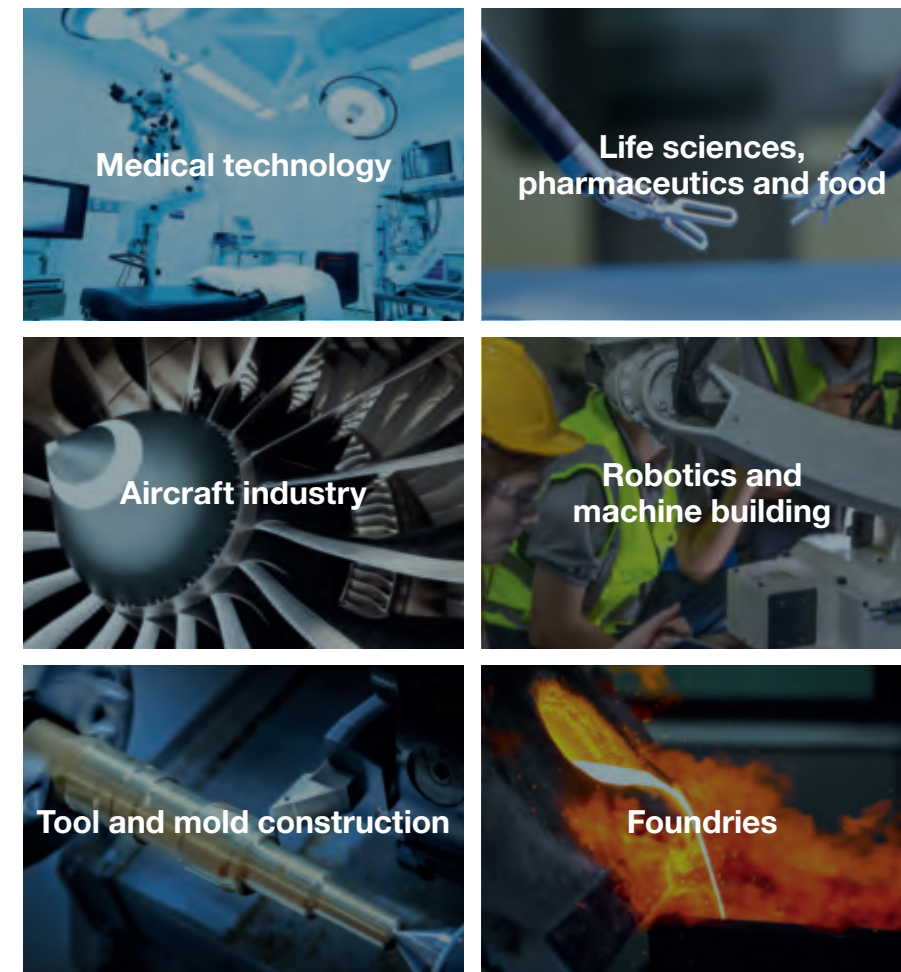


## SECTORS

All set for the future

3D printing can make manufacturing more efficient and sustainable.



## PERSONAL CONSULTING BY SUHNER

Strong range of services

### CAD data processing

Proper processing for CAD is a basic requirement for 3D manufacturing as well as subsequent services and optimization.

### Optimizing topology

Improving component shapes (topology) helps to improve function, ensure producibility and save material without sacrificing strength.

### Minimizing component warping

If a component is distorted, things can get expensive, leading to project delays and re-manufacturing. Our simulation calculates distortion so that the geometry can be optimized.

### Optimizing support structures

The stability of a support structure is affected by the filling density and pattern. We will help you find the best possible balance to avoid both material wastage and instability. Additionally, a dense structure is more difficult to remove.

