

europaean  
Robotics  
Forum 2016

# openMOS

**Open dynamic Manufacturing Operating System for  
Smart Plug-and-Produce Automation Components**

openMOS

*Mr. Amit Eytan  
We Plus S.r.l. (Italy)*





# PROJECT INTRODUCTION

europa  
Robotics  
Forum 2016

Call: **H2020 – FoF 11 - 2015**

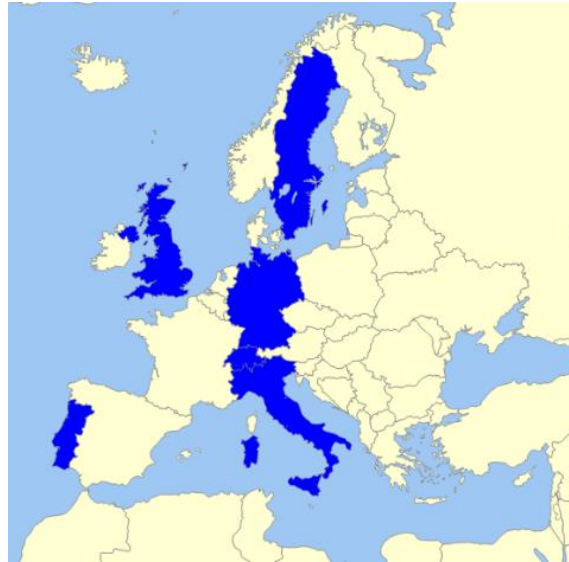
Type of action: **IA**

Project number: **680735**

Period: **01/10/2015 – 36M**

Partners: **16**

Budget: **ca. 7 M€**



- **Higher agility** for the EU Manufacturing Industry

**MOTIVATION**



- **Enable economic sustainability** of the production systems based on **intelligent modular plug-and-produce equipment**

**VISION**



- **White goods**
- **Automotive**
- **Electronics**

**Industrial sectors**





# INNOVATION ELEMENTS

europa  
Robotics  
Forum 2016

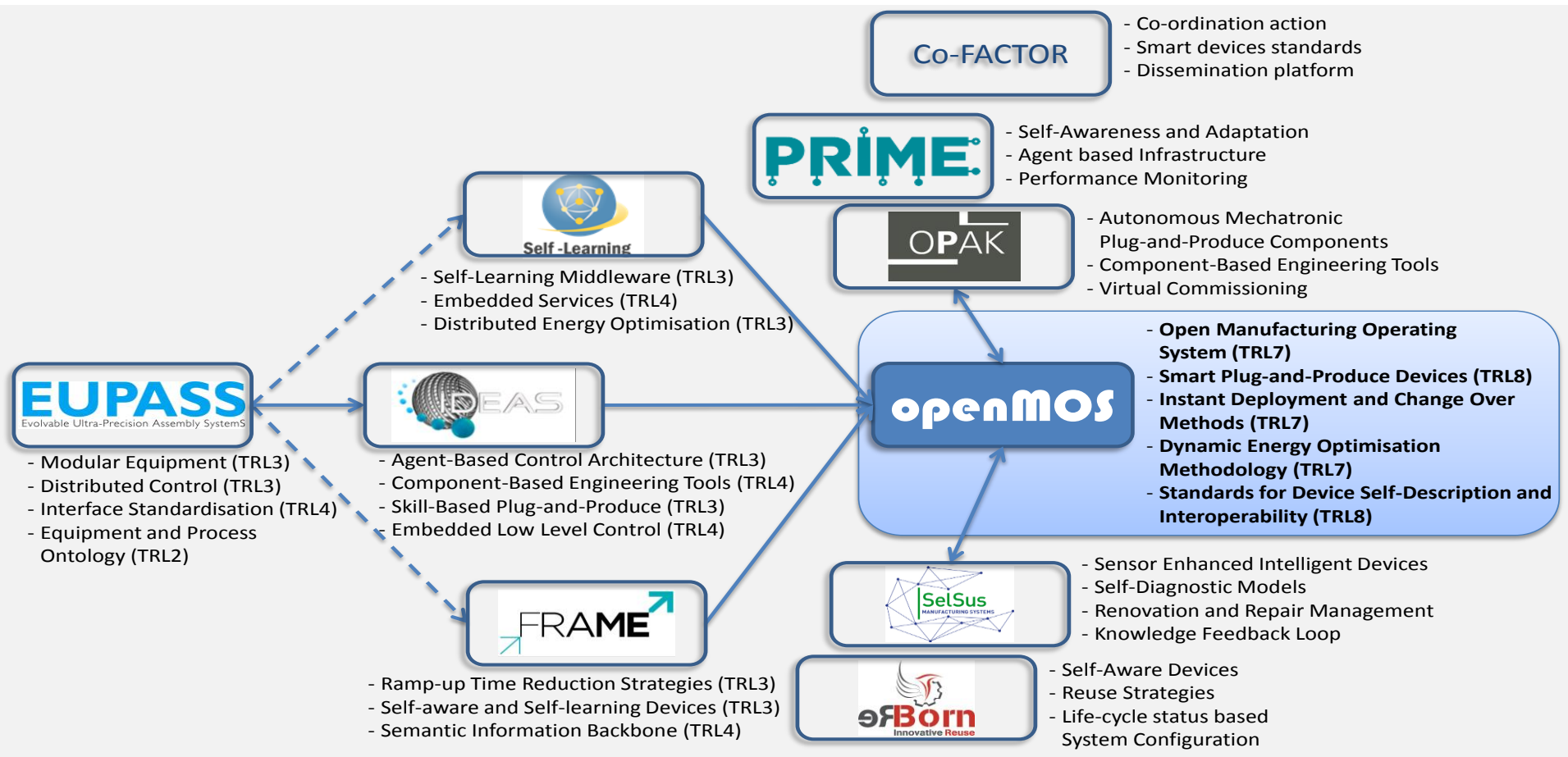
Embedding **plug-and-produce capabilities** into automation devices, robots, and machines

