

## R&D expenditures

in million euros



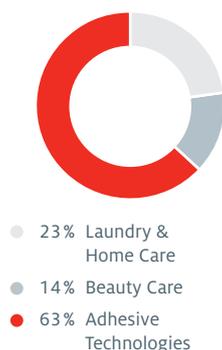
<sup>1</sup> Includes restructuring charges of: 52 million euros (2008), 13 million euros (2009), 8 million euros (2010), 14 million euros (2011), 2 million euros (2012).

For further details on our sustainability targets, please see pages 51 to 53 and our Sustainability Report on our website at [www.henkel.com/sustainability](http://www.henkel.com/sustainability)

Our standards for safety, health and the environment and our social standards apply to all our sites worldwide. Using a clearly defined process of communication, training and audits, we ensure compliance with these standards, in particular at the production level.

We have the environmental management systems at our sites externally certified where our partners in the markets recognize such certification. By the end of 2012, around 85 percent of our production output was generated by factories certified under the ISO 14001 international standard for environmental management systems.

## R&D expenditures by business sector



## Research and development

Expenditures for research and development were 408 million euros for the Henkel Group in the year under review (adjusted for restructuring charges: 406 million euros), compared to 410 million euros (adjusted: 396 million euros) in 2011. As a percentage of sales, we spent 2.5 percent (adjusted: 2.6 percent) on research and development (2011: 2.6 percent, adjusted: 2.5 percent). Successful implementation of our Open Innovation strategy, project outsourcing, and the relocation of resources in the direction of emerging markets led to improved efficiency and demonstrated our ongoing focus on innovation.

A substantial part of our research and development activity takes place in the areas of polymer chemistry, materials management, surface treatment, metering systems and innovative packaging. These activities are important for all three Henkel business sectors. As in the previous year, personnel expenses accounted for around half of total R&D spending.

Our research and development costs were fully expensed, no development costs were capitalized in accordance with International Financial Reporting Standards (IFRS).

On an annual average, 2,657 employees worked in research and development (2011: 2,654), corresponding to 5.7 percent of the total workforce. The success of our R&D activities is based on the talents, skills and capabilities of our highly qualified employees. Our teams are comprised of natural scientists – predominantly chemists – as well as material scientists, engineers and technicians.

### Key R&D figures

	2008	2009	2010	2011	2012
R&D expenditures (million euros)	377 <sup>1</sup>	383 <sup>1</sup>	383 <sup>1</sup>	396 <sup>1</sup>	406 <sup>1</sup>
R&D expenditures (in % of sales)	2.7 <sup>1</sup>	2.8 <sup>1</sup>	2.5 <sup>1</sup>	2.5 <sup>1</sup>	2.6 <sup>1</sup>
Employees (annual average)	2,942	2,743	2,665	2,654	2,657

<sup>1</sup> Adjusted for restructuring charges.



### Open innovation

In 2012, the Open Innovation concept played an even more important role in our innovation process than in previous years. The involvement of external partners, such as universities, research institutes and suppliers in many of our larger projects was of major importance. Involving our customers also helped to speed up the progress of our research and development projects.

The following examples demonstrate the success achieved by our Open Innovation concept:

- Laundry & Home Care was honored with the Best Innovator Award 2012 in the category “Best overall implementation in a major corporation.” This prize is awarded annually by Zeppelin University Friedrichshafen in recognition of a company’s outstanding open innovation activities. Particular mention was given to our 360 degree open innovation strategy, innovation culture, and the ability to open up new business areas.
- We awarded the “Best Innovation Contributor Award 2012” to our raw materials supplier Dow Corning for its involvement in developing an innovative new generation of emulsion-based antiperspirant sprays. This innovative emulsion technology offers excellent long-term protection against underarm perspiration while at the same time protecting fabrics against white, yellow or oily stains.
- In collaboration with Pennsylvania University (PENN) in the USA, researchers in our Adhesive

Technologies business sector have developed a new generation of acrylate-based copolymers. As a result, we now have at our disposal a wide range of new materials for developing high-quality customer- and application-specific products. Examples include new engine seals with improved oil resistance for the automotive industry, and special adhesives and seals for displays in the electronics industry.

Worldwide, growth and quality of life need to be decoupled from resource consumption and emissions. Our contribution lies in the development of innovative products and processes that consume less resources while offering the same or better performance. It is therefore both our duty and our desire to ensure that all new products contribute to sustainable development in at least one of our six defined focal areas. These are systematically integrated within our innovation process: our researchers must demonstrate that their projects offer specific benefits in terms of product performance and added value for our customers, resource efficiency and social progress. We therefore focus our R&D efforts on innovations that combine product performance and quality with social and environmental responsibility.

Life cycle analyses of our key product categories and our many years of experience in the area of sustainable development help us, right from the start of the product development process, to

determine where in the various product categories the main environmental effects occur and where appropriate improvement measures could be applied. One key tool in this respect is our “Henkel Sustainability#Master,” an evaluation system centered around a matrix based on the individual steps in our value creation chains and our six focal areas. This shows which areas are most relevant from a sustainability perspective, and allows a transparent and quantifiable comparison to be made between two products or processes.

