

# Megacities offer Growth Opportunities for Evonik

- Technologies for urban areas
- "We can contribute to solving the global challenges of megacities" – Patrik Wohlhauser, Member of the Evonik Executive Board
- Evonik organizes expert panel in Darmstadt City of Science

Evonik has identified increasing global urbanization and the resulting megacities as drivers of new growth and innovative business ideas. To explore this topic further, the company invited experts and researchers to Darmstadt, Germany, on October 24 and 25 to discuss solutions and ideas associated with megacity challenges. The specialty chemical company regularly seeks dialog with scientists as part of its "Evonik Meets Science" concept.

"Life in megacities is heavily influenced by the megatrends of health, nutrition, resource efficiency, and globalization, which are of such importance to Evonik that our company consistently aligns its business with them. We already have a number of products in our portfolio that can contribute to solving the challenges of megacities," said Patrik Wohlhauser, a member of the Evonik Executive Board.

According to expert estimates, approximately two-thirds of the global population—compared to currently one half—will live in cities by 2030. The world now has about twenty megacities with populations over 10 million and their number will increase further. This creates enormous challenges for transportation systems, energy supply, living space, water and food supply as well as environmental pollution in these metropolitan areas. "Thanks to its creativity and full spectrum of products and technologies, Evonik has the potential to offer new and intelligent solutions for megacities in the intermediate and long term," Wohlhauser noted.

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To discuss these concerns, Evonik invited renowned scientists, including the future researcher Matthias Horx and Prof. Dr. Klaus Töpfer, executive director of the Institute for Advanced Sustainability in Potsdam, Germany.

The presentations given by Evonik scientists in Darmstadt provided further glimpses of the future in megacities. Special challenges exist, for example, with regard to individual traffic. The use of small and agile battery-powered electrical vehicles is a viable solution for reducing noise and emissions and addresses parking space problems. The chemical battery cell component facility of Evonik for large-scale lithium-ion battery systems in the Saxonian town of Kamenz near Dresden, Germany, is already producing parts of this drive systems of the future, as rechargeable batteries of this kind are the core of electrical vehicles.

Depending on the region, densely populated cities have as much need for air-conditioning as for a comprehensive heat supply. The sustainable generation of refrigeration from heat for airconditioning and industrial applications relies on so-called absorption refrigerators, which are powered by exhaust heat and solar energy. The chemical system solutions of Evonik may contribute to new application areas and an increased use of this technology in the future.

Vacuum-insulated panels (VIPs) provide highly efficient insulation appliances such as refrigerators. The excellent insulating effect of the Evonik silica AERSOSIL® leads to optimal results in highly confined spaces, using the same functional principle as a thermos bottle in a vacuum. Evonik also employs this insulating effect of AEROSIL® in a completely new product that may find use as an insulation panel in the construction industry. The new panels are permeable, including for moisture, non-flammable, and provide the same insulating performance as conventional materials although they are much thinner.



Polymethylmethacrylate offers a wide range of options for megacity lighting. Thanks to its high optical purity, easy processing properties, and high resistance to weather, polymethylmethacrylate is particularly well suited for use in light technology applications.

"To systematically identify potential new growth areas, Evonik uses approaches such as Open Innovation, investments in promising start-ups through corporate venturing, and an in-house Corporate Foresight team to boost our own expertise in future research," explained Dr. Peter Nagler, Chief Innovation Officer of Evonik. The team is developing promising business for the specialty chemicals company with a timeline of ten to 15 years to make the most of future demand. Using trend analyses, it identifies challenges that will affect markets in the future, with technologies for urban areas as a current focus area.

## 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 2011 more than 33,000 employees generated sales of around  $\in$ 14.5 billion and an operating profit (adjusted EBITDA) of about  $\in$ 2.8 billion.

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