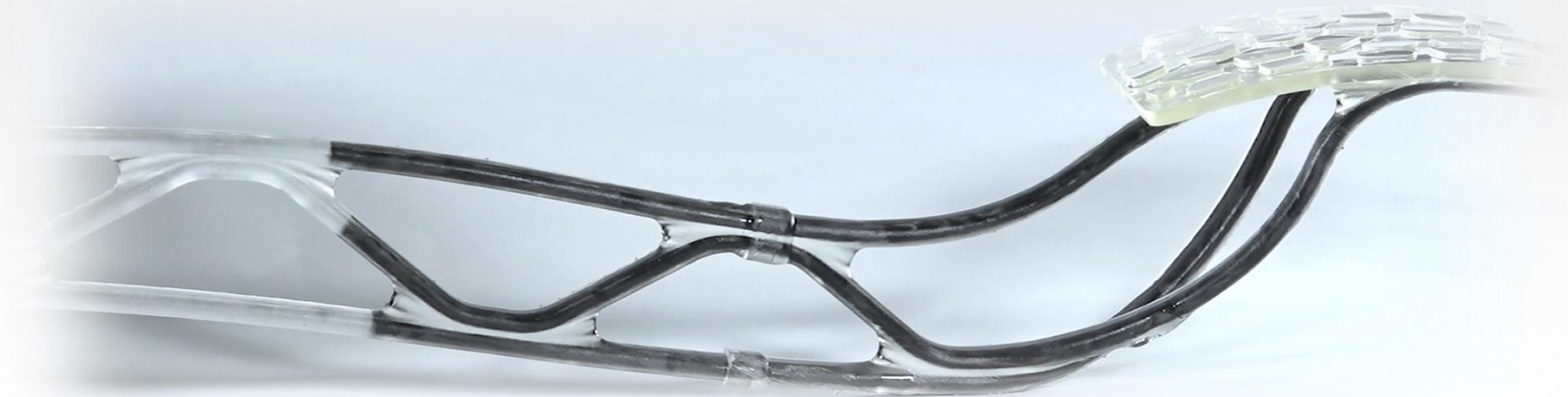


# CFIP Technology

Continuous Fibre Injection Process



# What is Reinforce3D?

A startup funded in 2022 aimed to further develop and commercialize the **Continuous Fibre Injection Process (CFIP)** technology. The current shareholders are:



Blanca Garro - CEO



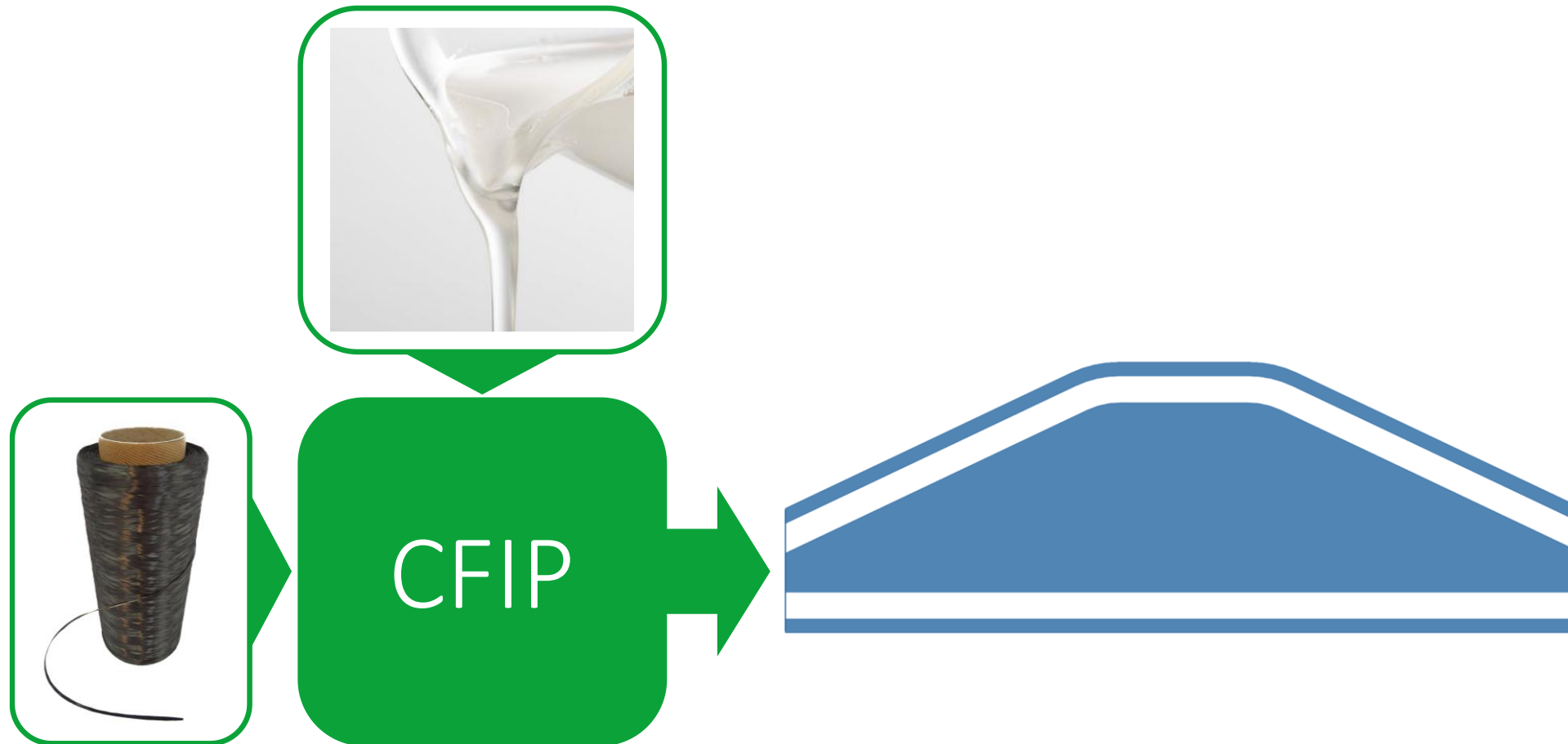
Marc Crescenti - CTO



10 years of RD in CFIP

# What is CFIP?

A new reinforcement method based on **injecting continuous fibres** simultaneously with **liquid resin** inside **tubular cavities within a part**. When the part is cured, the solidified resin finally acts as a mechanical interface between the injected fibres and the rest of the part.



In order to enable the process automation, CFIP only acts from the tubular cavity inlet.

3 key principles enable the process:

- Simultaneous injection with pressurized resin:
  - **Lubrication** of the tubular cavity
  - **Drag forces** on the continuous fibres
- **Push force** on the fibres



CFIP can be used for **any manufacturing technology**, including traditional and 3D printing.



CFIP can be used for **any manufacturing technology**, including traditional and 3D printing.

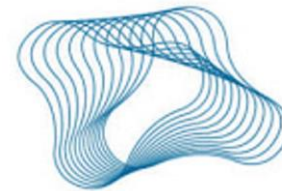


CFIP can be used for **any manufacturing technology**, including traditional and 3D printing.





