Building a new model of sustainable chemistry

Solvay in Short 2013
As an international chemical group, Solvay assists industry in finding and implementing ever more responsible and value-creating solutions. Its products serve many markets including energy and environment, automotive and aeronautics, electricity and electronics, with a common goal: to improve the performance of clients and society’s quality of life. The Group is firmly committed to sustainable development, and focused on innovation and operating excellence. Solvay generates 90% of its net sales in activities where it is one of the top three players worldwide.

The sales figure excludes assets held for sale, in particular the European Chlorovinyls activity, which it is planned to place in a joint venture with Ineos. This joint venture has been notified to the European Commission.

The number of employees (full-time equivalent) stated in this document includes those working for “discontinued activities”.

€9,940

million net sales

29,400

employees

117

sites and presence in 56 countries
Building a new model of sustainable chemistry

Sustainability and responsibility: never have these issues been so crucial for mankind. All around the world, we are seeking solutions. Solutions that limit the impact of climate change, which allow us to produce more with fewer resources, to meet the needs and aspirations for the health and well-being of more than one billion new consumers.

Our vision

Building a strong leader, a player in the reshaping of the global chemical industry. Asserting ourselves as a model of sustainable chemistry, capable of attracting and developing talented people who conceive, design and produce solutions to meet the major challenges facing society today.
An offering adapted to the requirements of diversified markets

**CONSUMER GOODS & HEALTHCARE**

Through its diverse offering, Solvay seeks to improve the performance and ease of use of products employed every day. Its solutions based on specialty surfactants, its polymers and its fluorinated fluids contribute to the effectiveness of detergents and hygiene products. Its polymers, polyamide and intelligent fibers are used by the textile industry to create high-performance clothing. The range of cellulose acetates serves the cigarette filters market. For health professionals, the Group develops a wide range of products including specialty polymers for biocompatible medical implants, synthesis intermediates and sodium bicarbonate for effervescent tablets.

**AUTOMOTIVE & AERONAUTICS**

Solvay offers the automotive market polyamides, specialty polymers and composites that improve performance and contribute significantly to lighter vehicles. Fluorinated electrolytes and lithium salts improve the efficiency of batteries. Solvay’s solutions enable automakers to meet constantly rising global standards such as rare earth oxides for catalysis and silicas for the tire labeling. On the aeronautics market, the chemical, mechanical and thermal resistance properties of Solvay advanced solutions contribute to the performance and safety of airplanes.

**AGRO, FEED & FOOD**

Solvay’s products and solutions respond to the needs of players right along the food chain. Upstream, its guar derivatives, its fluorinated compounds and its solvents protect crops and improve their productivity, while respecting the environment. Downstream, its range of vanillins contributes to healthier diets, for example by contributing to reducing fats and sugars in processed foods. Sodium bicarbonate promotes a balanced diet and preserves animal health. Finally, cellulose acetate is used to produce environmentally responsible packaging.

**ENERGY & ENVIRONMENT**

Solvay supports energy markets in their quest for improved performance and lower costs. Guar or surfactants provide solutions for oil and gas extraction. PVDF films improve the performance and durability of solar panels, while lithium salts increase battery performance. Solvay processes and solutions are used to produce energy from biomass. Solvay offers its industrial customers its expertise in energy optimization. Elsewhere, Solvay proposes solutions for reducing air, water and soil pollution.

Distribution of 2013 net sales
Solvay provides industries with agents and intermediaries to meet their challenges of competitiveness and environmental performance.

**BUILDING & CONSTRUCTION**

Solvay products make it possible to design buildings that are at once more sustainable, healthier to live in and consume less energy. Its solutions are used in the production of flat glass and double or triple glazing window structures to stringent environmental requirements. Fluorinated products permit the production of high quality insulating foams. Biodegradable solvents are used in paints and "green" coatings. Finally, fluoropolymers and engineering plastics increase the fire resistance of electrical components and cabling.

**ELECTRICAL & ELECTRONICS**

Solvay specialty polymers opens new horizons in terms of design, safety and performance to its industrial customers, who take part in the forward march of tablets and smartphones, of OLED technology, of rigid and flexible displays, computer processors and memories and of semi-conductors based on rare earths. For the electrical connectors industry, Solvay develops specific products and fluorinated polyamides with circuit breaker and flame-retardant properties. It also offers eco-responsible solutions including the recycling of rare earths and bio-based polyamides.

