

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

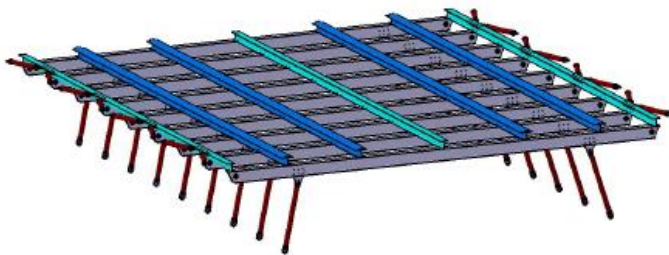


This project has received funding from the Clean Sky 2 Joint Undertaking
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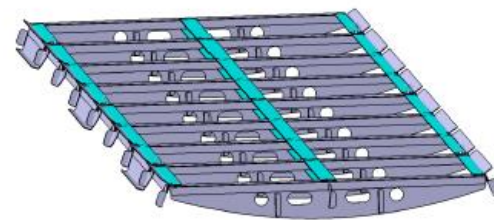


OVERALL OBJECTIVE

SPARE project aims to manufacture **full-scale floor grids** (passengers and cargo) for **regional aircraft fuselage using carbon fibres 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.

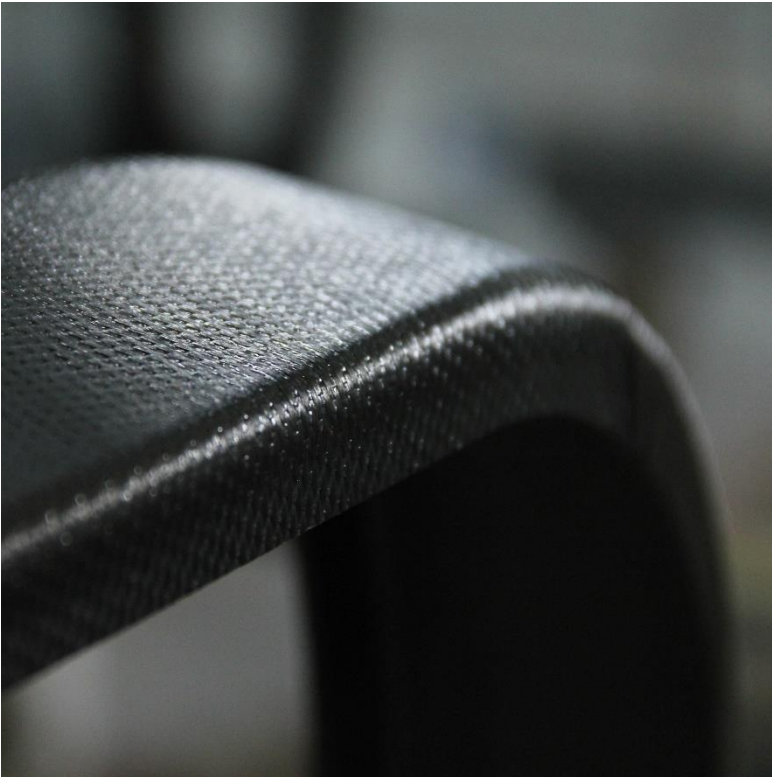


Pax floor grid



Cargo Floor Grid

MATERIALS



**carbon fibres
reinforced composite
with thermoplastic
matrix**

INNOVATIVE SOLUTIONS PROGRESSIVE ROLL FORMING



INNOVATIVE SOLUTIONS INDUCTION WELDING



INNOVATIVE SOLUTIONS IR THERMOGRAFY FOR PROCESS MONITORING



EXPECTED IMPACT



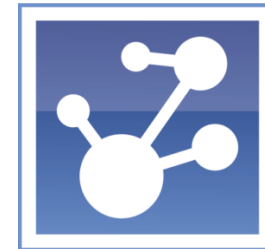
Greener aero-structures

Composite materials offer a wider possibility of repairing (during the service), recycling the materials (at the end of the service), and weight saving (with 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.



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