

*Flexibility, adaptability, simplicity for all. Breakthrough robotics for assembly*

IRT  
JULES  
VERNE

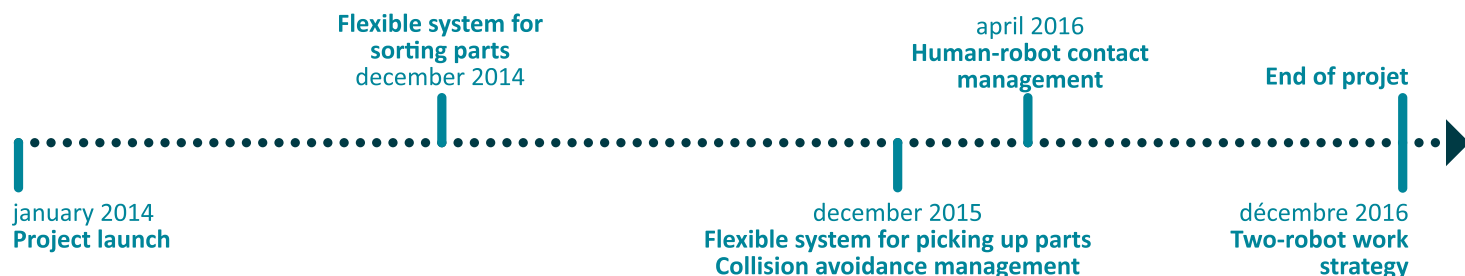
The project goal is to design and develop the technological strengths (materials and software) that are needed to apply collaborative robot technologies to the assembly of automotive engines, chassis and vehicles. The project should enable the implementation of effective solutions as a function of economic, ergonomic and flexibility criteria.

## Technical and economic impacts

- 10% time saving for vehicle assembly
- 5% manufacturing cost saving for a vehicle
- 10% improvement in workstation ergonomics

## Keywords

Collaborative robotics  
Assembly performance  
Flexibility // Simplicity



## INDUSTRIAL CONTEXT

Europe's generalist car manufacturers need to become industrially competitive again, and rapidly. One way to achieve this is to automate over a broad range of manual tasks, which increases flexibility, improves workstation ergonomics and reduces non-conformance. The project develops material and software technological strengths that enable a broad range of use for a new generation of robots with characteristic "robotics for everyone" features, while preserving the "plug and play" approach to their design. The focus is on achieving breakthrough performance in the workstation.

## INNOVATIVE FEATURES

- Effector and loader adapted for a broad range (in weight, volume, shape) and number (sorted, bulk, etc.) of parts/components
- Predictive management of human-robot collaboration
- Collaborative inter-robot operation using an open system that can be easily fitted to different applications and to standard control equipment

## INDUSTRIAL APPLICATIONS

The project targets low-cost open solutions, so it opens up a field of application in small- and large-series production. In this sense, it follows the "robotics for everyone"/plug and play approach, which is the direction robotics development is taking. Assembly-line industries could benefit greatly from the project results. Both inter-robot collaboration and predictive management of human-robot collaboration specifically target all factories that integrate robotic automation to boost their competitiveness.



## Partners

- IRT JULES VERNE
- EUROPE TECHNOLOGIES
- RENAULT
- CETIM
- IRCCYN (UMR CNRS, ECN, EMN, UNIVERSITE NANTES)

## Equipments

- Robots
- Grippers

## Budget

- 1 005 k€

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