asking more from chemistry

SOLVAY

Opening new perspectives   2013
As an international chemical group, Solvay assists industry in finding and implementing ever more responsible and value-creating solutions. The Group is firmly committed to sustainable development and focused on innovation and operational excellence. Solvay serves diversified markets, generating 90% of its turnover in activities where it is one of the top three worldwide.
Choosing to be a pioneer in a changing world

“Asking more from chemistry”: our new signature affirms our commitment to meeting high expectations in terms of safety, quality and innovation. We also assert loudly and clearly our pride in belonging to an industry that is determined to meet the challenges facing it and whose progress is also that of society at large. We believe that chemistry will help provide the long-term answers that industry, consumers and society are waiting for, and in so doing, contribute to the progress of mankind.

In 2013, Solvay begins a new chapter in its history. Affirming the Group's historical roots while also oriented toward the future, its new graphic identity and signature reflect Solvay's ambition, to become a reference for sustainable chemistry, with a solid culture of operational excellence and innovation.
Founded in 1863 by industrialist and researcher Ernest Solvay, Solvay celebrates its 150th anniversary in 2013 and affirms its position as one of the world’s leading chemical groups.

“We have always operated by imposing on our minds a duty of continuous progress.”

Ernest Solvay

EUR 12.4 billion net sales
111 sites and presence in 55 countries
29,100 employees
INVENTING A NEW MODEL OF SUSTAINABLE CHEMISTRY

Sustainability, responsibility: never have these issues been so crucial for mankind. All of us are looking for answers to the questions raised by an evolving world. How to respond to climate change? How to produce more with increasingly scarce resources? How to meet the needs of more than one billion new consumers? And how to achieve our aspirations for health and well-being?

We at Solvay are convinced that chemistry is a part of the answer. We prove this by imagining and producing increasingly innovative solutions that meet the sustainable development challenges facing our stakeholders. We are proud to be chemists and experts in our field, welded into highly qualified teams, and combining operational excellence and continuous improvement to blaze a creative path of shared value. In this way we proclaim our Group a committed and strong leader, ready to play its part in reshaping the global chemical industry.
More than one year after the acquisition of Rhodia and in the light of the results for 2012, what is your assessment of the operation?

The rightness of the operation is now amply demonstrated. Our strong positions and the balanced and diversified distribution of our various businesses enabled Solvay to post a strong operating performance in 2012, in a difficult economic environment. Free Cash Flow generation reached a record level, allowing us to continue to reduce debt, while we are proposing to increase the dividend by 4.3%, in line with the policy we have applied for several decades.

These results allow us to commit with confidence to a strategy of profitable growth. Solvay is today a leading global chemical group, determined to play its part in transforming this sector which is vital to the development of the global economy.

One of the challenges of 2012 was introducing a new organization. Where are you with this transformation?

The integration proper is now complete. After 16 months’ intense work and a radical transformation of its organization, the new face of Solvay is clearly visible. Solvay is a resolutely decentralized Group, global by vision, local in action, robust in size and agile in terms of management model. It is founded on strong fundamentals: its industrial know-how, its ability to innovate, its responsible operating, very close to its customers, and its determination to measure and minimize the impact of its activities on the planet. Built on these foundations, the Group has a very good hand: the strength of its financial structure and the distribution of its capital, a balanced presence in many markets, and ambitions and a product range to match today’s and tomorrow’s trends. We are in marching order, ready to advance!

“OUR RESULTS ALLOW US TO COMMIT WITH CONFIDENCE TO A STRATEGY OF PROFITABLE GROWTH.”
How is Solvay different in a chemical industry that faces many challenges?

To a sector where little consolidation has taken place to date, Solvay brings an original response. We have demonstrated our ability to complete the merger of two companies of similar size in record time. The professional skills of our teams and the way the integration was done have enabled us successfully to construct the new Group, with a new culture based on the long and rich histories of Solvay and Rhodia.

Another original feature of the Group – and one of its strengths – is the existence of a family shareholder group, loyal for generations, giving us the ability to develop with determination a vision and strategy for the long term. The new Solvay group is here to stay, proud of its 150-year history and continuing to bear aloft its founder’s vision of chemistry in the service of human progress. This has led us to give a stronger impetus to Solvay’s and Rhodia’s already significant advances in sustainable development and social responsibility.

Lastly, on this solid base, we are building a new organization that combines decentralization and group spirit. Closer to customers and markets and more effective, it will develop an entrepreneurial culture based on responsibility and the pursuit of excellence in all its activities in line with the Group’s vision.

Solvay has high profitability ambitions for the coming years. How will you achieve them?

We have also set ourselves the goal of generating – at constant scope – a REBITDA of EUR 3 billion in 2016. But not at any price; that’s what makes us different. We also want to be recognized as a model of sustainable chemistry by our practices and commitments. This double ambition is reflected in a strategy that combines organic growth, operating excellence, and innovation.

We will exploit our increased presence in high-growth countries, where we achieve almost 40% of our net sales. We are investing in Brazil, China, Thailand, Korea and Russia. We are also targeting markets offering high added value. For this reason we have just increased the production capacity of two French sites to serve the fast-growing specialty polymers market.

Another value creation lever is operational excellence in the industrial field, in supply chain organization and in the implementation of our commercial policies. We are also seeing the results of the first action plans to improve the competitiveness of our production sites and reduce the capital intensity of certain activities.

Another cornerstone of the strategy is innovation. How will this boost growth?

Innovation aligned with today’s economic and social megatrends is a major focus of our value creation approach. We need to be at the forefront to provide our clients with the materials, products and technologies they need.

The hallmark of Solvay’s innovation is also its focus on sustainable development. We want to offer the industries we serve solutions that offer the best possible environmental profile along the entire value chain. For example, we are developing efficient recycling processes that reduce our environmental footprint in polyamides and rare earths. We are also working on more efficient storage solutions in the energy field.

Finally we have developed a model of open innovation by developing collaborations with university teams and major research organizations. Solvay has put together four mixed teams with France’s Centre National de la Recherche Scientifique, two in France, one in the US and another in China.

Moreover, our Group has just entered the list of the world’s top 100 most innovative companies as ranked by Thomson Reuters.
As Solvay celebrates its 150th year this year, how do you see it evolving in the future?

Solvay has been, and always will be, a group focused on the future, which adapts to the challenges of the moment. This is how Solvay has moved forward, for 150 years.

This year it has, once again, amply demonstrated its ability to successfully carry out major transformations.

Our ambition is to make Solvay a model for sustainable chemistry, creating value for all its stakeholders. With our financial strength, we will succeed here by mobilizing our teams around the relentless pursuit of excellence in all areas. Solvay is profiled to last, to grow further, and to contribute as a major player to the consolidation of the sector.

Jean-Pierre Clamadieu
Chairman of the Executive Committee and CEO

“We want to be recognized as a model of sustainable chemistry by our practices and commitments.”

“Innovation is a major focus of our value creation approach.”

“We are building a new organization that combines decentralization and group spirit.”
A PROFILE FOR SUSTAINABLE GROWTH

Our strategy is founded on value-creating growth and operational excellence. Its three key levers are: Research & Innovation focused on the major challenges facing society, enhanced investment in fast-growing regions and markets, and operational excellence in all areas to consolidate our competitiveness and leadership positions. With a new organization and an increased global presence, the Group is now ready to achieve its ambition for profitable growth: EUR 3 billion of REBITDA by 2016.
“I want to ensure that sustainable development creates value.”

Mechelle Engemann  
Sustainable Development Manager Novecare, Winder (United States)

“My priority is to help teams improve the environmental footprint of our activities by using bio-sourced and environmentally-friendly raw materials. I think here in particular of guar, a bean used in many applications, such as reducing soil evaporation in tropics, and oil and gas well stimulation. In this area, I am planning to compare the lifecycles of traditional chemicals and guar. We are going to precisely evaluate their respective sustainability based on several key aspects. My goal is to ensure that sustainable development creates value for our company and all our stakeholders.”
PROVIDING OUR CUSTOMERS WITH EVER MORE SUSTAINABLE SOLUTIONS

Our strategy is to focus our activities on those markets to which we bring value, by developing for our customers innovative and competitive solutions that are tailored to the present and future demands of their final consumers.

CONSUMER GOODS
Our highly diversified offering makes daily living more pleasant for millions of consumers. Our solutions and applications are used in particular in cleaning, personal care, nutrition and human health products, textiles and sports equipment.

AUTOMOTIVE
We support manufacturers’ advances toward sustainable mobility with a wide and varied range of high-performance products and applications. Our silicas make tires more energy-efficient, while our engineering plastics and specialty polymers lighten the weight of vehicles. We also develop materials based on our rare earths that reduce polluting emissions.