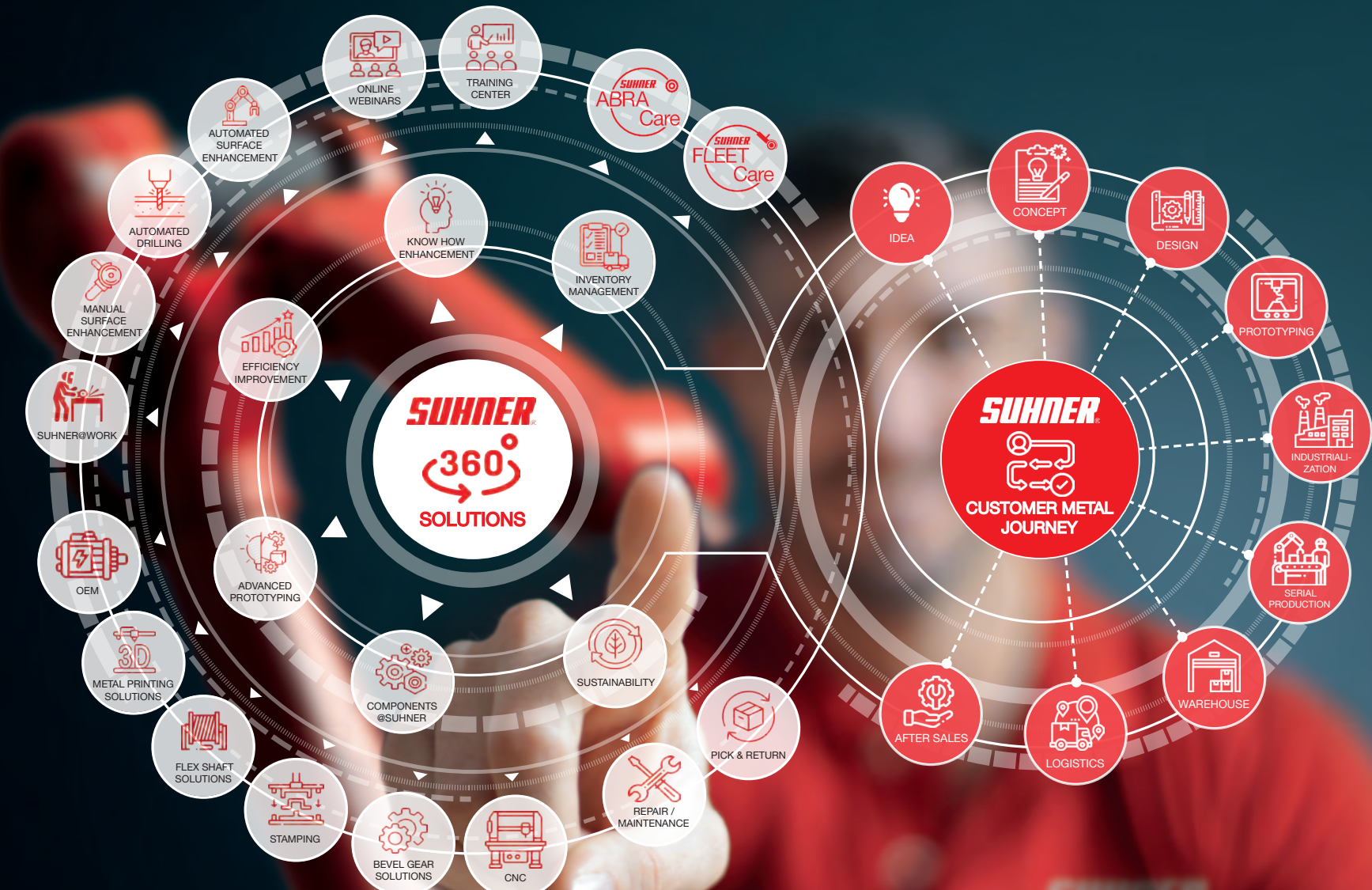
### Tensile testing

The quality, functionality and mechanical strength of a component are tested with a Zwick&Roell brand tensile testing machine.

### Print optimization

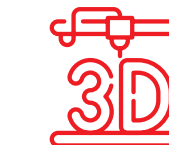
Consistent production quality, efficient production and preventing misprints.