Enabling **vertical and horizontal connectivity** between plug-and-produce automation components and higher level control and business functions

Creating an **easily extendable and adaptable manufacturing operating system (MOS)** that permits the easy introduction of new products, work orders and changes in the equipment and allows easy deployment of optimisation and changeover management strategies.

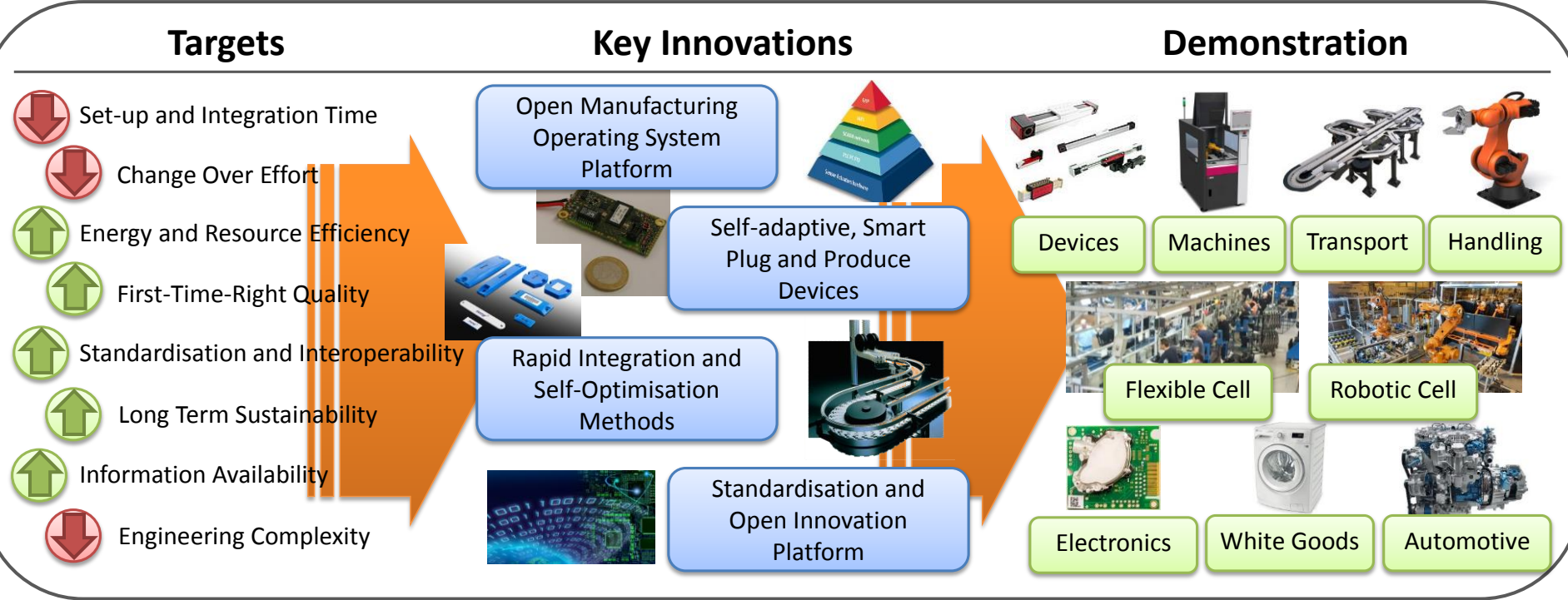


# INNOVATION ACTION





# openMOS VISION





# openMOS Objectives



- ✓ Embedded automation devices and components with plug-and-produce capabilities
- ✓ Open service-based communication platform for secure and real time vertical and horizontal connectivity
- ✓ Integrating agent-based manufacturing operating system with manufacturing service bus
- ✓ Self-adjustment and dynamic scheduling strategies to reduce energy usage based on learned behaviour models
- ✓ Rapid integration and self-tuning strategies for changeover time reduction
- ✓ Industrialisation and demonstration
- ✓ Standardisation, dissemination and exploitation



# DEMONSTRATORS

Automotive Industry - Introsyis