ENERGY
For industrial customers, we devise cutting-edge solutions that increase energy efficiency in industrial installations or the amount of energy stored in lithium batteries. Our products are used to generate energy from renewable resources (solar and wind), and in fuel cells, and gas-diffusion membranes and heat transfer.
ENVIRONMENT
Our solutions help protect the environment in daily life and in industry. They are used in air-emission control, soil remediation, water supply and treatment, gas-separation membrane technologies and water purification membranes.

CONSTRUCTION
Our product range meets the needs of manufacturers of paints and coatings, thermal insulation, window frames, electrical wiring, cabling, and pipes and fittings for heating and cooling systems, as well as blowing agents and flame retardants.

AGRICULTURE
For pesticides manufacturers, we develop substitutes for conventional additives that are safe, easy to use, environmentally-friendly and effective. The Group also provides silica and sodium bicarbonate to animal-feed manufacturers.

ELECTRICITY AND ELECTRONICS
Our high-performance products support the progress of these industries. Applications include conductive and photovoltaic materials, coatings for flat-panel displays, semiconductors, medical imaging, digital cameras, optimizing the energy efficiency of electric lighting, electrical insulation components and organic electronics.

PAPER
Solvay is a leading supplier to the world’s paper industry. Our products are used at different stages of production: hydrogen peroxide for bleaching paper pulp, caustic soda for pulp production and sodium carbonate for preparing the paper (opacification, coating formulation).

OTHER INDUSTRIES
Providing environmental performance while remaining competitive is a major challenge for advanced industries. In pursuit of these objectives, our process agents and intermediates are used for numerous applications.
ACCELERATING OUR EXPANSION IN GROWTH AREAS

With a well-balanced geographic presence and solid positions in growth regions, Solvay is accelerating its geographic expansion through production capacity increases and targeted acquisitions.

In 2012, Solvay significantly expanded its production capacity in the region, by increasing capacity in India and consolidating its industrial presence in China and Thailand. The opening of a new Research & Innovation center in India makes Asia home to the group’s second research cluster.

Almost 40% of net sales are realized in high-growth countries, accounting for 1/3 of the workforce.

50% of growth investments are being made in the world’s strongest-growing countries (Russia, China, India, Korea, Thailand, Middle East, etc.).
Solvay was historically the first chemical group to go global. Less than 10 years after its creation, Solvay began its international expansion in Europe and the United States, with a mix of fully-owned plants and partnerships. Ever since then, strengthening of its global presence has been a key element of Solvay’s development.

<table>
<thead>
<tr>
<th>Region</th>
<th>% of Net Sales</th>
<th>Employees</th>
<th>Industrial Sites</th>
<th>R&amp;I Centers</th>
</tr>
</thead>
<tbody>
<tr>
<td>NORTH AMERICA</td>
<td>20%</td>
<td>3,400</td>
<td>29</td>
<td>2</td>
</tr>
<tr>
<td>LATIN AMERICA</td>
<td>10%</td>
<td>3,800</td>
<td>9</td>
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INNOVATION, THE KEY LEVER OF GROWTH

Solvay’s Research & Innovation has today a critical mass that will enable it to accelerate its development and enhance its leadership in its areas of expertise. Research and Innovation’s mission: to contribute to the Group’s operational excellence, strengthen its leadership positions, identify future trends and develop new technologies with which to expand the activities portfolio and open new markets for existing activities.

INNOVATION FOCUSED ON SUSTAINABLE DEVELOPMENT

Research & Innovation (R&I) carries our ambition to be a model for sustainable development. The demanding SPM (Sustainable Portfolio Management) methodology is applied to R&I projects right from the design stage to measure their environmental and societal impact.

SIX INNOVATION THRUSTS ALIGNED WITH MEGATRENDS

Scarcity of resources, fight against climate change, soaring consumption in high-growth parts of the world, new demands for environmental care, health and well-being, these are the trends that determine the main thrusts of our R&I policy.

> Coming up with new materials that are more effective and eco-efficient, less resource-intensive, safer and lighter, by exploring the possibilities offered by the Group’s expertise in plastics, soft matter and nanotechnologies;

> Developing renewable chemistry, opening the way for technologies that promote the use of renewable raw materials: new bio-based compounds, recycling processes;

> Contributing to the creation of sustainable energy solutions, such as photovoltaics and fuel cells, as well as the development of new components for more efficient, lower environmental impact batteries;
> Producing more efficiently and more responsibly: reducing the environmental impact of our activities and optimizing resource utilization, increasing competitiveness and reducing the capital intensity of our industrial activities;

> Supporting the growth of expanding markets, for example in organic electronics;

> Developing ever more responsible consumer products, meeting consumer expectations and adapted to local needs for sustainable, healthier, safer and more efficient products.

Solar Impulse shows what the Solvay culture is a state of mind common to all employees – not just researchers – who are encouraged, each at their level, to dare to create and take a longer view. This long-term approach is based on the firm belief that openness to the outside world and collaborative innovation are progress accelerators.

In 2012, Solar Impulse made its first intercontinental flight between Switzerland and Morocco, demonstrating that a solar aircraft can fly day and night without fuel. Solar Impulse’s partners are now busy building a second prototype, with the goal of flying around the world. For this, the aircraft has to be perfected in terms of power, self-sufficiency and design.

CREATION OF THE SOLVAY PRIZE FOR CHEMISTRY FOR THE FUTURE

To perpetuate its founder’s strong commitment to scientific research, Solvay’s Executive Committee has created the Solvay Prize for Chemistry for the Future, intended to support basic research and underline the essential role of chemistry in the progress of humanity. Awarded every two years by an independent committee, the award is worth EUR 300 000. The first Solvay Prize award ceremony will take place in Brussels in November 2013.

WHEN VISION BECOMES REALITY

The pioneering spirit, the desire to push back the boundaries and to tame the unknown distinguish all the players involved in the success of Solar Impulse, the first airplane to fly solely on solar energy.

Back in 2004, Solvay was the first partner to commit to this adventure, with a desire to demonstrate that chemistry can contribute to constructing sustainable solutions for the planet.

The Group provides the project with expertise in the field of materials and the analysis of their behavior in extreme environments. In total, Solvay has contributed to the manufacture of 6 000 items used in building the airplane.
Backed by a global network of expertise and resources, Solvay Research & Innovation is focused on the sustainable growth of the Group. Its ability to combine incremental innovation and large ground-breaking projects allows us to prepare for the future by consolidating the present.

**MAJOR RESOURCES TO POWER THE GROUP’S AMBITIONS**

Our global network combines 13 R&I centers, eight advanced laboratories and 35 laboratories researching business-specific applications. Integrated into the daily world of the Global Business Units (GBUs), researchers work closely with the marketing and production departments. This direct contact with our “people in the field” promotes operational innovation in line with the short- and medium-term needs of markets: accelerated lead times for new products, reduced costs, and compliant with societal and regulatory expectations. These are some of the objectives that we share with our customers.

In 2012, the Group introduced new resources to support our customers in growth regions. In Asia, an R&I center was inaugurated in India, while another is under construction and will be operational in late 2013 at the Ewha Women’s University in Seoul, Korea. In China, the Shanghai research center is being expanded with the construction of a new building, which will be operational by mid-2013. In Brazil, a new laboratory is under construction on the Paulinia site.

**“OPEN INNOVATION” ACCELERATOR OF PROGRESS**

We believe strongly that innovation is thinking differently, but also and increasingly, listening to and working with others. This openness allows us to be attentive to the megatrends of society, to identify new areas of growth, and to track down and analyze the breakthrough projects that deserve to be prioritized and accelerated.

This open innovation is based on close collaboration with the academic world. Solvay partners with France’s Recherche Scientifique (CNRS) and with universities in several programs in joint laboratories: Advanced Polymers in Lyon (France), Laboratory of the Future in Bordeaux (France), Complex Fluids in Bristol (USA) and the Eco-Efficient Products and Processes Laboratory in Shanghai (China). In Brazil, in 2012 Solvay entered into partnership with the National Bioethanol Science and Technology Laboratory (CTBE) to produce high added-value compounds from sugarcane biomass.

**INVESTMENTS AND SHAREHOLDINGS**

In Korea, the agreement with Ewha provides for the future joint research center to cooperate with the university’s Center for Intelligent Nanobiomaterials. To develop new materials in electronic photovoltaics, Solvay is cooperating with Imec, a company specializing in nano-electronics research. In France, Solvay has joined other industrial companies and public research institutions by a global network of expertise and resources.

| 13 | major global R&I centers |
| 1900 | researchers |
| 300 | new patents |
| EUR 85 million | investment in shareholdings |
| EUR 261 million | net R&I investment |

Supporting innovative SMEs in emerging sectors

As a crucible for alternatives to petrochemicals, industrial biotechnologies are a key area for Solvay, which is seeking to significantly increase the share of renewable raw materials in its product portfolio. In 2012, Solvay invested EUR 5 million in Sofinnova Green Seed Fund to finance European SMEs that are innovating in this area. We will be making our network of technology and market experts available to the fund and to the selected projects.

