

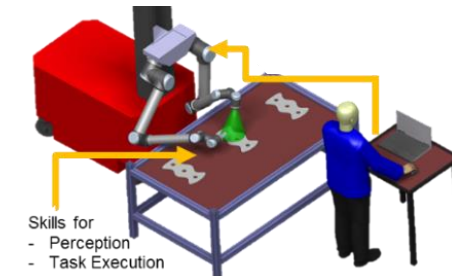
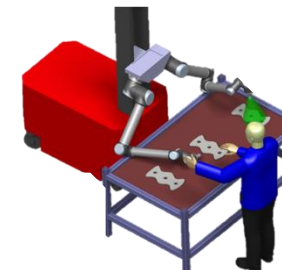
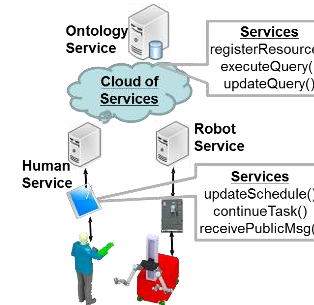
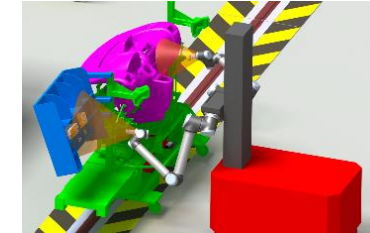
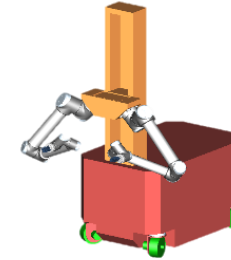


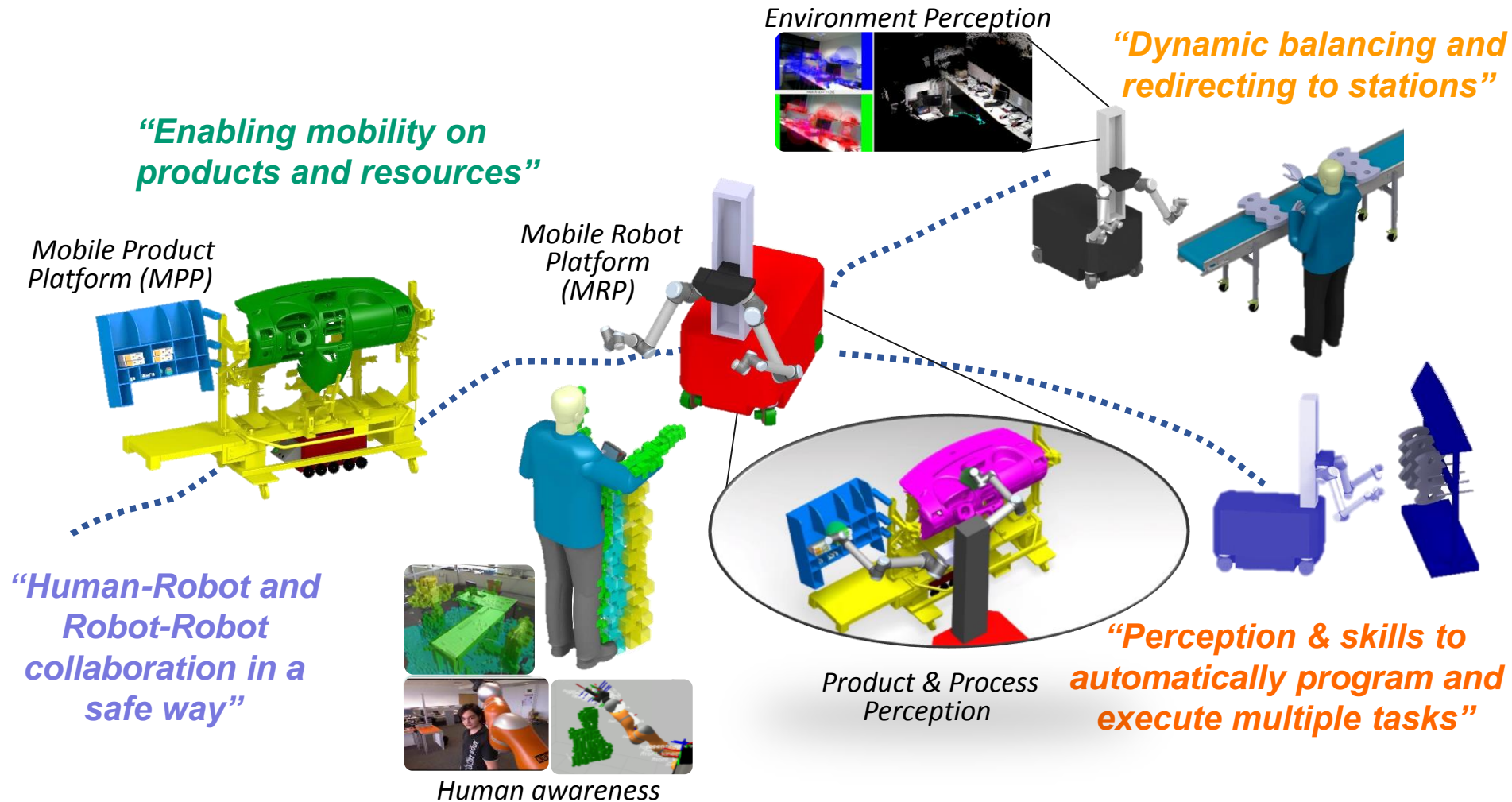
Mobile dual arm robotic workers with embedded cognition for hybrid and dynamically reconfigurable manufacturing systems

