

# WORK | SHAPE

conception . prototypage . composites

# Activity

Set-up in 2007, Workshape is a design/mechanical design office and workshop, specialized in composites parts, processes, prototyping, and small to mid series/batches manufacturing.

## People

7 people are working in Workshape.

## Field

Automotive, Aeronautic, Médical, Fundamental research...

# Last years turnover

2016 : 795 k€

2017 : 993 k€

2018 : 1 083 k€

2019 : 940 k€

## Main customers

- Stelia Composites – Airbus company
- CNRS
- CERN
- MIT
- Vision Systems – specialized in developing aircraft/helicopter projects
- Materialise – prototyping company

# Machines and facility

*CAD/CAM and milling*

Facility is 1700sqm workshop, and 150sqm offices

CAD/CAM tools: SolidWorks, Rhino3D, Catia imports, Worknc, Hypermill

1 x 3 axis milling machine 2100 x 1600 x 600

1 x 5 axis milling machine 4000 x 2800 x 1200

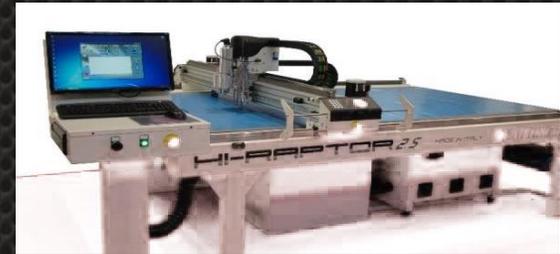
1 x granite plane , 3500x1600x350 mm



# Machines and facility

## *Composite manufacturing*

- 1 autoclave oven 2000 x 4000, 250°, 10 bars, cure monitoring
- 1 oven 2500 x 1600 x 1800, 200°, cure monitoring
- 1 silicone projection machine
- 1 prepreg cutting machine
- 1 frozen room for prepregs storage, with proprietary storage software.
- 1 RTM EPOXY injection machine
- 3 heating presses, 450x450mm, 200 bars, 250°.



# Work examples

*milling*



*Diverse milled moulds and models.*

# Work examples

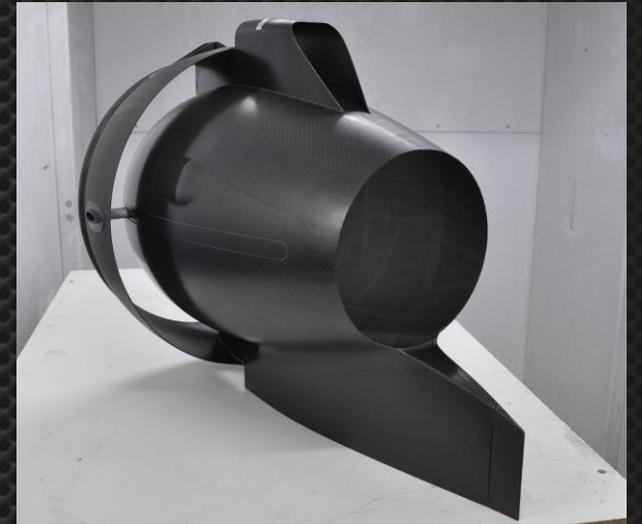
*parts*



Car hatch , *Resin Transfer Moulding*



Aircraft engine casing , *autoclave moulded high temp carbon fiber.*



# Work examples

## *Parts*



Helicopter handlebar, *Resin Transfer Moulding*



Transport Robot shell and chassis, *infusion epoxy/carbon fiber.*

# Work examples

## *Production moulds*



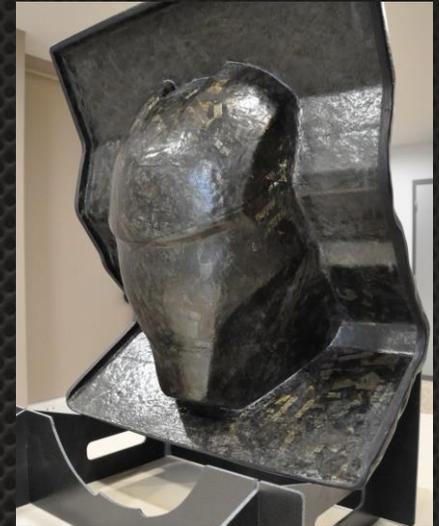
Automated compression mould, *prepeg carbon fiber, autoclave cured.*