1. In risk capital and start-up funds.
Solvay in the world’s Top 100 most innovative companies

Solvay appears in the “Top 100 Global Innovators 2012” ranking by Thomson Reuters, which singles out the world’s most innovative companies, primarily on the criteria of the volume and significance of their patents.

RESOURCES BOOSTED IN INDIA AND KOREA

In India, the establishment of a new R&I Center places the Group in the heart of rapidly expanding markets. This center, at Savli in the State of Gujarat, will focus on developing high-performance polymers, organic chemistry, nanocomposites and green chemistry. In Korea, the future Seoul center will undertake joint research with the EWHA women’s university in electronics, Li-ion batteries and solar cells.

Open innovation also takes the form of investments. To enlarge its innovation potential and to access cutting-edge expertise, Solvay invests in high-technology start-ups like Plextronics, Polyera, Eight19 and ACAL, in selected areas – biotechnology, photovoltaics and advanced materials – identified as priorities for the Group.

Additionally, Solvay invests in venture capital funds that provide seed money in specific sectors. In 2012, the Group invested in the Green Seed Fund and opened a representative office in Silicon Valley.

The Group’s GBUs are also involved in numerous eco-developments with their customers and other partners in the value chain. In this way, dialogue with players in the low-consumption light bulbs sector gave rise to the rare earths recycling process. Several partnerships will strengthen our expertise in green chemistry: with Roquette, a leading starch manufacturer, our Acetow activity will co-develop a range of starch acetates to offer a lasting and economically high-performance alternative to fossil-based polymers. We will also be using a technology acquired from Avantium to develop new polyamides based on renewable raw materials offering better environmental profiles at a competitive cost.

In “Competitiveness Clusters” and “Institutes of Excellence” to promote plant-based chemistry, eco-technologies and non-carbon energy.

Strategy
The Group’s new dimension and the task of integrating teams in 55 countries face Solvay with the enormous challenge of uniting these energies within a motivating, dialogue-promoting framework, and mobilizing teams toward the common goal of achieving the Group’s ambitions.

The new organization that we introduced at the beginning of 2013 responds to this challenge. Based on the principles of accountability and delegation, it is intended to encourage initiative at each decision level.

Embedding these principles in our management and in the field required us to transform our culture, and throughout 2012 the teams worked on this. As a result of this teamwork and of a shared vision, the new Solvay culture is thus defined as a culture of accountability and results. Reflecting the Group’s tradition of excellence, it is built on two pillars: a management model and a “social contract”. This foundation allows everyone, regardless of their level in the organization, to develop behaviors consistent with our new ambition. Employee ownership is of great importance. The new management model builds on our tradition of excellence and aims...
to empower teams, committing them to tangible objectives, and encourages a “customer-oriented” state of mind which is creative and collaborative. The “social contract” established between the Group and its employees promotes the type of relationship based on dialogue, mutual respect and transparency.

**TALENTS TO MATCH THE GROUP’S AMBITIONS**

Our employees are the driving force behind the transformations in the Group. Solvay’s success depends on its ability to identify potential, develop skills and offer everyone a stimulating work environment.

**Attracting the best talent**
To enhance its attractiveness, the Group has redefined its employer brand, which will be deployed in 2013. This emphasizes its new vision, its international dimension, its innovation capacity and an active career development policy. Solvay is also developing partnerships with networks of strategic importance, is professionalizing its recruitment practices and is strengthening its presence in social networks and the web.

A human resources management focused on employee development
The Solvay culture encourages each employee to contribute to the Group’s performance, to grow personally and professionally, and to make the most of the many career opportunities that the organization offers. This philosophy prioritizes the development of our employees. Their individual development is based on assessment and training. An annual assessment and performance interview allows all employees to evaluate their past year’s contributions with their managers and to construct development plans to maximize their potential. Training, mobility and international exposure are all tools for a successful career.

**SOLVAY CORPORATE UNIVERSITY: A LEVER FOR TRANSFORMING THE GROUP**
As an agent of change and integration, Solvay Corporate University (SCU) has a triple mission: to train the skills needed for the success of the Group’s activities, to contribute to sharing the new culture, and to encourage the exchange of practices and know-how.

In 2012, the SCU began adapting its offering and methods to the new priorities, with programs focused on leadership, management and personal development. “Academies” are also being created for each job family to enhance each employee’s performance in his or her particular function.

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**THE PEOPLE MODEL, A “SOCIAL CONTRACT” BETWEEN SOLVAY AND ITS EMPLOYEES**

The employee commits to Solvay:
> To respect the goals, create value and assume his or her responsibilities;
> To live the ethical values of the Group, behave with a real team spirit, and act as a Group citizen;
> To report transparently on his or her actions, and view the assessment process as a tool for progress.

The Group commits to employees:
> To inspire and direct them by offering them an ambitious vision;
> To enable them to develop and provide them with interesting career opportunities;
> To act fairly and respectfully.

Andrew Foster
Chief Learning, Brussels (Belgium)

“For the entire team, contributing to the creation of a multicultural group is a formidable challenge. Our program for 2013 is a busy one, because the priority across the world is to speed up the integration of our teams and especially to promote the new culture. We also have to create and develop the skills needed to achieve Solvay’s ambitions and, as part of this, help employees uncover and achieve their potential. In 2013, for example, eight training programs in leadership and management will be offered globally, and the training offering by our internal experts will be enriched. New modules will be provided to enable employees to move forward in their particular areas or acquire transversal skills that will promote mobility within the Group.”
AN ORGANIZATION TO SERVE OUR AMBITIONS

To adjust its management structure and its operations to the diversity of its businesses, Solvay has redrawn its organization, with a focus on simplifying and decentralizing its decision-making. Thanks to these changes, the Group is closer to its customers, more agile and better placed to seize opportunities and realize its growth ambitions.

FIVE OPERATING SEGMENTS SERVING THE STRATEGY

Effective January 1, 2013, Solvay is organized into five Operating Segments, focused on the key success factors of the fields of activity. Each Operating Segment brings together, with a specific business model, GBUs sharing common characteristics and similar competitive, technological and/or regulatory dynamics.

The new organization favors an entrepreneurial approach focused on value creation. Close to its customers and markets, each GBU has the requisite operating resources to implement its strategy:

> **Advanced Materials** offers ultra-high-performance applications for aerospace, high-speed trains, health, low-energy tires, automotive emission control, smartphones and hybrid vehicle batteries.

> **Performance Chemicals** operates in mature and resilient markets, where success is based on economies of scale, competitiveness and quality of service.

> **Functional Polymers** brings together the chlorovinyls chain and the polyamide activities to serve primarily the construction, infrastructure, automotive, electrical and electronics markets.

> **Consumer Chemicals** serves the consumer products markets. Its growing product offering is directed at societal megatrends: demographic growth, the rising purchasing power of emerging markets, the appearance of new modes of consumption, and a demand for safer, more sustainable products and renewable materials-based solutions.

> **Corporate & Business Services** includes the Energy Services GBU and Corporate Functions such as Business Services and the Research & Innovation Center. Energy Services’ mission is optimize energy consumption and reduce Group and third-party emissions.

AN EXECUTIVE COMMITTEE TO SUPPORT BUSINESS AND GROWTH

Solvay’s culture of delegation is based on two-level decision-making: the Executive Committee (Comex) builds the Group’s vision and its mid- and long-term strategy, which the GBUs implement.

Acting as a collegial body, the Comex watches over the achievement of objectives and optimizes resource allocation across GBUs. It is collectively responsible for overall performance and for protecting the Group’s interests.

It is supported in its mission by transverse functions, which define common policies, ensure their implementation and ensure compliance with them.
On December 5, 2012, more than 500 managers from 26 countries convened in Brussels to discuss the new organization and the transformation of the corporate culture. This final stage of the integration process has united the management team around a shared vision and desire to face together the challenges ahead.

1. Restated figures as per new organization effective as from January 1st, 2013. Under the new organization, there are changes in the allocation criteria of formerly non-allocated elements and other structure costs between Corporate Functions and Operating Segments.
Carried forward by a common culture of results and responsibility, Solvay’s activities today have additional resources for developing their leadership positions, investing in new markets and improving their operational excellence.
“China is the world’s largest car-buying nation, and car manufacturing in China has grown rapidly over the past 10 years. I have found that manufacturers are increasingly concerned with sustainable development issues. When talking with customers, I see that Solvay’s lead in this field is a valuable differentiating factor, and I exploit it by pointing to our success in other regions. Our customers are particularly interested in our under-the-hood applications, such as our advanced design and simulation tools that can help them optimize the performance of their molding techniques. It’s exciting to contribute with our expertise to the progress of an industry on this scale and rewarding to be the ambassador of a group like Solvay on so vast a market.”

Stephanie Zhang
Business Development Auto, Specialty Polymers, Shanghai (China)
The consumer goods market is experiencing soaring growth in all areas, supported by strong demand from emerging countries and the desire of consumers around the world for sustainable, safer and healthier products. Key drivers of Solvay’s growth, the Consumer Chemicals activities support this progress through geographic expansion, the strengthening of their value-creating technological expertise and innovation focused on sustainable development.

