Press release

Evonik to expand its "green tire" research

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- Million € investments in Wesseling and Rheinfelden
- Innovations driven by sustainable mobility trend
- Focus on markets for truck and bus tires

Evonik Industries is counting on research regarding improved fillers for modern high-performance tires. To this end, Evonik is investing a mid-single digit million € amount in several German sites. At the Wesseling site an additional pilot-scale line for precipitated silica is coming on stream to allow for working with innovative precipitation media. In Rheinfelden, where Evonik is building a new research center for silanes, the innovative power is strengthened by the purchase of an additional NMR device (NMR = nuclear magnetic resonance), which allows for analyzing complex molecules.

"Sustainable mobility is playing a more and more important role for consumers worldwide. A trend that is being increasingly adopted in the political field. By expanding our silica/silane research, we support our customers with the development of the corresponding solutions," says Claus Rettig, the head of Evonik's Resource Efficiency Segment. Since 2010, the consumer market for "green tires" has grown by 30 percent per year. Evonik is the only company worldwide that produces both silica and silanes. The Group continuously pursues its expansion activities that it started in 2010. In 2016, a new production facility for precipitated silica is to become operational in Brazil.

Silica/silane systems are an essential component of the rubber mixture of so-called "green tires." Without them, the improved wet traction, reduced rolling resistance and virtually even abrasion of modern tires would be impossible. The treads of such high-performance tires are essentially based on synthetic rubber with other added components.

Silica is added to this mixture as a reinforcement filler and generates the desired special properties. However, the components rubber and silica are chemically incompatible with each other. For this reason, the production of modern tires requires silanes as coupling reagents. The silica/silane reinforcement systems also

Contact Person Economic Press
Silke Linneweber
Corporate Press
Phone +49 201 177-3389
Fax +49 201 177-3030
silke.linneweber@evonik.com

Contact Person Specialized Press
Frank Gmach
Communication Resource Efficiency
Phone +49 6181 5913588
Fax +49 6181 59713588
frank.gmach@evonik.com

Evonik Industries AG
Rellinghauser Straße 1-11
45128 Essen
Germany
Phone +49 201 177-01
Telefax +49 201 177-3475
www.evonik.de

Supervisory Board
Dr. Werner Müller, Chairman
Executive Board
Dr. Klaus Engel, Chairman
Christian Kullmann
Thomas Wessel
Patrik Wohlhauser
Ute Wolf

Registered office Essen
Registered court
Essen local court
Commercial registry B 19474
VAT ID no. DE 811160003

benefit the environment: In car tires, they can help reduce fuel consumption by up to eight percent.

Evonik is working to develop improved highly reinforcing filler systems. To this end, the company is relying on a combination of chemical and process technology expertise. The objective is to further increase the wet traction of tires, to further reduce the rolling resistance and to improve the so-called winter properties, meaning the grip in snow and slush conditions. "There is a double benefit for the customer. On the one hand, car tires become even safer. On the other hand, rolling resistance is reduced and consequently, fuel consumption is reduced, which in turn cuts down on greenhouse gas emissions," emphasizes Ralph Marquardt, responsible for new growth business in the Resource Efficiency Segment.

Tire manufacturers also benefit from novelties that improve the tire production process. Thus, Evonik will bring a VOC-free (VOC = volatile organic compounds) silane called XP Si 466 GR, on the market in the near future. When conventional silanes react with silica, they release volatile ethanol (VOC), which must be treated safely and in an environmentally friendly way during the tire production. In contrast, the new Evonik product, which is available as easily measurable granules, is completely VOC-free. The finished tires also do not emit ethanol at a later stage.

The introduction of tire labels for passenger car tires in Europe and other important industrial nations has made factors such as energy efficiency (rolling resistance) and safety (wet traction) visible and comparable for drivers. Until 2020, EU tire label regulations will gradually be tightened. "Final customers now expect continuous improvement in high-performance tires. With silica/silane systems of Evonik these expectations can be met," says Marquardt.
The focus also includes the market for heavy utility vehicle tires, which are used in trucks or buses. In contrast to passenger car tires, natural rubber is primarily used here. Evonik plans to develop special silica/silane systems for this market that meet the increased requirements for lower rolling resistance and improved safety in wet and cold conditions – without significant loss in abrasion.

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 2014 more than 33,000 employees generated sales of around €12.9 billion and an operating profit (adjusted EBITDA) of about €1.9 billion.

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