MEDEIA

Model-driven Embedded Systems Design
Environment for the Industrial Automation Sector

SEVENTH FRAMEWORK PROGRAMME

Project Presentation

Project No. FP7-ICT-2007-1-211448

PROFACTOR® TU VIENNA POLITECNICO MILANO SUPSI logi.cals® by kirchner SOFT ITCM SCHUNK® EDF oneida

Main Goal

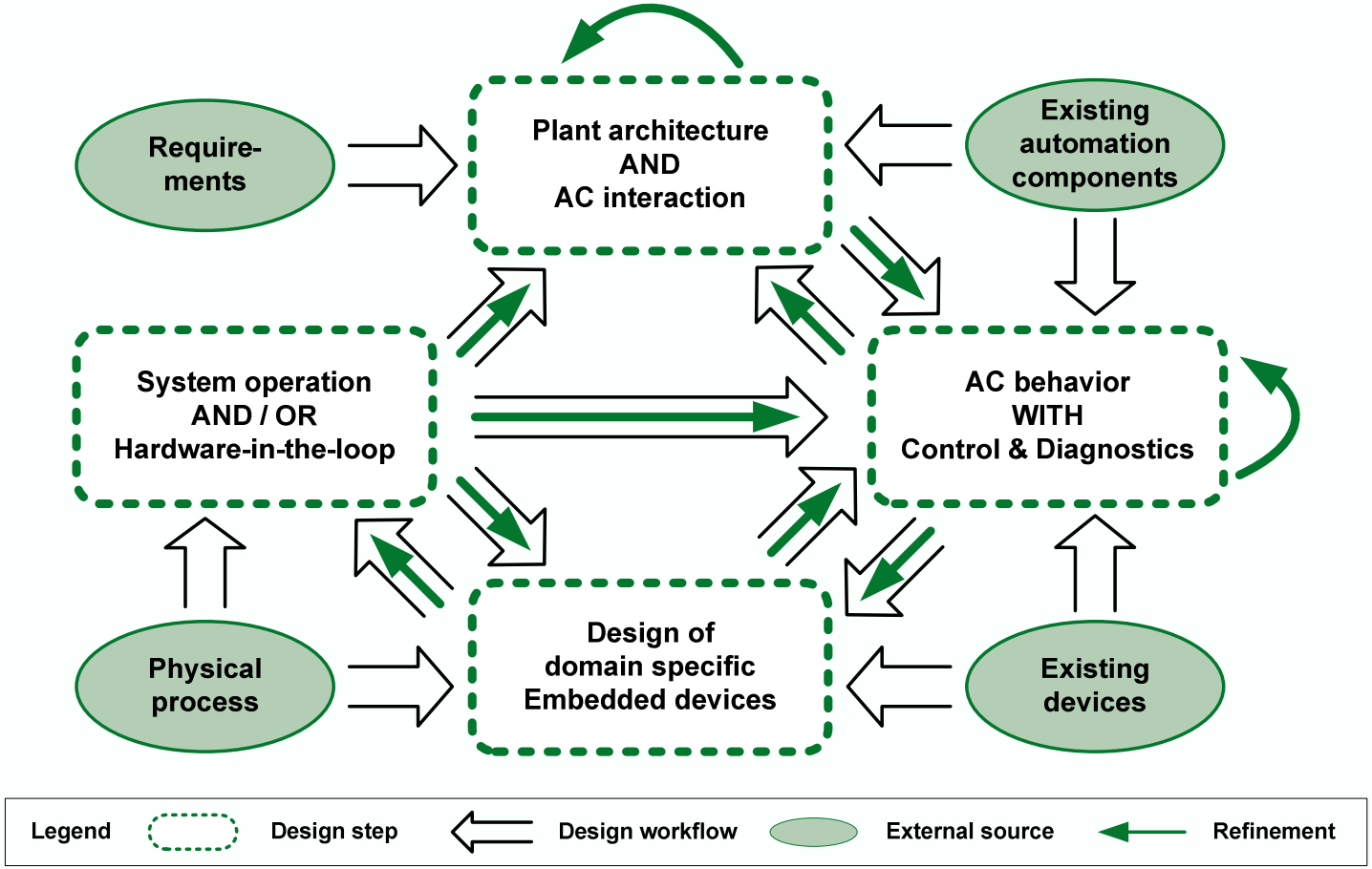
MEDEIA will methodically target, research and develop a **formal framework** supporting a new **modelling method** to fulfil the increasing design and engineering needs in the industrial automation sector. Therefore the main target of the project is to radically improve the design and development productivity of **reusable embedded control systems** in this industrial sector. Moreover, the project aims at the creation of a new intuitive modelling and design framework for embedded control systems.

