

## Evonik at ACHEMA 2012

Hall 5.1 (Mechanical Separating Processes), Stand D18

Hall 9.1 (Plant Construction), Stand B65

Hall 9.2 (Research and Innovation), Stand D40

When ACHEMA, the world's largest chemical industry forum, opens its doors in Frankfurt from June 18 to 22, Evonik will be there with its three stands—in the halls Research and Innovation, Plant Construction, and Mechanical Separation Processes. "At Evonik, Innovation takes on several dimensions," says Dr. Peter Nagler, Evonik's Chief Innovation Officer and head of the unit Corporate Innovation Strategy & Management. "It includes, for example, products and processes, business processes and business models or the efficient operation of our sites. This is reflected in our three exhibition stands."

### Mechanical Separation Processes

In Hall 5.1, Evonik's presentation centers on its new DuraMem® and PuraMem® membranes, which have been enjoying a successful market launch. The membranes are used in organic solvent nanofiltration (OSN). Still a young technology, OSN makes it possible to separate materials rather efficiently in organic solvents. The technology can be used, for example, to clean products gently, reclaim homogeneous catalysts, recycle solvents, and process natural oils. The advantages of organic solvent nanofiltration with membranes at Evonik include lower costs for raw materials, lower energy consumption, and higher yield, owing to liquid separation at room temperature.

### Plant Construction: New processes for cooling water disinfection

With a new process based on chlorine dioxide, Evonik has made the treatment of cooling water with biocides safer and more economical. The professionals from Evonik's Site Services Business Unit have used an intelligent reactor concept to leverage the advantages of chlorine dioxide and overcome its disadvantages: chlorine dioxide is highly effective against microorganisms, removes biofilms, and does not promote the formation of chloroorganic compounds. In high concentrations, however, the water-soluble gas is toxic and explosive. In the process developed by

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Evonik, the chlorodioxide is produced directly at its place of use and immediately directed to the cooling water without interim storage. This ensures that any unintentional release of chlorodioxide is collected by the surrounding cooling water. The technology is already being used successfully in a number of plants in Europe—even outside the Evonik Group.

#### **Plant Construction:**

##### **Detached occupational safety zone for laboratories and pilot plants**

Another new development of the Site Services unit is the Safety Cube®, a highly flexible and economical housing for laboratory and pilot-plant applications. This detached occupational safety zone is accessible through sliding doors and ensures continuous gas ventilation during tests. As a rule, the Safety Cube® is equipped with an airflow monitoring unit. In the event of a process malfunction, an alarm can be triggered and the energy and gas extraction system can be closed off. If necessary, the walls of a Safety Cube® can also be used as sound insulation if noisy equipment—ball mills, for example—is used. A key aspect is the variability of the geometry of the housing. Because of this flexibility, the risk analysis can be individually defined and the amount of air reduced, which saves energy.

The Site Services unit and its four business lines—Energy Supply and Waste Disposal, Logistics, Technical Service and Site Management—as well as their training and site marketing units, will present at AICHEMA in Hall 9.1.

#### **Research and Innovation**

Last year, Evonik invested €365 million in R&D—eight percent more than in 2010. The company is working on new or improved products, production processes and applications in about 450 projects. Of these, more than half are expected to be realized or brought to market maturity in the next two years. One example is the commercialization of lithium-ion technology, which will be used as a standard feature in the new ESmart by Daimler AG.

The "Wind Explorer," a two-person electric car that Evonik is presenting at AICHEMA in Hall 9.2, and that received the ÖkoGlobe 2011 international

environmental award in the Ecological Concept Car category, provides insight into this technology. Equipped with lithium-ion technology from Evonik subsidiary Li-Tec Battery, the Wind Explorer runs for about 400 kilometers on one battery charge. Because the car's body consists primarily of a carbon fiber composite made with ROHACELL® structural foam from Evonik, the two-seater weighs only 200 kilograms. The electric car is called the Wind Explorer because the battery can be charged via mobile wind turbine or conventional power supply system, depending on the wind situation. In late January 2011, Dirk Gion and Stefan Simmerer, two extreme-sports enthusiasts from Germany, embarked on a pioneering 17-day journey across Australia in this electric vehicle powered by wind energy and lithium-ion batteries.

### **A broad range of opportunities for young talent**

To ensure that it can count on well-qualified employees at any time, Evonik provides training in more than 40 recognized occupations at numerous sites in Germany. Prospective trainees can obtain information on the extensive range of vocational training options and dual study programs at the Site Services stand in Hall 9.1.

Scientists and engineers, more than anyone else, can find out what Evonik has to offer as an employer in Hall 9.2. Whether for students, dedicated entry-level candidates or young professionals: as a globally active company, Evonik offers a broad range of career opportunities. Because the company works in close cooperation with universities and research institutes, it offers young researchers teamed with experienced experts the opportunity to work on new products and systematically promote innovations.

In Evonik's Student Consulting Project, for example, students get the chance to apply their technical knowledge in practice, immerse themselves in market analysis, and gain experience in project management. Evonik also plans to support ten universities with a total of 150 scholarships in Germany in the 2011/2012 academic year. These scholarships, which the Federal Government is providing in cooperation with private donors, are intended to counteract the shortage of skilled workers and encourage more young people to pursue a university degree.

### **Company information**

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

Evonik is active in over 100 countries around the world. In fiscal 2011 more than 33,000 employees generated sales of around €14.5 billion and an operating profit (adjusted EBITDA) of about €2.8 billion.

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