**INDUSTRIAL APPLICATIONS**

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An activities portfolio directed at growth regions

EUROPE

- 33% of net sales
- 15,800 employees
- 49 industrial sites
- 8 R&I centers

ASIA PACIFIC AND THE REST OF THE WORLD

- 31% of net sales
- 6,000 employees
- 28 industrial sites
- 4 R&I centers
We are responding to the demand of ever more challenging markets, through acquisitions, investments and a wide range of operating excellent initiatives.

**NORTH AMERICA**
- 25% of net sales
- 3,700 employees
- 33 industrial sites
- 2 R&I centers

**LATIN AMERICA**
- 11% of net sales
- 3,900 employees
- 7 industrial sites
- 1 R&I center
Sustainable development: an opportunity for chemistry

The “Solvay Way” social and environmental responsibility initiative plays a central role in the Group’s vision of building a model of sustainable chemistry. A lever for growth, Solvay Way is intended to develop, through responsible production practices, a sustainable chemistry that is respectful of the planet and contributes to the emergence of safer and healthier lifestyles and consumption.

Solvay Way for 360° responsibility

5 action lines

1. Achieving excellence in safety, health and occupational hygiene for everyone on our sites.
2. Realizing an increasing share of our sales with solutions that meet the requirements of sustainable development.
3. Continuously improving the performance of our technologies, processes and products throughout their lifecycles.
4. Reducing greenhouse gas emissions, energy and water consumption, and the use of resources.
5. Developing a wide-ranging and balanced social dialogue with employee representatives.
Innovation, a key lever of growth

Our planet is undergoing substantial changes linked to human activity, with major underlying issues: access to health and well-being, climate change, and resource scarcity. To these Solvay has opted to devote its research and innovation: 22% of net sales in 2013 consisted of products, technologies and applications less than five years old*.

6 R&I areas to meet the challenges of the future

Advanced materials: expertise in polymers and formulation.

Sustainable energy: developing alternatives to fossil fuel consumption: new generation batteries, photovoltaics, bio-energy.

Organic electronics: materials to improve the sustainability of lighting devices and screens.

Eco-designed processes: new processes offering diminished raw materials and energy consumption, and reduced emissions.

Advanced formulations: creating responsible products that provide solutions to global issues.

Renewable chemistry: innovation in renewable or recycled raw materials.

Key figures

→ **15** major R&I centers

→ **1,950** employees

→ **€280 m** R&I effort

→ **80%** of Group R&I expenditure is managed by the GBU

→ **252** patents applied for in 2013

*These terms include new products or existing products benefiting from new processes introduced in the last five years; directed at new or existing applications.
Organized and mobilized around a shared vision

Since 2013, Solvay has been organized “BU-centrally” around the autonomy and accountability of the management teams of the Global Business Units (GBUs). As a driver of change, Human Resources is adapting its vision and mission to the Group growth challenges.

New working patterns are being introduced to accompany the transformation of the Group. Internal mobility is encouraged by a policy that invites talents to come out of their culture and skills “silos”. In growth areas, emphasis is also being placed on recruiting and retaining local staff. This multicultural dimension is proving a real asset as the Group multiplies its acquisitions.

Continuous skills improvement and the endorsement by every employee of the requirements of excellence are the keys to individual and collective performance. To achieve this, the Group deploys a worldwide human resources development system.

In line with its goal of responsible growth, the Group is careful to guarantee employees’ safety and well-being at work, and respect for their fundamental social rights.
Solvay has structured its businesses into five Operating Segments, each with its own specific business model and each comprised of Global Business Units (GBUs) having similar growth dynamics and competitiveness challenges. Each GBU is responsible for its own strategy and has the operational levers with which to implement it. All focus on a common goal: creating value for the Group while respecting their responsibility commitments.

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Advanced Formulations

A growth engine for the Group, the innovative offering of this Segment is aligned with major societal trends: population growth, new consumption patterns, etc.

Novecare

- The world’s leading producer of specialty surfactants; major player in the polymers, guar and phosphorus derivatives markets

Novecare creates formulations that provide specific functionalities to consumer products and to advanced industrial applications.

