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Half-year Financial Report 2017

Ludwigshafen, Jul 27, 2017

Footage material

As the world's leading chemical company, we believe strongly in the emotional appeal of film as a way of making innovations and solutions come alive before the viewer's eyes. Of course, as a journalist you can't be everywhere, but we can help bring you a little closer to our world.

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00'04 (01) QURIOSITY

BASF's new Supercomputer QURIOSITY



BASF has selected Hewlett Packard Enterprise (HPE) to build one of the world's largest supercomputers for industrial chemical research. Quriosity is located at BASF's Ludwigshafen headquarters. Based on the latest generation of HPE Apollo 6000 systems, the new supercomputer will drive the digitalization of BASF's worldwide research.

With the supercomputer, we will progress faster in our R&D activities, but also strengthening our innovation power.

The new system will make it possible to answer complex questions and reduce the time required to obtain results from several months to days across all research areas.

As part of BASF's digitalization strategy, the company plans to significantly expand its capabilities to run virtual experiments with the supercomputer. It will help BASF reduce time to market and costs by, for example, simulating processes on catalyst surfaces more precisely or accelerating the design of new polymers with pre-defined properties.



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02'34

(02) Advanced Materials & Systems Research

Creative solutions and efficient research by interdisciplinary, diverse teams



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.

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.

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.

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.



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05'04 (03) Plant Health Plant Health Research



One challenge for sustainable development is ensuring enough food for a growing world population. Since arable farmland is limited, innovations are essential here. Our research and development activities focus on solutions ranging from soil to seeds and crops.

The Research Triangle Park (RTP), North Carolina, is one of BASF's six major hubs for research and development in North America. This research site is at the vanguard of global plant health research for BASF.

The technical competencies include agricultural products research and development, insecticide, fungicide and herbicide research, formulation research and scale-up and analytical support for R&D.

In addition to products for seed enhancement and innovations for better soil management, BASF will also provide technologies that make plants more resistant to stress factors such as heat, cold and nutrient deficiency. These solutions strengthen the health of crops, thus going beyond conventional crop protection.



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07'16

(04) White biotechnology

Research Center - Fermentation



White biotechnology—also known as industrial biotechnology—uses microorganisms and enzymes to produce chemical and biochemical products. Often, using new biotechnological methods and processes allows us to manufacture these products more efficiently and with lower resource consumption than with conventional processes.

n the research laboratory for white biotechnology and microbiology in Tarrytown, New York, scientists develop efficient biotechnological production processes and work on antimicrobial products for the medical technology, hygiene and health sectors.

In nature there are many things which appear to be the same, but which behave like an image or mirror image of each other – for example the left and right hands. The same phenomenon also applies on a small scale at the molecular level. Two molecules which are mutually chiral have identical physical properties, but in most cases different biological effects.

In fermentation, living microorganisms such as fungi and bacteria transform raw materials into the desired products. In yogurt production, for example, lactic acid bacteria convert lactose to produce lactic acid. Fermentative processes can be used to produce substances like vitamins and enzymes, with reduced resource consumption and in adequate quantities.



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09'30 (05) BASF Geismar Verbund Site Methylamines plant



North America is the world's largest chemical market. The region North America includes approximately 100 production sites and 25 R&D facilities. The North American headquarters is in Florham Park, New Jersey.

The cornerstones of BASF's presence in the important North American chemical market are the sites in Geismar, Louisiana and Freeport, Texas, both of which operate according to the Verbund principle. These sites are further strengthened by the steam cracker in Port Arthur, Texas.

Geismar, Louisiana, is BASF's largest manufacturing site in North America. The Geismar Verbund site manufactures basic and specialty chemicals, intermediates and polyurethanes. The new plant for the production of methylamines at the integrated Verbund site in Geismar operates since 2011. The methylamines will serve as raw materials for some 20 different specialty amines produced by BASF at existing facilities in Geismar.

Around the world, BASF offers an outstanding diverse range of amines. Along with alkyl-, alkanol-, alkoxyalkyl-, di- and polyamines, the company offers aromatic as well as heterocyclic amines and an expanding portfolio of chiral amines of high optical and chemical purity.



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11'46 (06) BASF Verbund Site Nanjing Naphtha tank farm



Originated from Germany, BASF - The Chemical Company has a rich and long history in Asia Pacific for over 125 years. Over the years, BASF has developed into a leading global chemical company. In Asia Pacific, BASF has a production network with 100 sites in 27 countries, customers in more than 16 countries and more than 16,000 employees engaging in the development, manufacturing and sale of a wide range of chemicals products.

The integrated petrochemical composite at Nanjing is a 50:50 joint venture between BASF and China Petroleum & Chemical Company (Sinopec). It is located close to the Yangtze River in Luhe District of Nanjing Municipality. Within Nanjing Chemical Industry Park (NCIP), BASF-YPC enjoys a favorable environment for further expansion as well as synergies with neigh-boring enterprises.

Naphtha is the basis for a large number of important basic chemical compounds, especially ethylene and propylene. Ethylene and propylene are the most important molecules in the chemical industry. They are precursors for plastics, detergents and solvents, waxes, crop protection products, paints, and more. Almost every product produced by BASF is based on naphtha.

From the central tank farm the naphtha get to the steam cracker by many kilometers of pipelines. Here it is processed into the precursors.