

ODIN

Open-Digital-Industrial and **Networking** pilot lines using modular components for scalable production



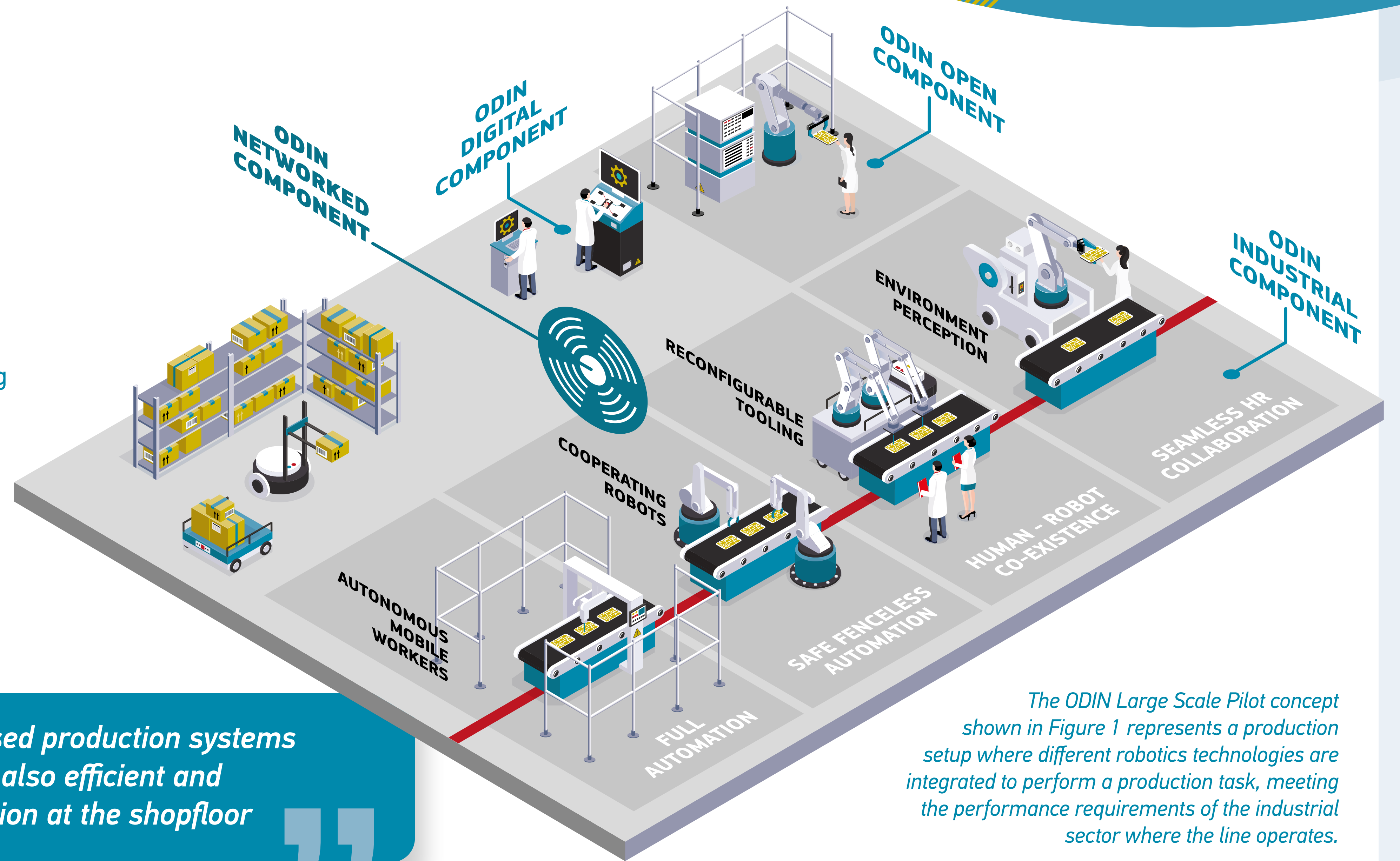
Discover ODIN

ODIN will bring technology from the latest groundbreaking research in the fields of:

- Collaborating robots and human-robot collaborative workplaces
- Autonomous robotics and AI-based task planning
- Mobile robots and reconfigurable tooling
- Digital Twins and Virtual Commissioning
- Service-Oriented Robotics Integration and Communication Architectures

To strengthen the EU production companies' trust in utilizing advanced robotics, the vision of ODIN is:

to demonstrate that novel robot-based production systems are not only technically feasible but also efficient and sustainable for immediate introduction at the shopfloor



The ODIN Large Scale Pilot concept shown in Figure 1 represents a production setup where different robotics technologies are integrated to perform a production task, meeting the performance requirements of the industrial sector where the line operates.

Use Cases

The project targets three different production domains, each one manifesting a diversified set of performance requirements:

White Goods

- Ability to reprogram/reconfigure a robot for a new product variant:
- integrating new processes
 - teaching new interaction schemes with humans and
 - replicating the solution to similar cases with minimum cost/effort.

Aeronautics

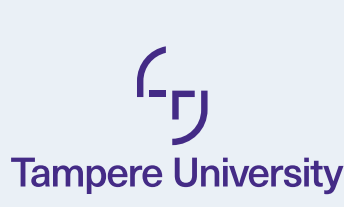
- Ability to easily reprogram/reconfigure a robot for new tasks that may combine autonomous mobility, manipulation, or a combination of both.

Automotive

- Mobility of robots –being able to move between stations and perform different types of processes. Assisting humans in high payload manipulation.

Benefits to the End Users

- Automation of the manual production process, leading to reduction of non-operator friendly tasks
- Robustness in performance and increased reliability / availability of the production systems, as the result of the mobility of resources
- Higher product quality due to the exploitation of the robot accuracy and the assignment of non-value adding activities to robots
- Multiple products assemblies on the same system and handling different types of products
- Adaptability to varying environments and constraints by advanced vision and sensing systems that are optimized for mobile applications (navigation as well as process sensing)
- Enhanced production monitoring through the novel logging capabilities of the latest ICT enablers
- Reduced systems cost enabled by the open control and synchronization architecture



Follow us:

- @ODIN_EUproject
- ODIN project
- @ODINEUproject

Contact us:

Project Coordinator:
Dr. Sotiris Makris, Laboratory for Manufacturing Systems & Automation (LMS) – University of Patras, Greece

info@odinh2020.eu
www.odin-h2020.eu



This project has received funding from the European Union's Horizon 2020 research and Innovation Programme under Grant Agreement No. 101017141