Objectives

1. Formal framework for model-driven component-based development of embedded control
2. Easy understandable modelling method applicable for domain experts
3. Integrated modelling of diagnostics
4. Integrated simulation and verification of systems design
5. Automatic, embedded platform specific code-generation
6. Proof-of-concept demonstration

Objectives

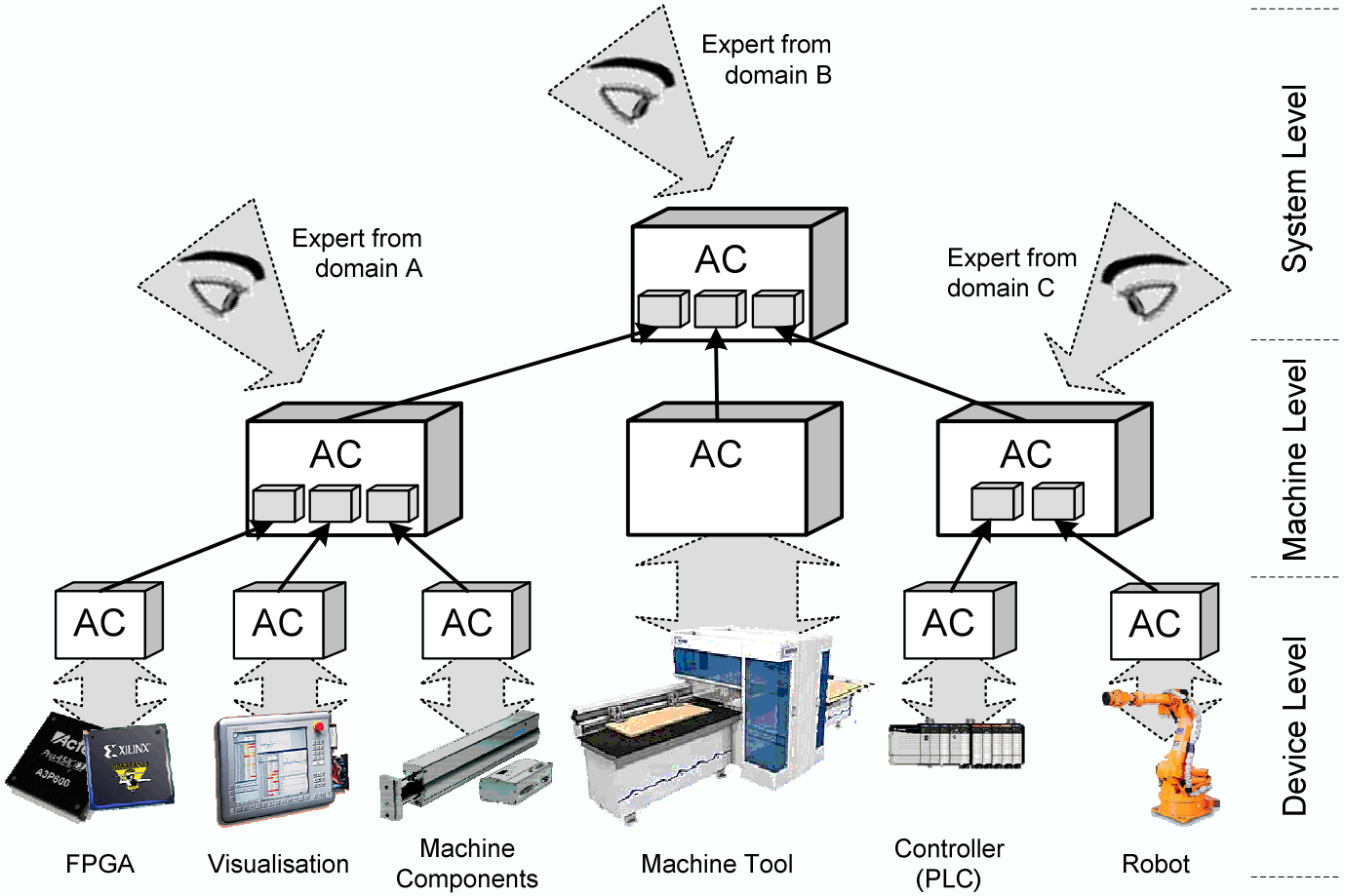
MEDEIA design flow



Highly flexible design: Refinement is integral part of the workflow !

