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## Building a Network for 3D Printing in the Mobility Industry

# Deutsche Bahn Goes Additive, an Interview with DB Head of AM Stefanie Brickwede

In anticipation of her participation at the upcoming IN(3D)USTRY [congress](#), we recently caught up with Stefanie Brickwede, Deutsche Bahn's Head of AM, to speak about how the transport company has and continues to integrate 3D printing into its train manufacturing and maintenance processes.

German-based Deutsche Bahn AG has grown to become one of the world's largest transport companies and is the second largest railway operator in Europe. The company, which carries about 2 billion people every year, has made many strides in order to stay up-to-date with new technologies, manufacturing processes, and transport trends.

As Stefanie Brickwede explains it, Deutsche Bahn has found a number of areas where additive manufacturing has a positive impact on production and, primarily, its maintenance processes. "The main thing we do is obsolescence management," she says.

*"We visited forty of our maintenance workshops in Germany to try and convince our colleagues who were initially skeptical about 3D printing. When we gave them the first metal printed part which was very heavy and stabile and dense, we really got them. You could see it in their eyes," Brickwede told us.*

Since then, Deutsche Bahn has identified at least one or two 3D printing specialists at each of its maintenance workshops, who are there to determine which parts can benefit from being printed. As it turns out, a wide variety of train parts are suitable for 3D printing, including spare parts for the coffee machine, coat hooks, steering wheel covers, headrest frames, Braille signposts for blind travelers, and more.

Notably, Deutsche Bahn has not limited itself to using one type of 3D printing technology, as it has found use cases for both plastic and metal-based additive manufacturing. As Brickwede explains, the German transport company relies primarily on PA-12 material for its plastic printing, but also uses metal 3D printing materials such as aluminum. She also adds that the company recently 3D printed its first titanium part.

By partnering with companies that specialize in 3D printing, Deutsche Bahn has been able to leverage state-of-the-art AM technologies rather than invest in the equipment itself. In fact, to facilitate the interaction between companies, institutions, and researchers in the field of additive solutions for the mobility and logistics sector, Deutsche Bahn even founded the "Mobility goes Additive" [network](#) in September 2016.

Last week, the Mobility goes Additive network welcomed its 50th member. At present, the AM network includes such companies as Siemens, Concept Laser, Materialise, EOS, Stratasys, Autodesk, and many more.

Like the aerospace industry, one of the main challenges that Deutsche Bahn faces in the adoption of 3D printed parts is qualifying them to meet strict safety requirements. Brickwede even suggests that safety requirements for trains are more stringent than for aircraft, largely because it can take passengers longer to disembark, and it is critical that every part of the train is flame retardant.

*“Everything that is connected to flame retardants is very critical for trains and therefore we want to create a 3D printing material which can be used for parts within the trains that come into close contact with passengers, such as the headrest or hand rest,” she explained.*

Currently, Deutsche Bahn is investigating more potential applications for additive manufacturing in the transport and mobility sector.

#### **About IN(3D)USTRY**

Organized by Fira de Barcelona, IN(3D)USTRY From Needs to Solutions is the global hub that brings together every year all the players shaping the advanced and additive manufacturing ecosystem to foster the technological improvement of these innovative systems. It will be held from October 3 to 5 at Fira de Barcelona's Gran Via venue.

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