



ProcessIT.EU CoIE

A European Centre of Innovation
Excellence

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ProcessIT Innovations & ProcessIT.EU

ProcessIT.EU

- Originates from RDI Needs for Embedded Systems, Electronics, ICT & Automation for Process Industrial Applications
- Promoting RDI enabling Smart Production in Europe
 - Industrial Automation Systems & Components (Artemis-IA & ECSEL)
 - Industrial ICT & Automation (SPIRE, ESTEP, FoF)
 - Industrial Robotics (euRobotics)
- IoT & Cyber-Physical Systems are a Key Enabling Technology for Industrial Leadership in Automation in Europe
- Expected Impact
 - Customer Relationship Business Models Adopted by Industry
 - Improved Production Flexibility, Efficiency, Intensification & Availability
 - New Business Opportunities for European Automation Industry
- ProcessIT.EU Roadmap Presents Industrial Trends & Needs Summarized in 9 Ideal Concepts



European Roadmap for Industrial Process Automation

ProcessIT.EU

Roadmap

Industrial Needs & Trends



RESEARCH AND DEVELOPMENT AREAS



A SELECTION OF TARGETED GOALS

- Orchestration of production systems
- Agility and scenario handling by prediction methods
- Certification process
- Risk management
- Encryption
- Information assurance
- Efficient automation engineering process
- Awareness of the automation profession
- Open RDI environments
- Cross-layer holistic integrations
- IP convergence
- Service oriented architectures
- Smart city integration
- Urban mining
- IoT based recycling
- Well developed virtual factory
- Integration by plug and play
- Application distribution platform
- Distributing big data
- User friendliness

