



3D printing at DB

We print to drive



DB Fahrzeuginstandhaltung GmbH | InnoTrans 2024

We move millions of passengers and tonnes of goods every day.



Reliable



Punctual



Comfortable

We navigate between old and new technology



Infrastructure



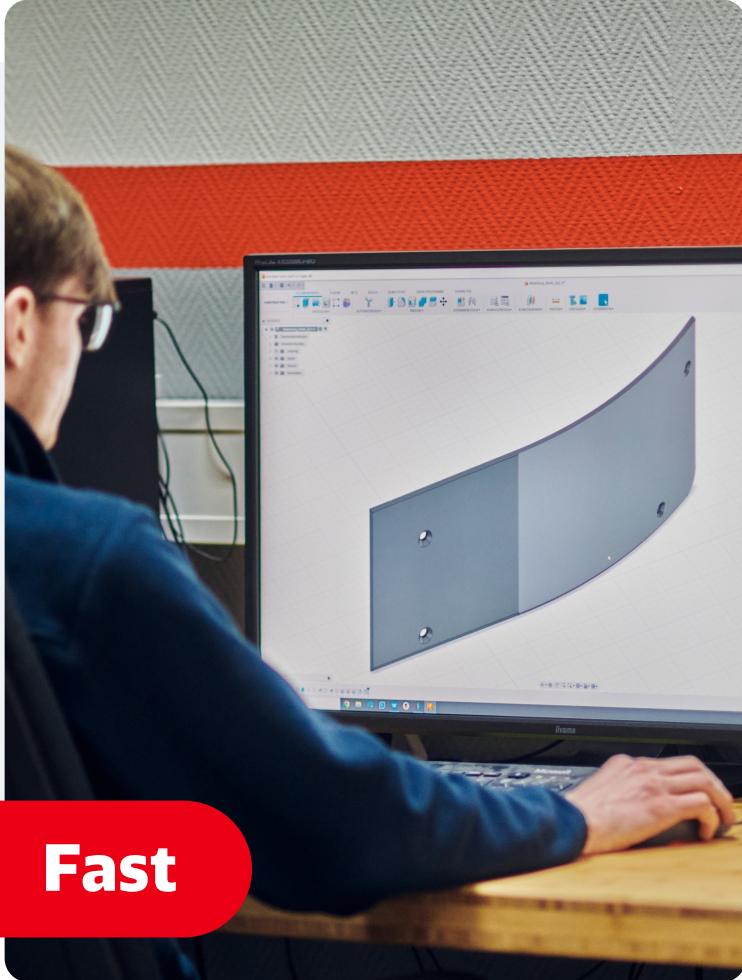
Vehicles



Interior



Why is DB using 3D printing?