## Assembly and joining cell





# DEMONSTRATORS

Automotive Industry - FORD



## Gluing cell







# DEMONSTRATORS

White goods - MASMEC

europaean  
Robotics  
Forum 2016

## Conveyor based cell





# PARTNERS - 16

Countries - 6

europaean  
Robotics  
Forum 2016

**INTROSYS**  
Global Control System Designers

**elrest**<sup>®</sup>  
Wir steuern  
Ihren Erfolg



Ford Motor Company

**SenseAir**<sup>®</sup>  
Sensors for Life

**fortiss**



**UNINOVA**

**Loughborough  
University**

**INOTEC**  
Innovative Technology

**afag**

**MASMEC**

**Electrolux**



**W** We+

**ASYS**  
AUTOMATISIERUNGSSYSTEME



# About WE PLUS

SME – IT services



## ■ WEB

Server:

- J2EE (JSF, JSP)
- ASP.net/C# (MS Sharepoint, MS CRM)
- VB.net

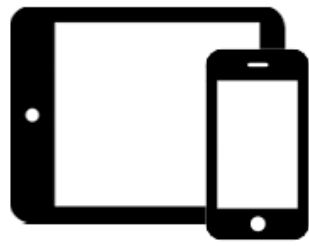
Client:

- Javascript FW (jquery, extjs)



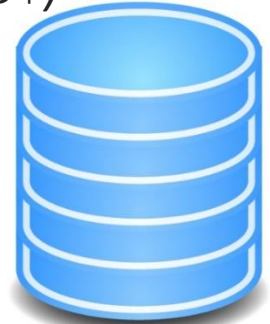
## ■ MOBILE

- J2EE (Android)
- iOS (Apple)
- Windows Mobile



## ■ DATABASE (BI)

- SQL Server (2005↑)
- Oracle (9 ↑)
- MySQL





# Thank you for your attention

Mr. Amit Eytan

[amit.eytan@we-plus.eu](mailto:amit.eytan@we-plus.eu)

+39/392/93.67761

