

Milli-Q® and Elix® laboratory
water purification system:
Ultrapure water for research
laboratories around the world



MERCK MILLIPORE

With the completion of the acquisition of Millipore on July 14, 2010 and the resulting formation of the Merck Millipore division, a world-class partner to the life science industry was created. The new division combines the Millipore businesses with the majority of Merck's Performance & Life Science Chemicals division. Merck Millipore comprises three business units: Bioscience sells products used by life science laboratories in academia and industry; Lab Solutions supplies general lab products and equipment for applications in both life science and industrial markets; and Process Solutions markets products used in the production of chemical and biopharmaceutical drugs. All three business units increased their total revenues in 2010.

KEY PRODUCT GROUPS

- Products for protein research and cell biology, e.g. multiplex immunoassay and ELISA kits, protein detection products, as well as flow cytometry instruments and kits
- Laboratory chemicals and consumables for research, educational and industrial applications in organic and inorganic chemistry, chromatography, food and environmental analysis as well as microscopy and lab water instruments, consumables and services to meet diverse water purification needs
- Products used in the manufacture of biopharmaceutical drugs and to support clarification, purification, viral clearance, sterile filtration, process monitoring and process development through scale-up to full-scale production

KEY DEVELOPMENTS IN 2010

- Acquisition of Millipore closes on July 14, figures consolidated for the first time in the third quarter, integration almost completed
- Total revenues amount to EUR 1,681 million, return on sales 2.6%
- Strong sales performance driven by growth in the Americas and Asia, strong demand from global biotech customers, and the positive impact of new product introductions
- Nearly 40% of total revenues generated in Europe, Merck Millipore's largest market

ACCELERATING THE INNOVATION STRATEGY

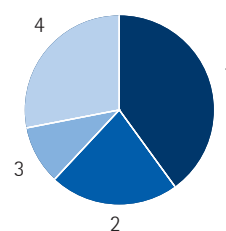
In 2010, the division continued to accelerate its innovation strategy, launching several critical new products such as Scepter™, the world's first automated handheld cell counter. With a broad-based portfolio, Merck Millipore is focusing on the growing demand for integrated and more sophisticated research tools from the life science industry.

Total revenues of Merck Millipore amounted to EUR 1,681 million in 2010. This corresponds to growth of 81%. The revenues and expenses of Millipore have been included since July 2010. Organic growth of the division, meaning excluding acquisitions and currency effects, amounted to 5.6%.

Merck Millipore | Sales by region

EUR million / % of divisional sales

1 Europe	657	39%
2 North America	394	24%
3 Latin America	157	9%
4 Asia, Africa, Australasia	465	28%



The realignment of the Chemicals business sector as a result of the acquisition is enabling Merck to achieve leading positions in high-margin, fast-growing markets, e.g. the biotech industry

Merck Millipore generated nearly 40% of its total revenues in Europe, the division's largest market. Double-digit growth rates were achieved in the other regions, not least thanks to the acquisition. The division also recorded organic sales growth, with Asia posting a double-digit increase.

The operating result of the Merck Millipore division was EUR 44 million, corresponding to a decline of 58.7% compared to 2009. It should be noted here that the operating result for 2010 was lowered by transaction and integration costs of EUR 87 million. Moreover, cost of sales, and consequently gross margin, were impacted by one-time expenses of EUR 86 million in connection with the purchase price allocation for the acquired Millipore inventories (more information can be found under "Financial position and results of operations"). Additionally, the division bore the ongoing amortization expense for the acquired intangible assets recognized within the scope of the purchase price allocation. In total, amortization of intangible assets was EUR 96 million and related almost exclusively to the second half of 2010.

Merck Millipore | Key figures

EUR million	2010	2009	Δ in %
Total revenues	1,681	929	81
Gross margin	871	434	101
R&D	78	32	141
Operating result	44	106	-59
Exceptional items	-	11	-
Free cash flow	-4,672	123	-
Underlying free cash flow	263	128	106
ROS in %	2.6	11.5	

The division's ROS amounted to 2.6% compared to 11.5% in 2009. Underlying free cash flow was EUR 263 million compared to EUR 128 million in 2009.