Fast



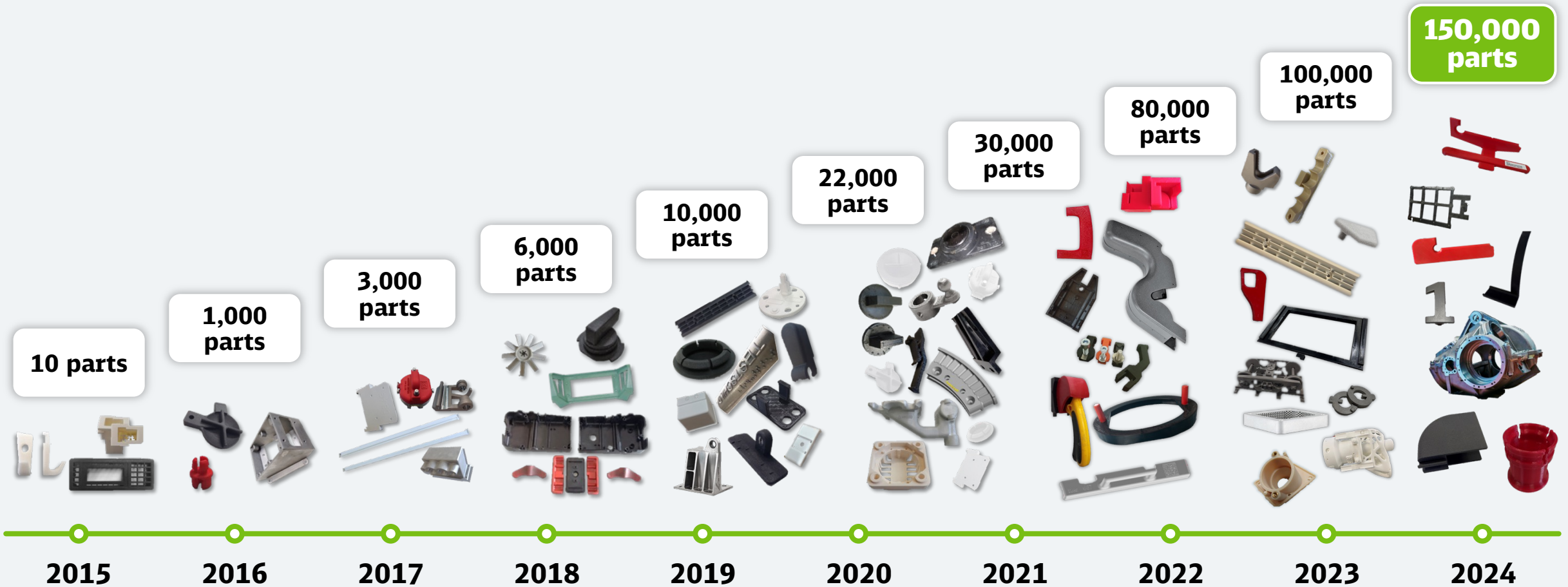
Flexible



Sustainable

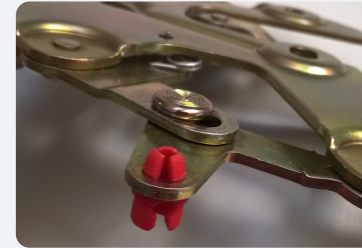
700 different applications | 150,000+ parts | 12 technologies

Saving effects in the two-digit million range



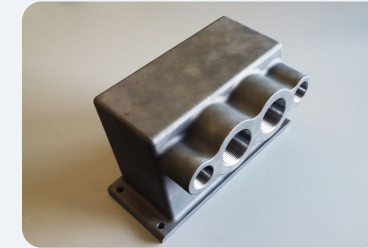
Where 3D printing scores

**Partial replacing
makes economic sense**



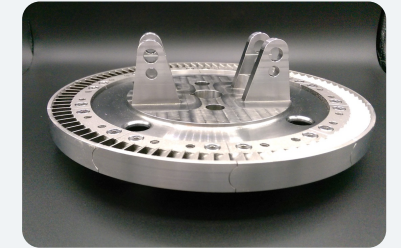
Guide sleeve door locking
Track work vehicle

**Clearing
obsolescence**



Terminal box
Air-conditioning motor

**Integrating
functionalities**



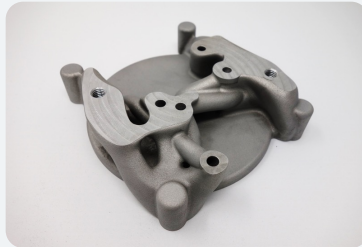
Segments for turbines
Steam locomotive

**Reducing
procurement costs**



Braille handrail sign
DB Railway stations

**Making use
of bionic design**



Adapter flange
Control valve test stand

**Creating
prototypes & samples**



Concrete sitting bench
DB Railway stations

**Manufacturing
from batch size = 1**



Cable cladding
Special fitting

**Perfect-fit
auxiliaries & tools**



Positioning jig
to stick pictograms

**Ensuring
parts availability**



Air grille
for passenger trains

DIN EN ISO/ASTM 52920

Benefits for 3D printing end users and suppliers



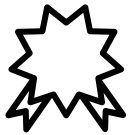
Reduction of quality audits

Production facilities require fewer audits due to industry-independent standard



Shared basis of trust

between additive manufacturing facility and customer



Certification flexibility

Production facility auditable by any certification body



Defines minimum quality

End components become comparable and reproducible at an analog level



Mutual traceability

Process documentation guarantees mutual traceability



Simplified selection of suppliers

Greater choice of framework agreement partners



RAILiability with other railways (MGA)



© DB AG/Uwe Miethe

Digital warehouse



On-demand procurement of spare parts



- Immediate requirement
- Top-down analysis
- AM for suppliers
- ▶ Use of AM as sustainable technologies



Procuring spare parts digitally

A digital warehouse
reduces waste
and emissions.



Sensitive use of
raw materials



Lightweight design/
weight reduction



On demand
production



Local production



Extended
lifetime



Digital traceability



Reduction
of emissions

This is green.

Using high-tech.
For the environment.
3D printing at DB.

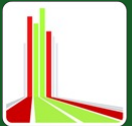
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[deutschebahn.com/green](https://www.deutschebahn.com/green)

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3D printing
For Strong Rail.