As a front-runner in a vibrant and diversified specialty market, Novecare has since 2010 deployed an ambitious strategy to achieve double-digit annual growth, based on organic growth in emerging countries and a highly dynamic innovation policy.

The GBU is also reinforcing its development through targeted acquisitions. Following the successful integration of the cosmetics and detergents activities of the McIntyre Group (USA) and the 2011 acquisition of Feixiang Chemicals, China’s leading producer of amines and surfactants, Novecare acquired in 2012 the Indian company Sunshield Chemicals. This operation enables it to consolidate its leadership in Asia and benefit from a booming Indian market.

Sibur. The latter offers Ruspav privileged access to raw materials, while Novecare provides technological expertise, market knowledge and its network of global customers.

In 2012, a year of strong demand for guar-based products, Novecare stood out with its customers for the exceptional quality of its integrated offering. To meet the growing use of guar, Solvay increased its production capacity by 40%.

Surfactants and polymers are compounds that transform the behavior of fluids, delivering emulsifying, dispersing, penetrating, fluidizing, cleaning, wetting and other properties. Used in all kinds of manufacturing processes, they are found in products or applications as diverse as shower gels, detergents, paint, metal processing, oil and gas extraction.
COATIS

- Largest Latin American producer of phenol derivatives.
- Leader in oxygenated solvents.
- 2012 net sales: EUR 506 million

Coatis utilizes several levers to expand its business: substitute products that meet the current challenges of sustainable development, an historical presence in Latin America, a portfolio of competitive products and privileged access to bio-sourced raw materials (ethanol and glycerol). Phenols and derivatives produced at the Paulinia site in southeast Brazil are used in the production of synthetic resins employed in foundries, construction and abrasives. The expansion of its production facilities, completed in May 2012, enables the GBU to meet strong global demand and increase its market share in Latin America.

Coatis’ oxygenated solvents, another flagship product, play an essential role in the automotive, adhesives, inks, industrial coatings and other sectors. They are used as a substitute for chlorinated solvents owing to their low toxicity and impact on the ozone layer, their biodegradability and their high solvent power.

In 2012, Coatis continued to develop its range of bio-sourced solvents by expanding the AUGEO® range of innovative solvents produced from glycerin (a renewable feedstock derived from biodiesel). The GBU has also launched a project to produce bio n-butanol from bagasse, a renewable by-product from the crushing of sugarcane.

LAUNCH OF BIOREFINERIES IN LATIN AMERICA

In Brazil, Coatis has joined forces with Cobalt Technologies to manufacture bio n-butanol at lower cost using sugarcane residues. Following a feasibility study, in 2012 the partners began building a pilot plant using the proprietary biocatalysts and the advanced bioreactors developed by Cobalt. Their medium-term ambition is to build several biorefineries alongside sugar plants in Brazil and in other Latin American countries. They are also keen to capture new markets with chemical companies and fuel producers.
AROMA PERFORMANCE

> World’s largest producer of diphenols and derivatives (vanillin, inhibitors).
> Number three producer of trifluoric acid.
> 2012 net sales: EUR 376 million

As one of the leading global providers of fluorinated intermediates, Aroma Performance is the partner of choice for manufacturers of aromas and fragrances. The GBU also produces synthesis intermediates for the pharmaceutical, agrochemical and electronics markets, as well as monomer stabilizers for petrochemicals.

Its leadership in the vanillin market is based on its ability to meet strict food-safety and environmental-protection regulations. Aroma Performance is likewise the only player to produce diphenols worldwide. With a manufacturing presence in North America, Europe and Asia, it offers its customers, in particular major food processors, a geographic proximity that promotes quality service and collaborative partnerships.

Its innovativeness is a further factor in its success: in 2012, the GBU consolidated its position by launching the GOVANIL™ range. The outcome of several years of research and development, this new-generation vanillin can compensate for the reduction of fats or sugar in cookies and cakes. These properties greatly expand the range of possibilities for applications in the food industry.

Aroma Performance is also very active in fast-growing niche markets such as energy storage, electronics and the pharmaceutical industry, with their continuously rising need for specialty fluorinated derivatives. In 2012, the GBU decided to invest more than EUR 10 million in its Salindres plant (France) in order to double production capacity by the second half of 2013. Fluorochemicals are increasingly used in electronic applications (antistatic applications for flat screens, liquid electrolytes and liquid crystals), while lithium salts are also an essential component of Li-ion batteries for electric vehicles.

In 2008 the Group refocused on its Chemical and Plastics businesses and sold its pharmaceutical activity for EUR 5.2 billion.
LONG-TERM CONTRACT SIGNED WITH THE BOLLORÉ GROUP

At the end of a joint research and development program, the Bolloré group chose Aroma Performance to provide lithium salt (LiTFSI) to its BatScap and BatHium Canada Inc. subsidiaries. The LiTFSI will be used in the Lithium-Metal-Polymer (LMP®) batteries fitted to its electric vehicles. The chemical and thermal stability of Aroma Performance LiTFSI, combined with excellent electrochemical properties, enhances the safety and durability of LMP® batteries. Production will take place at Salindres in France and in China.
Advanced Materials designs solutions to meet the sustainable-development concerns of high-performance industries. The growth of its various activities – higher than that of the markets they serve – is supported by the demand for less energy consuming and less polluting functionalities. Their innovation capacity, global presence and the long-term partnerships they have built up with their clients give them a competitive advantage in high potential markets.

**SPECIALTY POLYMERS**

> World leader in specialty polymers and high-performance polymers.
> 2012 net sales: EUR 1 348 million

Specialty Polymers produces the widest range of specialty polymers in the world: more than 1 500 very-high added-value products and 35 brands for high-growth markets such as energy, medical applications, water, advanced transportation and communication devices. Innovations directed at sustainable development and geographic expansion are the main thrusts of a strategy that anticipates a continuously increasing demand for ‘clean’ technologies and energy in all regions of the world.

In 2012, Specialty Polymers made significant investments at its European and Asian sites. In France, the capacity increase at the Tavaux (Jura) unit permitted a 50% increase in our local production of polyvinylidene fluoride (SOLEF® PVDF) and reinforced our leadership position in the booming European market. SOLEF® is used in particular in hybrid and electric vehicle batteries, in oil and gas extraction, in the production of semiconductors, in membranes for wastewater purification equipment and in energy storage for electronics devices.

In Asia, where it generates more than 30% of its sales, the GBU inaugurated its new compounds plant in Changshu (Jiangsu Province, China) to meet local demand for the electronics, automotive, industrial applications and consumer products markets. EUR 21 million was invested in the construction of this unit, the capacity of which can be expanded at a later date.

Specialty Polymers also announced a 70% increase in the capacity of its Indian site specializing in the production of innovative PEEK and PAEK polymers, which are at the top of the plastics performance pyramid. The first half of this extension has been successfully implemented. The second will be operational by mid-2013. Parallel with this, the GBU expanded its global R&I platform by opening a major research center at Savli (Gujarat State), India.

**Performance generating excellence**

The Spinetta, Italy site is piloting an excellence project to increase production with no investment other than to work on behaviors and attitudes. Increased inter-function collaboration and the involvement of the teams in performance diagnostics are bearing fruit; since 2011, the site has beaten one production record after another and significantly increased its overall performance: EUR 16 million of savings have already been achieved.

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1. Fluoropolymers, fluoroelastomers, fluorinated fluids, semi-aromatic polyamides, sulfonated polymers, aromatic ultra-polymers, high-barrier polymers and high-performance cross-linkable compounds.

2. Number of sites where the GBU operates. A single site may be shared by several GBUs.
MEMBRANES AT THE HEART OF CLEAN ENERGIES

Membranes developed by Specialty Polymers are at the heart of two major advances: the use of hydrogen fuel cells for “zero-emission” cars and a one-megawatt proton-exchange membrane (PEM) fuel cell permits the conversion of a factory’s hydrogen production into electricity. This process, operational at the SolVin plant in Antwerp (Belgium), has generated more than 500 megawatts in 800 operating hours, equivalent to the electricity consumption of 1,370 homes during the same period.
Inventor of highly dispersible silica and world leader in this market. 2012 net sales: EUR 382 million

Silica is the reference supplier to manufacturers of energy-saving tires. Silica’s multiple properties also provide solutions to the oral hygiene, animal nutrition and other industrial markets (battery separators and high-performance rubber).

Driving this activity is organic growth achieved by increasing production capacity for highly dispersible silicas and developing value-creating partnerships with global customers.

In the sustainable mobility market, innovation is the strategic lever of the GBU, which is developing solutions to provide tires that are safer and permit energy savings. Since November 2012, the GBU has benefited from the entry into force of the new EU tire labeling standards.

