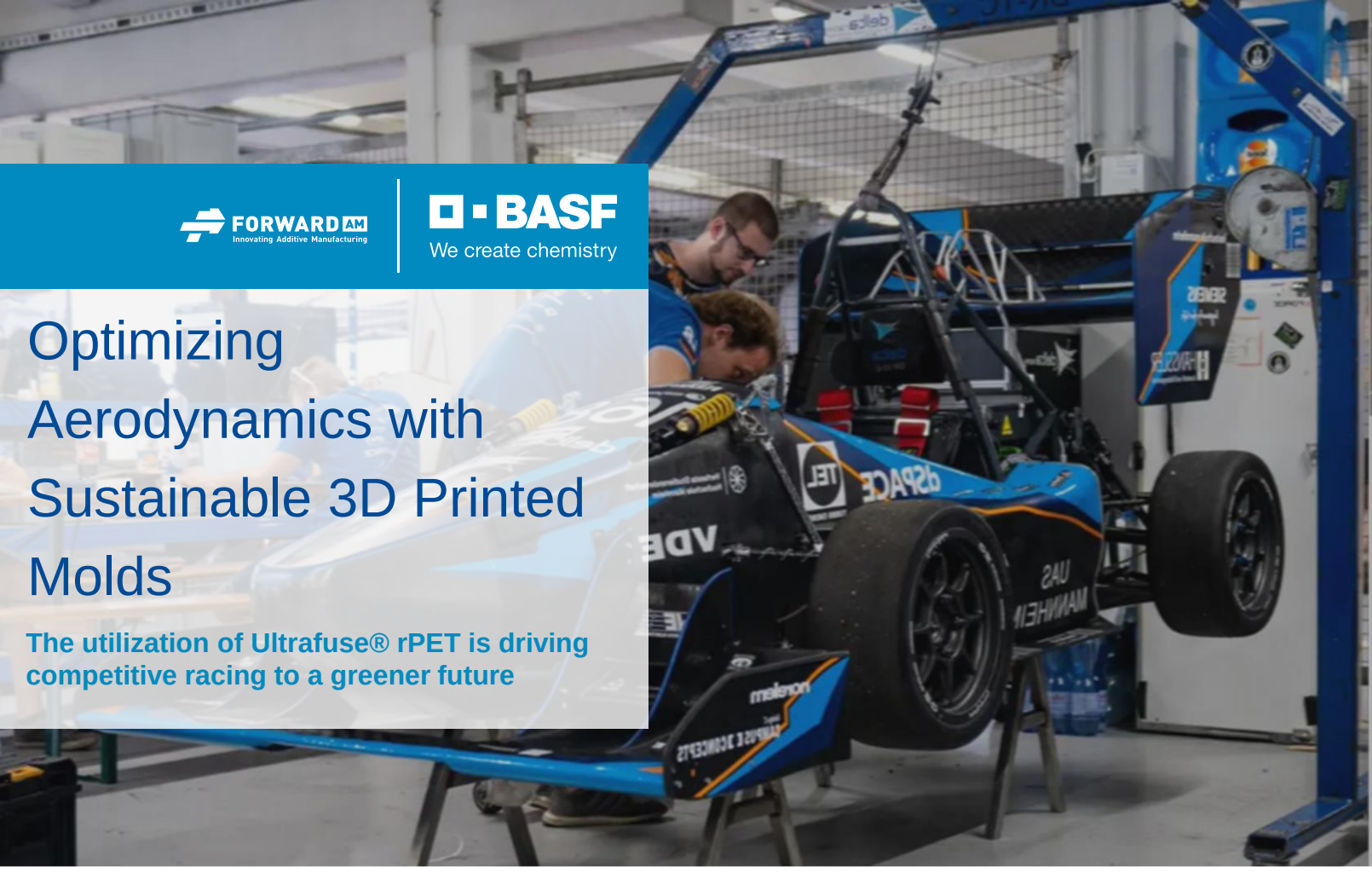


Optimizing Aerodynamics with Sustainable 3D Printed Molds

The utilization of Ultrafuse® rPET is driving competitive racing to a greener future

OVERVIEW

Traditional molds for carbon parts are milled from polyurethane with high material waste and long lead times. Working with Mannheim University of Applied Sciences, Hänssler produced a mold using recycled Ultrafuse® rPET from BASF Forward AM and large format printing which reduced both the cost and carbon emissions. The final 3D printed part also saved nearly 4kg of material and resulted in a cost savings of between 50-75%. Through the utilization of Additive Manufacturing, Hänssler and the Delta Racing team are ready to dominate the track with this optimized aerodynamic rear wing.

QUICK FACTS

Materials:

- Ultrafuse® rPET

Technology:

- Large Format Printing

Partner:

DELTA RACING
UAS MANNHEIM

HÄNSSLER
Kunststoff- und Dichtungstechnik

Since 1986, Hänssler has been manufacturing sealing elements for a variety of applications and industries. Today they continue to find success as a family business with around 50 employees and over 650 customers. Hänssler, based in Mannheim, Germany, is known for their expertise in the development, design and manufacture of reliable standard products and sophisticated special items in sealing and plastics technology.

DICHT.DE/EN

4 kilograms in materials savings

50-75% lower cost than milled forms

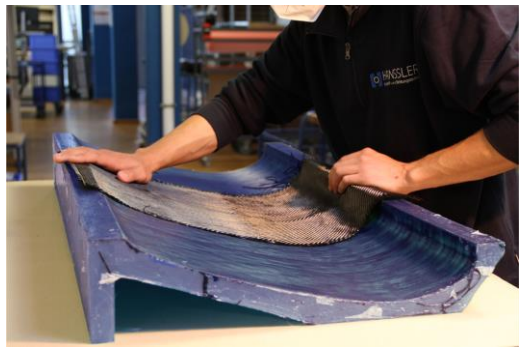
Produced from recycled plastic bottles

Challenge: Design and produce a form that would save time, reduce costs and meet performance standards

The optimal solution was found through Additive Manufacturing by turning to 3D printed large format components. In addition to mold creation, this 3D printing process also offers many advantages in mechanical engineering as well as the ability to produce complex geometries and lightweight construction making it ideal for the race track. Sustainability goals can also be reached through the utilization of Ultrafuse® rPET as this innovative filament is made from recycled material that is an ecologically sound alternative to filaments made from virgin raw materials.

The many advantages gained from 3D printing the form compared to a milled polyurethane option resulted in:

- Material savings of over 3920 grams
- Cost savings of 50-75% compared to previously milled shapes
- Properties ensuring higher flexural strength and stability
- A delivery time of only a few days compared to several weeks for milled forms
- A quick printing time of 2 days 18 hours



“For us, the title Trusted Manufacturing Partner is an absolute vote of confidence and underscores our uncompromising production quality once again.”

-- Sebastian Hänssler, Managing Director

“As a manufacturer of 3D printing materials, it is extremely valuable to have a partner like Hänssler who is able to combine the expertise from additive manufacturing and classic plastics processing and thus offer the end customer unique added value.”

-- Christian Reinhardt, Business Development Manager Consumer and Transportation for Forward AM

Learn more about Ultrafuse® rPET:

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