HIGHLY COMMENDED  
TCT Post-processing Award





# Brake pedal demonstrator



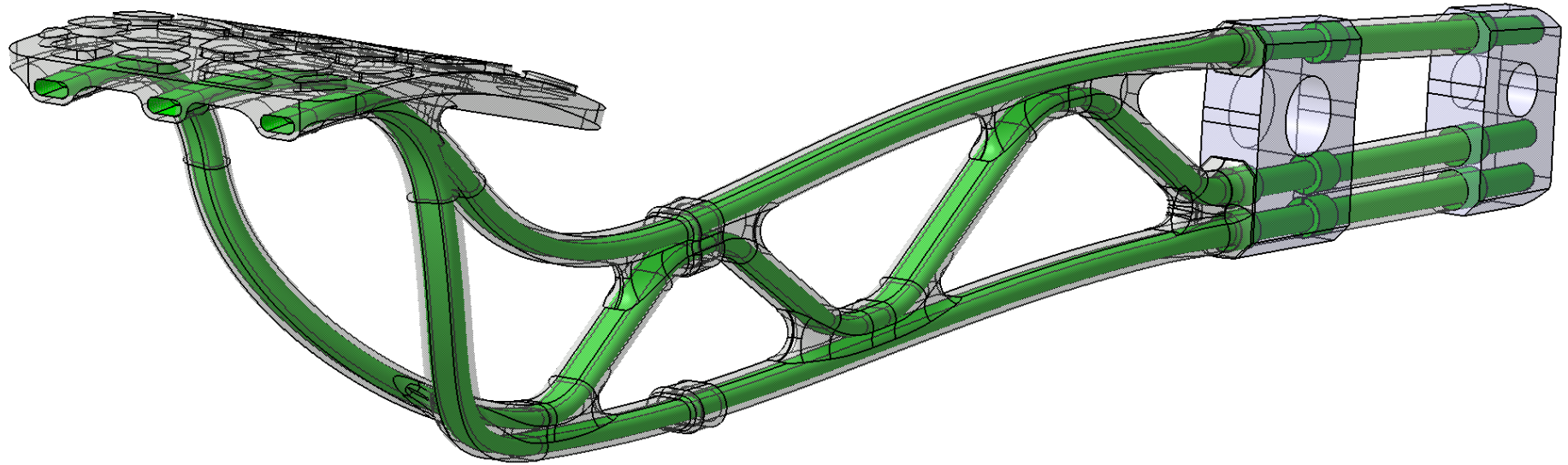
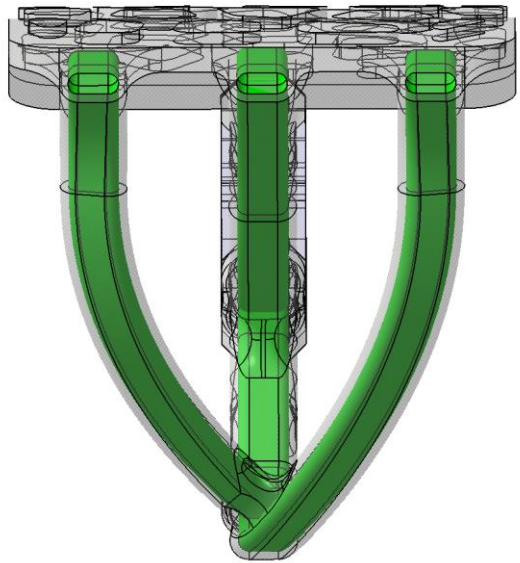
Design

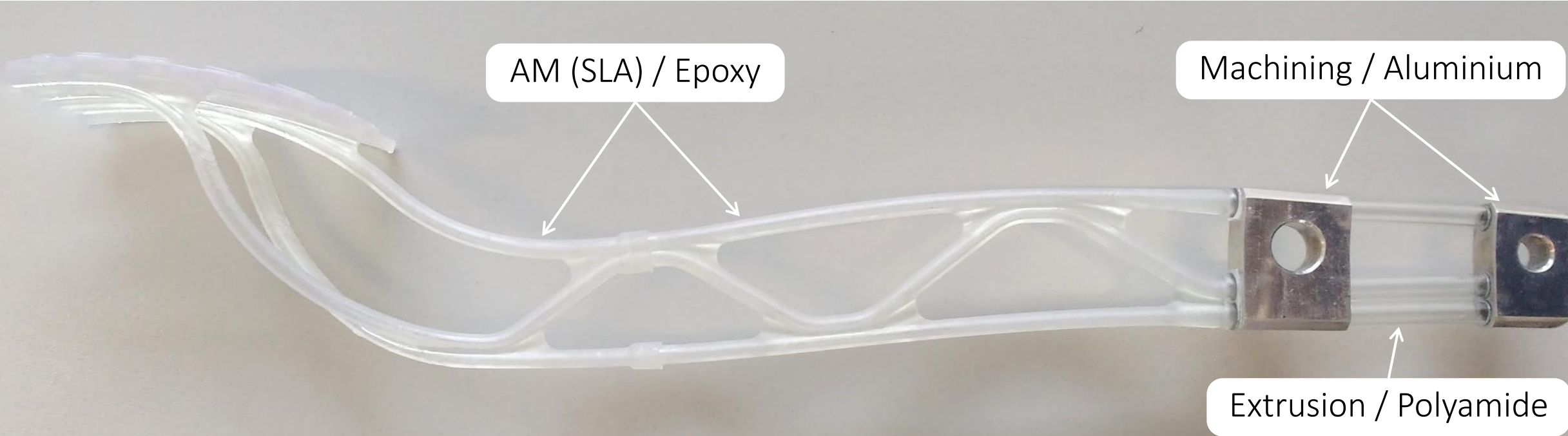
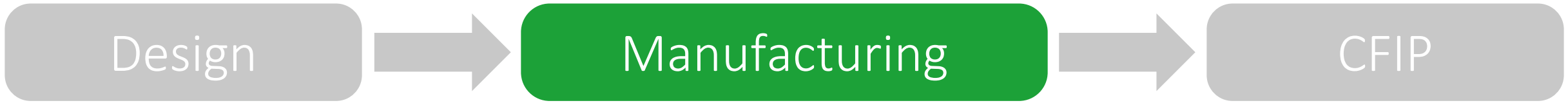


