

PERFoRM

Bringing CPS into industrial application

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Companies need

- ▶ production cost reduction
- ▶ Higher flexibility to react to breakdowns & delays
- ▶ Higher flexibility to reconfigure production systems

Clients demand

- ▶ more customization
- ▶ cheaper prices
- ▶ higher quality

Need for a new generation of flexible manufacturing systems

**Cyber Physical
Systems**

**Service-Oriented
Architecture**

**Agent-based
Manufacturing**

Cloud-based CPS

Plug&Produce

**Simulation of Flexible
Production Systems**

Which challenges need to be targeted to address these needs effectively?

Lack of widely accepted standard
plug-and-produce devices

Resistance to change

Large number of diverse interest
groups

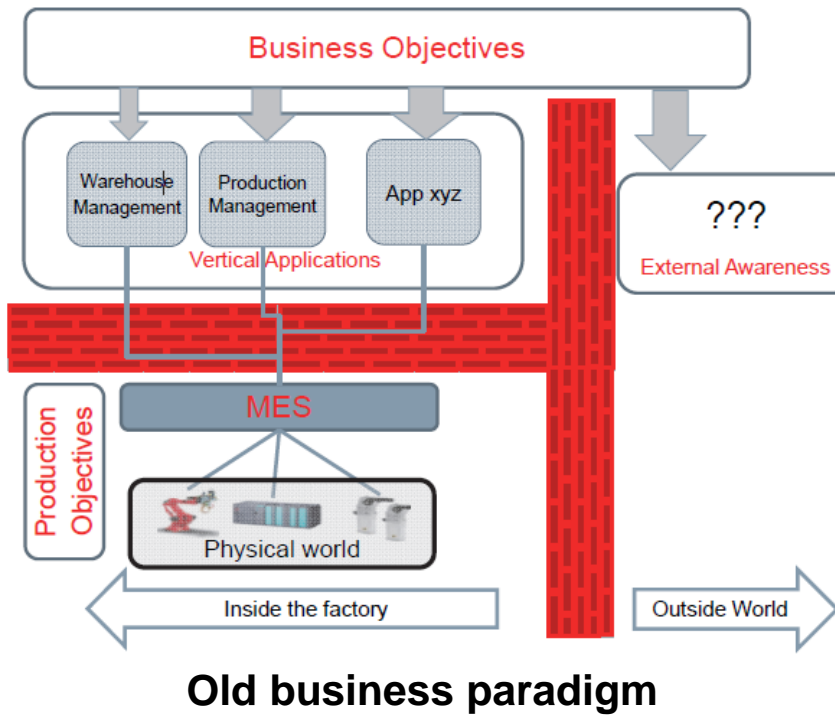
Techno-Economic Risk of New
Paradigm Adoption

