



■ Industrialization of complex composites parts

From R&D to Mass Production: the on-going journey of Thermoplastic Composite



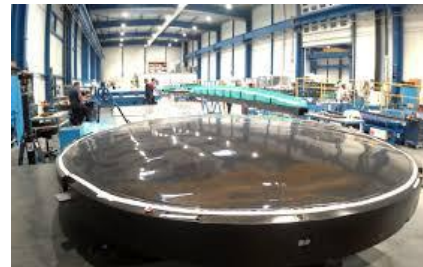
Composites TP Team: 5 majors & complementary companies



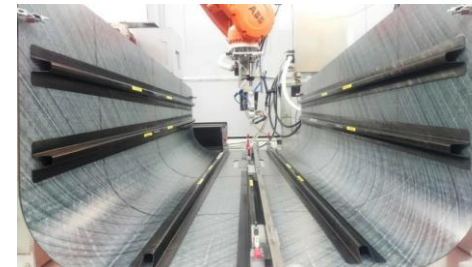
Fibers Placement
Machines and Design
software



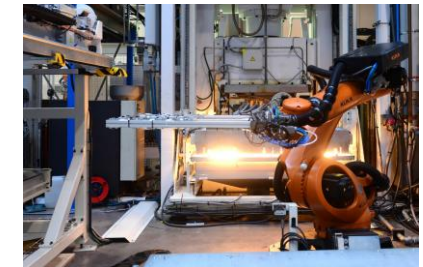
Composites press and
machinery



Tooling design &
manufacturing

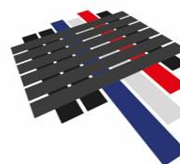


Composites TP Welding &
NDT



Testing, Design, Prototyping,
Support to development,
training, ...

Our added value: Advancing the industrialization of high-performance thermoplastic composites



Composites TP Team

KEY FIGURES



20

Main locations
France & Worldwide



1,100

Employees



190 M€

Revenue



20%

Export turnover



4,000+/year

Active clients
in 83 countries



58

PhD students
in 2025



325

Published works
(Scientific papers, technological studies, conferences...)

WORLDWIDE FOOTPRINT



KEY ENGINEERING SERVICES



R&D

- Materials, Product & Process development
- Testing, NDT, Simulation, Measurement



OPERATION

- Operational Excellence
- Eco-transition, digital transformation



FIELD

- Mechanical Asset Integrity
- Failure Analysis & Reliability



HUMAN CAPITAL

- Training & Human management

KEY MARKETS



GLOBAL MOBILITY



GLOBAL ENERGY



DEFENSE

POLYMERS & COMPOSITES

ACTIVITIES AT CETIM



+130

PhDs, Engineers
& Technicians



€15M

Annual turnover

PARTNERSHIPS



MATERIALS

- Material selection and expert support
- Advanced Characterization (coupons & component)
- Development of innovating tests methods
- Failure analysis & expertise
- Paint & coating



PRODUCT

- Requirements definition
- Solution exploration
- Product design from specifications
- Simulation & calculation
- Product optimization
- Process simulation



PROCESS

- Tooling design & manufacturing
- Process & tooling optimization
- Process maturity increase
- Prototyping & qualification support
- Support to industrialization



DURABILITY

- Material selection for sustainability
- Low environmental impact polymers
- Ageing (UV, fluids, etc.)
- Eco-design & LCA
- Recyclability & circular solutions
- Thermoplastic composite recycling



AUTOMOTIVE



AERONAUTICS



AEROSPACE



RAILWAY



CONSTRUCTION
MACHINERY



OIL & GAS



WIND ENERGY



DEFENSE

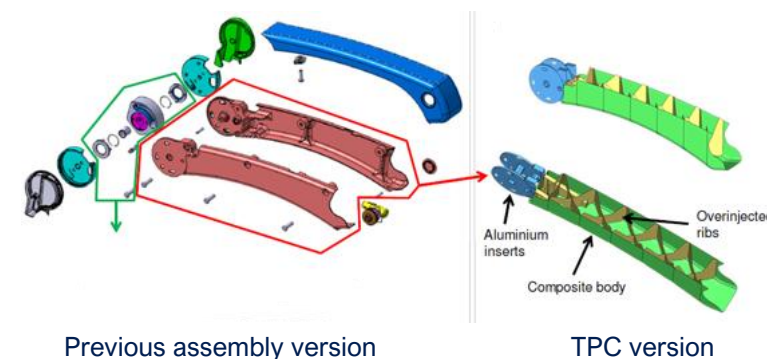


Example of success story

From low TRL to mass production

Aircraft seats armrests optimization

- Challenge : Lightweight & Competitivity
 - Weight saving
 - Integration of part finish in the process to avoid painting
 - Cost efficiency
 - Production rate : +10,000 parts a year
- Composite TP Team support :
 - Material choice
 - Complex mold design & manufacturing
 - Manufacturing development → TRL6
 - Assembly technology advising
 - Physical & mechanical testing



Results

- Aluminum inserts and finish film added during stamping
- Weight saving $\approx 50\%$
- End of 2024 → TRL6
- Composite TP Team continuous support to the last kilometer of industrialization



For a responsible industrial
future that respects the
planet