Helicopter bodyshell mould, *prepeg carbon fiber, autoclave cured.*

# Work examples

*Production moulds*



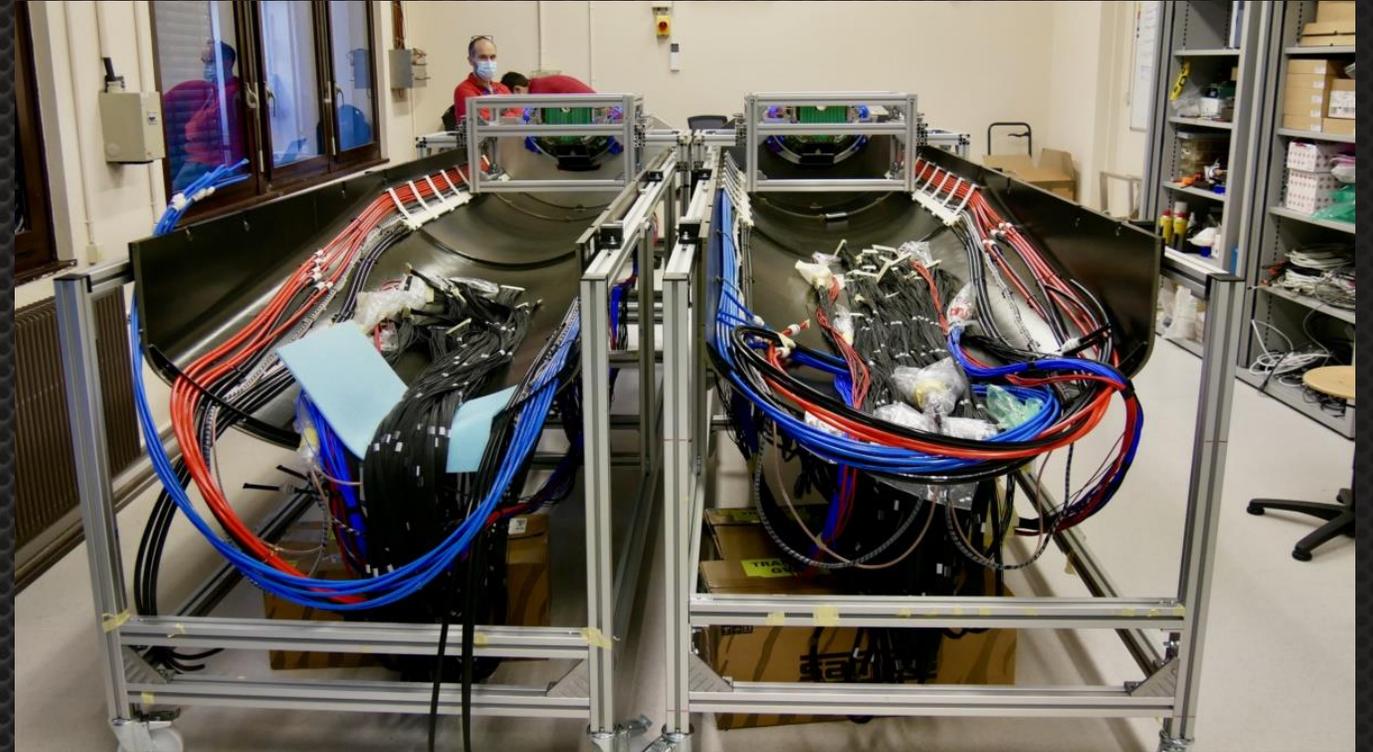
*ALICE Cage covers mould,  
Hextool BMI, autoclave cure,  
CNC milling*



*Ironman, Hextool BMI,  
autoclave cure, CNC milling*

# Work examples

## *Assemblies*



Carbon fiber covers and casings, hard anodized aluminium fixtures, CNRS-IP2I.

