

EXPECTED IMPACT

GREENER AERO-STRUCTURES



The introduction of composite materials represents a very effective environmental solution during the service (offering a wider possibility of repairing) and at the end of service (fully recycling the materials in the way of chop fibres). Moreover, the weight saving will offer a reduction of fuel consumption and consequently of air pollution.

COSTS REDUCTION



Reduction of manufacturing and maintenance costs through the introduction of composite materials and process automation.

WEIGHT REDUCTION



Weight reduction by introducing advanced lightweight composite materials with better mechanical properties and impact resistance compared to metals.

Consortium



Project coordinator



TECHNOLOGIES DESIGN AND MATERIALS EUROPEAN RESEARCH CENTRE

Scan & visit SPARE project website



<http://www.spare-project.eu/>

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Contract number: 820840

Maximum grant amount: EUR 1,110,387.50

Duration: 18 months

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Design by CETMA



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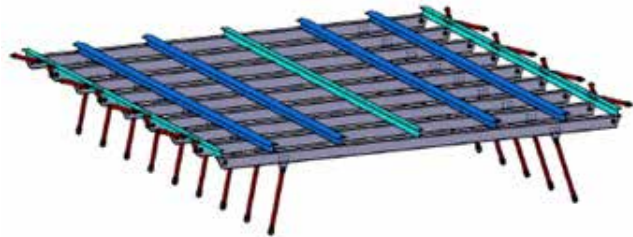


Full scale innovative composite pax and cargo floor grids for regional aircraft fuselage barrel on-ground demonstrators

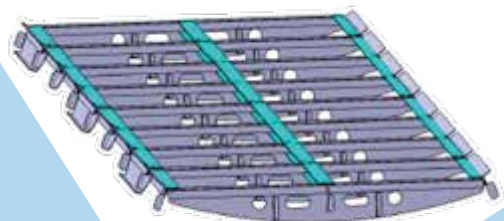
TECHNOLOGIES

OBJECTIVE

The SPARE project aims to manufacture full scale pax and cargo floor grids for regional Aircraft Fuselage using carbon fibre reinforced composite with thermoplastic matrix. Innovative solutions (Progressive Roll Forming and Induction welding) for highly automated production will be used, thus ensuring weight saving and recurring cost reduction.



Pax floor grid



Cargo floor grid

Progressive Roll Forming



Induction welding



InfraRed Thermography for Process Monitoring



MATERIALS

Carbon fibres reinforced composite with thermoplastic matrix



WORKPLAN

- WP1 Process set up and validation at full size level
- WP2 Parts fabrication for on-ground fuselage demonstrators
- WP3 Parts assembly
- WP4 Industrial cost evaluation
- WP5 Management, exploitation, dissemination and communication activities