

Achieving Global Printing Consistency



Image Source: Ultimaker (Credit: AADHOOGENDOORN)

Applying innovative solutions to improving processes in car manufacturing – Ford Werke GmbH

In the vibrant industrial landscape of Germany, the Ford Werke GmbH and its 3D Printing Center in Cologne emerges as a beacon of innovation, encapsulating the company's forward-thinking approach in additive manufacturing.

3D Printing Center

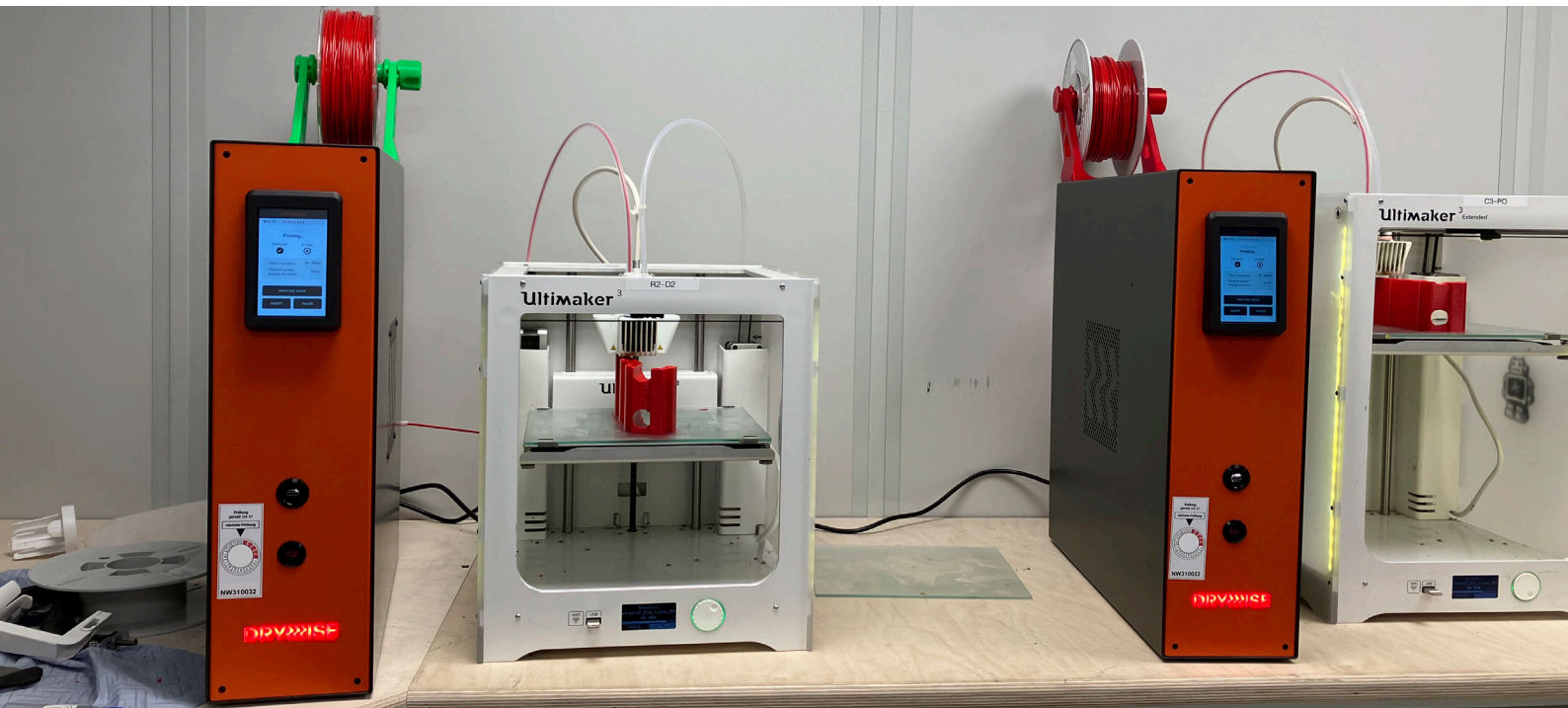
Ford Werke GmbH Cologne

Officially operational since beginning of 2023, this center is pivotal to Ford's strategy of transforming automotive production for a new era of electric vehicles. Equipped with twelve sophisticated 3D printers, the facility not only accelerates the prototyping of electric vehicle parts but also manufactures intricate tooling and fixtures, enhancing the efficiency of assembly lines across various locations, including Spain, Italy, and Romania.