Manufacturing

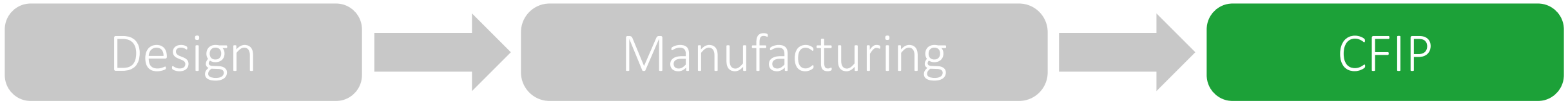


CFIP









**Integral joining** enables the efficient manufacturing of multi-material and multi-process structures.



# Satellite structure



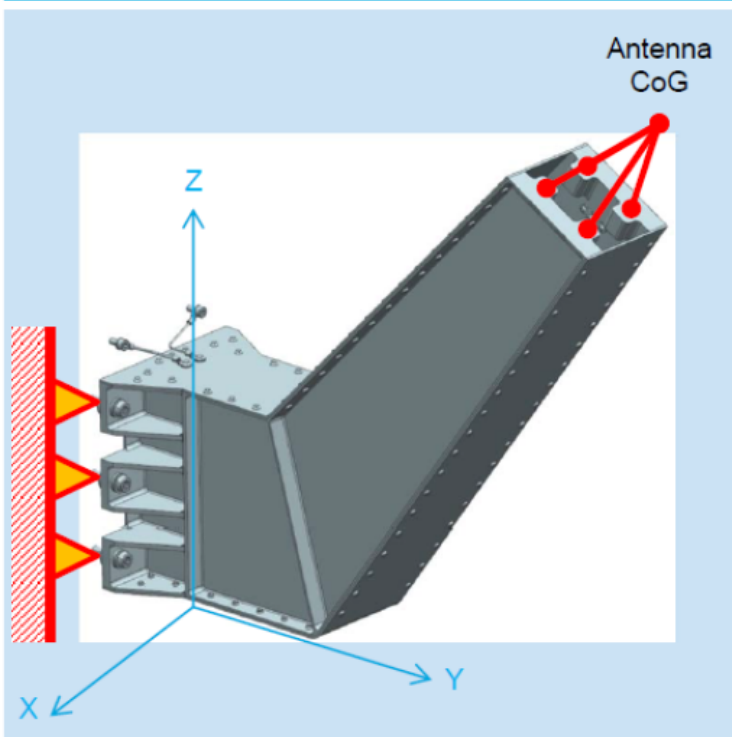
Specifications

Design and optimization

Manufacturing and CFIP

Testing

Benchmark

Original Design	Specification
 <p data-bbox="1014 601 1123 662">Antenna CoG</p>	<ul data-bbox="1161 591 2051 1035" style="list-style-type: none"><li>▪ Eigenfrequency &gt; 70Hz</li><li>▪ Boundary condition Hard Mounted</li><li>▪ Dimensions 385 x 345 x 115 mm<sup>3</sup></li><li>▪ Static Load (QL) 20g (X,Y) / 25g (Z)</li><li>▪ S-Band Antenna 0.783kg</li><li>▪ CoG Position</li></ul> <div data-bbox="1615 976 1977 1096" style="border: 1px solid black; padding: 5px;"><p data-bbox="1633 982 1811 1005">X = 436.2mm</p><p data-bbox="1633 1015 1829 1038">Y = -1091.8mm</p><p data-bbox="1633 1048 1819 1071">Z = 3330.6mm</p></div>

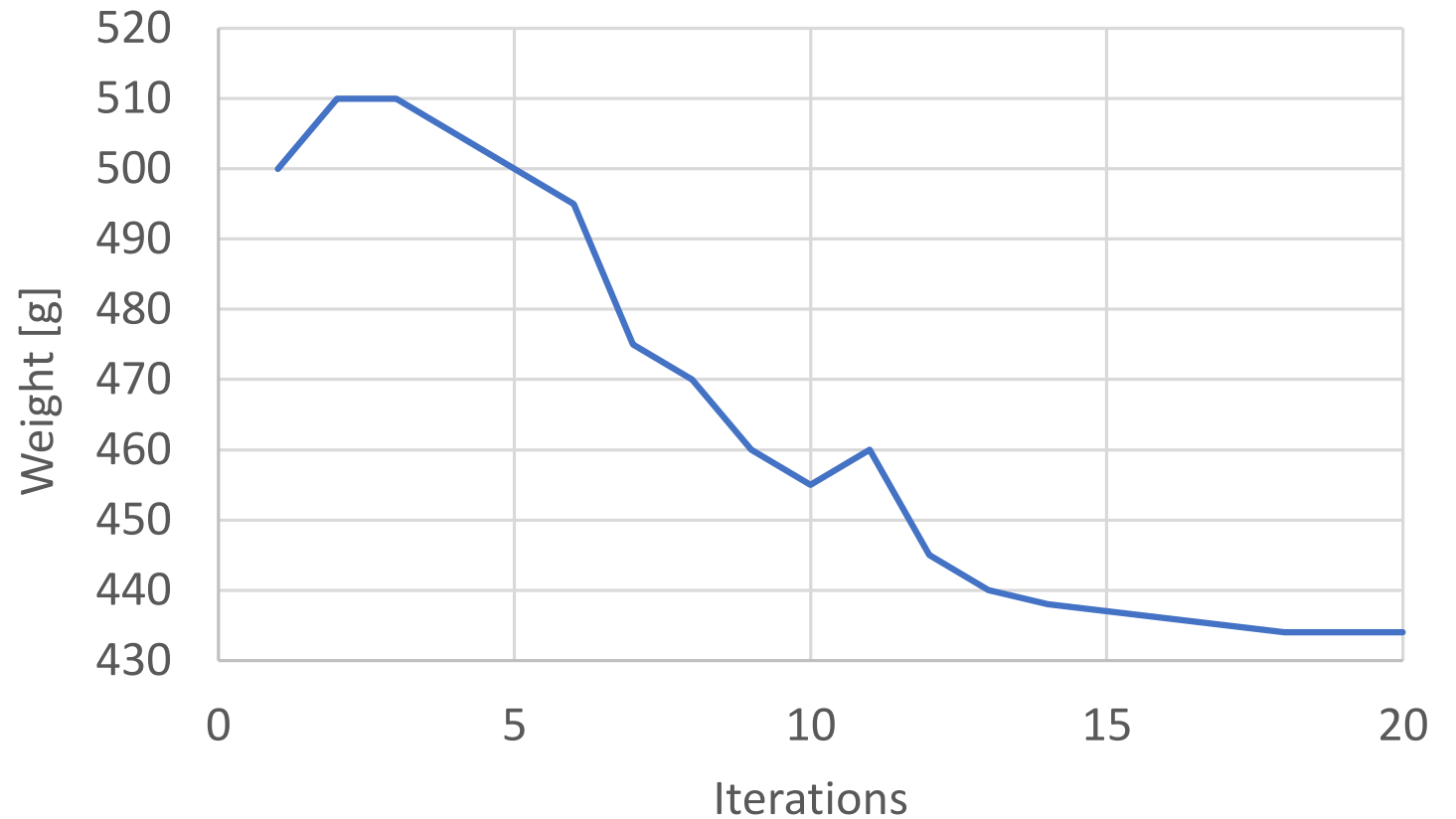
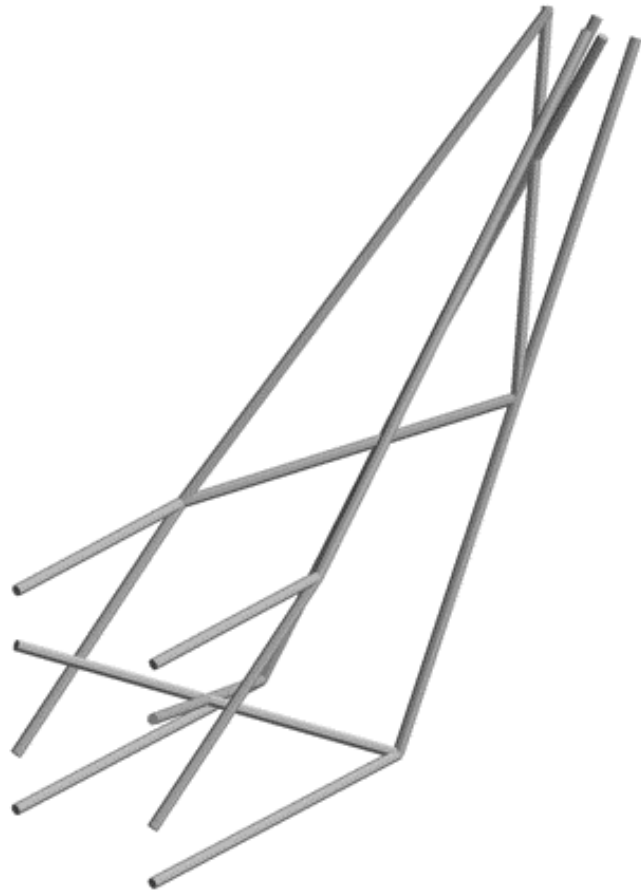
Specifications