# Work examples

## *Assemblies*



ALICE Beam pipe holder arm, CERN



ALICE side panels hard anodized milled aluminium detail, CERN

# Work examples

## *Assemblies*



ALICE Cage final assembly, CERN



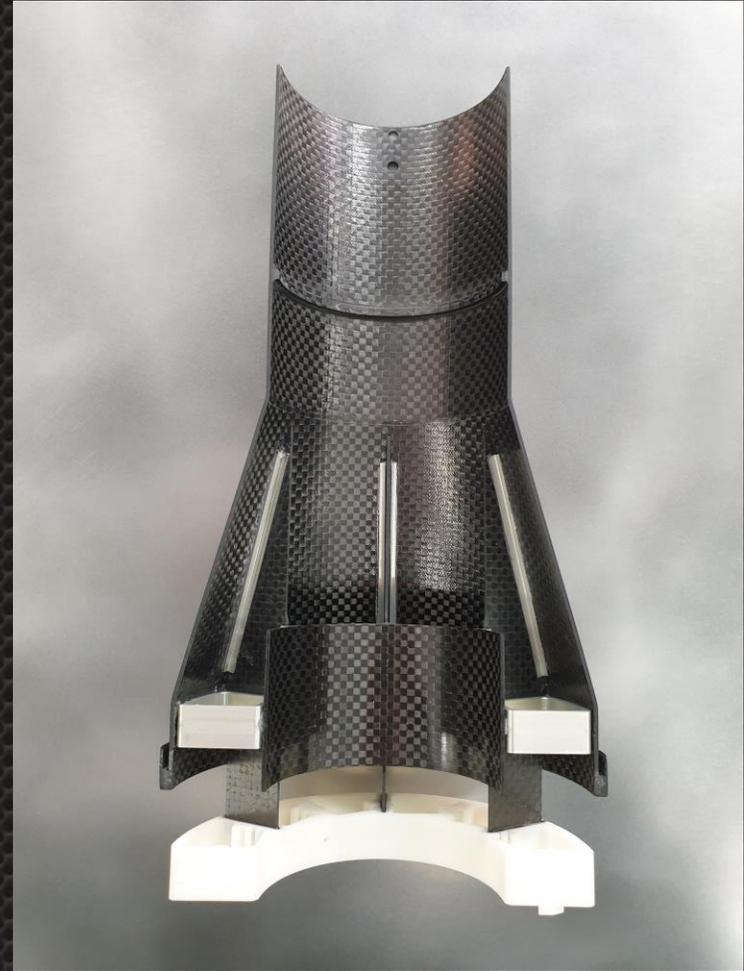
ALICE Cage final assembly, CERN

# Work examples

## *Assemblies*

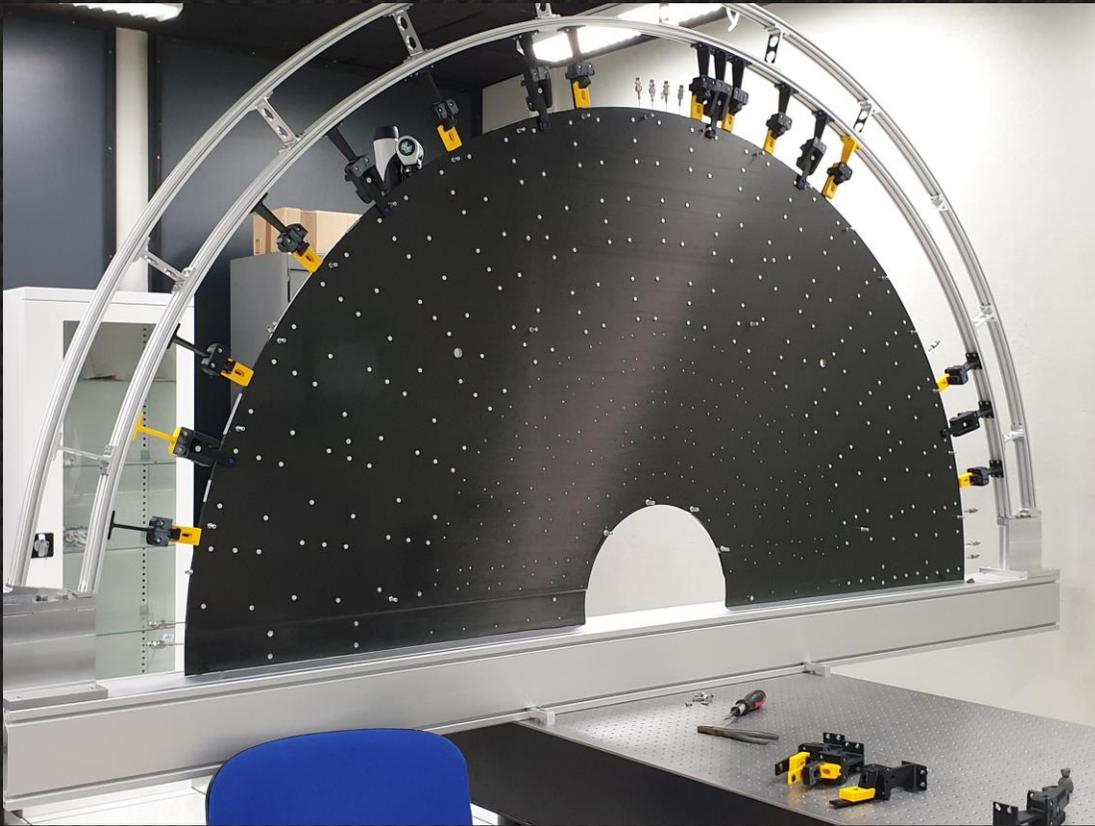


MVTX Sphenix upgrade, Layer 0 prototype, MIT.



# Work examples

## *Assemblies*



“DEE” Silicon detector carbon fiber/foam sandwich structure, with embedded cooling circuit. Under development. IP21/CNRS, for CMS experiment at CERN.

*Thanks for watching!*

