



COMPOSITADOUR

COMPOSITES & ROBOTICS SOLUTIONS



COMPOSITES

KEYWORDS

Thermoplastic / Thermoset composites
Dry fibre / AFP (Automated Fibre Placement)
ATL (Automatic Tape Lay-up) / RTM (Resin Transfer Moulding)
LRI (Liquid Resin Infusion) / Stamping / Compression moulding

RESEARCH TOPICS

Automated composite parts lay-up:

- Development of lay-up equipment
- Programming of draping strategies
- In-situ consolidation of thermoplastic composites
- Alternative heat sources technologies

Non-Destructive Testing

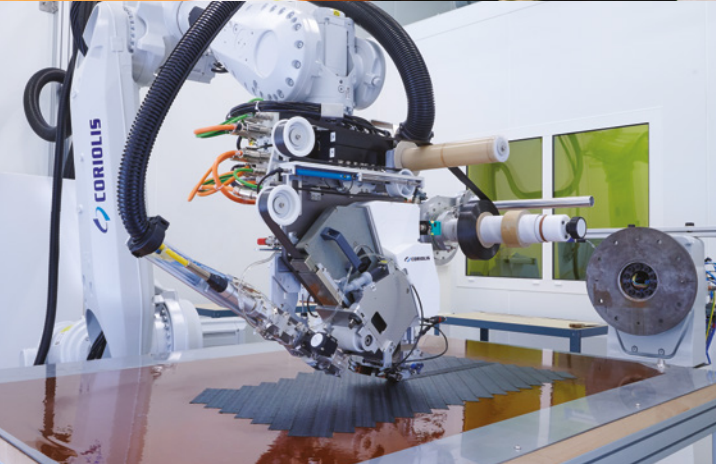
Injection / Infusion of experimental matrixes

High rate manufacturing, stamping/forming and press consolidation

an innovative platform

ESTIA
INSTITUTE OF TECHNOLOGY

**CCI BAYONNE
PAYS BASQUE**
Euskal Herri



CAPABILITIES

Software

Coriolis Composites | CATFiber® /CADFiber

Autodesk | Powermill®

Dassault Systèmes | CATIA (CPE, CPM)

ESI Group | PAM RTM

Equipments

Automated lay-up workshop with temperature and hygrometry control, 2 5T cranes

- Large dimensions AFP – Coriolis C1 (16 fibres), IR and LASER
R 2900 mm, 16 m Linear axis, 6 T horizontal positioner
- Small dimensions AFP – Coriolis C-solo (1 fibre), IR and LASER
R 2650 mm, 1 T vertical positioner

Hand lay-up workshop with temperature and hygrometry control

- NC ply cutter
- LASER projector

Curing area

- Oven: 250°C – 4700 x 2000 x 2000 mm³
- Autoclave : 400°C – 12 bars – Ø1000 mm x 1800 mm
- RTM/LRI: 2 resin injection machines (120°C – 7 bars), 20 L infusion tank with temperature and injection parameters regulation, control and recording
- Thermoplastic stamping cell: 300 T press, 400°C heating platen
1200 mm x 1000 mm

Machining workshop

Robotised large dimensions composite machining cell
R 2800 mm, 7,5 kW spindle (2800 rpm), 0,5 T vertical positioner

Inspection laboratory

- Automated Ultrasound NDT cell, in double through-transmission or simple reflection: 1900 x 1250 x 1500 mm³
- Dimensional metrology: R1500 measuring arm and Leica AT960 LASER tracker (Tmac and Tscan) in partnership with ELKAR



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