Design and optimization

Manufacturing and CFIP

Testing

Benchmark





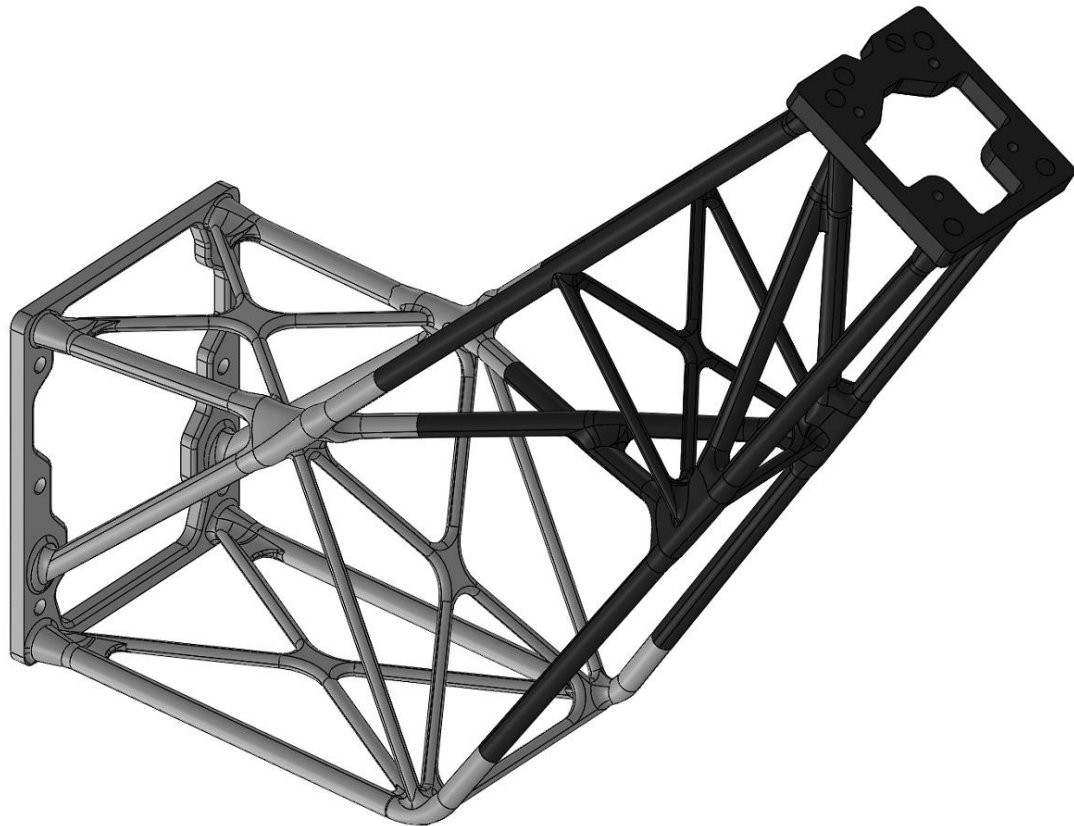
Specifications

Design and optimization

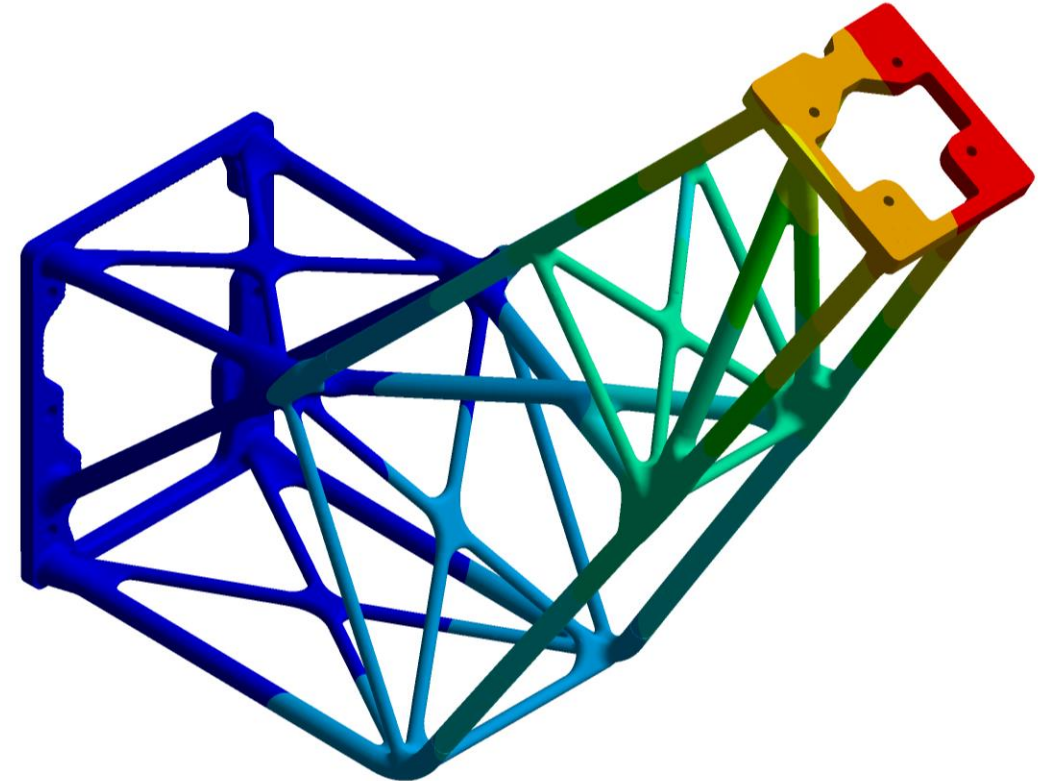
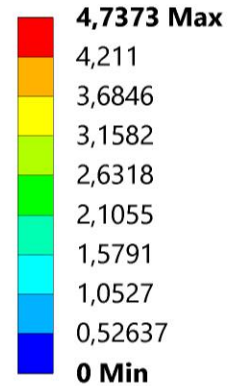
Manufacturing and CFIP

