

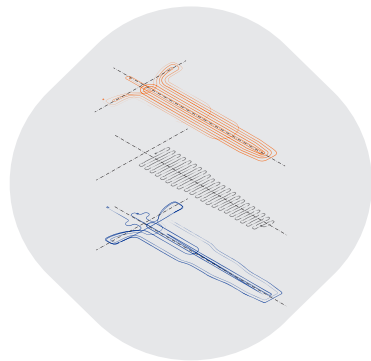


- **Naturally efficient  
lightweight construction.  
We design and manufacture  
moulded composite parts.**

# Technology

From the fibre to the finished part, our process chain leverages the properties of the material in the best possible way, providing immense design freedom for your moulded composite parts. Bionic fibre placement and an automated moulding process deliver maximum performance at an economic cost. Both thermosetting and thermoplastic resin systems can be utilized.

## Tailored Fibre Placement



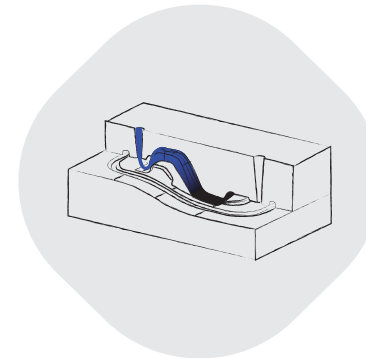
- Load path aligned fibre placement using industrial embroidery machines (TFP)
- Local reinforcement of critical areas
- Produced to the final contour with no cut-offs making the part cost-efficient and sustainable

## Preforming



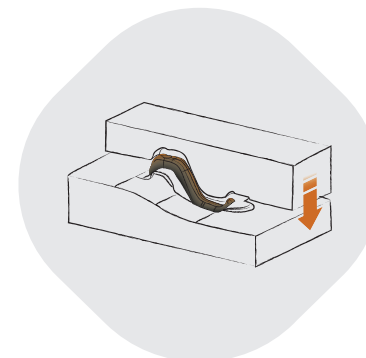
- Fully assembled 2D semi-finished products that can withstand the required loads
- Composite textile pieces are put together just like a 3D puzzle
- Optionally with a core material or integration of inserts

## Resin Transfer Moulding



- Complex geometries in one single process
- High dimensional accuracy
- Off-tool parts with excellent surface quality

## Thermoplastic Composite Forming



- Press-formed components with optimal fibre orientation
- Thermoplastic properties such as weldability and recyclability
- Off-tool parts with excellent surface quality



## Industrial series production

Whether you need load path aligned fibre layup, complex three-dimensional preforms or composite parts including attachments and finishing: Our automated and robust processes guarantee first-class quality across the entire component portfolio at all times – quality that pays off and that you can rely on. We work together with you to define the required quality criteria for each and every product and meticulously test according to them.

Stitched layups and preforms



Moulded parts



Assemblies





### Lightweight construction

The potential offered by carbon is huge. It makes all kinds of applications in light-weight construction possible. See for yourself!



### Stiffness

If precision and accuracy are what is needed to deliver the decisive advantage, stiff moulded CFRP parts are the best choice.



### Chemical resistance

The chemical resistance of composites means that they can be used as a substitute for stainless steel in many applications.



### Benign failure

Through special processing of the composite and due to the architecture of the fibres, we are able to make sure that the structure only fails gradually.



### Fatigue strength

Carbon offers a decisive advantage for many dynamic applications.



### Damping

Avoid material fatigue and wear due to vibrations – thanks to targeted damping using composites.



### Integral design

By using composite materials, it is possible to realise complex part designs and reduce the number of components.



### Integration of functions and electronics

Alongside traditional functions, electronic components can also be integrated into composites.



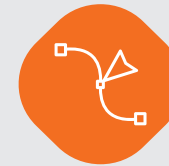
### Thermal expansion

Carbon can ensure you always have consistent measurement results thanks to its low thermal expansion.



### Radiolucency

Structures that let through various types of radiation (X-rays, MRI, radio waves) can be produced using the right fibres.



### Freedom of design and aesthetics

Carbon parts are organic and elegant. Carbon stands for high-tech and lifestyle. The innovative technologies from BIONTEC enable new design options for your products.



### Sustainability

Thanks to the bionic fibre placement, material is only used where it is needed. Thus, the environment is taken care of.



Your full service partner!

## Development

As a reliable supplier for your parts and an all-round partner, we support you in the realisation of your product from the initial idea through to series production. Benefit from our in-depth knowledge and innovative ideas.

We focus just as much on your specifications as on the right production processes for your product.

Development of the concept and complete assembly



Design and construction



Dimensioning



Prototypes and validation



## ○ Innovation

In order to implement your ideas, we develop innovative solutions. To this end, we continuously test new materials and methods together with our customers:

- Electronics integration
- Thermoplastic composites
- High temperature composites
- Bio-based resins and fibres



### Aviation

Weight reductions help to lower fuel consumption: We produce complex parts cost effectively.



### Medical technology

Radiolucent equipment and tools for medical examinations. Lightweight orthopaedic aids for patients.



### Mechanical engineering

We can help you to significantly improve the performance of your machines: by reducing the weight or improving the stiffness or damping properties.



### Metrology

Precision is the most important thing in metrology: something that our composite solutions deliver at the highest level.



### Mobility

CFRPs reduce energy consumption in the mobility sector and in passenger and freight transport.



### Space travel

Minimal weight, maximum reliability: We supply complex parts for science and new space applications.



### Other sectors

Composites can be used for a diverse range of applications. Get in touch with us.

○ From haute couture to high-tech:  
Our journey to the automated  
series production of composite  
products began with the traditional  
St Gallen embroidery of the  
19th century. Today we develop  
and produce innovative moulded  
parts. Bionic. Made of carbon.  
Efficient lightweight construction,  
just like you find in nature.



Do you have a complex problem to resolve?

Let's talk about it!

Get in touch with us.