16 May 2017
FoF Community Day

Brussels
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- ❑ **O1. Enabling mobility on products and resources** by means of mobile resources able to navigate in the shop floor while utilizing dexterous tooling
- ❑ **O2. Enabling perception of the task and the environment** using a) the individual resource's sensors and b) collaborative perception by combining sensors of multiple resources and shop floor sensors
- ❑ **O3. Dynamic balancing of workload and redirecting to stations** allowing the resources to communicate automatically adjust their behaviour
- ❑ **O4. Fast programming and automatic execution of multiple tasks.** By applying skills over the perceived environment and by automatically generating the robot program
- ❑ **O5. Safe collaboration between humans and robots** eliminating physical barriers (fences, etc.) by introducing cognitive capabilities allowing the robots to detect the human and its intentions



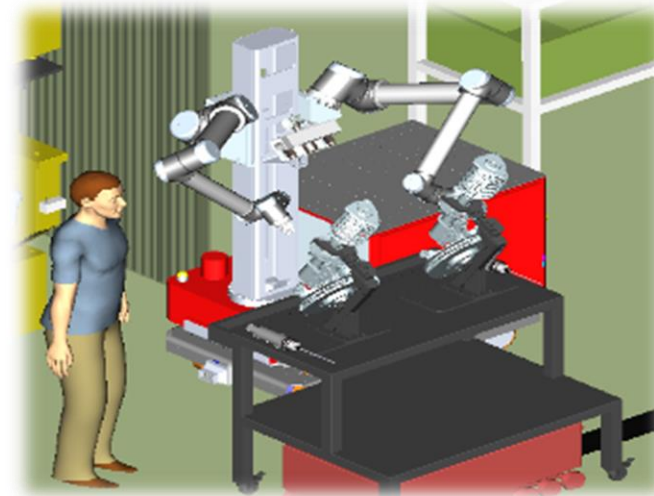


Aeronautics Industry

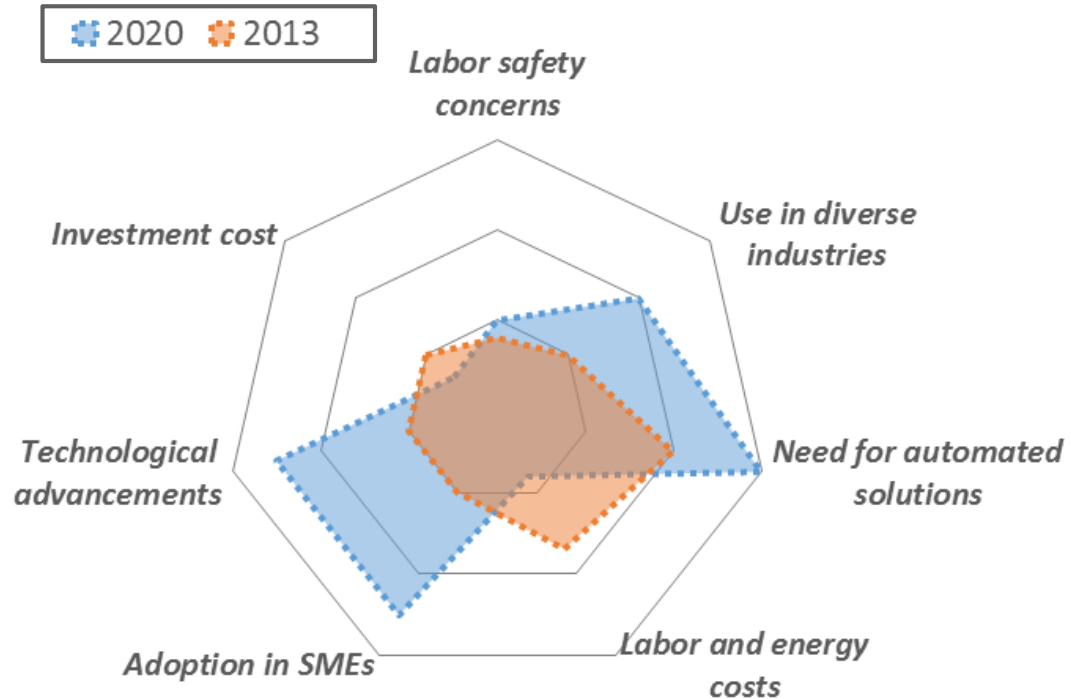


- Dual arm Mobile Robot Platform (MRP)
- Human Robot shared workspace
- Novel HR interaction mechanisms
- Perception skills
- Real time work re-organization

Automotive Industry



- Dual arm Mobile Robot Platform (MRP)
- Mobile Product Platform (MPP)
- Robot to Robot coordination
- Hybrid safety
- Perception for navigation



Impact on robotics technology market

[AlliedMarketResearch](#)

- ✓ Increase reconfigurability by introducing mobility of resources and products
- ✓ Increase system's adaptability through task and environment awareness
- ✓ Reduce programming efforts by automatic programming of multiple operations
- ✓ Reduction of set-up and new product adaptation costs – increased efficiency
- ✓ Increased flexibility and resource utilization by dynamically reorganizing the workload
- ✓ Reduce operator's physical strain by automating manual tasks

CONSORTIUM

Project Coordinator



Thank you for your kind attention!

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<http://www.thomas-project.eu/>