One of the most recent innovations, ZEOSIL® PREMIUM, a latest-generation high-surface-area silica, allows it to support its customers in meeting the “green tire” challenge.

For the past two years, anticipating growing demand, the GBU has increased by 40% its global production capacity: 2012 investments in France (Collonges-au-Mont-d’Or, Rhône) complemented those made in 2011 in the United States (Chicago Heights, Illinois) and in 2010 in Asia (Qingdao, China).

With nine manufacturing sites worldwide, Silica is the only manufacturer of highly dispersible silicas to have production sites providing products of identical specifications in America, Europe and Asia, and able to provide the growing needs of its customers.

World’s number one supplier of formulations based on rare earths, with a global market share of nearly 30%, in particular in automotive catalysis and the luminescence and electronics markets. 2012 net sales: EUR 434 million

Rare earths is the generic term for 17 natural non-ferrous elements present as ores in the earth’s crust. These are particularly prized for their exceptional catalytic, magnetic, luminescent or abrasive qualities.

Rare Earth Systems has the broadest portfolio of activities in the sector, with its advanced applications contributing to the strong growth of its markets. Its strategic development thrusts are automotive catalysis, electronics and recycling technology.

Rare Earth Systems products lie at the source of many innovations used in everyday life, such as automotive emission-control.

9 industrial sites 1. Number of sites where the GBU operates. A single site may be shared by several GBUs.

650 employees 1

1120 employees
systems, energy-saving light bulbs, energy-saving tires, LCD TV screens, semiconductors and capacitors for laptops and tablets, medical equipment, power tools, etc.

Rare Earth Systems is recognized as a strategic partner by its customers. A particular strength is the diversity and reliability of its sources of supply. It also offers them a unique level of support with its technological innovation capacity, manufacturing expertise, global presence, and R&I proximity.

**SPECIAL CHEMICALS**

> Among the world leaders in fluorine chemistry.
> 2012 net sales: EUR 579 million

Special Chemicals operates in many markets: energy conservation and storage, semiconductors, electronics, food processing, health and high-performance materials. The GBU is particularly known for its solutions for high-end applications such as heat exchanger fluids and Li-ion batteries. These developments are based on its mastery of an innovative technology for producing fluorinated gas: used as a substitute for nitrogen trifluoride gas, this cleaning gas provides significant benefits for the environment and undeniable productivity gains for its users.

Favoring a strategy focused on its customers’ needs, Special Chemicals continues to grow in high value-added niches, working with partners that are leaders in their markets. In January 2012, for example, it set up a joint venture with Air Liquide to operate modular fluorine gas production units at customer sites worldwide (producers of flat-panel displays and thin-film silicon photovoltaic panels).

Geographic expansion is another growth driver: Special Chemicals will increase its production capacity in Asia to better serve the rapidly expanding automotive and semiconductor industries, especially in China. The GBU will also build a new NOCOLOK® Flux plant there. This product is used as soldering flux to produce lighter weight aluminum heat exchangers to meet the requirements of the automotive industry.

**RARE EARTH SYSTEMS RECEIVES THE ICIS SUSTAINABLE INNOVATION PRIZE**

Solvay’s rare earths recycling technology was declared “Best Sustainable Innovation” by ICIS, a leading worldwide provider of content and information on the chemical and energy sectors. The process involves extracting and separating the luminophorous powders contained in spent low-energy light bulbs. These are collected, sorted and processed by specialist companies that recycle the different components (glass, metals, etc.). Once recycled and formulated in the Group’s plants, the rare earths are sent back to manufacturers and reused in the production of new bulbs.

In September 2012, Solvay opened in France its first rare earths recycling plant dedicated to light bulbs. Apart from light bulbs, the GBU is actively developing the recycling of batteries and magnets.

21 industrial sites
2,300 employees

Electrolysis and chlorine derivatives activities take off.
Performance Chemicals operates in cyclicality-resistant niche markets, where the main success factors are economies of scale, competitiveness and quality of service. Solvay’s leadership here is based on marketing and logistics excellence: its markets find their dynamics in our constantly updated product offerings.

**ESSENTIAL CHEMICALS**

> World’s largest producer of, sodium carbonate and bicarbonate and hydrogen peroxide.
> 2012 net sales: EUR 1,811 million

Essential Chemicals relies on the technological innovation of its processes and on its operating excellence to carry forward its activities. Its constant concern is to provide superior service to its customers, while all the time improving productivity and quality.

**Sodium carbonate and bicarbonate**

A product of inorganic chemistry, sodium carbonate serves essential global markets such as the glass and detergents industries. In Europe, Solvay’s synthetic process is based on sodium, limestone and ammonia; in the United States (Wyoming) it operates a natural sodium carbonate (trona) mine that is one of the largest of its kind in the world. This mine meets the growing regional and global market.

Sodium bicarbonate serves industrial markets like pollution treatment, health – in particular hemodialysis –, the detergents sector and the food and animal feed industries. Bicarbonate is used in developing markets like the neutralization of acidic flue gases with SOLVAIR® or animal feed with the BICAR® Z livestock dietary supplement.

In December 2012, the Group announced the launch of a project to optimize its global industrial footprint. In Southern Europe and the Mediterranean, the Group is adapting to its evolving environment and adjusting its production capacity. Throughout the world, it is undertaking operational excellence initiatives to strengthen its positions.

**Peroxides**

Solvay is the leading global provider of hydrogen peroxide, used especially for bleaching paper pulp. More generally, peroxides serve the chemicals, mining industry, disinfection, detergents, textiles and environmental products markets.

In 2012, Essentials Chemicals significantly increased its hydrogen peroxide production capacity in the world’s strong growth regions (Asia and Latin America). Recognized for their technological innovation, the teams have developed manufacturing processes with which to operate profitably both small on-site units and giant factories. Thus, Solvay owns the world’s largest hydrogen peroxide plant at Map Ta Phut (Thailand) and is involved in a project to build a mega-plant in Saudi Arabia on the Sadara site. Parallel with this, the GBU has launched an innovative technology for setting up small low-cost units on paper pulp production sites in remote areas, especially those currently being built in Latin America. Finally, it is multiplying its innovations in order to diversify into niche markets, such as disinfection or aquaculture or developing specialty derivatives.

**SOLVAIR®**

Sodium bicarbonate neutralizes the acids present in gases, in particular hydrochloric acid, sulfur dioxide and hydrofluoric acid. To help industrial companies meet their emission limits, Solvay has created a range of solutions – SOLVAIR® Solutions – using bicarbonate to control air emissions and associated waste. This large and promising market responds to the Group’s mission to develop innovative chemical solutions to reduce the impact of industrial activities on the environment.

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1. Hydrogen peroxide, calcium and magnesium peroxides, peracetic acid, persalts...
2. Number of sites where the GBU operates. A single site may be shared by several GBUs.
This is the production capacity of the Map Ta Phut (Thailand) unit. This joint venture of Solvay and Dow Chemical uses high-efficiency technology patented by Solvay that permits the construction of large-scale installations with higher productivity and lower water and energy consumption. The Map Ta Phut plant will provide a quarter of its production to Solvay Peroxythai Limited (SPX), which has been the main producer of hydrogen peroxide in southeast Asia for over 20 years. In this way SPX will be able to more than double its capacity and strengthen its position as an industry leader in the region.

300 000 TONS OF HYDROGEN PEROXIDE PER YEAR

1913

98% of the world's soda production is by the Solvay method.
ACETOW

- World’s number three producer of cellulose acetate.
- Number one in the CIS and Latin America.
- Number two in Western Europe.
- 2012 net sales: EUR 616 million

From plants on four continents, Acetow is the reference supplier for cigarette filter manufacturers and a leading provider of cellulose acetate flake to the textile industry. The GBU regularly offers its markets innovative, higher added-value products (faster-decomposing tow, new filtration systems, choice of colors). It is also developing new applications for packaging cosmetics, food (Europe) and computer peripherals and telephones (Asia). In 2012, Acetow expanded its offering by signing a license agreement to manufacture and distribute the ACCOYA® acetylation technology, which is used to make ultra-resistant wood.

7 industrial sites
520 employees

EMERGING BIOCHEMICALS

- 2012 net sales: EUR 421 million

Created to develop green chemistry, the Emerging Biochemicals GBU operates via the Thai subsidiary Vinythai Public Company Ltd, which is responsible for the chlorovinyl and epichlorohydrin activities in Asia.

Using the innovative EPICEROL® technology patented by Solvay, Vinythai produces epichlorohydrin, a key ingredient in epoxy resins. In 2012, the first epichlorohydrin production unit, with an annual capacity of 100 kilotons, started operation at the Map Ta Phut (Thailand) industrial complex. A second EPICEROL® unit of the same capacity is currently under construction in Taixing (China) and will start up in 2014.

4 industrial sites
1 350 employees

ECO SERVICES

- Number 1 in sulfuric acid regeneration in the United States.
- 2012 net sales: EUR 314 million

Eco Services produces and regenerates the sulfuric acid used in refineries, chemicals manufacturing and other industrial applications. The GBU is a reference supplier to the largest refineries of the US West Coast, Midwest, the Gulf of Mexico and Canada.