These printers are utilized for various applications—ranging from the creation of ergonomic tools that aid in airbag installation to the crafting of protective elements for vehicle doors during transit. By employing advanced materials and an open filament system, the center ensures the endurance of high-volume production tools, all while embracing sustainable practices through material conservation and recycling initiatives.

However, Ford's journey with 3D printing is navigated amidst challenges intrinsic to this technology, such as achieving uniform quality and managing materials effectively, a landscape where solutions like Drywise have significant roles to play in enhancing the efficiency and reliability of 3D printing processes.

Image Source: Ford Werke GmbH



Ultimate Material Quality Control

CHALLENGE:

3D printing hygroscopic materials such as TPU can pose a challenge, as moisture absorption can affect the material properties and result in poor print quality. This is especially problematic when printing in different locations with varying humidity levels, as it can lead to inconsistencies in print quality between locations.

SOLUTION:

To overcome this challenge, 3D Printing Center decided to test Drywise as a quality assurance tool to assess if it can be implemented across their different locations. With its pre-calibrated profiles for

different materials, including TPU, Drywise ensures that the printing conditions are consistent and optimal regardless of the location.

Furthermore, Drywise's advanced moisture management system helps to eliminate moisture-related issues when printing with hygroscopic materials. Its integrated drying system removes moisture from the filament before it enters the extruder, ensuring that the material is dry and ready to print. This helps to prevent issues such as stringing, warping, and poor layer adhesion, which can result from printing with moist filament.

VALUE:

Implementing Drywise as a quality assurance tool across their different locations, could help Ford maintain consistent print quality and minimize wastage, ultimately saving time and money. Humidity issues were significantly reduced, leading to improved print quality and consistency. Drywise's precise and reliable printing capabilities enable part production of a constantly high-quality level that meets their exact specifications, no matter where they are printed.

Partners

FORD

A global American brand woven into the fabric of Europe for more than 100 years, is committed to freedom of movement that goes hand-in-hand with looking after the planet and each other.

The company's Ford+ plan, with Model e, Ford Pro and the Ford Blue business units is accelerating its European transformation to an all-electric and carbon neutral future by 2035.

The company is driving forward with bold, new EVs, each one designed with European drivers in mind and innovating with services to help people connect, communities grow, and businesses thrive.

Selling and servicing Ford vehicles in 50 individual European markets, operations also include the Ford Motor Credit Company, Ford Customer Service Division and 14 manufacturing facilities (eight wholly owned and six unconsolidated joint venture facilities) with four centres based in Cologne, Germany; Valencia, Spain and at our joint venture in Craiova, Romania and Kocaeli, Türkiye.

Ford employs approximately 34,000 people at its wholly owned facilities and consolidated joint ventures and approximately 57,000 people including unconsolidated businesses across Europe. More information about the company, its products and Ford Credit is available at corporate.ford.com.

THOUGHT3D - MAKERS OF DRYWISE AND MAGIGOO

Thought3D, the creators of Magigoo and the innovative force behind Drywise, is a pioneering company dedicated to addressing and resolving the challenges associated with the drying of hygroscopic materials in the FDM 3D printing industry. Drywise, our flagship product, is a groundbreaking in-line filament drying solution, meticulously engineered to deliver consistent, reliable, and on-demand filament drying. Specifically designed for industrial desktop 3D printer users, Drywise ensures optimal print quality by maintaining the ideal moisture levels in printing materials, thereby revolutionizing the 3D printing process.

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