Testing

Benchmark



Type: Total Deformation  
Unit: mm  
Time: 1 s





Specifications

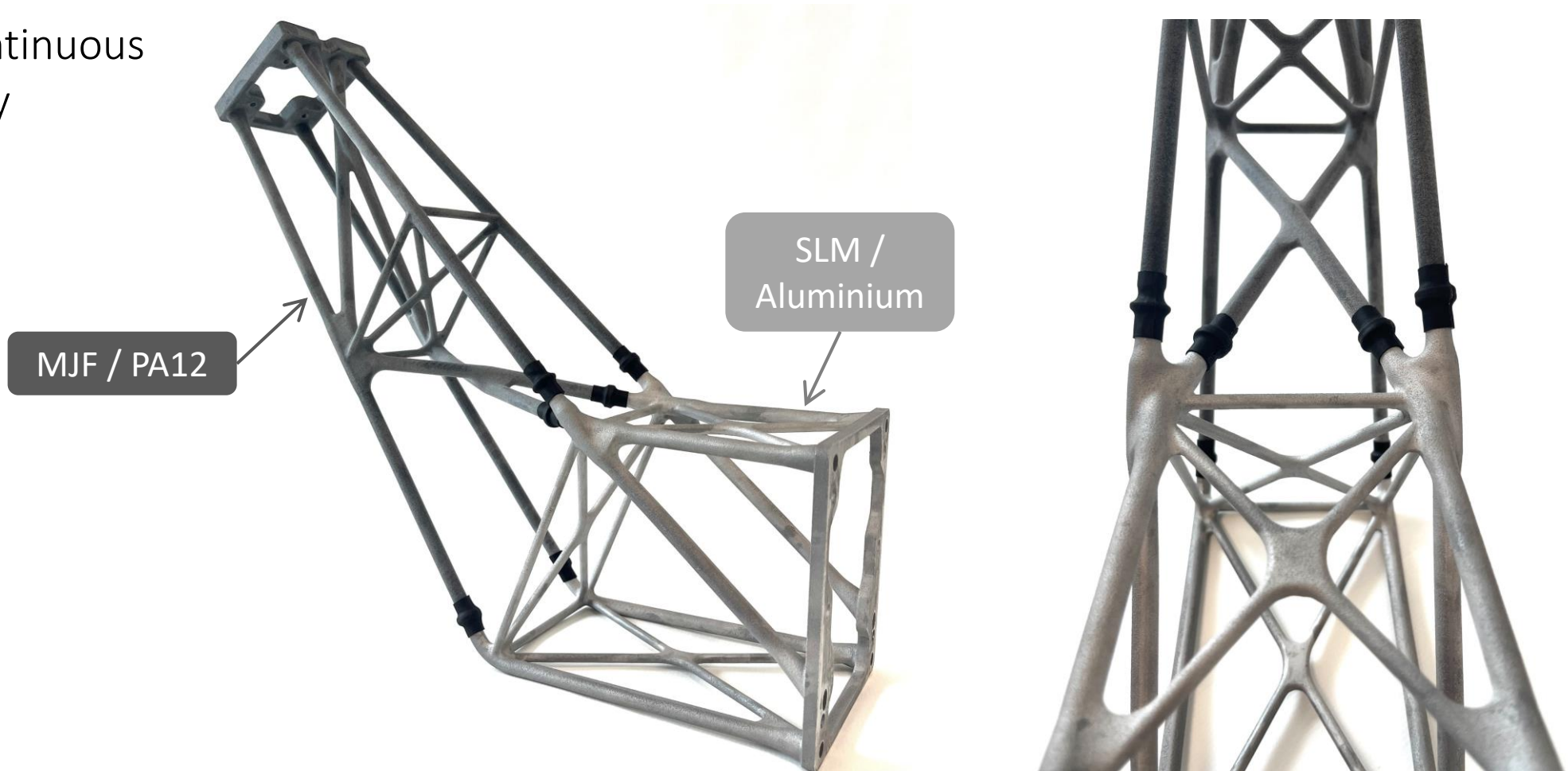
Design and optimization

Manufacturing and CFIP

