

## Evonik starts innovation campaign

- Patrik Wohlhauser, Executive Board Member: "We want to increase the value of our innovation pipeline even further."
- Valuable patent portfolio
- Innovation focus on biotechnology particularly contributes to megatrend health and nutrition
- Evonik laboratories demonstrate feasibility of producing specialty chemicals from syngas using biotech production

Innovation and efficient research are today already the hallmarks of Evonik, but the specialty chemicals company wants to build up these strengths even more. "We want to keep increasing the value of our innovation pipeline. Innovations will have to make even larger contributions to sales and profits. Our ambition is to be first-class in innovation," says Patrik Wohlhauser, Member of the Executive Board of Evonik. Innovations are a key driver of profitable growth for the specialty chemicals company. They result in new products and solutions, open up attractive new business fields, and strengthen the leading market and technology positions of Evonik.

"We're addressing ever shorter innovation cycles, more complex problems, and more demanding conditions," says Dr. Peter Nagler, Chief Innovation Officer of Evonik. "This is why we launched our Leading Innovation initiative last fall. With our global Leading Innovation initiative we are promoting a culture of innovation, with courage to break new ground, in which our employees are encouraged to take risks and which is based on trust, close cooperation and openness and which also rewards courage to innovate. Everyone at Evonik has to embrace innovation".

As part of the Leading Innovation initiative, Evonik will also realign Creavis, its strategic innovation unit, which will function in a new structure as of January 1, 2014. "We will further expand the strengths of Creavis, its outstanding technological expertise and strong project management, while stepping up our efficiency in light of increasingly shorter innovation cycles," notes Nagler.

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## Valuable patent portfolio

Evonik is already a company with a strong focus on innovation. The Group is very efficient in translating its research expenses into patents. That was confirmed by the Patent Asset Index (PAI), which rated Evonik as a leader in this area. In recent years, Evonik has advanced the value of its patent portfolio significantly. The specialty chemicals company has more than 26,000 patents and patent applications. The company filed patent applications for around 260 new inventions in the year 2012—that is one invention per business day.

The specialty chemicals company's R&D pipeline includes over 500 projects. In 2012, €1.5 billion of the Group's sales came from products and applications introduced in the past five years. Evonik has increased its spending on research and development by an annual average of 6 percent in the past five years, spending €393 million in 2012. The operational units fund over 85 percent, while the Group bears the remaining 15 percent. This is spent on strategic R&D projects with a mid- to long-term time horizon.

## Biotechnology as an innovation area

Evonik regards biotechnology as an important technology platform and high-potential innovation area. "Biotechnology particularly contributes to the megatrend health and nutrition. By 2020, we hope to achieve sales of €1 billion in the Health & Nutrition Business Unit alone from biotechnologically manufactured products," emphasizes Wohlhauser.

In terms of volume, the most important biotechnology product of Evonik is the feed additive Biolys® (source of L-lysine). The company completed the expansion of its existing capacities for Biolys® to a capacity of 280,000 metric tons per year in Blair, USA. Evonik also builds new facilities for the biotech production of Biolys® in Brazil and Russia. The two plants will increase the annual output by almost 200,000 metric tons. The total investment volume for the projects in the U.S., Brazil, and Russia will be approximately €350 million.

In addition to Biolys<sup>®</sup>, the company also produces the feed additives ThreAMINO<sup>®</sup> (L-threonine) and TrypAMINO<sup>®</sup> (L-tryptophan) with biotechnological methods.

### **High performance polymers from renewable resources**

Using a completely new technology, two-phase fermentation, Evonik is now able to manufacture a precursor of the high-performance polymer polyamide 12 from palm kernel oil. A pilot plant for the production of  $\omega$ -amino lauric acid (ALA) went on-stream in Slovenska Lupca (Slovakia) in early 2013. In the long term, the new procedure will supplement the petroleum-based production of Polyamid12.

### **Specialty chemicals from waste streams**

Given the changing availability of resources, Evonik is committed to become more independent of fossil fuels and individual renewable resources. For this purpose, the scientists of the specialty chemicals company are exploring the third generation of biotechnology, which is capable of using various waste materials as a basis instead of sugar or plant residues. The laboratories of the strategic innovation unit Creavis have succeeded in generating 2-hydroxy isobutyric acid, or 2-HIBA for short, from syngas with biotechnology methods. 2-HIBA is a precursor for PLEXIGLAS<sup>®</sup> and syngas can be generated, for instance, from waste streams.

The development of the fermentation process for the polyamide precursor stage  $\omega$ -amino lauric acid (ALA) was subsidized by the Federal Ministry of Education and Research.

The research work on synthesis gas is partly funded by the Federal Ministry of Food, Agriculture and Consumer Protection (BMELV), following a resolution passed by the German Bundestag.

### **Company information**

Evonik, the creative industrial group from Germany, is one of the world leaders in specialty chemicals. Profitable growth and a sustained increase in the value of the company form the heart of Evonik's corporate strategy. Its activities focus on the key megatrends health, nutrition, resource efficiency and globalization. Evonik benefits specifically from its innovative prowess and integrated technology platforms.

Evonik is active in over 100 countries around the world. In fiscal 2012 more than 33,000 employees generated sales of around €13.4 billion and an operating profit (adjusted EBITDA) of about €2.4 billion (excluding Real Estate in both cases).

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