Maintain high levels of quality
over small lot sizes

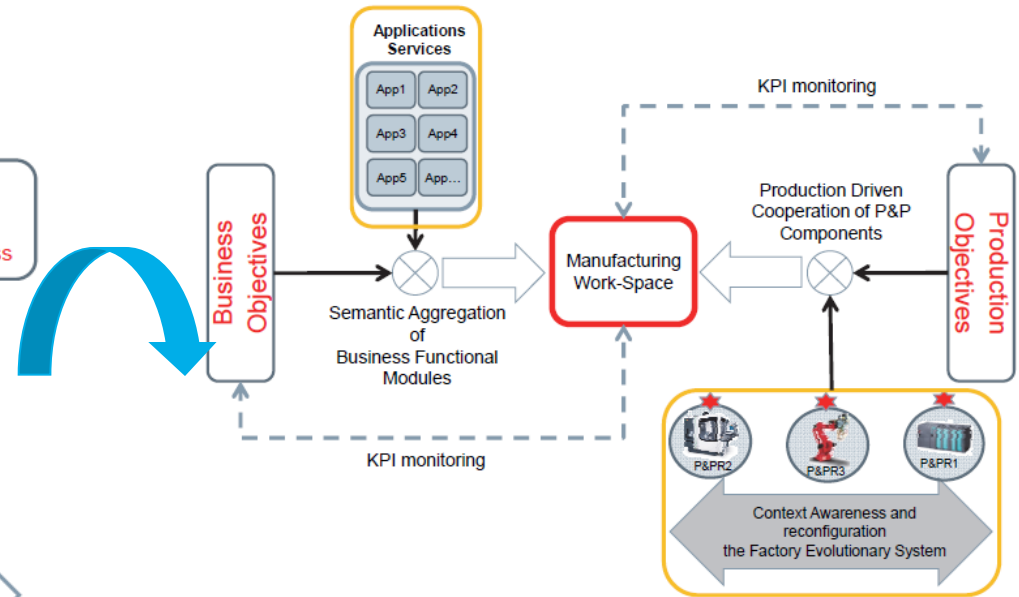
Increasing speed of change

Legacy production equipment
and systems

Current Situation

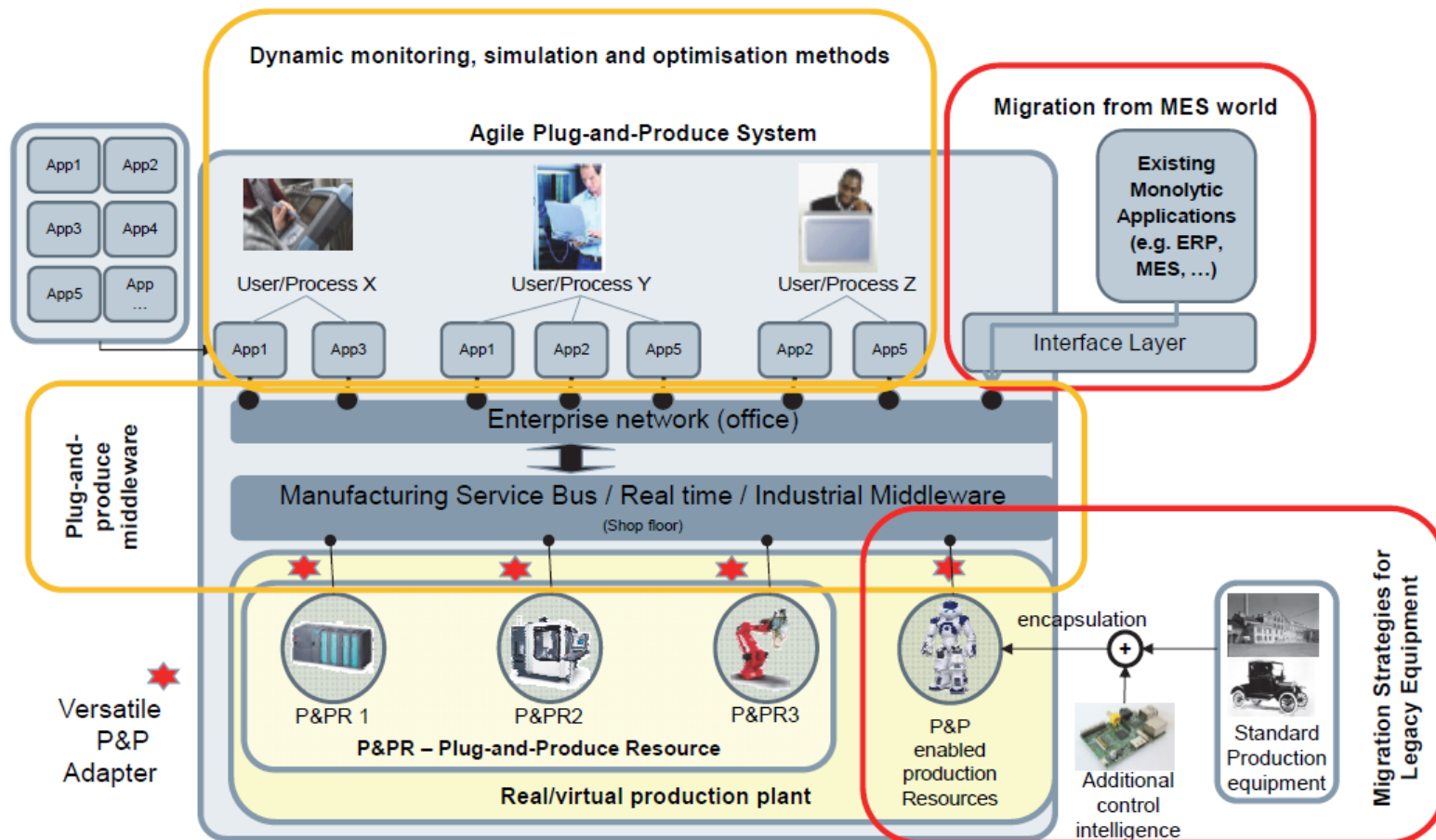


Old business paradigm



