

News Release



Conserving resources during automotive production with integrated paint process

- **New TÜV-certified study by BMW Group, Dürr and BASF**
- **Sustainability: Stronger focus on production processes**

The BMW Group saves 12,000 tons of CO₂ annually during automotive production at its Munich plant by eliminating one step from the paint process. This means that compared to a conventionally coated vehicle, a car coated with the shortened process can drive the first 420 kilometers with a net zero carbon footprint. In addition, the process saves as much energy as the amount needed by 250,000 Munich residents to wash one load of laundry every week.

These are the findings of a new TÜV-certified study conducted by the BMW Group together with the mechanical and plant engineering firm Dürr and BASF's coatings experts. They aimed to find out how the eco-efficiency of the OEM coating process can be improved allowing resources to be conserved at the same time. "The paint process is one of the most energy-intensive process steps involved in industrial automotive manufacturing," said Dr. Hans Schumacher, head of Dürr's Application Technology division. "We have consolidated the expertise of three companies in order to make paint processes even more environmentally friendly in the future," said Lars Nigge, Account Manager BMW at BASF's Coatings division.

The study specifically compared two primer-based coating processes to the integrated paint process without primer. In conventional systems the primer smooths surface irregularities and protects the

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cathodic e-coat, the undermost paint layer, from UV radiation. BASF was able to substitute the primer by integrating its protective properties into a newly developed waterborne basecoat layer. In all categories included in the study, the “Integrated Process” proved to be the most beneficial. Compared to the current primer process, the Integrated Process reduces energy consumption and CO₂ emissions by around 20 percent and saves costs.

Eco-Efficiency Analysis by BASF

The study was based on real-life data from 2014 evaluated with the Eco-Efficiency Analysis developed by BASF. The analysis will help BASF and its customers decide which products and processes are the best choice for a defined benefit, both ecologically and economically. The study has been validated by TÜV (German technical inspection and certification organization) and NSF (National Sanitation Foundation).

When it comes to sustainability in the automotive industry, the focus is directed more and more to manufacturing processes. In addition to the utilization phase, the production phase is now being examined more closely. “It is no longer just a question of whether a product is sustainable in consumption but also whether it has been manufactured sustainably,” said Nigge. “The study's findings provide compelling evidence that the Integrated Process is one of the most eco-efficient solutions.”

More information on the Eco-Efficiency Analysis by BASF: www.basf.com/eco-efficiency

About BASF's Coatings division

The Coatings division of BASF is a global expert in the development, production and marketing of innovative and sustainable automotive OEM and refinish coatings, industrial coatings and decorative paints. We create advanced performance solutions and drive performance, design and new applications to meet our partners' needs all over the world. BASF shares skills, knowledge and resources of interdisciplinary and global teams for the benefit of customers by operating a collaborative network of sites in Europe, North America, South America and Asia Pacific. In 2015, the Coatings division achieved global sales of about €3.2 billion.

Solutions beyond your imagination – Coatings by BASF. For more information about the Coatings division of BASF and its products, visit www.basf-coatings.com.

About BASF

At BASF, we create chemistry for a sustainable future. We combine economic success with environmental protection and social responsibility. The approximately 112,000 employees in the BASF Group work on contributing to the success of our customers in nearly all sectors and almost every country in the world. Our portfolio is organized into five segments: Chemicals, Performance Products, Functional Materials & Solutions, Agricultural Solutions and Oil & Gas. BASF generated sales of more than €70 billion in 2015. BASF shares are traded on the stock exchanges in Frankfurt (BAS), London (BFA) and Zurich (BAS). Further information at www.basf.com.