Testing

Benchmark

CFIP materials: Continuous Carbon fibres, Epoxy



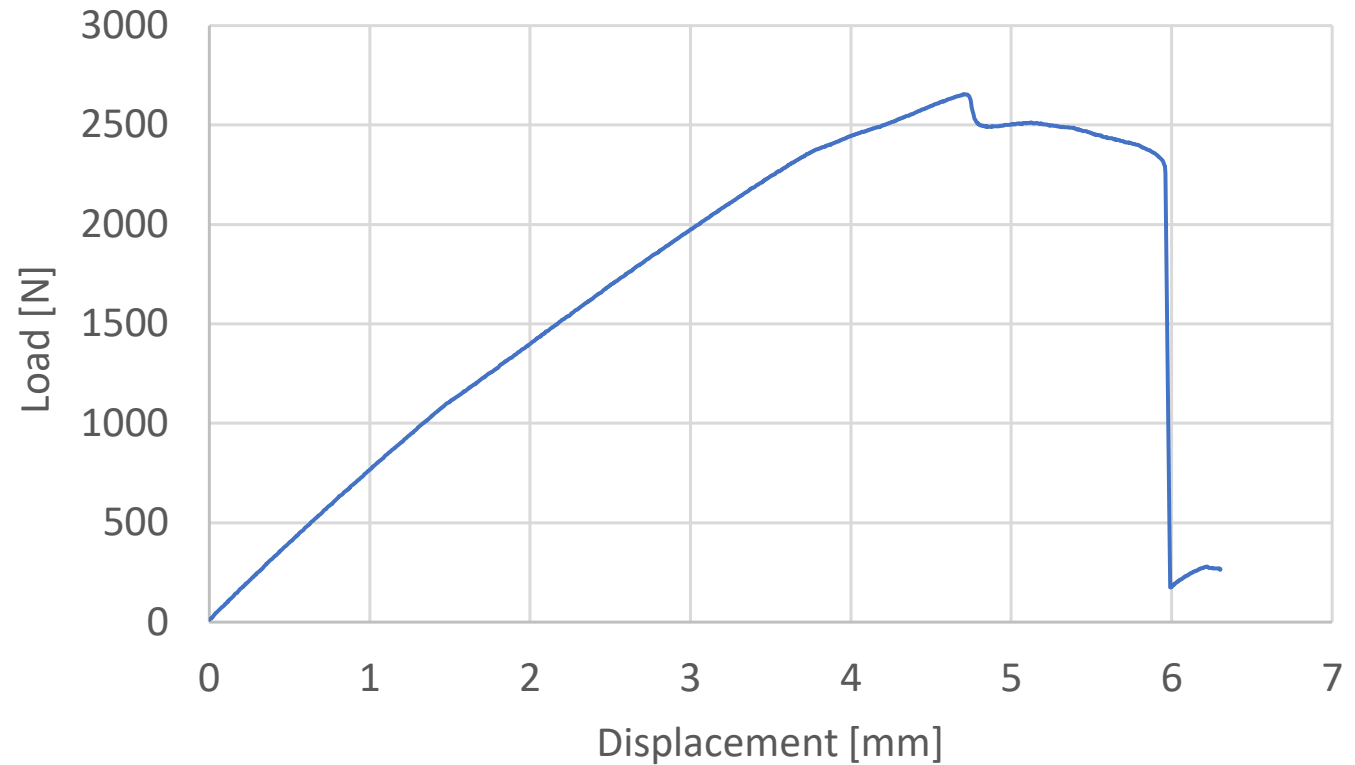
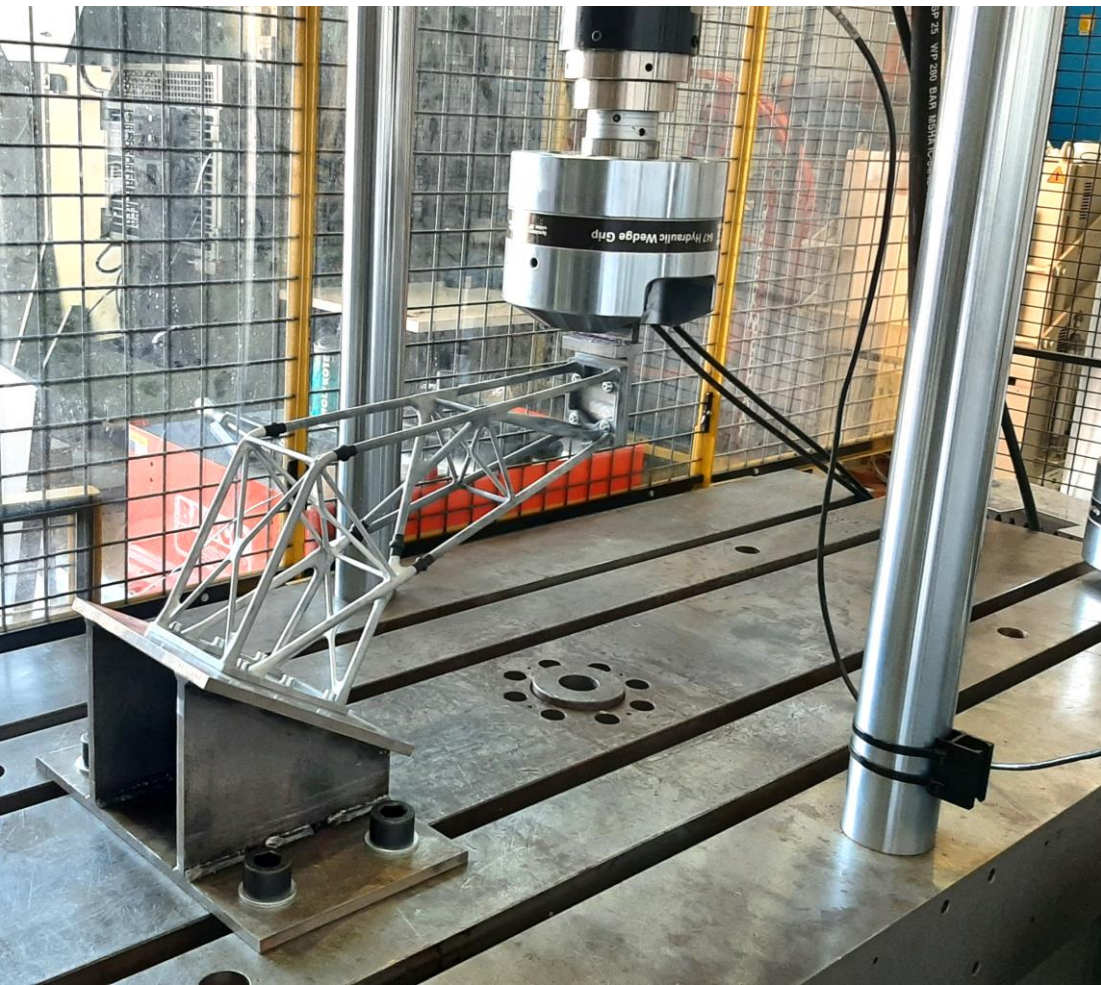
Specifications