Objectives

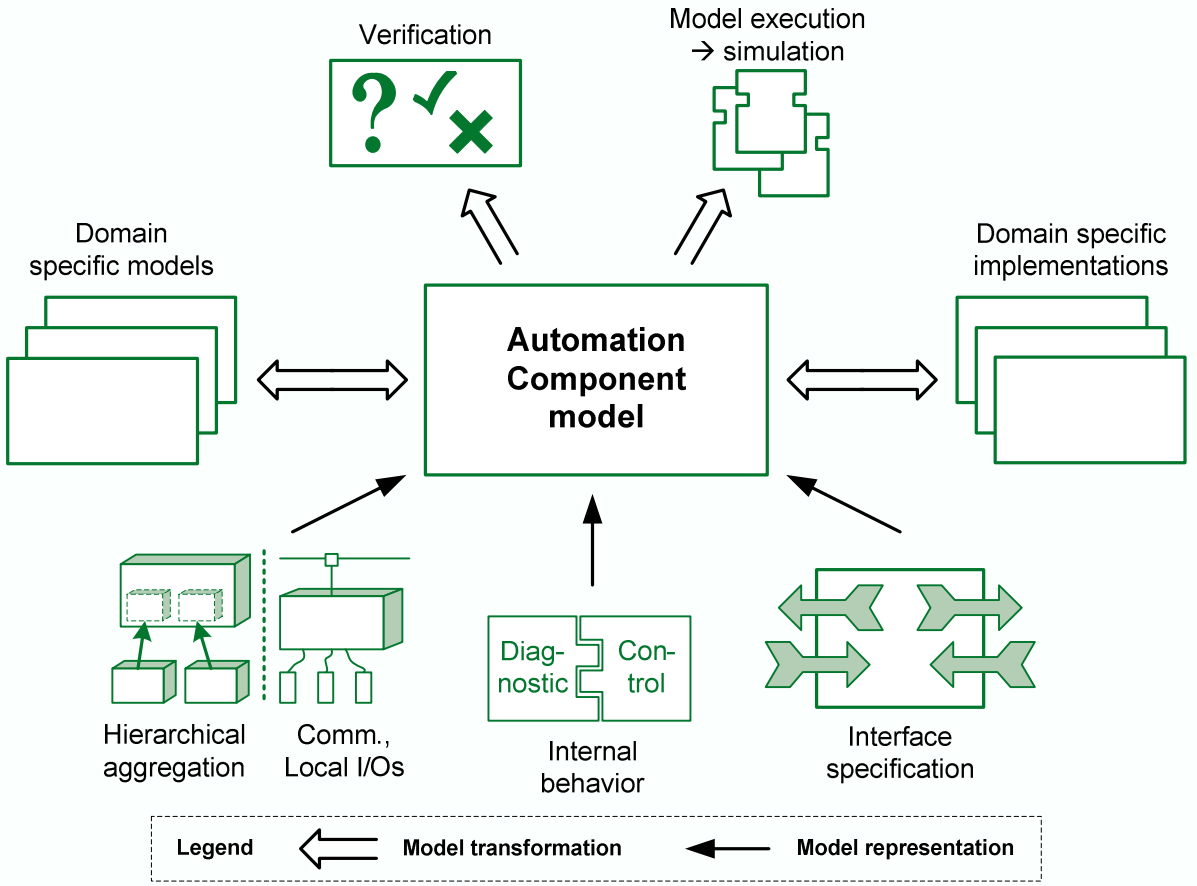
Hierarchical plant structure model (using Autom. Comp.)



ACs as unifying element for various views and implementations !

Objectives

Main modelling element – Automation Components (AC)



Automatic (bidirectional) transformation of models !

