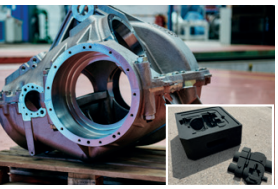
We print to drive

Since 2015, 150,000 parts have been realised in or with 3D printing in over 700 different applications at DB. This allows components to be printed on-demand, costs to be cut, tied-up stock capital to be reduced, materials to be used sustainably and emissions to be cut. Experience the wide range of possibilities of 3D printing live and hands-on.

3D printing fixes obsolescence

Thanks to on-demand production, vehicle availability can be restored more quickly. Just-in-case inventories become obsolete and raw materials are used sensitively.

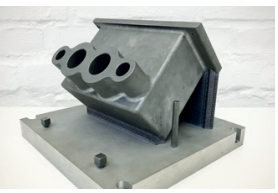


Half of a BR29x gearbox housing with model of the mould for sand printing
270 kg cast steel | Mould: Quartz sand with furan resin (scale 1:5) | Binder Jetting

The sand printing of the casting mould shortened the production of the component by several months. As a result, 40 shunting locomotives were quickly put back into service.

Emergency hammer box DB Regio
HTN-CF25 with Finnester flame-retardant coating | Fused Filament Fabrication

A train may not hit the track without emergency hammer box. As an interior part of a passenger train, very high material requirements must be met, which can now also be ensured with a new coating that has ceramic properties.



Terminal box on build plate with test specimens and support structure
Aluminum (AlSi10Mg) | Laser powder bed technology

The terminal box protects cables from flying ballast underneath the train and must comply with high strength requirements.

3D printing realises small batch sizes

Cable conduit segment of advanced TrainLab – in cooperation with Siemens Mobility
Ultem 9085 | Fused Filament Fabrication

State-of-the-art measurement technology had to be integrated into DB‘s test train to improve condition monitoring and needs-based maintenance of the network. In close co-operation with the supplier, the part was printed and professionally glued to the ICE outer skin. All necessary approvals were obtained in record time.

3D printing
For Strong Rail.

3D printing enables design customisation

The short-term procurement of design elements for an eye-catching appearance gives passengers a better orientation and ensures a smooth supply of vehicles and infrastructure.

1st class Pin ICE 3neo
Stainless steel (316L) | Sinter-based metal 3D printing (MoldJet)

This request arose after completion of the design phase. A new 3D printing technology made it possible to manufacture it cost-effectively and at short notice.

Sample of sandstone printing (elements at railway stations)
Sandstone with cement binder | Powder bed sandstone printing

Stone masonry work is often required for the renovation of historic railway terminals. The challenge: masonry work is not widely available, but many buildings underlie the approval of preservation authorities. The showcased technology is also applied in the renovation of Notre-Dame in Paris.

3D printing supports production processes and ensures their quality

Improved production – with 3D printing. Tools help in maintenance to effectively equip fleets with new components, ensure reproducible quality and on-time delivery.

Tool: Drilling template for redesign of ‚S-Bahn Stuttgart‘
ABS | Fused Filament Fabrication

This drilling template for the driver‘s console ensures efficient workflows and consistent quality in production. It avoids time-consuming rework and the technicians can carry out their work more easily.

Tool: Pictogramming template 2nd class DB Fernverkehr
PETG | Fused Filament Fabrication

Using these templates, the entire ICE and IC fleet was effectively labelled with new feedback stickers. The result: savings of almost one million Euros and half the time needed to apply the stickers.

Tools: Drilling template for mounting of rail balises
PA12 | Fused Filament Fabrication

Custom-fit drilling templates optimise the installation of balises on concrete and wooden thresholds, reducing the risk of costly installation errors.

Tool: Scratch guard for luggage rack installation
TPU | Laser Sintering

Refitting in hard-to-reach areas can cause damage. By using tools made of soft material, scratches and thus extensive, costly reworking can be avoided.

Get in touch with us for an exchange of ideas, to jointly digitise our spare parts warehouse or to network with innovative solution providers within the 3D printing industry – via our proprietary 3D printing network Mobility goes Additive e.V.

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