# **News Release**



LANXESS at the VDI "Plastics in Automotive Engineering" conference, March 21 - 22, 2012, in Mannheim, Germany

# **Lightweight construction solutions for Green Mobility**

Leverkusen – Intelligent lightweight construction solutions based on polyamide composites will be one of the main areas of focus for LANXESS at this year's VDI "Plastics in Automotive Engineering" conference in Mannheim. "We want to demonstrate the enormous range of opportunities offered by nylon composite sheet hybrid technology for saving weight in automotive design. This composite structure is in many cases an ideal alternative not only to metals but also to carbon fiber-reinforced thermosetting systems, both from an economic and from a performance point of view," explained Thomas Malek, a hybrid technology expert at the Semi-Crystalline Products business unit. LANXESS sees enormous potential for nylon composite sheet hybrid technology in concepts for Green Mobility, such as electric vehicles. Possible applications include engine bearings, door structures, pedals, front ends, and seat crossmembers.

## Precise simulation of the draping of nylon composite sheet

Among the things LANXESS is presenting at the conference are a brake pedal and airbag housing made using nylon composite sheet hybrid technology. The parts are much lighter than comparable, conventionally manufactured components, yet still offer sufficiently high strength. "These two polyamide components, which we developed jointly with our partners, demonstrate our leading position in the development of lightweight hybrid constructions. For example, we are able to simulate the complex forming process of continuous glass fiber-reinforced nylon composite sheet and calculate the subsequent orientation of the glass fibers," said Malek. Furthermore, LANXESS has developed a material model that describes the anisotropic behavior of nylon composite sheet. The mechanical properties of a part made using nylon composite sheet hybrid technology, such as its fracture behavior in a crash, can now be

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precisely calculated. "We can not only predict the load at which a part will fail, we can also say where it will fail," said Malek.

## **HiAnt – Driving innovation with customers**

In a sophisticated development process, LANXESS has itself come up with a system for simulating all the process steps in nylon composite sheet hybrid technology and the new material model. This expertise is part of HiAnt – a brand in which the Semi-Crystalline Products business unit has pooled all of its engineering know-how to support its partners in the development of innovative parts. These services range from material selection and CAE calculations to mold construction, part testing and support with the start of series production. "HiAnt is being constantly expanded. At our Dormagen plant, for example, we have set up a Material Testing Center to determine the material data for the most important load scenarios for thermoplastic materials," said Malek. The HiAnt services are also a focus of the presence at the VDI conference.

## Green Mobility - a core strategic topic at LANXESS

This fiscal year, LANXESS is focusing its activities on the core strategic subject of Green Mobility. The aim of the campaign is to focus on innovative technologies and products with which the specialty chemicals group can help to enable resource-saving, environmentally friendly, sustainable mobility. This includes such things as lightweight construction concepts for body parts and high-performance rubber for the manufacture of smooth running, fuel-saving Green Tires.

LANXESS is a leading specialty chemicals company with sales of EUR 7.1 billion in 2010 and currently around 16,100 employees in 30 countries. The company is at present represented at 47 production sites worldwide. The core business of LANXESS is the development, manufacturing and marketing of plastics, rubber, intermediates and specialty chemicals. LANXESS is a member of the leading sustainable indices Dow Jones Sustainability Index (DJSI) World and FTSE4Good.

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## Forward-Looking Statements.

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#### Information for editors:

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You can find further information concerning LANXESS chemistry in our WebMagazine at <a href="http://webmagazine.lanxess.com">http://webmagazine.lanxess.com</a>.

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