



AIRBUS SEEKS TO 3D PRINT HALF OF ITS FUTURE AIRPLANE FLEET

News / Manufacturer



Though several industrial giants can be found at the forefront of metal 3D printing pioneering, none is more prominent than Airbus. They have been adopting 3D printing at lightning speed, and several of their latest engine and plane designs already rely on top of the range 3D printed parts – such as A350 XWB which features over a 1000 3D printed components. Additive Industries, the Dutch 3D printer developer who has just delivered their first MetalFAB1 3D printer to Airbus APWorks, has revealed where their efforts are heading: Airbus is planning to 3D print up to half of all components for its future airplane fleet over the coming decades.

Additive Industries, as you might know, is a high tech business with strong roots in the laboratories of Eindhoven. Dedicated to taking metal 3D printing to industrial partners, they have been working on their own industrial 3D printer since 2012. The first MetalFAB1 3D printer has just been delivered to Airbus APWorks, the aviation giant's subsidiary specializing in advanced manufacturing and metal 3D printing. They are behind various innovative applications concerning robotics, mechanical engineering, automatic, medical technology and of course aerospace. Among others, they were behind the 3D printing a bionic partition for the A320 Airbus using a new super-

strong, lightweight alloy called scalmalloy and DMSL technology.



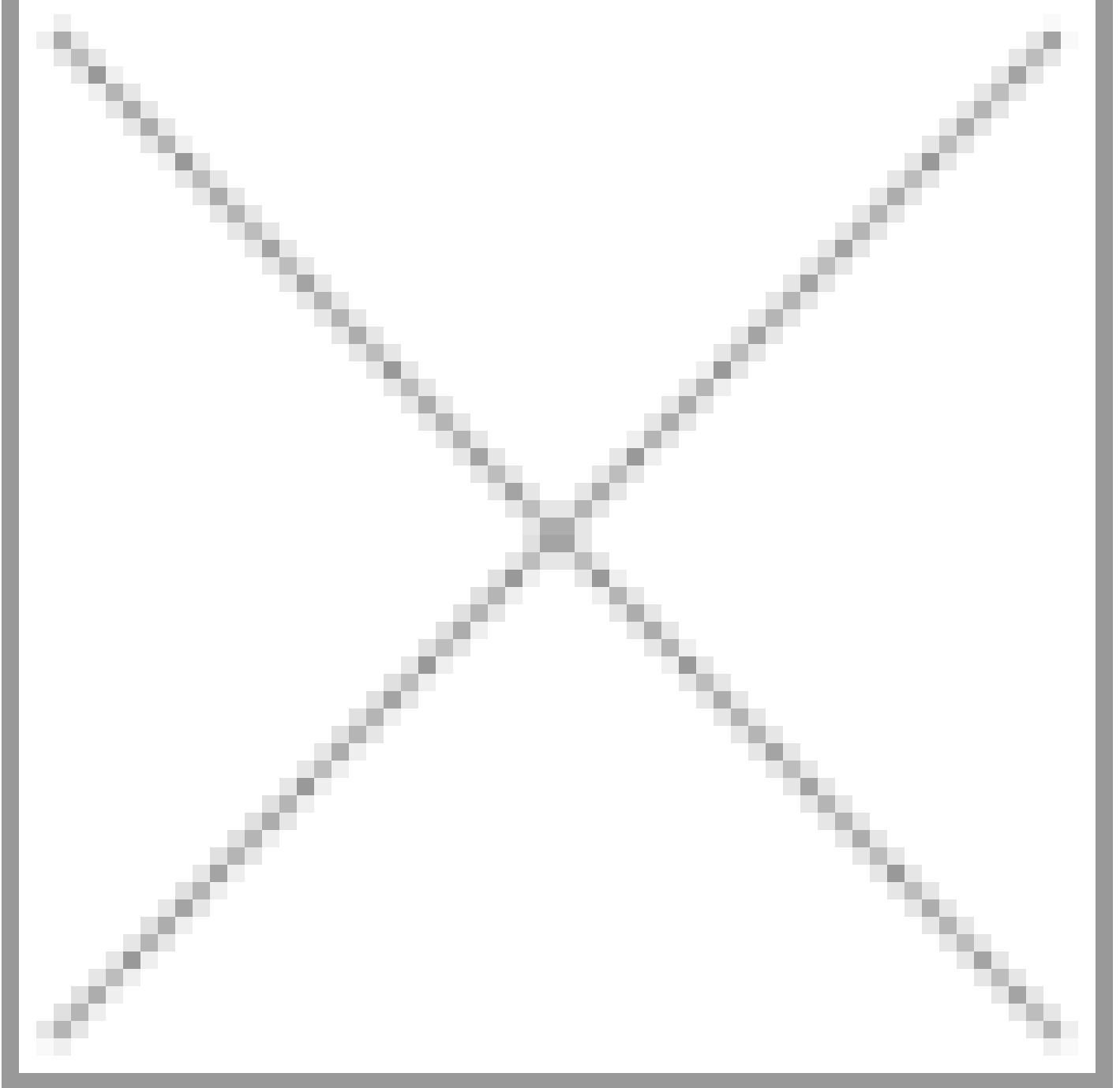
And according to Daan Kersten, the co-founder of Additive Industries, Airbus is ambitious. They have paid €1.8 million (more than \$2 million USD) for this room-filling 3D printer by Additive Industries, and will be using it to build various metal parts, such as lightweight attachment components and seat parts, for aircraft. Kersten expects that it is all part of the first step towards largely 3D printed airplanes. “Airbus is thinking about reaching a point where half of their airplanes are 3D printed,” he tells Dutch media. “If you know that they’re now at just a few components, this technology must be seen as incredibly potent.”

