Multiplication made easy

- **Entirely made from polyamide: all-plastic front end carrier in the new Volkswagen Passat and Sharan for the first time**
- **BASF material and service allow the part to be transferred from the Golf platform**
- **Exhibited at BASF's Fakuma stand: front end carriers of Golf VII, Passat and Sharan**

The world's first front end carrier without metal reinforcement has now leapt across the platforms: The Volkswagen Group is using the front end carrier made from the BASF plastic Ultramid® in the new Passat and Sharan models – after the integration in the Golf VII where in 2013 a polypropylene/steel hybrid part was replaced with an all-plastic part made from Ultramid® B3WG8 and with BASF's comprehensive simulation service. In this way, BASF's polyamide 6 helps to ensure that also these two front end carriers are considerably lighter than the previous models and save installation time as well as costs. The globally available polyamide 6 grade is manufactured at certified production sites with process-oriented quality management. BASF thus meets the requirements that car manufacturers have in terms of cost efficiency, reliable supply, and flexibility.

The new Passat has been named the European "Car of the Year" 2015 thanks to its innovations regarding safety, design, and overall quality, among other things. The front end carrier in the Passat is the largest polyamide part in the vehicle and weighs around 2.6 kg. The Ultramid® B3WG8 used is reinforced with 40 percent glass fibers and boasts an excellent combination of fatigue and endurance strength. This means that the plastic part shows the correct dynamic stiffness at defined locations and also meets the car maker's specifications for crash acceleration and vibration behavior of the whole front end and radiator system.

Thanks to a modern design, the proportions of the Passat have been interpreted much more dynamically: with a lower body, a longer wheelbase, and larger wheels, among other features. The plastic front end carrier contributes to these innovations by being much more slender than its predecessor and making optimum use of the tight installation space.

Simulation with Ultrasim®: specific material data
The various load situations, some of which are very demanding, were calculated for the Golf VII with the BASF simulation tool Ultrasim®. It was possible to transfer these results to the front end carriers in the Passat and Sharan without any problems because Ultrasim® can be integrated seamlessly into the computing environment of the entire vehicle at the car manufacturer. For this purpose, specific, e.g. crash-relevant material data is available for the plastic which precisely describes the effects of temperature, moisture, and loading rate.

Further information: www.ultramid.de