

# News Release



## **BASF and Hyundai Motor showcase RN30 Concept Car at K Fair**

- **Hyundai RN30 Concept Car combines bold design with high performance technology**
- **Key solutions from BASF enable lightweight, durable and sustainable materials for individual design options**
- **From concept to reality: chemistry-driven solutions in the New Generation Hyundai i30**

Ludwigshafen, Germany – October 14, 2016 – A new concept vehicle jointly developed by BASF and Hyundai Motor Company combines key solutions from the chemical industry with purposeful aerodynamic design and specialized high-performance technologies. Both companies will present outstanding features of the RN30 Concept Car at the [2016 K Fair](#) in Düsseldorf from 19-26 October.

“We are very proud to be a vital part of the RN30,” said Raimar Jahn, President of Performance Materials at BASF. “Based on our great partnership and our innovation power, Hyundai Motor has invited us to demonstrate the capabilities of our materials in this unique concept.” This new Concept Car was created to offer pure driving pleasure on the race track for everybody. BASF’s material solutions helped Hyundai to realize even the most daring design ideas based on its impressive product portfolio and car enthusiasm.

### **Lightweight plastics for efficient performance**

As a racing machine designed for race tracks, it is essential for the RN30 to be lightweight and have a low center of gravity. While high-performance cars generally contain carbon fiber reinforced polymer

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(CFRP) to reduce weight, the partners moved away from the fixed idea of using CFRP. Instead they explored new lightweight materials by BASF suitable for high-performance cars as an alternative. For example, due to their outstanding flowability, BASF's Elastolit® rigid integral foam and reaction injection molding (RIM) systems developed for body panels permit the realization of even those most challenging designs like the fender and spoiler of the RN30. Combining high quality with low weight, they can even directly be painted thanks to their Class A surface. The RN30 also features semi-structural sandwich solutions for the trunk floor, providing a considerable weight reduction as well as a highly efficient production process. BASF's Elastoflex® E, a spray impregnation polyurethane for very light and stiff sandwich structures consisting of a long-fiber reinforced surface layer and a paper honeycomb is the ideal material for these applications.

### **Durable materials for maximum safety**

When driving at maximum speed, drivers have to rely on the uncompromising quality of durable and reliable materials. BASF's Infinergy® is the world's first expanded thermoplastic polyurethane. Combined with an elastic coating it is used in the roll bar padding of the RN30 because of its long-term durability and outstanding resilience. But speed is nothing without control. Thus, fast cars also need high-performance brake systems. BASF has developed a breakthrough technology, Hydraulan® 406 ESI, which exceeds all technical challenges and fulfills demanding legislative requirements by extending the durability of the brake elastomer.

For the complex and compact electronic assemblies of the RN30, BASF's new Ultramid® Advanced N allows for miniaturization, functional integration and freedom of design. It can be used in electronic components as well as structural parts near the engine and the gearbox in contact with hot, aggressive media and different fuels.

## **An interior design optimized for racing experiences**

During the interior design process, RN30 designers and racing experts from Hyundai Motorsport worked closely together to deliver a layout that helps the driver focus his attention more intensely on driving. A bucket seat for racing, which perfectly fits the driver's body and an integrated roll cage, which increases the vehicle body strength, protect the driver in precarious situations.

For those parts with complex geometry such as the seat shell and pan, BASF offers Ultracom<sup>®</sup>, a thermoplastic composite system for parts with continuous fiber reinforcement in injection-molded structures. This allows the seat to be lighter while still maintaining optimum strength and rigidity. The seat shell and pan owe their final shape to a matched combination of semi-finished products like tapes or laminates and injection-molding compounds. In the realization of such parts, BASF's unique simulation tool Ultrasim<sup>®</sup>, as well as its Ultratest<sup>™</sup> parts testing facilities and processing technologies play a major role across the entire process chain of seat component production.

## **Efficient heat management and natural fibers contribute to sustainability**

Race cars are reduced to the maximum to avoid any unnecessary ballast weight such as air conditioning. Keeping the car cool and comfortable can be achieved with heat management solutions like BASF's near infrared-reflective films, protecting windows of the RN30 against solar heat. The entirely organic and transparent film has an advantage over metal films in that it is designed to filter out only infrared rays while allowing other rays such as light, GPS and telephone signals to pass through.