1 industrial site
470 employees

1. Number of sites where the GBU operates. A single site may be shared by several GBUs.

EPICEROL®, BIO-SOURCED PROCESS

A fruit of Solvay’s focus on innovation, EPICEROL® is a new technology based on the processing of glycerin, a coproduct generated during the production of biodiesel from vegetable oils. More competitive than the conventional method based on propylene, it requires less capital investment, produces 60% less CO₂, and reduces by a factor of eight the volume of chlorinated by-products.
## POLYAMIDE CLUSTER

- **2012 net sales:** EUR 1 688 million

The polyamide cluster covers the activities of the polyamide 6.6 value chain. Solvay is one of the few players to master the entire chain, both upstream (adipic acid and HMD intermediates) and downstream (polymers).

## POLYAMIDE & INTERMEDIATES

- **Among the world’s leading producers of polyamide 6.6 (nylon) and its intermediates.**

Polyamide & Intermediates meets the challenges of the automotive, industrial equipment, construction, electrical and electronic components and ready-to-wear markets.

In 2012 the GBU enriched its product range and consolidated its position with major investments in improving its productivity and the energy efficiency of its sites.

### ENGINEERING PLASTICS

- **A global specialist in polyamide-based engineering plastics.**

Engineering Plastics manufactures and sells a full range of high-performance materials under the TECHNYL® brand. This includes the high-flow polyamide TECHNYLSTAR®, that meets the growing demand for materials that can serve as alternatives to metal, and the bio-sourced polyamide 6.10 TECHNYL EXTEN™ used in fluid distribution systems in the automotive industry and in manufacturing.

The GBU also develops a wide range of fireproof products for construction and renewable energies to the latest regulatory requirements. In 2012 it launched its SINTERLINE™ powders for Selective Laser Sintering.

Engineering Plastics has structured its approach to its major customers to better serve its globalizing markets. It has also speeded up its growth in Asia by increasing its R&D capacity in China and South Korea and starting the production of TECHNYL® products at the Panoli site (Gujarat, India), acquired in 2011.

## FIBRAS

- **Number one manufacturer of polyamide (nylon) in Latin America.**

Fibras manufactures and markets yarns and fibers based on polyamide 6.6, for textile and industrial applications.

Very innovation focused, Fibras exploits its specific expertise in designing yarns for smart textiles. Approved by the Brazilian health authorities, the EMANA® and AMNI® brands are used to produce high-performance ‘smart’ clothing. In 2012 the business began introducing its product range in Europe.

### TECHNYL® range honored

In July 2012, the Schneider Electric Innovation Prize was rewarded to the Engineering Plastics teams for their continuous innovation and expertise that have made possible the development of the complete range of flame-retardant TECHNYL® polyamides, incorporating the latest international electrical safety regulations. Among the 350 candidates for the award, Solvay was the only chemist.

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1. Number of sites where the cluster operates. A single site may be shared by several GBUs.
CHLOROVINYLS CLUSTER

> World’s third leading player in the PVC (polyvinyl chloride) market.
> 2012 net sales: EUR 2 120 million

The new Chlorovinyls cluster created in 2012 aims to maximize its return from the entire integrated chlorovinyl chain by exploiting its products and coproducts (chlorine, caustic soda, chlorine derivatives) in various sectors. This cluster operates through several activities.

Europe’s leading vinyls company SOLVIN covers the entire chlorine production chain including SOLVIN® PVC polymers and VINYLOOP® recycled PVC. A joint venture held in partnership with BASF (75% Solvay), the GBU has seven production sites in Europe, serving mainly the building and construction markets. In 2012, SolVin continued work on a new world-class integrated plant in Russia co-owned with the Sibur group.

Plastics Integration produces high performance PVC compounds for the European, Russian and Brazilian construction markets. These are used to produce rigid profiles and profiles for windows, conduits, joints, wiring and cabling, consumer goods and medical supplies. In 2012 the activity continued to enhance its expertise in PVC recycling, now a major focus of its growth.

12 industrial sites
1 690 employees

VINYLOOP®: 10 YEARS OF COMMITMENT TO PVC RECYCLING

Europe’s PVC industry is encouraging the development of solutions that reduce the environmental impact and energy consumption of plastics production. As the leading player in the VINYPLUS® program, Solvay is the only manufacturer in the world to have its own on-site PVC recycling unit, based on the VINYLOOP®. An ecological footprint study shows that primary energy demand (PED) for the production of PVC from VINYLOOP®-recycled feedstock is 46% lower than that of PVC production by conventional means. The climate impact is reduced by 39% and water consumption by 72%.

Membrane electrolysis: conversion completed on two sites
In the framework of its commitment within the European chlorine industry (Euro-Chlor) to end the use of mercury electrolysis before 2020, Solvay has replaced this technology by membrane electrolysis at its Tavaux (France) and Lillo (Belgium) sites. Membrane technology alone is now used effectively in producing liquid caustic soda, chlorine and hydrogen on these sites. The new equipment will reduce electricity consumption by approximately 25% and significantly improve the environmental impact of these production processes.

1. Number of sites where the cluster operates. A single site may be shared by several GBUs.
The Corporate & Business Services Operating Segment houses those activities that serve the specific Group objectives involving operational excellence, efficiency and collaborative innovation. These are Energy Services, Business Services and the Corporate Functions, charged with defining the overall policies that ensure the Group's consistency and with supporting the GBUs in implementing them.

ENERGY SERVICES

> 2012 net sales: EUR 154 million

Created on January 1, 2012, Energy Services combines the Solvay, Rhodia and Orbeo teams, 250 persons in 15 countries, to serve the aim of reducing the global Group’s energy consumption and its greenhouse gas emissions. The GBU operates Group-owned energy production facilities representing an installed capacity of 1 000 MW.

Energy Services has a two-fold mission:

> To develop renewable energies and biofuels projects. In this context, an innovative project is being conducted in partnership with the Brazilian company Paraíso to develop a cogeneration plant fuelled by biomass from an ethanol and sugar plant. While the Paraíso site benefits from the electricity and steam generated by this unit, the objective is to sell the greater part of the electricity production to the grid. On November 10, 2012, the power plant was connected to the Brazilian national grid. In 2013 it will demonstrate its full capacity.

BUSINESS SERVICES

> 2012 Net sales: EUR 3 million

This internal structure develops shared value-adding services for the Group in Human Resources, Accounting and IT. Its mission is to ensure business continuity, optimize costs, create value and contribute to our customers’ satisfaction with superior quality services.

SOLWATT™: an essential tool for reducing energy consumption

SOLWATT™, an original program developed by Energy Services to reduce the Group’s energy consumption, operates on two levels:

> optimizing energy consumption at constant activity in the production units;
> optimizing the economic exploitation of the in-house energy generation tools (boilers, gas turbines).

This program is also included in the service offering to the Group’s external customers.
In 2013, the Group has published a more robust social and environmental policy, with newly defined goals. Its ambition is to become a reference in global sustainable chemistry, thanks to its practices recognized as among the best and its innovative solutions that incorporate the requirements of sustainable development. For this it relies on its well-anchored fundamentals: its leadership in social matters, a pioneer with its culture of safety and social dialogue. Solvay has embraced, from its first appearance, demands for planet-friendly development. Social and environmental responsibility are embedded in our processes and are a major driver of value creation.
“With this new reference framework, we will move forward in a more structured manner.”

Jean-Marie De Berralay  
Champion Solvay Way,  
Tavaux (France)

“At Tavaux we have high hopes for Solvay Way. Sustainable development issues concern us greatly, and many initiatives are being undertaken at the site. With this new and pragmatic reference framework, I am convinced that we will move forward in a more structured manner. For me there are two advantages: first its deployment will enable us to give wider visibility and better share our sustainable development practices, both on the site and outside, with a clear commitment to our stakeholders. Second, the self-assessment tool enables us to measure every year the progress we have made. This is a big stimulus for the teams who are constantly pushed to do better by the recognition of the work already done.”
For Solvay, responsible chemistry respects people and their environment. It offers employees a safe and secure working environment that encourages their professional development. Its environmental footprint is as neutral as possible for the planet. Priority is given to using renewable and recycled materials, with a constantly reducing consumption of energy, water and resources. Its products meet the sustainable development challenges that its clients face. The value created by such chemistry is recognized by its stakeholders and shared equitably with them.

**Solvay Way, an approach to progress backed by a demanding reference framework**

Solvay Way is an integral part of a dynamic of continuous progress, based on a reference framework of practices that enables all Group entities to self-assess their sustainable development progress.

For Ernest Solvay, chemistry had a duty to promote economic and social progress, shared by all. As early as 1873 he gave concrete form to this idea by creating some of the first workers’ housing and initiating social security and pension plans that would inspire future European social security systems.
annually on the basis of 47 good practices. This approach is structured by stakeholders and incorporates the requirements of ISO 26000.

