

ARTEMIS TECHNOLOGY CONFERENCE 2015

6+7 October | Turin, Italy

VIMS

Versatile & Intelligent Manufacturing System

PROJECT IDEA

Future industry and production plants will be flexible and adaptive both in terms of hardware equipment (eg. production line units, robots, control and monitoring devices) and embedded software (eg. control-command, monitoring, signal processing, decision). Industry 4.0 is a major R&D topic that nowadays leads several European initiatives. One of the main challenges is to allow devices to communicate using efficient protocols that reflect the dynamicity of the plant while enforcing robustness.

The *EMC²* Platform proposes a low-level layer for communications and task execution with built-in properties such as mixed-criticality (co-located real-time and HPC), safety & security (deterministic behavior, data/code integrity, confidentiality & authenticity), as well as dynamicity (task creation/deletion and application reconfiguration). This platform can be used to deploy tasks and set up reliable communications between machines.

The purpose of this project is to integrate the *EMC²* Platform within a complete industrial-like environment, equipped with Cyber-Physical Systems and sensor networks. The platform will rely on the underlying machine OS or low-level systems and will provide a task model for high-level service management and industrial interoperability frameworks such as OPC-UA. The Paris-Saclay Robotics Innovation Facility (RIF) platform will be used as a top-class demonstrator with close to real-case scenarios and production situations.



CONTACT PERSON

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ORGANISATION

> CEA, LIST

CONSORTIUM STATUS

> Looking for partners

AVAILABLE KEY PARTNERS

> Looking for partners

MISSING PARTNERS

> Missing partners: Manufacturers,
Research academics, SMEs
> Missing skills: Information
systems for production lines,
Robotics, Product design