## SUHNER. ADVANCED COMPONENT CREATION



[suhner.com/360](http://suhner.com/360)

# SUHNER®



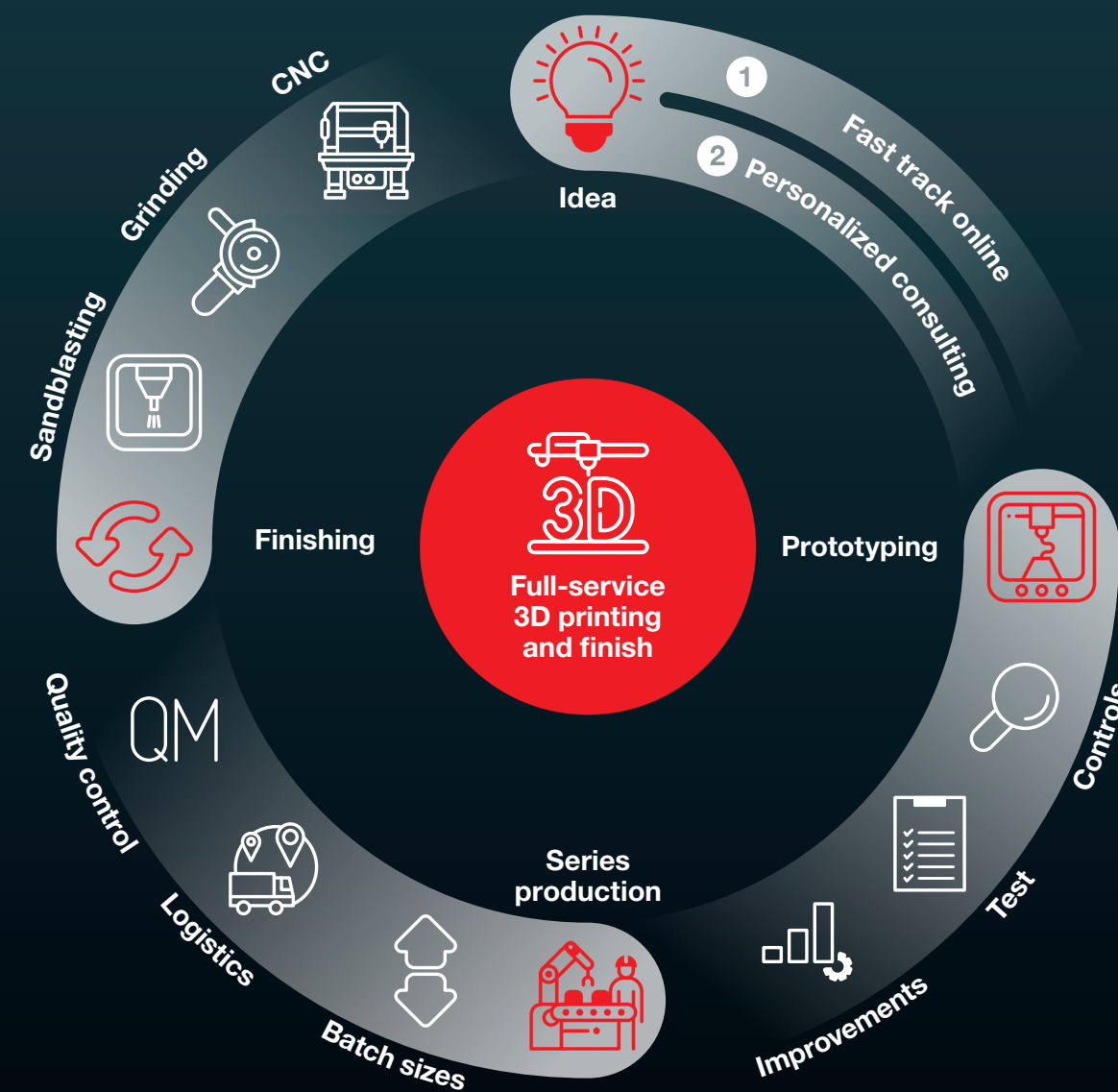
# Component Creation 4.0

Advanced 3D printing for prototyping and smart manufacturing





## The digital “extended workbench”



### 1 Fast track online

If you already know exactly what you need, you can directly wind up production online. On the online platform, you can configure the product, upload construction data and follow along with the production process.

