellent reputation in the agrochemical industry for the manufacture of agrochemical end-products such as highly active herbicides, fungicides, insecticides and the molluscicide Meta™ metaldehyde. We operate from a set of highly flexible multi purpose plants in Visp (Switzerland) with highly motivated workforces. Our manufacturing strength stems from our comprehensive integrated network and a long track record in custom manufacturing.

Lonza's specific ISO-regulated manufacturing capability combines speed and efficiency with reliability. We provide customers with complete and flexible manufacturing packages, created through close, interactive and confidential partnerships.

## MaterialsScience

We provide customers with a wide range of solutions that deliver high-performance, cost-effective fulfillment of their material needs.



« Solutions which make other materials more durable, more attractive, lighter, safer and more efficient. »

Our products and services are valued by key high-tech industries such as aerospace, electronics, telecommunication, automotive, coatings, plastic and wood composites, textiles, powder metal and oilfield.

# Materials Solutions All Along the Value Chain

MaterialsScience is the umbrella for all kinds of Lonza's materials and services, which enable customers to:

- optimize production reliability with high quality raw materials
- enter new applications with innovative materials
- expand their markets by adding higher performance to their products.

All areas of the business, starting from raw materials over high performance materials to materials protection and materials' properties extension operate under high standards for quality control and quality assurance.

Whether satellites safely operate in orbit, aircraft passengers are protected by flame retardant systems, Formula 1 teams rely on our technology, or wood constructions are safely protected during service – Lonza MaterialsScience is proud to be part of the solution.



Racing teams rely on our technology

## >> Performance Intermediates

Our Hydrogen cyanide (HCN), diketene derivatives and our basic chemicals are key raw materials and intermediates to many sophisticated applications in the plastics, coatings, paper, pigments and adhesive industries.

## >> High Performance Materials

Primaset™, Lonzacure™, Lonzamon™ and Pyromellitic Anhydride (PMDA) are key ingredients for highly demanding applications such as advanced aerospace composites, electronic materials and protective coatings providing various benefits such as outstanding high temperature resistance and dielectric performance, excellent mechanical and chemical resistance, adhesion and enhanced safety in construction.

## >> Materials Protection

CarboShield™ is a family of products that helps prevent corrosion in metals and extends the life of tools used in processing metals. Lonzacure™ is used for polyurea and epoxy protective coatings on metals, wood and concrete where corrosion control, waterproofing and enhanced mechanical resistance is required.

## >> Materials' Properties Extension

Lonzeat™, Acrawax™ and Glycolube™ are widely used in the plastics and coatings industry. These products are processing aids, as well as antistatic and antifogging agents, and contribute to processing plastics more efficiently, reducing static charge and improving optical qualities of plastic food packaging.

## PersonalCare

We offer unique solutions to meet personal care development needs – from innovation to formulation and preservation.



« Committed to the next generation of personal care solutions. »

We contribute to innovation in personal care through leading-edge, multifunctional ingredients that expand the claims for your personal care brands and create new formulation possibilities.

# Innovation, Formulation and Preservation

Our portfolio includes innovative personal care solutions, including naturally derived materials from renewable resources.

Our preservative solutions assure and improve product safety providing guaranteed quality for consumers.

We leverage our strengths in microbial control, nutrition, biosciences and target unmet needs of the personal care industry.

Our integrated solutions include analytical and functional testing and regulatory compliance for the personal care industry.



SeaPure™ Agarose 100 % natural renewable resource

## >> Personal Care Solutions

Multi-functional ingredients like Polyaldo™, SeaPure™ agarose and Laracare™ are natural alternatives for emulsifying and thickening, and provide improved skin feel for consumers in products such as creams and soaps. Active ingredients like Natrulon™, L-carnitine and niacinamide contribute beneficial effects for skin and hair in cosmetics and nutricosmetics.

## >> Personal Care Preservatives

We are a global leader in cosmetic preservation. Our Glydant™ and Glycacil™ series are a leading market standard in personal care preservation. Lonza's Geogard™ series meets the consumer's preference for ECOCERT, NATRUE and Soil Association permitted preservative systems, suitable for use in certified organic cosmetics.

## >> Innovative Solutions

Our capabilities cover each stage of the development cycle including analytical testing services, cell and skin models for efficacy screening and our fully automated microCompass™ system for rapid microbial detection.

# We Are Here for Our Customers Worldwide.

- Lonza Inc., Allendale
- Lonza Inc., Cohasset
- Lonza Biologics Inc., Hopkinton
- Lonza Houston, Inc., Houston
- Lonza Inc., Mapleton
- Lonza Biologics Inc., Portsmouth
- Lonza Rockland, Inc., Rockland
- Lonza Walkersville, Inc., Walkersville
- Lonza Wayne, Inc., Wayne
- Lonza Inc., Williamsport

- Research and Development
- Sales Office
- Production Site

■ Lonza São Paulo, São Paulo



- Lonza Braine SA, Braine-l'Alleud
- Lonza Verviers Sprl, Verviers
- Lonza Biotec sro, Kouřim
- Lonza Copenhagen ApS, Vallensbaek Strand
- Lonza France Sàrl, Levallois-Perret Cedex
- Lonza Saint Beazire SAS, Saint-Beazire
- Lonza Cologne GmbH, Cologne
- Lonza Ltd Representation Office, Budapest
- Lonza Milano S.r.l., Treviglio
- Lonza Ltd Representation Office, Warsaw
- Lonza Group Ltd, Global headquarters, Basel
- Lonza Sales Ltd, Basel
- Lonza Ltd, Basel
- Lonza Ltd, Visp
- Lonza BioPharma Ltd, Visp
- Lonza Ibérica S.A.U., Barcelona
- Lonza Biologics Porriño, S.L., Porriño
- Lonza Benelux BV, Breda
- Lonza Biologics plc, Cambridge
- Lonza Biologics plc, Slough
- Lonza Biologics plc, Tewkesbury
- Lonza Guangzhou Ltd, Guangzhou
- Lonza Guangzhou Nansha Ltd, Guangzhou
- Lonza Guangzhou Research and Development Center Ltd, Guangzhou
- Lonza Liyang Chemical Co Ltd, Liyang
- Lonza Nanjing Ltd, Nanjing
- Lonza (China) Investment Co Ltd, Shanghai
- Lonza Microbial Control Asia, Pacific Pte Ltd, Singapore
- Lonza BioSciences Singapore Pte Ltd, Singapore
- Lonza Biologics Tuas Pte Ltd, Singapore
- Lonza Japan Ltd, Tokyo



- 000 Lonza Rus, Moscow
- Lonza India Private Ltd, Mumbai
- Lonza India Private Ltd, Hyderabad
- Lonza Australia Pty Ltd, Mt Waverly