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WEAMEC
Research, Education & Innovation in Pays de la Loire FOR MARINE ENERGY

OPIN Workshop
Advanced Materials and Manufacturing (Composite focus)
12/11/19, Nantes

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Franck Bourcier

Marketing & Innovation VP
Loiretech Engineering

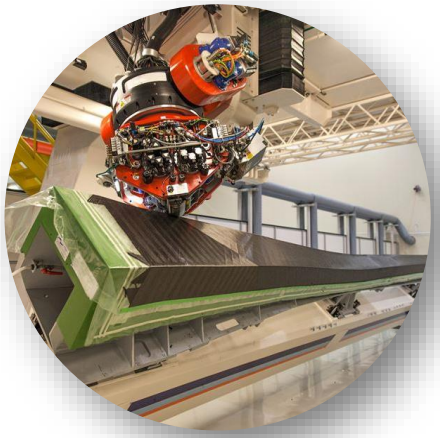
Manufacturing and cross-sector considerations

Composite blades

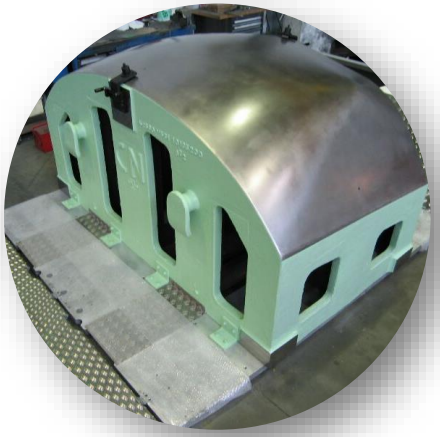
- Company Introduction
- Walid Project – FP7
- Hobit – IRT Jules Verne
- Cooling tower extractor
- FabHeli – DGA Rapid
- What’s next ?

Loiretech Introduction

- Loiretech offers innovative and sustainable tooling solutions for composite, thermoplastic and metallic parts.



Composite

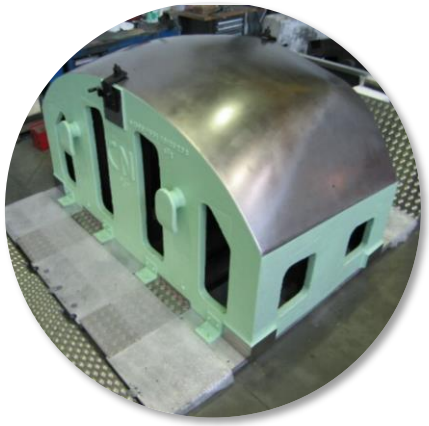


Metallic

Thermoplastic

Products Industrialization

Loiretech Introduction



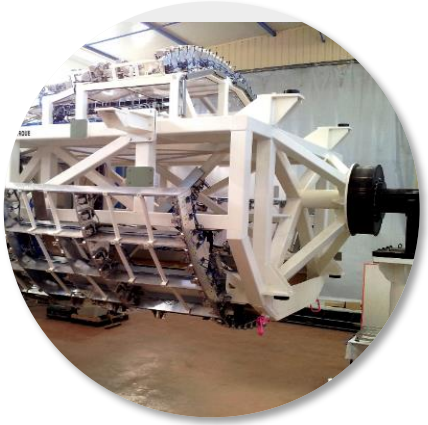
Forming / Stretching

Preforming

Molding

Trimming

Smart stations



Special Purpose Machine

Walid – FP7

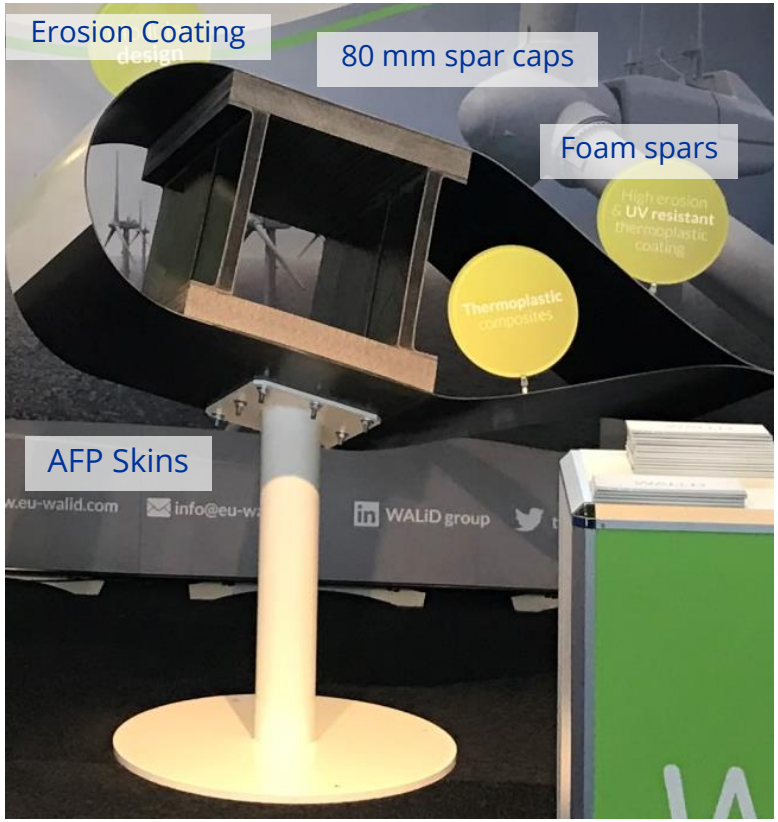
- Objective : Development of a thermoplastic blade – demonstrator size

- Consortium : 4,35 M€

Walid – FP7

- Achievements :
  - Design of a full 83m blade in thermoplastics
  - Demonstration of erosion ability of the choosen coating
  - Small Scall demonstrator

- To go further :
  - Involvement of an end user
  - Layup process : better thermal control to avoid internal stress



Hobit – IRT Jules Verne

- Objective : Design & manufacturing of a trunkated tidal turbine blade

- Consortium : 2,7 M€

Hobit – IRT Jules Verne

- Achievements :
  - Design of attachement to hub reducing composite thickeness from 100 mm to 40 mm
  - Development of different technologies to manufacture a tidal turbine blade (RTM, PrePreg)
  - Trunkated RTM demonstrator (JEC Paris 2016)
  - Development of an anti-fooling coating

- To go further
  - Involvement of an end user

Cooling Tower Blade

- Objective : process definition to manufacture a cooling tower blade (diam 12’)

- Partners :

Cooling Tower Blade

- Achievements :
  - Development of 2 different blades :
    - Hollow blade
    - Foam core blade
- To go Further :
  - On going discussion with a end-user

FabHeli – DGA Rapid

- Objective : Design, manufacture & testing of a composite propulsion blade

- Consortium : 1,2 M€

- Extended Partners :

Ateliers Mécaniques Lorientais
32, rue Ingénieur Verrière - 56100 LORIENT
Tél. 02 97 83 32 65 Fax 02 97 83 33 55

FabHeli – DGA Rapid

- Achievements :
  - Real condition testing
- To go further :
  - Application projects are coming with partners

What's next ?

- Blades are more and more manufactured far from western countries → Technical improvements needed to compete
- Market sensitive to political guidelines
- As new comer on the market, Loiretech will mainly focus on advanced & differentiating concept or technology
- Very short term : see you for Loiretech facility at the end of the day

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LOIRETECH

Q&A

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Thank you!