### 2 Personalized consulting

Upon request, Suhner will support you in advance so that you can find the ideal manufacturing solution for your product. Together, we will determine the specifications, select materials and suitable technology and prepare a calculation.

### Register at the 3D store now!



You can register and get started right away at [3dstore.suhner.com](https://3dstore.suhner.com).

## DIRECT AND DIGITAL

### The fast track for rapid prototyping and production

Use our online portal



All 3D printed parts from a single source. Benefit from SUHNER's global production network with its wide range of additional services and manufacturing processes. Get a quote with just four mouse clicks. It only takes a few days until your workpiece is finished.

- The process is fully digital and accessible at all hours.
- Totally transparent: Delivery time, price and production status are immediately apparent. Quotes have a 21-day price guarantee.
- Our platform supports the file formats of most CAD applications: .STI, .STP, .STEP, .OBJ, .IGS, .IGES, .SLDPRT, .3MF, .CATPART, .X\_T, .X\_B
- The available technologies and the wide selection of materials are described in detail to give you a solid basis for decision-making.
- The data is checked automatically and simple geometry errors are corrected directly.

## MATERIAL AND FINISH

### Wide range of pure and composite materials

- Tool steels
- Stainless steel alloys
- Inconel
- Aluminum alloys
- ABS
- Polyamide (PA)
- Corrax
- and many more at: [3dstore.suhner.com](https://3dstore.suhner.com)

## Finishing

- Chemical smoothing Smooth, liquid-repellent surface
- Staining Dip coating with color tolerances
- Glass bead blasting Matte surface, smoother than sand-blasted
- Slide grinding Vibratory grinding, smoothed surface, material removal

## TECHNOLOGIES

### The right process for your workpiece From SLM to FDM

#### SLM – selective laser melting

Selective laser melting is a process in which fine metal powder is fused layer by layer using a laser. The procedure is suited to constructions with minimum dimensions of 1 mm for wall thickness, 0.5 mm for surface details and 2 mm for perforations and bore holes. Tolerance: DIN ISO2768-1m

#### SLS – selective laser sintering

Selective laser sintering is a process in which plastic powder is fused layer by layer using a laser. The procedure is suited to constructions with minimum dimensions of 1 mm for wall thickness, 0.5 mm for surface details and 3 mm for perforations and bore holes.

#### BJ – binder jetting

Binder jetting is a process in which different materials like metal, ceramics or sand are stuck together layer by layer using a binding agent. For this procedure, wall thickness should be more than 5 mm, surface details more than 1 mm and perforations and bore holes more than 3 mm.

#### SLA – stereolithography

SLA is a process in which liquid, UV-curing synthetic resins (photopolymers) are hardened selectively by a laser. This constructs a component layer by layer. For this procedure, wall thickness should be more than 1 mm, surface details more than 0.5 mm and perforations/bore holes more than 1 mm.

#### MJF – multi jet fusion

Multi jet fusion is a process in which a liquid fusing agent is printed onto a powder layer at the press of a button. The heat-conducting liquid locally binds the plastic powder, creating a component layer by layer. The procedure is suited to constructions with minimum dimensions of 1 mm for wall thickness, 0.5 mm for surface details and 3 mm for perforations/bore holes.

#### FDM – fused deposition modeling

Fused deposition modeling (FDM) or fused filament fabrication (FFF) is a process in which a plastic filament is melted and applied layer by layer using a nozzle. The minimum dimensions are 1.2 mm for wall thickness, 0.8 mm for surface details and 2 mm for perforations/bore holes. In the FDM process, parts are not printed with full density, but instead with infill geometry. The filling density is 15–20%.

Construction: Fine Superfine Highly detailed Material: Metal Plastic