

Consortium

LOCCIONI



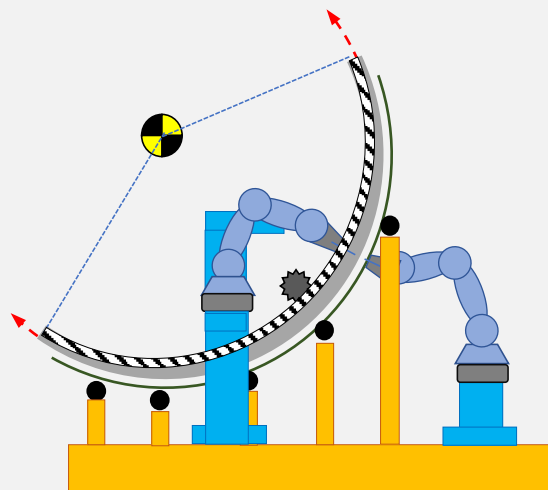
UNIVERSITÀ DEGLI STUDI  
DI SALERNO  
**.DIEM**

**V**:  
• Università  
• degli Studi  
• della Campania  
*Luigi Vanvitelli*  
Scuola Politecnica e  
delle Scienze di Base  
*Dipartimento di Ingegneria*

Topic Manager



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**PROJECT COORDINATOR**

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Lean robotized  
AssemBly and  
cOntrol of  
composite  
aeRostructures

[www.labor-project.eu](http://www.labor-project.eu)

### Drilling



### Sealing



### Fastening



### Inspection



**LABOR** targets the automation of many assembly sub-operations of composite aerostructures by proposing a novel lean robotized approach

### Goal

The project will adopt lean and self-adaptive robotic technologies that include: small/medium size robots to provide higher capability of adaptation and easy integration in existing shop floors, adaptive processing tools to perform the different process tasks, advanced vision systems to reference the robots and check the quality of the work performed, and distributed intelligence to build a more flexible solution.

### Approach

The overall technological strategy consists in the adoption of small-scale robots (with the aim of saving costs and gaining flexibility) in conjunction with smart fixtures and external axes to increase their workspace. The robotic work cell will make use of standard process tools, such as electrical drilling tools or automated fastening tools, suitably adapted to be integrated into a robot end effector compatible with quick tool-changers.

### Impact

Productivity would benefit of increased freedom in the design of parts to which the automatic solution and assembly processes might easily adapt. Moreover, advanced manufacturing means and methods allow achieving high production rates with reduced recurring costs. Finally, intelligent automation, ergonomic work environment, optimal HMI will be adopted according to the Factory of the Future approach.