Expected Impact

Increased productivity of system development through modular design:

- Rapid production process development and time to market (reduction of complexity up to 50%)
- Controlled software development process
- Easy change of production spectrum and creation of product variations
- Simulation of production lines enhances customisation
- Drastic reduction of programming errors in industrial automation systems

Expected Impact

Improved competitiveness of European companies:

- Reduction of design and systems engineering costs (savings of about 25% are expected)
- Reduction of planned production downtimes (for re-engineering/re-programming)
- Reduced outsourcing of jobs
- Enhancing the good position of European companies in the industrial automation sector

Expected Impact

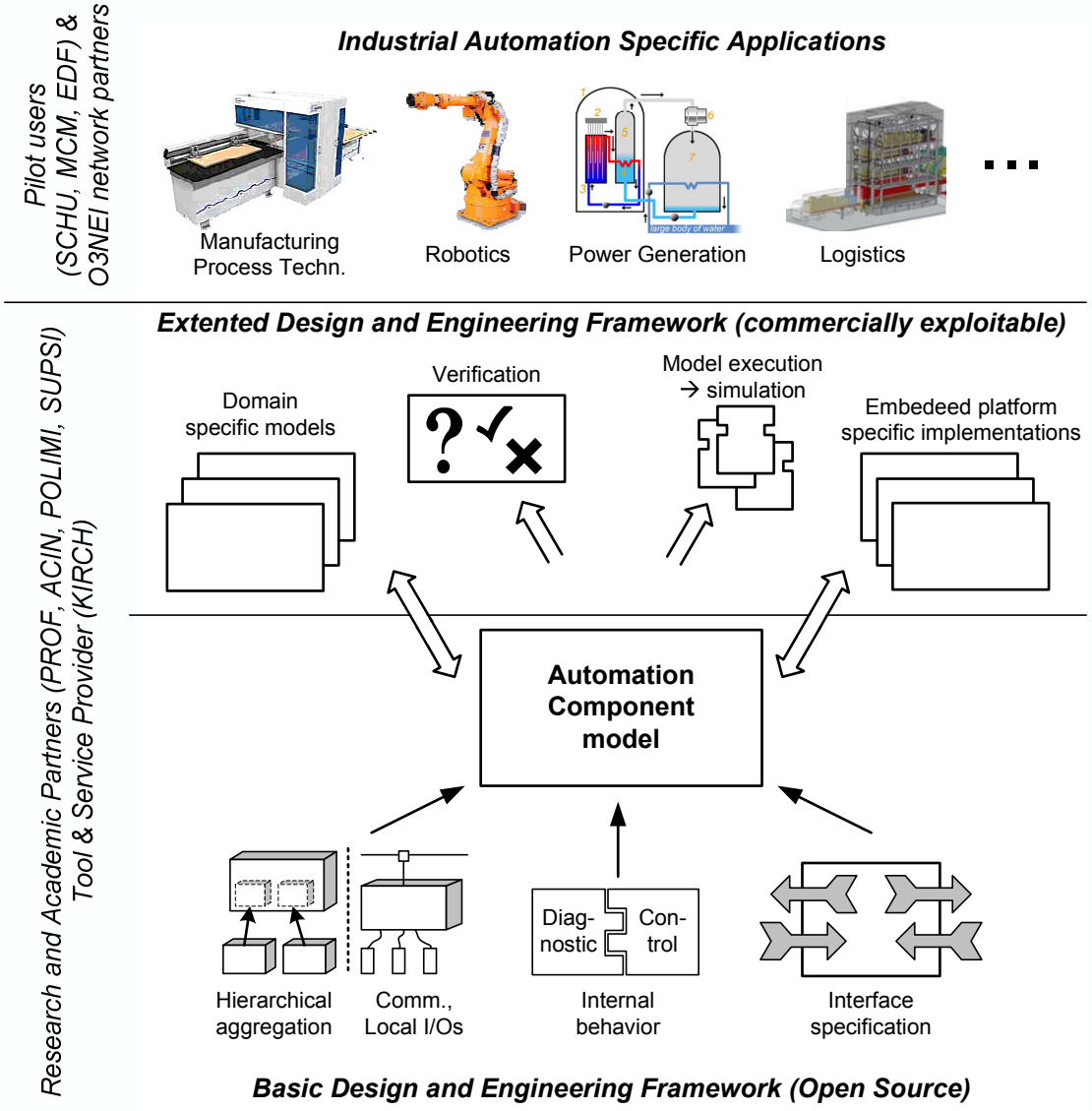
Reinforced European scientific and technological leadership in the engineering of complex systems:

