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Research & Development

R&D Centers worldwide

Advanced Materials & Systems Research, Ludwigshafen



In the Advanced Materials & Systems Research division, BASF develops new structural materials, dispersions, functional materials as well as organic and inorganic additives for a wide range of customer industries including automotive, construction, packaging, paints, detergents and cleaning products, pharmaceuticals, cosmetics, water and the wind industry.

Numerous innovative materials of BASF were used in the construction (2015) of the new research building. The newly developed high-performance insulation panel Slentex™ based on inorganic aerogel allows a slim and highly efficient heat insulation due to its lower heat conductivity. For the glass fiber reinforced concrete facade elements, the concrete additive Master X-Seed was used. It accelerates the hardening of concrete and improves its durability.

(01) Modern methods of investigation for understanding of new materials

24/05/2016; 06:26; A1/A2: direct sound; FullHD



Atomic force microscopy (AFM) provides diverse data of the investigated samples. These data need to be interpreted in a meaningful way, because the true value of the experiment is exploited in their relation to the desired materials and application properties.



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The heart of an atomic force microscope for surface investigation is the palm-sized scanner unit. It steers a scanning tip, mounted on its end, with sub-nanometer-precision, providing a spatial resolution that corresponds to the size of individual atoms.

(02) Interdisciplinary cooperation in catalyst analytics

24/05/2016; 05:43; A1/A2: direct sound; FullHD



Understanding and continuously improving heterogeneous catalysis requires the expertise of an experienced team, as well as specialized analytical methods.

For example, X-ray photoelectron spectroscopy generates information on the composition of a surface, which is interpreted in context of the microscopic distribution of the catalytic material, and performance in the chemical target process. This is made possible by a close exchange between surface experts and catalyst researchers.

(03) Creative solutions and efficient research by interdisciplinary, diverse teams

24/05/2016; 06:20; A1/A2: direct sound; FullHD



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In the new research building B007, BASF research moves closer together. Here, scientists from material physics, formulation and specialty chemicals research work door-to-door. They develop new solutions together with polymer chemists in the neighboring building.

A bridge, shortening paths, interconnects the two buildings. Furthermore, open communication areas facilitate exchange between the scientific disciplines. This stimulates creative ideas, and benefits the efficient development of effective solutions.

(04) Creative solutions and efficient research by interdisciplinary, diverse teams

24/05/2016; 02:42; A1/A2: direct sound; FullHD



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