**OUR PRIORITY OBJECTIVES**

> **To achieve excellence** in safety, health and occupational hygiene for everyone on our sites;

> **To realize an increasing share** of our sales in markets or with a portfolio of activities meeting the requirements of sustainable development;

> **To continuously improve the performance** of our technologies, processes and products so as to avoid injuries to people and limit their environmental impact throughout the lifecycles of our products;

> **To reduce greenhouse gas emissions**, energy and water consumption, and negative impacts on soil, water and air quality, as well as the use of resources, especially non-renewable ones;

> **To develop rich and balanced social dialogue** with employee representatives at national and international levels.

1. ISO 26000 is a global standard which provides guidelines for organizations to operate in a socially responsible manner. The standard was published in 2010 after five years of negotiations among a large number of stakeholders worldwide. Representatives of governments, NGOs, industry, consumer groups and the world of work were involved in its development. It represents therefore an international consensus.

**OUR EXTERNAL COMMITMENTS**

Wanting to bring its approach into conformity with the most demanding global benchmarks, Solvay adheres to the OECD Guidelines for Multinational Enterprises, to the UN Global Compact and to the commitments of the “Responsible Care®” World Charter, a program of continuous improvement initiated by the chemical industry.

**External recognition**

The validation of our performance and the recognition of our practices by demanding non-financial analysts confirm our approach and help us in refining the model of sustainable chemistry that we want to promote. Solvay is included in the CDP Benelux, STOXX and ASPI indexes.
CONCRETE COMMITMENTS TO OUR STAKEHOLDERS

The commitments of the Solvay Way reference framework aim to achieve an optimal level of responsibility toward our stakeholders. We are constantly working with them to identify areas for improvement in our processes and practices.

CUSTOMERS

To industrial customers facing increasingly stringent regulations and ever more demanding consumers, we offer controlled impact solutions that are the fruit of collaborative innovation.

Our commitments
> Integrating our CSR commitments into customer relationships;
> CSR-integrating innovation;
> Controlling product-related risks;
> Analysing and developing our markets, while integrating CSR.

In action

Product transparency
In accordance with current regulation such as REACH in Europe, the Group informs all concerned stakeholders (employees, customers, consumers, authorities) of the properties of its products and their conditions of use. The Group also provides its customers with product eco-profiles for their lifecycle analyses. As part of an initiative by the International Council of Chemical Associations (ICCA), the Group has already published 60 “Product Safety Summaries” (PSS) for a non-specialist audience. These describe in simple terms the main features of our products and the potential risks that their use can pose to the health and the environment.

EMPLOYEES

The Group is committed to its employees in terms of safety and health at work, professional development, fair treatment of employees, and respect of human rights.

Our commitments
> Ensuring employees’ health and safety;
> Respecting employees’ fundamental human rights and guaranteeing their social rights;
> Ensuring quality social dialogue;
> Developing employability;
> Mobilizing employees.

In action

Work safety, our priority
Personal safety is a priority for Solvay, which is constantly improving its occupational accident frequency rate, which is today among the lowest in the industry. The Group is keen to improve its performance in this area by setting a new target. It takes on and further develops new programs and practices that have proven their worth in the entities, such as the “behavioral safety” program that promotes safe and responsible behaviors by operating staff in their everyday tasks.
OUR PLANET

The Group seeks to reduce the environmental footprint of its manufacturing processes and to improve energy efficiency.

Our commitments
> Promoting environmental management;
> Conserving natural resources;
> Limiting environmental impact, preserving biodiversity;
> Exercising responsible influence.

In action

Reducing the environmental footprint of a mining activity
Solvay has developed a process for recovering and using methane from its natural sodium carbonate (trona) mining activities at Green River (USA). This method, known as MaRS, captures the methane released during ore extraction, preventing its release into the atmosphere. The thermal energy of the gas is now recovered by combustion.

This innovation reduces the greenhouse gas emissions resulting from the extraction and processing of the ore.
INVESTORS

By submitting the Group’s modes of governance, its results and its strategic vision in a regular and open manner, Solvay meets the requirements of transparency and rigor demanded by market regulators and expected by investors. It wishes to be recognized as a reference responsible industrial investment.

Our commitments
> Generating value in a responsible way;
> Ensuring risk management;
> Ensuring dissemination of good management and governance practices and corresponding compliance;
> Communicating in an ethical and transparent manner.

In action

The risk management process
Our risk management system, embedded in our strategic and operational decision-making, allows us to identify and better manage opportunities while limiting the risks affecting our activities. This management tool is essential to achieving our goals in the short, medium and long terms.

SUPPLIERS

The Group wishes to involve its suppliers in relationships of trust, based on shared ethical principles established with the goal of creating sustainable value for all.

Our commitments
> Defining CSR prerequisites and integrating them into the supplier selection process;
> Evaluation buyers’ CSR performance;
> Managing and assessing suppliers’ CSR performance, optimizing relationships.

In action

In 2012, the Group took part in creating and implementing a global methodology, called “Together for Sustainability,” specific to the chemical industry supply chain. This methodology permits the evaluation and audit of suppliers’ social and environmental responsibility.

LOCAL COMMUNITIES

The Group has established relationships of trust with its site neighbors, through dialogue, clear information and strict control of risks and nuisances.

Our commitments
> Ensuring the integration of entities within their territories;
> Controlling industrial risks related to entities’ presence in their territories;
> Controlling supply chain risks and preventing accidents.

In action

Strengthening our relationships with local communities
At the end of 2012, the Group launched an opinion poll among populations living close to 15 of its major production sites. This survey aims to assess the quality of relations with local communities, and more specifically their perception of the social, economic and environmental issues. The trends identified will serve as a basis for the local management of sites.
SOLVAY WAY, A SYSTEM FOR MANAGING THE GROUP’S SOCIAL AND ENVIRONMENTAL RESPONSIBILITY

The Solvay Way approach serves the worldwide deployment of the Group’s commitments and guides employees in the continuous improvement of their practices.

BEST PRACTICES DISSEMINATED WORLDWIDE

Grounded in the realities of our businesses and inspired by the best practices of Solvay and Rhodia, the Solvay Way reference framework is ambitious in its objectives and pragmatic in its implementation. The framework allows all our entities worldwide to apply common approaches to progress, based on 47 practices identified as priority, structured on a four-point scale.

Ernest Solvay, as a philanthropist, created several foundations to promote his progressive ideas, among them the Institute of Physiology (1895), the Institute of Sociology (1902) and the Solvay Business School (1903).
AT THE HEART OF OUR PROCESSES

The reference framework, applied to the entire lifecycle of products, questions each entity on the impact of its activity and each employee on their practices affecting their particular stakeholders. Integrated into our management processes – governance, risk management, public affairs, R&I, purchasing, supply chain, human resources, HSE1 – it offers complete coverage of our practices.

STRONG MANAGEMENT INVOLVEMENT

The variable remuneration of the CEO and Chairman of the Executive Committee and of all Group managers will in 2013 reflect their contribution to the Sustainable Development process. Additionally, the Group’s Sustainable Development Management reports directly to the CEO.

SELF-ASSESSMENT: A DRIVER OF PROGRESS

Each entity is responsible for the implementation of Solvay Way within its organization. The annual self-assessment of its practices, using the Solvay Way analysis grid and scoring system, enables the entity to measure the progress achieved and adjust its progress plan. Sustainable Development Management consolidates this assessment data and presents the results to the Executive Committee.

A STRICTLY CONTROLLED PROCESS

Moved by our desire for accountability and to validate our practices, each year we shall submit the self-evaluation and performance indicators to audit, both internally and by external agencies. The consolidated annual reporting of the Solvay Way reference framework will be presented to the employee representative bodies. Under the global CSR accord signed between IndustriALL and Rhodia, on-site assessment missions are undertaken to ensure the effective implementation of our commitments.

The Solvay Way reference framework gives managers of the various Solvay sites, Global Business Units and Functions a grid with which to self-assess their progress at four levels: launch, deployment, maturity and performance.

2013, DEPLOYMENT YEAR

Implementation of the Solvay Way calls for the broad involvement of employees in the assessment of practices, definition of objectives and implementation phases. The generalization of the approach, initiated in early 2013, promotes the integration of the new Solvay teams around unifying objectives. Coordinated by the Sustainable Development Management, it is directed via a global network of more than 200 “champions” and “correspondents” who ensure its active deployment within the entities.
A DESIRE FOR OPEN SOCIAL DIALOGUE

Corporate Social Responsibility means maintaining a regular dialogue with our employees in an atmosphere of trust. This exchange is particularly important as they are the key players in our responsible performance.