The water-based binder Acrodur<sup>®</sup> strengthens the natural fibers and enables an environmentally compatible, dimensionally stable and, above all, lightweight solution for car composites such as dashboards and door panels of the RN30 which can be finished in various ways for high-quality design.

## **Color and coating solutions for unlimited design options**

Color inspires imagination and individualization. BASF's waterborne ColorPro IC basecoat "Performance Blue" is one of the latest generation of individual colors with broad color spectrum, flexibility and unmatched quality. It gives the RN30 its dazzling appearance. In addition, BASF's innovative iGloss® clearcoat with an advanced easy-to-clean effect helps to minimize microscratches significantly. In the interior, BASF's patented transfer coating technology valure™ produces high-quality surfaces with almost limitless design options as well as unique material combinations with a wide variety of flexible substrates, like leather, in automotive interiors. The coated surface remains breathable and feels soft.

## **From concept to reality: experiencing chemistry-driven solutions in the New Generation Hyundai i30**

The New Generation Hyundai i30 – "a car for everyone" and available in early 2017 – reveals how BASF's solutions convert concepts into reality. BASF's engineering plastic Ultramid® continues to set standards for innovation and global availability in established plastic applications for powertrain and chassis such as the transmission oil pan, cylinder head cover and air intake manifold in the i30.

BASF is a key partner to the automotive industry in efforts to reduce harmful emissions from cars with combustion engines. The EMPRO™ TWC (Three-Way Conversion) catalyst technology used in the i30 significantly outperforms conventional three-way conversion catalysts in the conversion of hydrocarbons (HC), carbon monoxide (CO) and nitrogen oxides (NO<sub>x</sub>) over a wide range of conditions.

Catamold® is a feedstock for metal injection molding technology. It is used in the production of dual clutch transmission parts for the i30 because it is 50% lighter than traditional precision casting feedstocks and provides greater design freedom.

Cellasto® microcellular polyurethane elastomers are used to make jounce bumpers and top mounts. They help to minimize noise, vibrations and harshness, enhancing driving comfort in the i30.

Check out [basf.com/rn30](http://basf.com/rn30) for more information and images.

Visit us at our booth at K Fair: hall 5, booth C21/D21.

**BASF live stream: Follow daily expert dialogues and presentations at our booth on [www.basf.gomexlive.com](http://www.basf.gomexlive.com)**

### **About BASF and the automotive industry**

The automotive industry is one of BASF's key customer industries. In 2015, BASF's automotive driven sales totaled €10.2 billion – representing approximately 14 percent of BASF Group sales. BASF supplies and develops functional materials and solutions that enable vehicles to be built more efficiently and have a lower environmental impact, whatever powertrain technology they use. The product range from BASF includes for example engineering plastics, polyurethane and specialty foams, coatings, pigments, catalysts, fuel additives, coolants and brake fluids, as well as battery materials. With such an extensive range of products, BASF is the world's leading chemical industry supplier to the automotive industry. BASF cooperates closely with customers all over the world through a network embracing Europe, Asia-Pacific, North and South America as well as Africa. Further information on BASF's solutions for the automotive industry is available on the internet at [www.automotive.basf.com](http://www.automotive.basf.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 (AN). Further information at [www.basf.com](http://www.basf.com).

### **BASF at K 2016**

Where your ideas become ideal solutions: BASF at K fair from October 19-26, 2016 in Dusseldorf, Germany, in hall 5, booth C21/D21. You can find all related press releases, photos and further information here: [www.basf.com/k2016](http://www.basf.com/k2016)

### **About Hyundai Motor Company**

Established in 1967, Hyundai Motor Company is committed to becoming a lifetime

partner in automobiles and beyond. The company leads the Hyundai Motor Group, an innovative business structure capable of circulating resources from molten iron to finished cars. Hyundai Motor has eight manufacturing bases and seven design & technical centers worldwide and in 2015 sold 4.96 million vehicles globally. With more than 110,000 employees worldwide, Hyundai Motor continues to enhance its product line-up with localized models and strives to strengthen its leadership in clean technology, starting with the world's first mass-produced hydrogen-powered vehicle, ix35 Fuel Cell and IONIQ, the world's first model with three electrified powertrains in a single body type.

More information about Hyundai Motor and its products can be found at: <http://worldwide.hyundai.com> or <http://globalpr.hyundai.com/>