The startup is also extremely proud to have Airbus as their first client. “Surely such a huge corporation won’t take any risks by collaborating with a startup that hasn’t got a track record to back up its claims. That hasn’t achieved anything yet. Of course Airbus has very strict quality demands too, so we’ll have to give it everything we’ve got,” Kersten adds.

But they certainly seem to have an excellent product. Their first industrial metal 3D printer has been under development for three years, during which they closely collaborated with various Dutch high tech companies, such as chip manufacturer (and neighbor) ASML. “ASML is our big role model. We hope to become as large as them one day,” the ambitious CEO says. They have about thirty employees right now, most of which come from Eindhoven’s technical industry. “We are sometimes still seen as a startup, and that’s fine with me. It sounds a bit rebellious, and that suits us,” he adds. They are also hoping to find more customers in the aviation industry, as well as in the automobile industry.

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But the eight meter long MetalFAB1 seems to be perfect tool for realizing those ambitious. A room-filling machine, it reaches its high level of productivity through a robust and thermally optimized design, which is combined with tons of feedback control options, calibration strategies and optimized use of automated build plates and product handling. “The modular design of the MetalFAB1 3D printer allows for customer- and application-specific process configuration. Multiple build chambers with individual integrated powder handling make this industrial 3D printer the first to combine up to four materials simultaneously in one single machine,” they told us. “The MetalFAB1 can be equipped with a maximum of four full field lasers, thereby eliminating the need for stitching when printing large objects. MetalFAB1 is also the only system to include a furnace for integrated stress relief heat treatment. The size of a single build envelope (420x420x400 mm) places the MetalFAB1 among the top 3 largest 3D metal printers available.”

It certainly sounds like a maker’s dream, and Kersten believes it is very logical that companies like Airbus see this technology as the future. “One of the biggest advantages of metal 3D printing is

that you need less material and waste less because you use all the materials for the final product. And production is sped up considerably; you won't have to make any more molds and don't have to wait for the boat from China anymore," he concludes.

24 MARCH 2016

SOURCE: 3DERS

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