Design and optimization

Manufacturing and CFIP

Testing

Benchmark



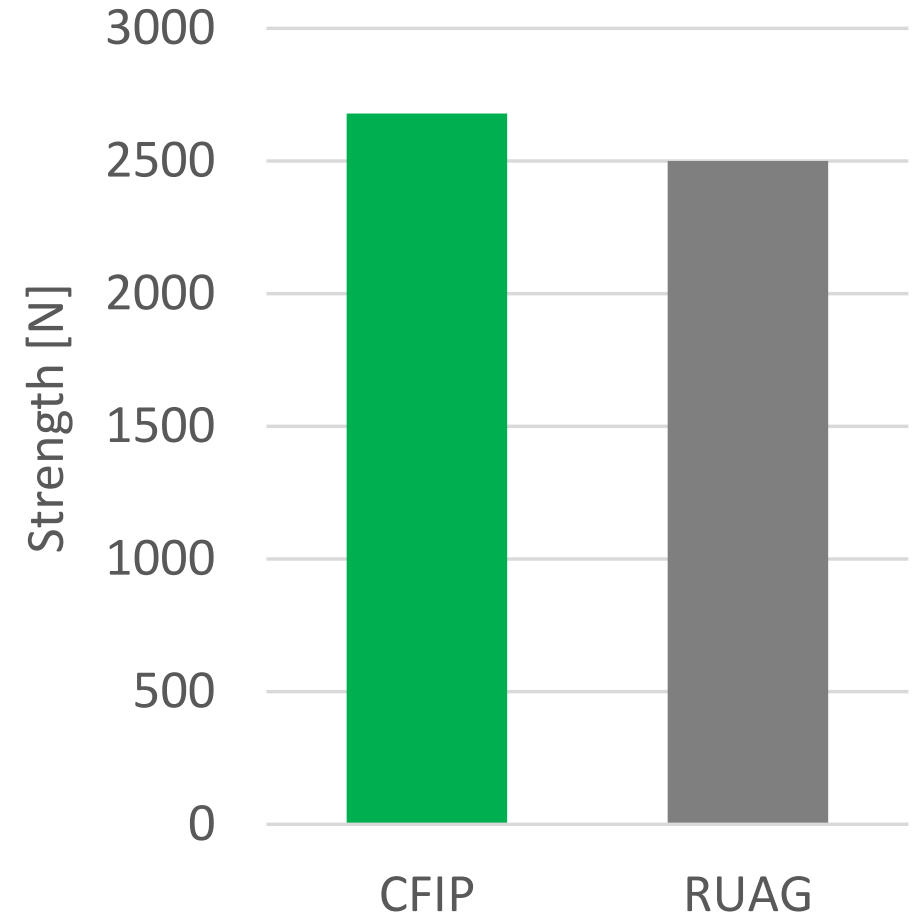
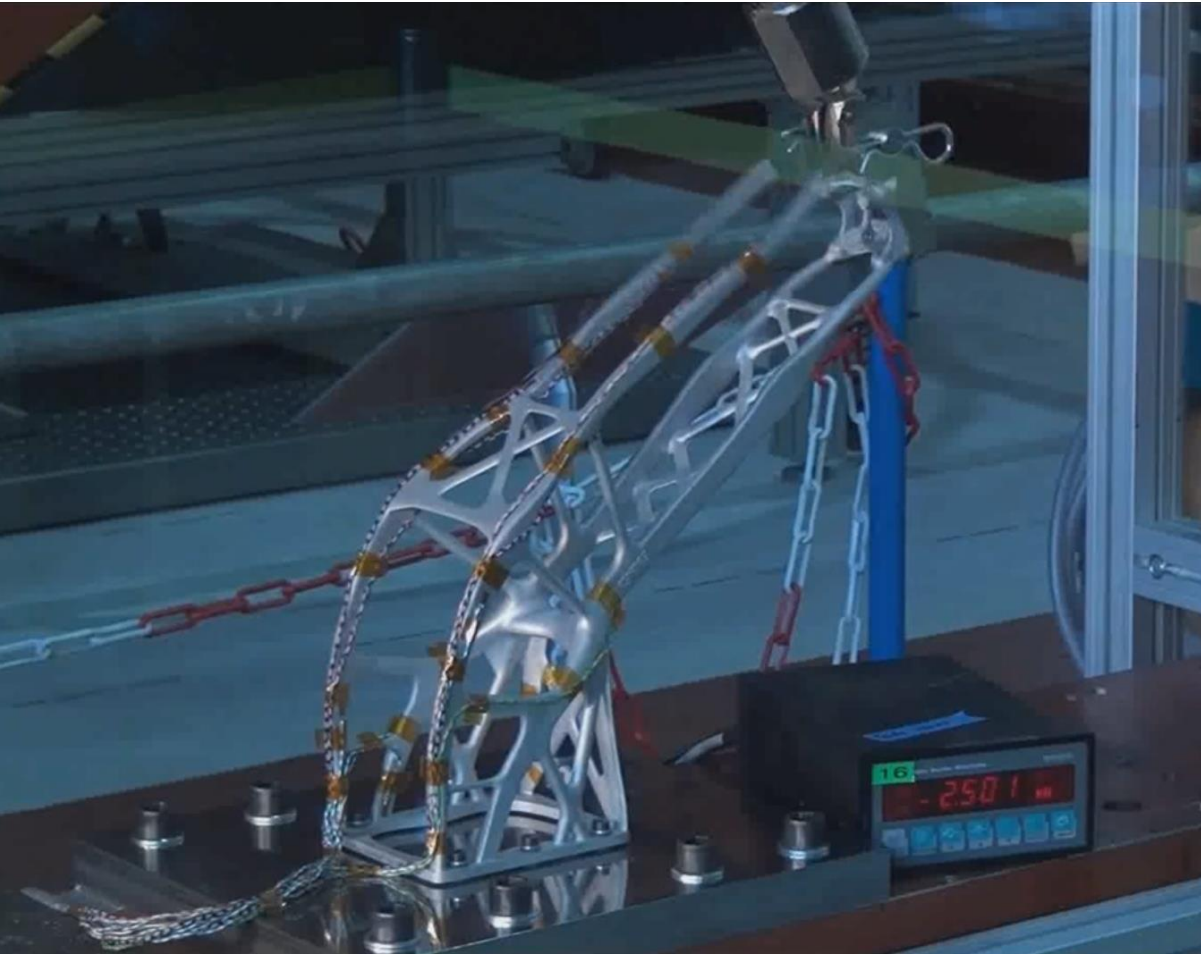
Specifications

Design and optimization

Manufacturing and CFIP

Testing

Benchmark





Specifications

Design and optimization

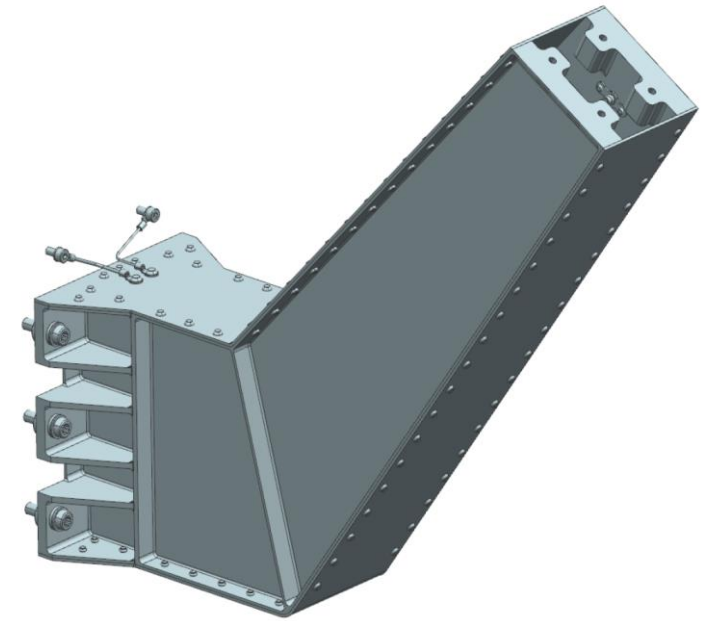
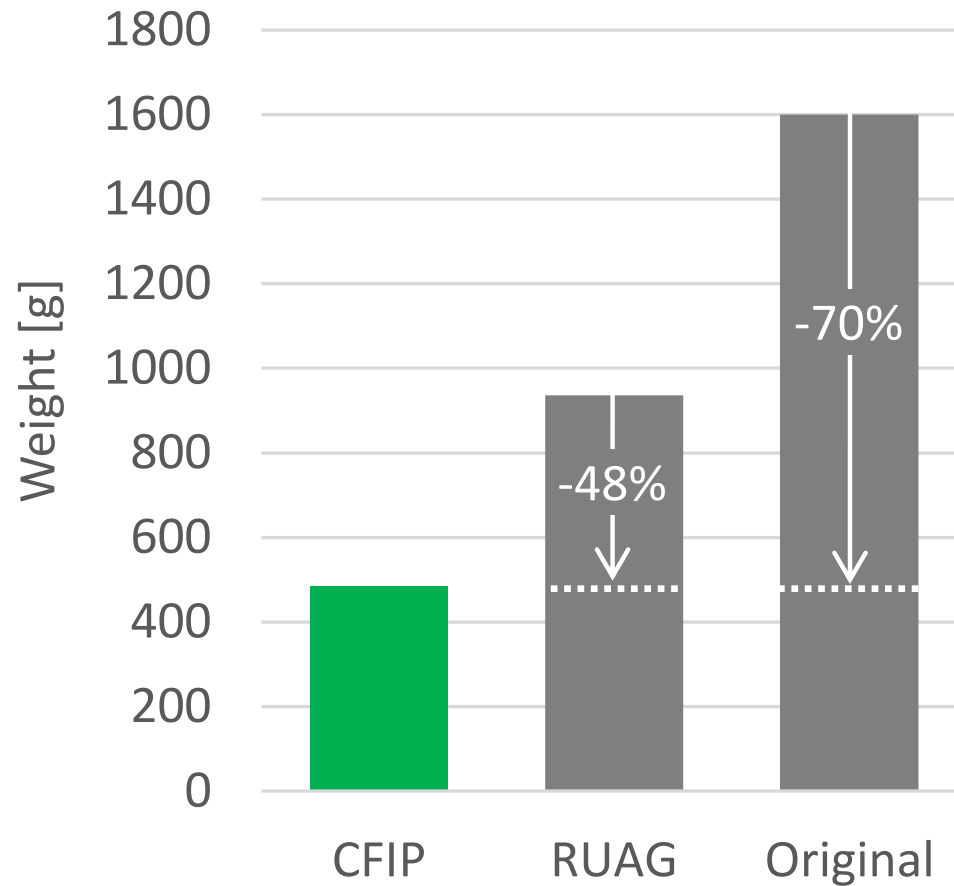
Manufacturing and CFIP