Strong position in fast-growing markets

The realignment of the Chemicals business sector as a result of the acquisition is enabling Merck to achieve leading positions in high-margin, fast-growing markets, e.g. the biotech industry. The company is now even less exposed to economic cycles. The steady, resilient revenue stream from the Merck Millipore division balances the Liquid Crystals business within Performance Materials and the Pharmaceuticals business sector. Merck Millipore is positioned globally as a strategic supplier driven by innovation, premium brand products, and competitive differentiation in increasingly competitive sectors.

BIOSCIENCE

For easier and more efficient research

With its products for life science research in the pharmaceutical and biotechnology industries as well as academia, the Bioscience Business Unit accounts for about 20% of the division's total revenues. It is focused on offering solutions that help scientists to conduct life science research easily, efficiently and economically.

The Bioscience Business Unit provides an increasing number of tools and services to support researchers seeking to understand complex biological systems as well as to identify and characterize new therapeutic targets.

Tools and services from our Bioscience Business Unit help researchers meet increasing demands as pharmaceutical researchers come under increasing competitive pressure to screen and identify new drugs with more speed and accuracy.

Therefore, our goal is to create products and services that simplify the work flow for researchers, offering consolidated and validated solutions. The business unit's products help to advance life science research in a wide variety of areas ranging from neuroscience, infectious disease, oncology, and metabolic disorders to stem cells, cell signaling, nuclear function, and chromatin biology.

Thousands of products developed
for applications in protein research
and cell biology

Products for protein research and cell biology

The Bioscience Business Unit sells thousands of products, primarily into the protein research and cell biology markets. These include instruments, consumable devices, reagents and services to help customers better understand diseases and biological functions. Their work typically involves conducting experiments on biological samples, such as cells, proteins, and nucleic acids. Merck Millipore also offers a wide variety of kits that improve research productivity and efficiency. Kits enhance research productivity by combining in one box all the disposables, reagents, and protocols needed to reliably and reproducibly conduct a particular experiment.

Measuring the effect of drugs on protein biomarkers

Within the protein research market, we offer multiplex immunoassay and ELISA kits, protein detection products, and flow cytometry instruments and kits. Researchers use our multiplex immunoassay kits to understand which proteins may be indicative of a disease state, measure how a drug affects protein biomarkers, and determine what side effects a drug creates. We are developing multiplex kits, reagents, and assays for researchers studying immunology, inflammation, and metabolic diseases (e.g. diabetes, obesity, cardiovascular disorders).

An integrated range

The Bioscience Business Unit is increasingly seeking to integrate instrumentation, reagent kits, validated protocols and technical support. One example of this approach is in flow cytometry, where we are bringing the advantages to the bench tops of cell biologists.

A major challenge for our customers is to find promising drug candidates faster and then ensure that they will not generate unwanted or unexpected side effects in clinical trials or when they are commercially available on the market. To improve the efficiency and economy of this research, customers outsource research work to the Bioscience Business Unit rather than conduct

the work in-house. We provide services to identify disease targets and better understand how to improve the efficacy of drugs on targeted patient groups and prevent side effects.

Merck Millipore's service offering helps customers better understand the safety and efficacy of biologic drugs and vaccines. With the increasing development of biologics, companies are leveraging our expertise to help them evaluate the efficacy of these drugs. We offer our customers a broad range of services to assist with evaluating and advancing these therapeutics from the drug development pipeline to the market. The offering includes biomarker analytical services, assay transfer/development, validation and sample analysis, pharmacokinetics, toxicokinetics, immunogenicity, biological potency, and vaccine services.

LAB SOLUTIONS

Contributing to excellence in science and analytics

The Lab Solutions Business Unit supplies products for research, analytical and clinical laboratories in a wide variety of industries. Accounting for about 40% of the division's total revenues, it is one of the leading suppliers of laboratory chemicals, lab water equipment and consumables. Merck Millipore has a strong track record of developing packaging concepts and chemical packaging that protect high-quality solvents prior to use. In addition, the division is the leading supplier of lab water and water treatment technologies.

For inorganic chemistry, we offer reagents of high purity such as salts, acids, caustics, volumetric solutions, buffers, reference materials for instrumental analysis and products for inorganic trace analysis. For organic chemistry, we supply a full range of basic products for synthesis, including building blocks, reagents and solvents most commonly used in organic synthesis from laboratory scale to bulk production.

As a supplier of chromatography products, Merck Millipore is also advancing the development of analytical separation technologies. The product focus is on analytical high-performance liquid chromatography (HPLC) and innovations to the monolithic Chromolith® HPLC columns for ultrafast separations.