Coatis

- First Latin American producer of phenol and derivatives; leader in oxygenated solvents

Coatis offers products that meet the challenges of sustainable development from bio-sourced raw materials.

Aroma Performance

- World’s number one producer of diphenols and fluoroaliphatic derivatives; world’s number one producer of triflic acid, and of lithium salt for agro-food, pharmaceutical, electronics, and batteries markets

Aroma Performance is the partner of choice for aromas and fragrances producers. The GBU also produces synthesis intermediates for the pharmaceutical, agrochemical and electronics markets, along with monomer stabilizers for petrochemicals and energy storage solutions.
Another growth engine and a leader on markets with high entry barriers, the cutting-edge activities of this Segment generate high returns on investment.

**Specialty Polymers**

- World’s number one producer of specialty and high-performance polymers

With over 1,500 products, Specialty Polymers offers the widest range of specialty polymers in the world that serves high growth markets.

**Silica**

- Inventor of highly dispersible silica and world leader in applications for energy-saving tires

Silica is the reference supplier to manufacturers of energy-saving tires. The GBU also serves many other market segments: toothpaste, food, industrial products, rubber goods.

**Rare Earth Systems**

- World’s number one supplier of specialty rare earth formulations, with a global market share of over 25%

Rare Earth Systems offers a very wide range of rare earth formulations particularly prized for their exceptional catalytic, magnetic, luminescent or abrasive qualities.

**Special Chemicals**

- World leader in fluor, strontium and barium-based specialties

Special Chemicals provides high-added-value solutions to markets such as automotive, electronics, high-performance materials, energy conservation and storage.
Performance Chemicals

Operating on mature markets with low cyclical, this Segment’s success is based on economies of scale, competitiveness and quality of service.

Soda Ash & Derivatives

→ The world’s leading producer of soda ash and sodium bicarbonate

The production of soda ash and sodium bicarbonate, Solvay’s historical activity, is used mainly by the glass and detergent industries.

Peroxides

→ Leading global supplier of hydrogen peroxide

The world leader in hydrogen peroxides, Peroxides develops innovative applications and processes for markets like chemicals, food, textiles and the environment.

Acetow

→ Leading global producer of cellulose acetate tow for cigarette filters; number 1 in CIS and South America; number 2 in Western Europe; reference supplier of cellulose acetate flakes

Acetow is a reference partner for cigarette filter producers and a leading supplier of cellulose acetate flakes to the manufacturing sector.

Eco Services

→ Number one in sulfuric acid regeneration in the United States

Eco Services produces and regenerates the sulfuric acid used in refineries chemicals manufacturing and other industrial applications.

Emerging Biochemicals

→ Inventor and world leader in EPICEROL® technology; a leading producer of chlorovinyl in Southeast Asia

Created to develop green chemistry solutions, Emerging Biochemicals groups the activities to develop and produce chlorovinyl and epichlorohydrin in Asia.

* Raw material used in the production of epoxy resins.
Functional Polymers

The GBU in this Segment concentrate on polyamide 6.6. Right now engaged in major competitiveness improvement programs, they have opened new markets by launching innovative solutions.

**Polyamide & Intermediates**

- A leading world producer of polyamide 6.6 and adipic acid

Polyamide & Intermediates provides polyamide and polyurethane intermediates to a variety of markets.

**Fibras**

- Latin America’s number one manufacturer of polyamide (nylon)

Polyamide 6.6-based yarns and fibers are used in many textile and industrial applications.

**Engineering Plastics**

- Global specialist in polyamide 6.6-based solutions

Engineering Plastics sells a full range of high-performance materials used in automotive and transportation, construction, energy, consumer goods, etc.

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**Corporate & Business Services**

This Segment brings together the functions and services charged with achieving the Group’s objectives of operational excellence, energy efficiency and collaborative innovation.

**Energy Services**

The vocation of Energy Services is to improve the energy consumption and contribute to the reduction of the CO₂ emissions of Solvay. Building on the know-how, the GBU develops activities to meet the needs of energy transition markets.

**Business Services**

Business Services groups in a single organization, the Group’s IT services and its main administrative departments, with the goal of making the Group a benchmark for quality and efficiency.