Testing

Benchmark



**RUAG**



**Original**

Specifications

Design and optimization

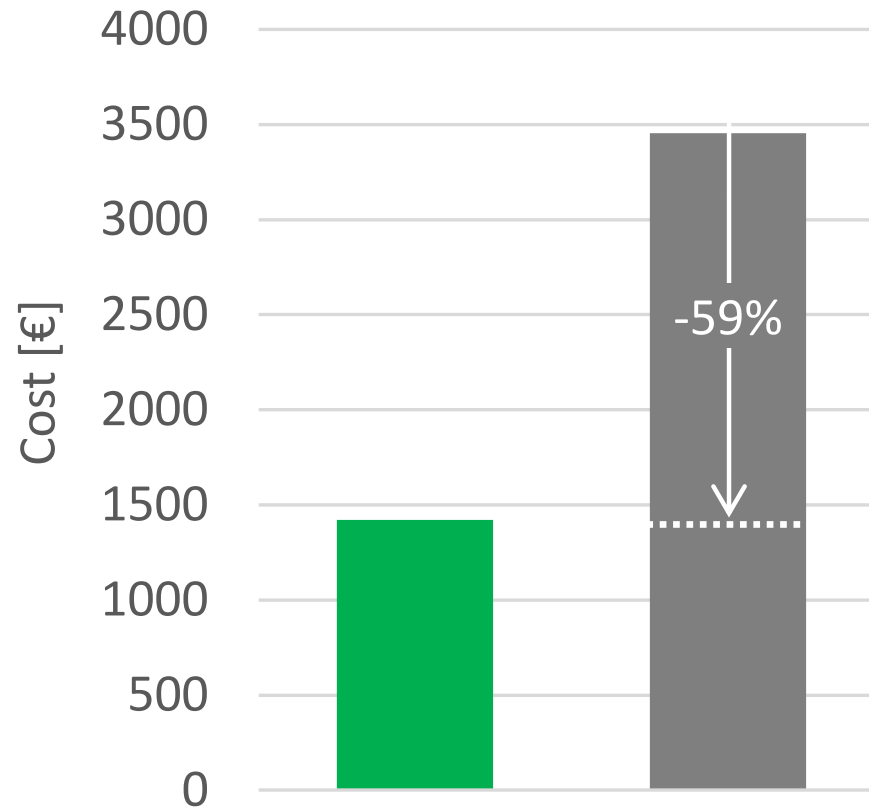
Manufacturing and CFIP

Testing

Benchmark



**CFIP**

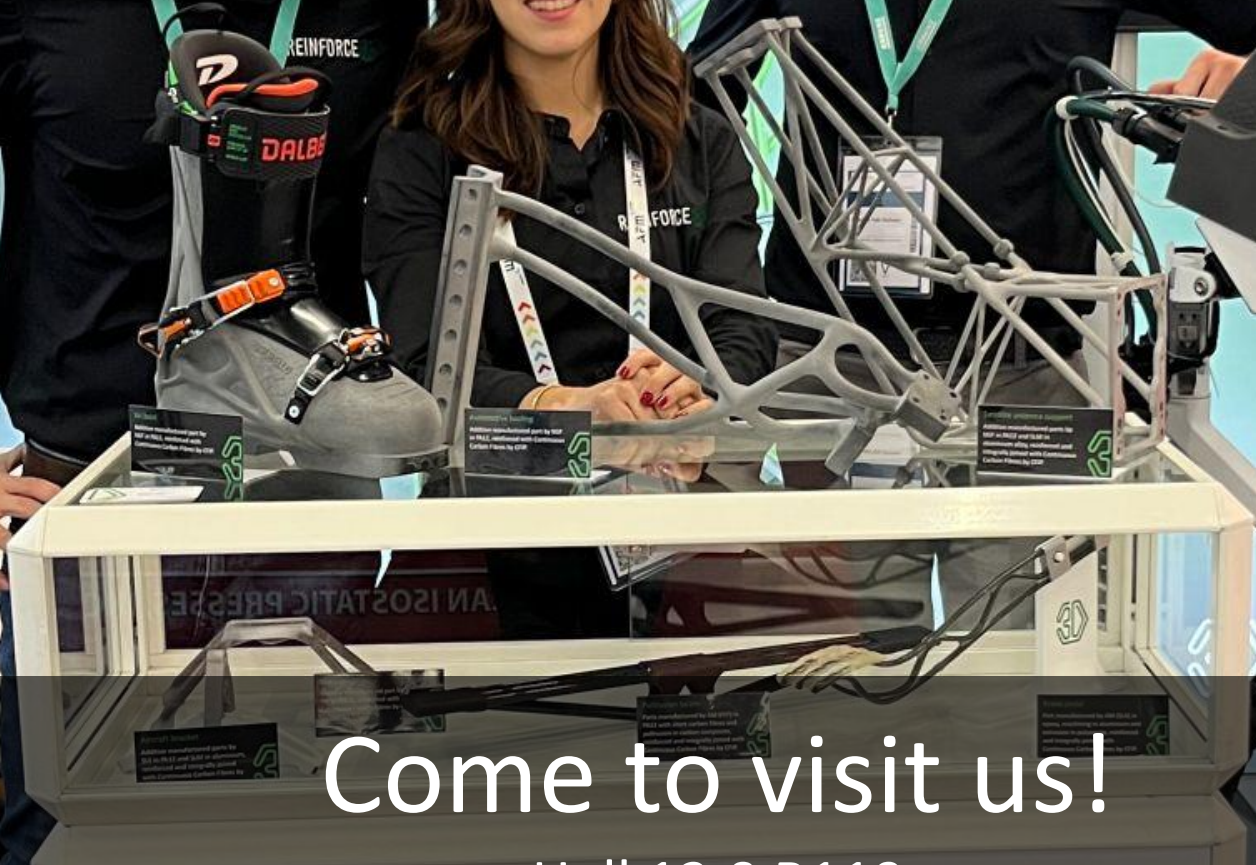


**RUAG**



# Revolutionizing carbon fibre reinforcement

We drastically improve the performance  
of 3D printed parts by reinforcing them  
with continuous fibre



Come to visit us!

Hall 12.0 B119