



## Digitized manufacturing: Volkswagen opens 3D printing center, BMW tools up for i4 production



Volkswagen has added a 3D printing center to its Toolmaking unit in Wolfsburg, to make complex vehicle components both for prototyping and then series production. It features new-generation HP-supplied printers with a fast, flexible binder jetting process; this supplements the selective laser melting (SLM) process used earlier, and is said to make metallic 3D printing both easier and quicker. In the binder jetting additive process, a metal powder and binder material are applied in layers, and the part then 'baked' in a sintering process.

Dr Andreas Tostmann, Volkswagen's board member for production, said in a statement to mark the center's opening [pictured]: "The 3D printing center takes Volkswagen's additive manufacturing



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activities to a new level. In two to three years' time, three-dimensional printing will also become interesting for the first production parts. In the future, we may be able to use 3D printers directly on the production line for vehicle production.”

### BMW Group invests in Munich plant for more flexibility

BMW, meanwhile, is gearing up to start production of its electric i4, investing around €200 million to develop its Munich facility to make electric, hybrid and internal-combustion engine cars on the same production lines. This also involves the assembly of a wider variety of body structures, since the architecture of the i4 is very different to that of the vehicles previously assembled in Munich, and of ongoing models like the recently-launched latest-generation 3-Series. The 1000-plus robots must be able to adapt between vehicles very quickly, and there are further challenges for logistics; BMW has been investing heavily in digitization and networking of systems at the facility, which is expected to make around 230,000 vehicles in 2019. It is currently operating at about 1000 cars a day, as well as producing engines.

Robert Engelhorn, head of the Munich plant, spoke at a press conference in Munich for the announcement of the latest investment. “Integrating an all-electric vehicle into an existing production system during production is a real Herculean task... requiring planning excellence, innovation and creativity,” he said, noting: “A future-proof production system has the highest degree of flexibility in order to be able to react to fluctuations in volume and market developments that are not yet foreseeable today.”

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