LABOR

Lean robotized AssemBly and cOntrol of composite aeRostructures

LABOR targets the automation of many assembly sub-operations of aircraft manufacturing, as drilling, inspection, sealing and fastening, by proposing a novel lean robotized approach.

LABOR is part of the Clean Sky 2 JU funded under **Horizon 2020**, the EU 8th Framework Programme, with grant agreement n. 785419.

Challenge

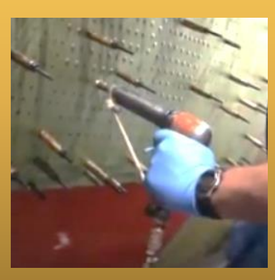
Conventional assembly processes of regional aircraft

Aerostructures Assembly Process

Drilling

Sealing

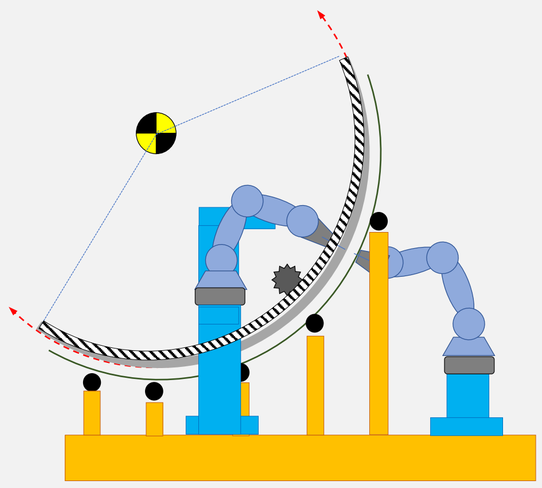
Fastening



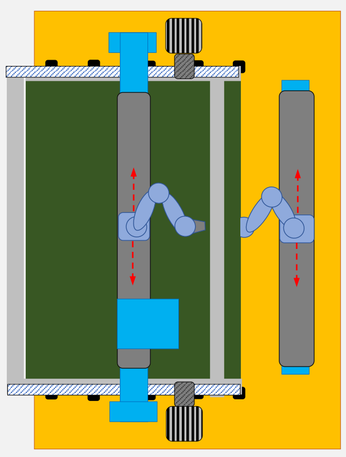
Inspection

Goal

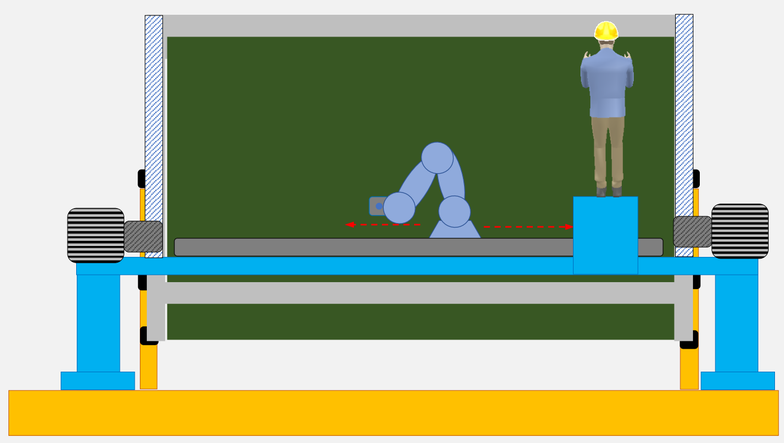
The approach of the *LABOR* project



Smart tooling



Cooperative robots



Human-robot coexistence

Objective 1

Development of a self-adaptive system able to perform automated drilling, fastening and inspection for composite structures, based on robotized systems

Objective 2

Development of smart inspection tools

Objective 3

Development of distributed intelligence architecture and Human-Machine-Interface

Objective 4

Ergonomic design and work space monitoring algorithms

Objective 5

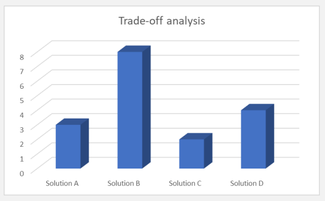
Integration and prototyping of the *LABOR* system

Objective 6

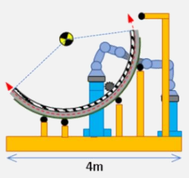
Demonstration in real environment

Milestones

MS1
Trade-off analysis

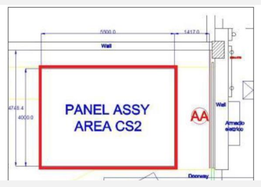


MS2
Equipment design



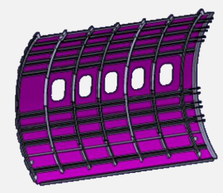
MS3
Equipment construction

MS4
Equipment installation



MS5
Acceptance test

MS6
Final manufacturing



2018 | 2019 | 2020 | 2021

Partners

AEA srl, LOCCIONI GROUP	Università degli Studi della Campania Luigi Vanvitelli	Università degli Studi di Salerno	Leonardo Aircraft
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Coordinator	Beneficiary	Beneficiary	Topic Manager

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