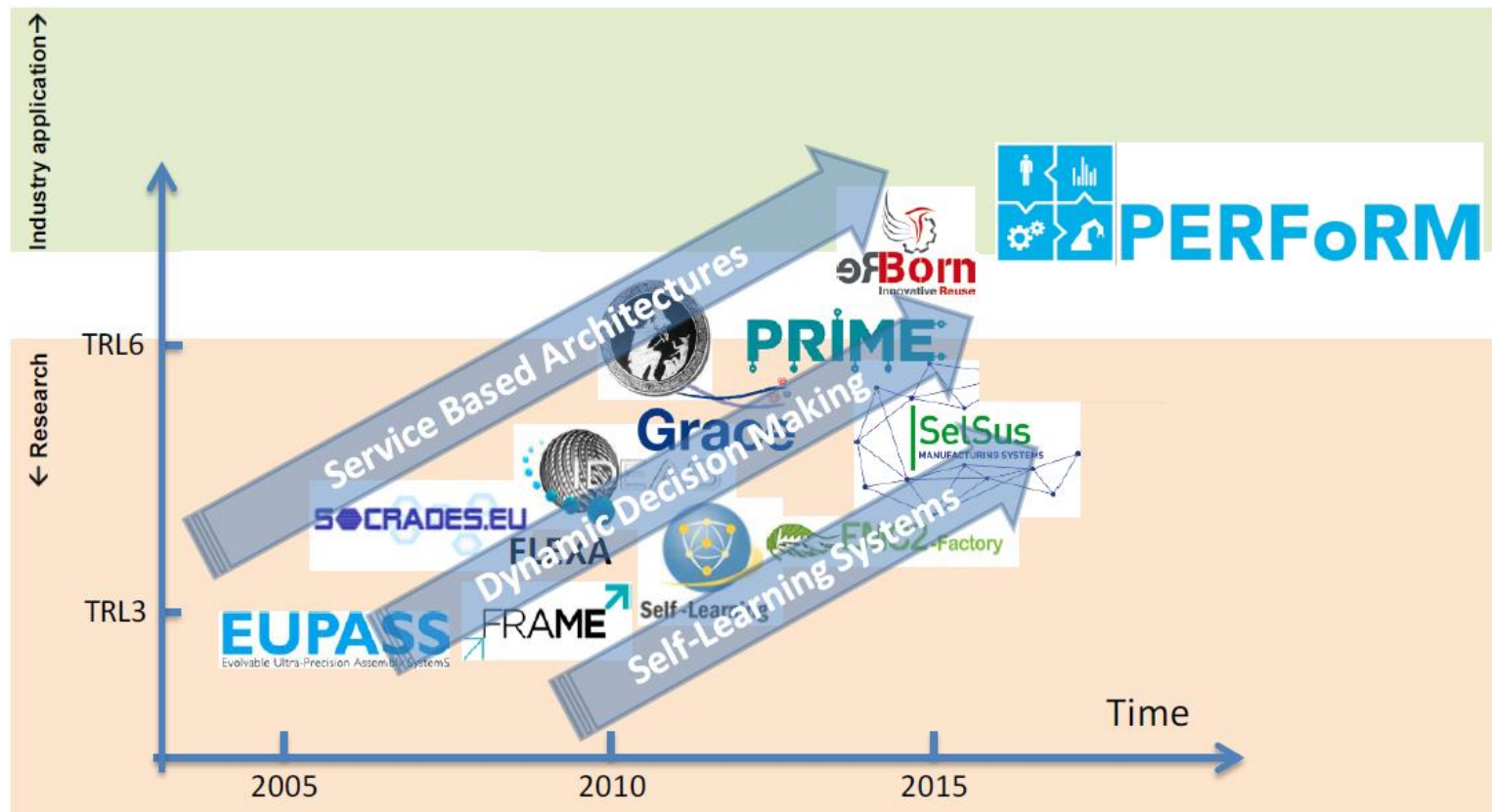
New business paradigm

Approach – PERFoRM concept



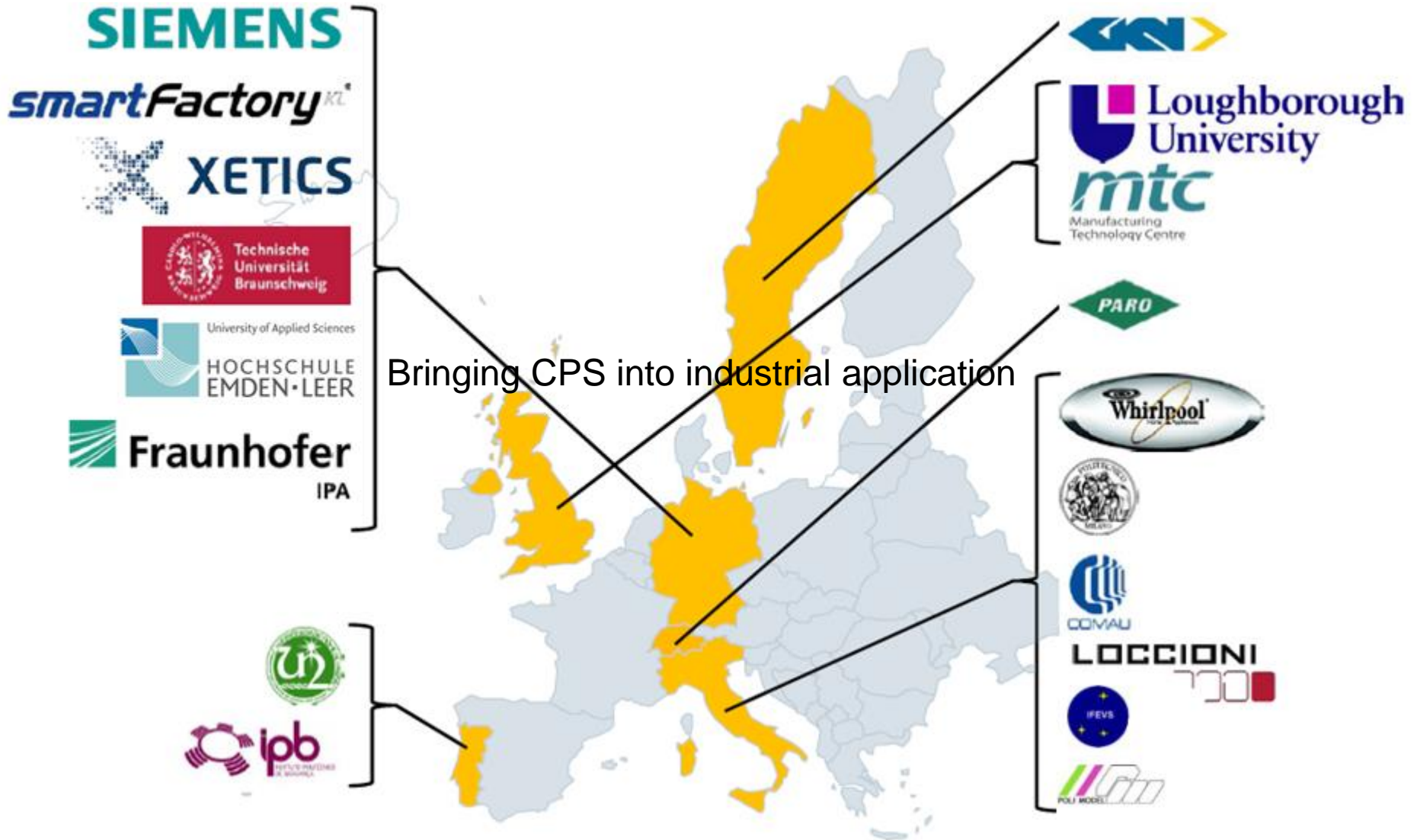
PERFoRM concept

Approach – Relation to previous projects



PERFoRM in relation to previous research projects

PERFoRM Consortium



SIEMENS



LOCCIONI



mtc
Manufacturing
Technology Centre

Loughborough
University

University of Applied Sciences
HOCHSCHULE
EMDEN·LEER



XETICS

smartFactory^{XL}

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