

Cobotic handling of heavy payloads

COBOT++ project

IRT
JULES
VERNE

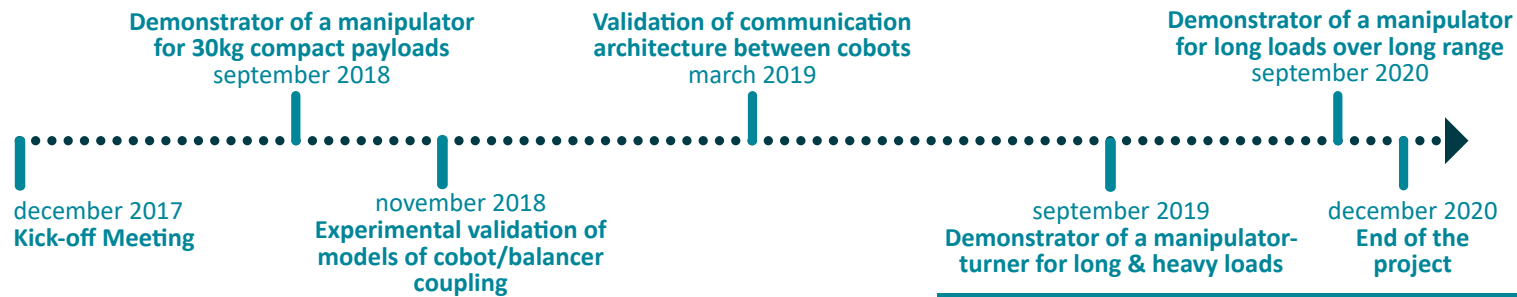
COBOT++ project consists in building a cobotic system by combining industrial technological blocks already available (cobotic arms, lift assist devices/manipulators, etc.) to enable manipulation tasks in an autonomous and collaborative way for loads heavier than 15kg and/or longer than 1m. COBOT++ aims to optimize flexibility and reconfigurability of the system in order to meet current and future industrial requirements.

Technical and economic impacts

- ▶ Improvement of working conditions and tools flexibility
- ▶ Increase of assembly cycles productivity
- ▶ Reduction of investment costs regarding special machines

Keywords

Cobot // Handling // Balancer
Safety // Interaction // Mobility



INDUSTRIAL CONTEXT

In manufacturing plants, productivity enhancement leads the search for an autonomous solution for non-value tasks (such as carrying loads) in order to concentrate operator's time and focus on valuable tasks. Despite strong industrial needs, there is no manipulation solution on the market for carrying 15+kg heavy and/or 1+m length loads providing both autonomous mode (the system moves by itself) and collaboration mode (the operator guides the system by hand for tricky motion). The COBOT++ project deals with enhancing capabilities of cobotic devices for addressing these needs.



INNOVATIVES FEATURES

- ▶ Increasing of the payload/weight ratio in comparison with existing solutions by coupling several devices in order to dissociate balancing and autonomous movement functions
- ▶ Flexible and modular system to be able to be implemented on different use cases
- ▶ High usability : user experience combining safety and ergonomoy

Partners

- ▶ IRT JULES VERNE
- ▶ AIRBUS
- ▶ BENE INGENIERIE
- ▶ CNRS (LS2N)
- ▶ INSA
- ▶ CHANTIERS DE L'ATLANTIQUE
- ▶ SAUNIER DUVAL

Budget

▶ 1 597 k€

INDUSTRIAL APPLICATIONS

The project deliverables will be industrial demonstrators to validate developed technological bricks and to generate new industrial applications in assembly manufacturing plants for instance. The final concept (simple association of all or part of the different developed bricks) will be modular and flexible to allow an implementation for various tasks in any industrial sectors.

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