Our scientists have made valuable contributions to sustainability and the performance of our company in many areas. A selection of important research projects is provided in the examples below:

#### **Laundry & Home Care**

- Launch of pre-dosed liquid detergents in dual-chamber capsules (“Duo-Caps”): the dual-chamber technology allows two different ingredients to be provided, one specifically for removing stains, and one for brilliant colors (Color) or whites (Universal) – and requires only half the quantity compared to conventional liquid detergents. At the same time, we save resources on packaging materials, transport and water consumption, and ensure that our consumers always use the optimal quantity. Laundry & Home Care awarded the “Sustainability Award” to the company MonoSol, which developed the necessary rapid-action water-soluble films. The Sustainability Award honors partners in our supply chain for exceptional support of our “Factor 3” sustainability goal (see our sustainability strategy for 2030 on pages 51 to 53).
- Global launch of the triple-action hand-dishwashing liquid Pril 3x Action: this high-performance formulation removes grease, ensures a brilliant finish, and eliminates odors. Pril Style was launched at the same time – two variants in modern, striking bottles with an attractive design.
- Improvement of the first multi-purpose liquid dishwasher detergent Somat/Pril Perfect Gel Express Power: the trend toward high-performance liquid dishwasher detergents continues with new active grease removers that have the power to dissolve grease even at low temperatures or short cycles – presented in a convenient, ergonomically designed bottle.

#### **Beauty Care**

- Innovative formulation platform for hair care products with improved care and sustainability properties. Joint research efforts in collaboration with our industry and university partners produced a new, high-performance care technology with targeted use of keratin modules to replace the protein lost in damaged hair. These newly developed platforms for formulating shampoos and conditioners demonstrate a noticeable improvement in care performance, resource conservation and an improved environmental profile. The new platforms were put to use for the first time in the relaunch of Gliss Kur.
- Development of developer emulsions containing oil for oxidative hair colorants in the Branded Consumer Goods and Hair Salon businesses: the addition of nourishing oils noticeably improves hair care properties and significantly enhances scalp compatibility. The new oil technology was launched globally under the Palette, Diadem, BlondMe and Igora Royal colorant brands.
- Together, our researchers in Germany and North America identified new plant-based active ingredients that stimulate the skin’s cold receptors. The patent-pending active ingredients can be used both in shower gel and deodorant formulations. Once applied, they generate a cooling effect that recurs constantly during physical activity. The body care products with lasting cooling effect were launched under the name “Xtreme Polar” under the Right Guard brand.

#### **Adhesive Technologies**

- Global market launch of a new two-stage process for pre-treating multi-metal car bodies prior to painting: overall, both the quality and ecological impact of this pre-treatment process were improved by reducing the chemical and energy input. At the same time, a much smaller quantity of phosphate sludge is produced, which positively impacts the waste footprint.
- New, solvent-free assembly adhesives for craftsmen and consumers with improved performance capabilities: these products are replacing solvent-based adhesives as part of our sustainability strategy.
- Launch of a new generation of polyurethane- and acrylate-based adhesives for bonding mobile devices: new application devices developed specifically for these products now allow customers to use these adhesives more efficiently.

### Fritz Henkel Award for Innovation 2012



[www.perwoll.de](http://www.perwoll.de)



[www.schwarzkopf-professional.de](http://www.schwarzkopf-professional.de)



[www.pattex.de](http://www.pattex.de)

#### Fritz Henkel Award for Innovation

Each year we select a number of outstanding developments for our Fritz Henkel Award for Innovation. In 2012, the innovation award went to three interdisciplinary project teams for the realization and commercialization of the following concepts:

- **Innovative detergent formulations for delicate fabrics with “Re-new Effect”** for black, colored or white fabrics, sold under our Perwoll, Fewa, Mir Couleurs, Micolor and MAS Color brands, and used by consumers all over Europe and in Latin America, feature a special anti-pilling technology which results in significantly smoother fibers, thus producing better light reflection and glowing colors. The novel formula not only cleans delicate garments, but provides care and protection to the fibers as well, while also acting directly to prevent roughening and graying.
- **Breakthrough in oil technologies for a new dimension in hair care:** based on innovative formulation concepts such as micro-emulsification and oil evaporation technology, a new generation of oil-containing hair care elixirs and micro-emulsion shampoos has been developed that transports micro-fine nourishing oils deep into the internal hair structure to give it extraordinary shine and suppleness. The oil-containing care products marketed under the Bonacure, Gliss Kur, Syoss and Got2b brands even repair extremely damaged hair and split ends without overly stressing the hair.
- **Pattex Power PU-Schaum is a single-component assembly foam (PU foam)** with improved insulation properties and strength, and significantly better UV resistance. Thanks to its innovative formulation, it was the first PU foam

containing MDI to be released for unrestricted sale in retail following stricter European legislation. The product is based on innovative “white technology” and guarantees a fine and uniform foam texture even in difficult conditions, such as low humidity. As such, it guarantees optimal thermal insulation of window joints, for example.

We hold more than 7,700 patents to protect our technologies around the world. Close to 4,800 patents are currently pending. We have registered some 1,700 design patents to protect our designs.

Further information on our research and development activities can be found on our website at [www.henkel.com/innovation](http://www.henkel.com/innovation)