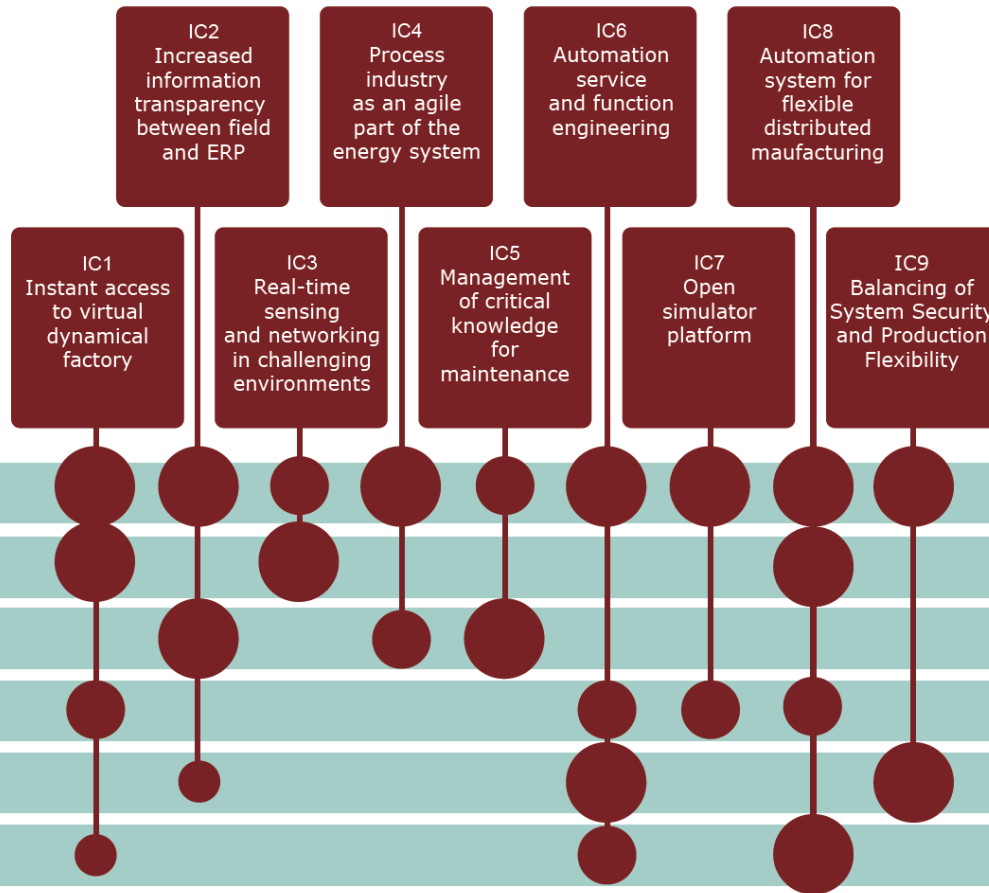
TOP LEVEL NEEDS

- Competence management
- Sustainable production
- Improved OEE

Ideal Concepts



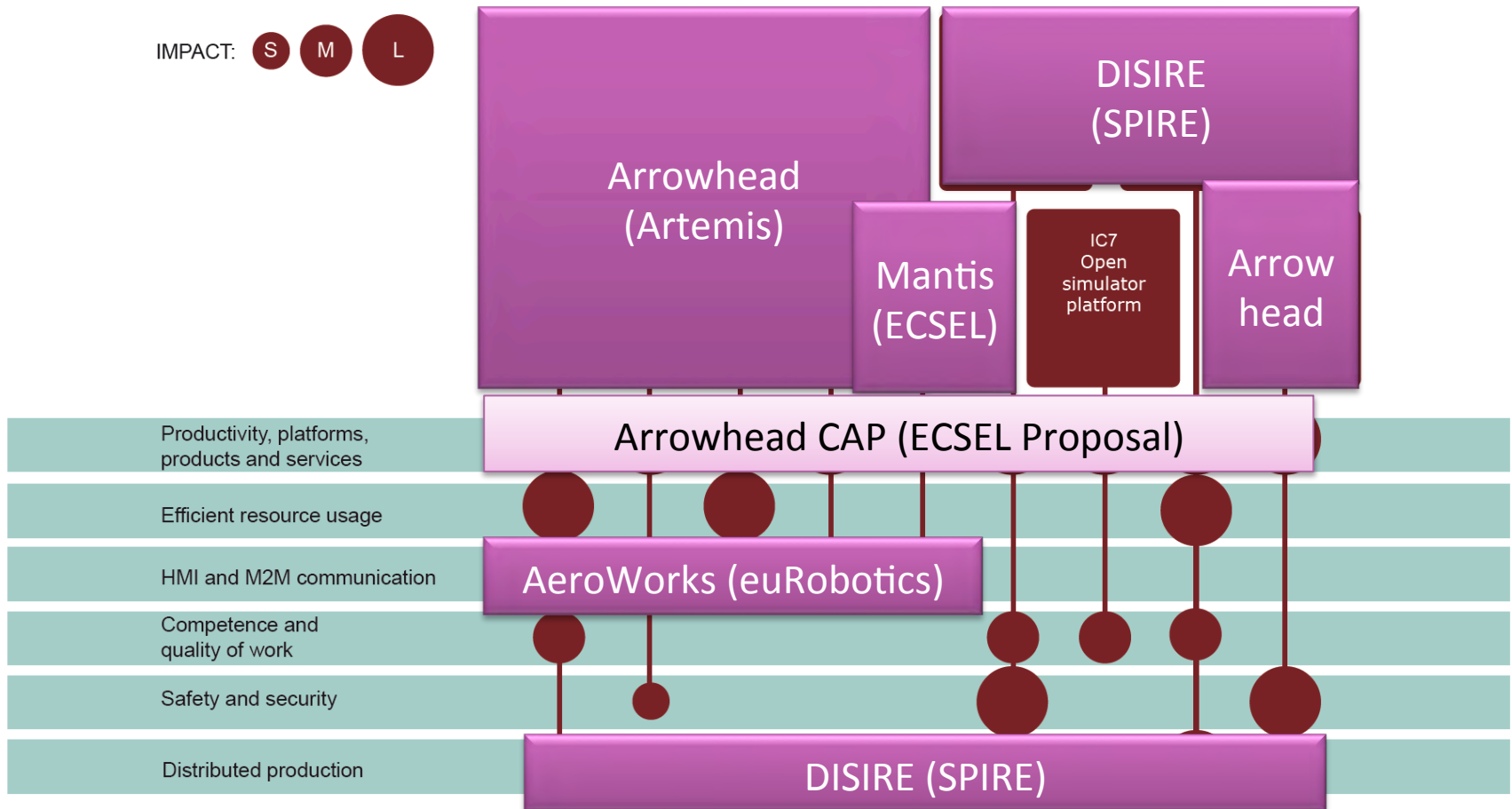
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Project examples overing parts of ProcessIT.EU roadmap



IMPACT: S M L



'New' Applications for Process Industrial Automation



- **Updating, managing, and distinguishing between the real ,digital and virtual factory (Automation Services)**
 - Automatically updating of virtual factory when CPS , CPS systems, and CPS SyS are changed modified or replaced
 - Automatic identification & implementation of possible control loops in CPS factory clouds
 - Production Modeling (including product quality) of large production facilities based on CPS
- **Safety and Security**
 - Demonstration of Remote Production concepts based on CPS backbone
 - Principles for stress testing of digital factories with CPS clouds
 - Multi stakeholder operations in one or several plants
 - Distributed production chains
- **Industrial Analytics**
 - Creation and Validation of Production Knowledge
 - Product and Production tracing including LCA
 - Maintenance
 - Etc.
- **Intelligent Machines, Robots, & Cobots**
- **Business Models** – How to use CPS to be successful (CAS Action?)

Welcome to Artemis Technology Conference, Turin, 7 Oct

Identified Enabling Technologies

- IoT
- Cloud service
- Virtual world
 - Digital Factories
 - Virtual Factories
- Big data
- System of systems
- Autonomous, adaptive and predictive control,
- Computing (multicore)
- Mobility,
- Connectivity,
- Complex event processing
- Real-time data analysis
- Forecasting of complex scenarios

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Thank You

Vision for Smart Production in Europe

Reliable, Secure, and Customised Automation functionalities that are provided as services in the Cloud will contribute to a Paradigm Shift for Production in Europe

Distributed and collaborative automation services are provided to the Production Industry by small and large enterprises providing IoT products in Collaboration with Vendors of Production Equipment