TOWARD A GLOBAL AGREEMENT ON RESPONSIBILITY

In similar approaches, Solvay and Rhodia each cleared the way to open a responsible dialogue with their employees. Solvay and its European Works Council in 2008 signed a Sustainable Development and Social Responsibility Charter. In turn, back in 2005, Rhodia signed a CSR accord with ICEM, an international trade union federation, now merged with the IndustriALL federation (50 million workers in 140 countries), committing Rhodia to respecting the ILO\(^1\) standards and the principles of the UN Global Compact. In 2013, based on these converging experiences, Solvay intends to create a new framework of dialogue with its global partners.

PROMOTING QUALITY REPORTING

For several years now, Solvay has published its sustainable development-linked performance results in a supplementary report to the annual report. The Group also supports initiatives to clarify the principles of non-financial reporting and to promote their greater integration with economic and financial data, such as the Global Reporting Initiative\(^2\) and the IIRC\(^3\) pilot program.

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1. International Labor Organization
2. The Global Reporting Initiative (GRI) aims to elevate methods of reporting sustainable development practices to a level equivalent to financial reporting.
3. The International Integrated Reporting Council is working with companies and their stakeholders to establish a framework for non-financial reporting.
The Executive Committee is composed of six members; each of them supervises a certain number of Global Business Units, Functions or Zones. The Chairman of the Executive Committee and the Chief Financial Officer also assume such supervisor role in addition to their respective specific responsibilities.

JEAN-PIERRE CLAMADIEU (CHAIRMAN OF THE EXECUTIVE COMMITTEE AND CEO)

BERNARD DE LAGUICHE (CHIEF FINANCIAL OFFICER)

GILLES AUFFRET

VINCENT DE CUYPER

ROGER KEARNS

JACQUES VAN RIJCKEVORSEL

GENERAL MANAGERS

CÉCILE TANDEAU DE MARSAC (GROUP GENERAL MANAGER HUMAN RESOURCES)

JEAN-PIERRE LABROUE (GROUP GENERAL COUNSEL)

MICHEL DEFOURNY (GROUP CORPORATE SECRETARY & GENERAL MANAGER COMMUNICATION)

* 01/01/2013
**Key Figures**

**Net sales**
- EUR million
  - Proforma 2011: 12,149
  - Adjusted 2012: 12,435

**Net Sales by region in 2012**
- Europe: 28%
- North America: 42%
- Latin America: 10%
- Asia Pacific & rest of the world: 20%

**REBITDA**
- EUR million
  - Proforma 2011: 2,022
  - Adjusted 2012: 2,067

**Adjusted REBITDA by Operating Segment in 2012**
- Consumer Chemicals: 28%
- Advanced Materials: 33%
- Performance Chemicals: 11%
- Functional Polymers: 5%
- Energy Services: 23%

**Net Income Solvay Share**
- EUR million
  - Proforma 2011: 727
  - Adjusted 2012: 710

**Capital expenditures**
- EUR million
  - 2012: 785
  - Estimate 2013: 900 - 950

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**Note applicable to the entire document referring to 2012 and comparable 2011 figures:**

Solvay Indupa, Vinyls South America activity is reported as “Assets held for sale” as from Q4’12. As a consequence and for comparability purposes, historical references for 2012 and 2011 within this report has been restated to present Solvay Indupa as discontinued activities and as “Assets held for sale”. Net sales comprise the sales of goods and value-added services corresponding to Solvay’s know-how and core business. Net sales exclude other revenues primarily comprising commodity and utility trading transactions and other revenue deemed as incidental by the Group. Adj. REBITDA: Operating result before depreciation and amortization, non-recurring items, financial charges and income taxes. Adjusted Profit & Loss indicators exclude non-cash Purchase Price Allocation (PPA) accounting impacts related to the Rhodia acquisition. Adjusted Profit & Loss indicators exclude non-cash Purchase Price Allocation (PPA) accounting impacts related to the Rhodia acquisition. All references to year-on-year (yoy) evolution must be understood on a pro forma basis for 2011, as if the acquisition of Rhodia had become effective from the 1st of January 2011. On a pro forma basis Solvay 2011 historical figures were restated in order to harmonize accounting policies among the two Group Legacies. Pro forma results exclude impacts from i) purchase price allocation entries; ii) non-recurring acquisition costs related to the Rhodia transaction and iii) financial revenues on cash deposits and investments.
The Group aims at achieving the highest safety level for the Solvay’s personnel and equally for contractors working on the Solvay sites. In 2012, the LTAR reached again a record value of 0.8 year for the Group’s employees and contractors.

- LTAR (Lost Time Accident Rate - number of work accidents with absence from work more than 1 day / 1 million working hours) employees and contractors.
- MTAR (Medical Treatment Accident Rate - number of work accidents leading to medical treatment (other than first aid) / 1 million working hours) employees and contractors.

* New Solvay group with Rhodia included as from 2011

### Greenhouse gas emissions

<table>
<thead>
<tr>
<th>Year</th>
<th>MT CO₂ equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>33.2</td>
</tr>
<tr>
<td>2008</td>
<td>17.9</td>
</tr>
<tr>
<td>2010</td>
<td>16.0</td>
</tr>
<tr>
<td>2012</td>
<td>14.9</td>
</tr>
</tbody>
</table>

Emissions related to manufacturing activities of fully consolidated operations at end 2012 recalculated for the previous years to include Rhodia as from 2006.

### Energy consumption

<table>
<thead>
<tr>
<th>Year</th>
<th>Petajoules</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>251</td>
</tr>
<tr>
<td>2008</td>
<td>231</td>
</tr>
<tr>
<td>2010</td>
<td>227</td>
</tr>
<tr>
<td>2012</td>
<td>222</td>
</tr>
</tbody>
</table>

Energy consumption related to manufacturing activities of fully consolidated operations at end 2012 recalculated for the previous years to include Rhodia as from 2006.
INVESTMENTS

February
Solvay commissions a world-scale plant to produce bio-sourced epichlorohydrin based on its proprietary EPICEROL® technology at Map Ta Phut (Thailand).

April
Serving the European electronics market, Solvay launches the production of high purity phosphoric acid for semiconductor at its Bernburg (Germany) plant.

June
Construction begins on a world-scale plant at Taixing (China) to produce epichlorohydrin using the EPICEROL® process.

July
Commissioning of a specialty polymers compounding plant at Changshu (China) to meet growing local demand.

September
Doubling of production capacity for specialty fluorinated aliphatic derivatives at the Salindres plant (France).

September
70% capacity increase at the Indian site specializing in polyetheretherketones (PEEK) and polyaryletherketones (PAEK) production.

September
Creation of two rare-earth recycling units in France.

ACQUISITIONS

September
Acquisition of Sunshield Chemicals, an Indian company specializing in surfactants, from the Anil Choksey group.

PARTNERSHIPS

January
Solvay partners with the Air Liquide group in a joint venture with global ambitions in fluorinated gases.

August
Multi-year contract with Bolloré group to supply lithium salt for LMP batteries.

October
Creation of a 50/50 joint venture with Sibur to produce surfactants and formulations for the oil extraction industry.

INNOVATION

February
The world’s largest fuel cell is commissioned at the SolVin site at Lillo (Antwerp, Belgium), demonstrating this technology’s ability to produce clean energy on an industrial scale.

April
Agreement with the National Bioethanol Science and Technology Laboratory (CTBE) in Brazil to recycle sugarcane biomass.

May
A new research, innovation and technology center is opened at Savli in Gujarat State, India. Creation of three research grants on sustainable chemistry, nanotechnology and polymer science at the Maharaja Sayajirao University in Vadodara (India).

October
Launch of GOVANIL™, a new generation of vanillin with enhanced properties.

GROUP

January
Double listing of Solvay shares on the Brussels and Paris Stock Exchanges.

February
Solvay sells its 50% stake in Pipelife to partner company Wienerberger for EUR 172 million.

April
At the Capital Markets Day, Solvay presents its ambition to achieve a REBITDA of EUR 3 billion by 2016.

September
The Solvay share joins the French CAC 40 stock index.

2013
A new logo, a new slogan for Solvay.
Launch of Solvay Way, the Group’s new sustainable development policy.
150 years ago, Ernest Solvay discovered a new process for manufacturing sodium carbonate using sea salt, ammonia and carbonic acid. In 1863, the young chemist filed his first patent and with his brother Alfred Solvay built the first plant near Brussels. Beginning in 1870, Solvay embarked on a rapid international expansion, building plants in England, Germany, Russia and the United States. In 1900, the Solvay process represented 95% of world soda production. The Group survived both World Wars, thanks to its family shareholder base and jealously guarded manufacturing secrets. In the early 1950s, Solvay diversified and resumed its global expansion. In 2008, the Group divested its Pharmaceuticals branch to focus on the two areas of Chemicals and Plastics. In 2011, it launched a successful friendly takeover bid for the French chemical company Rhodia. In addition to being listed on the Brussels Exchange as part of the BEL20, since 2012 Solvay has also joined the Paris Exchange, where it is part of the CAC 40 index. In 2013, the Group, now radically transformed, opens a new chapter in its history.

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