Stringent requirements in food and environmental analysis

We have tailored our testing products for food, water and waste water analysis, spectrophotometry and quality control to growing analytical demand. This includes products such as the spectrophotometer Spectroquant® Pharo and the Spectroquant® Colorimeter Picco Cl2/O3/ClO2/CyA/pH as well as an extended product line of instant visual test kits such as Merckoquant® test strips.

Visual test kits such as pH indicator strips and papers, Aquamerck®, Microquant®, and Aquaquant®, as well as testing instruments such as Reflectoquant® and Turbiquant® are also part of the range. The product range for microscopy is tailored to classical hematology, cytology, histology, and bacteriology. Laboratory supplies and third-party products round off the offerings to research, quality, analytical, and clinical labs.

Competence in BioMonitoring

BioMonitoring activities are another area of competence within the Lab Solutions Business Unit. Our products help to detect microbiological contamination and to conduct protein and cellular analysis targeting customers in the pharmaceutical, biopharmaceutical and food industries. The business unit also sells membranes, antibodies, and other diagnostic reagents to diagnostic and medical device manufacturers. Beverage companies also benefit from the use of BioMonitoring products to identify microbiological contamination from bacteria and yeast. We are also focused on developing next-generation technologies that are faster and more sensitive and enable drug manufacturers to identify contamination earlier in their processes. These products are capable of significantly reducing the time-to-result from days or weeks to hours.

Water purification equipment and products for laboratories

As the leading supplier of lab water applications, Merck Millipore also offers lab water instruments, consumables and services to meet diverse water purification needs. These products remove microorganisms, dissolved gases, particulates, and organic and inorganic compounds from water. The quality of the water is a critical variable for researchers as it can have a lasting impact on the scientific results of their research. The demands placed on water quality depend largely on the complexity of the scientific experiment, with ultrapure water required for complex experiments.

PROCESS SOLUTIONS

Consolidating resources

The Process Solutions Business Unit supplies products used to manufacture biopharmaceutical drugs. It accounts for about 40% of the division's total revenues. The business unit enables pharmaceutical and biotechnology companies to develop and manufacture clinical and commercial drug materials safely and efficiently. By combining the resources of Millipore and Merck, we can expand our portfolio of integrated bioprocessing technologies and offer an attractive range of development and regulatory services to biopharmaceutical manufacturers.

Biological safety

Products offered by the Process Solutions Business Unit support clarification, purification, viral clearance, sterile filtration, process monitoring and process development through scale-up to full-scale production. The portfolio helps ensure biological safety, for example with products for sterile and virus filtration as well as hardware and support for downstream processing. With a comprehensive range of products and services for purification, e.g. ultrafiltration and chromatography, Merck Millipore helps biopharmaceutical developers and manufacturers to efficiently and effectively purify biologic drugs. Some of the products within this portfolio include Pelicon® for tangential flow filtration, Millistak® Pod and Prostak™ for clarification, ChromaSorb™, and ProSep® chromatography media. The purification portfolio is complemented by Fractogel® and Eshmuno® from the Merck chromatography business.

Products and services support developers and manufacturers of biopharmaceuticals

Advanced separation technologies

The Mobius® single-use product line provides integrated solutions that bring together Merck Millipore's advanced separation technologies, differentiated single-use products, applications expertise, and expert validation support. Mobius® FlexReady Solutions are optimized, complete single-use solutions that integrate process-ready hardware systems with Mobius® Flexware assemblies.

As it eliminates the time-consuming steps involved in cleaning, autoclaving and assembling, the Mobius® CellReady 3L single-use, stirred tank bioreactor considerably reduces the downtime typical of glass bioreactors. This enables process development engineers to focus more on experimentation and data analysis in order to obtain results faster.

The business unit's portfolio covers the entire pharmaceutical production value chain

Pharmaceutical excipients

Moreover, the business unit's portfolio covers the entire pharmaceutical production value chain. Apart from regulated starting materials and active pharmaceutical ingredients, our pharmaceutical raw materials, for example from the Parreck® range, are used as excipients for the production of solid, semi-solid, and liquid formulations. Cell culture supplements complement the range of products and services for upstream processing. Merck has combined its range of excipients and active ingredients for pharmaceutical production processes under the Emprove® brand.