- MEDEIA project results strengthen the position of the academic and industrial consortium members

Envisaged application domains for MEDEIA technology:

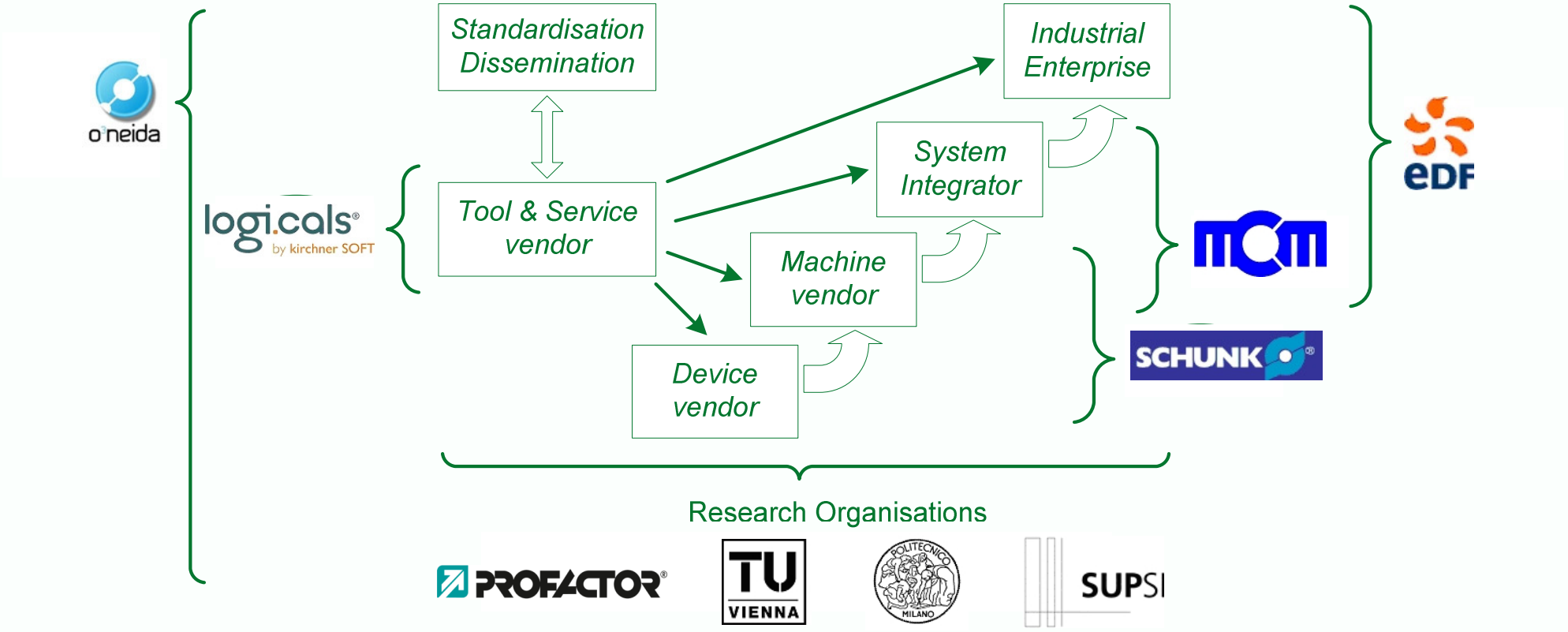
- Manufacturing and production plants
- Complex and advanced robotic systems
- Power generation, distribution and supply systems
- Logistic systems

Outcome – Results



Consortium

Value creation chain in the industrial automation sector



Thanks for your attention!

Contact Co-ordinator
Dr. Thomas Strasser
PROFACTOR GmbH
Im Stadtgut A2
4407 Steyr-Gleink, AUSTRIA
+43 (0)7252 885309
thomas.strasser@profactor.at
www.profactor.at