



Intelligent Production Machines and Systems – I*PROMS FP6 Network

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Manufacturing in the EU

- Manufacturing creates substantial wealth and employment
- SMEs form the core of EU manufacturing industry
- Stiff global competition for EU SMEs
 - **cost + lead time**

=> Advanced Manufacturing research holds the key to EU competitiveness



Manufacturing research in the EU

- Research carried out by thousands of organisations
 - **Lack of co-ordination**
 - **Duplication of efforts and resources**
- Different regional, national and EU funding bodies
 - **Duplication of programmes**

=> **EU manufacturing research is highly fragmented**



Networks of Excellence

- Virtual institutes - overcoming research fragmentation
- Main activities:
 - *Integration* - create strong and lasting integration of research activities and resources (10-20 years)
 - *Joint research* - advance knowledge to reinforce **world-class** status in an area
 - *Dissemination* - extend excellence to the wider community

=> NoEs are an instrument for structuring EU research



I*PROMS – the FP6 NoE

- I* = intelligent, individualised , ... => **Innovative**
 - **PROMS** : **P**ROduction **M**achines and **S**ystems
 - **I*PROMS** : **umbrella** network covering the whole area of **knowledge-based** technology and organisation
- => **I*PROMS integrates key wealth and job creating areas of EU Advanced Manufacturing research**



Main Features

- Holistic coverage of the entire field of Production Machines and Systems
- Multi-disciplinary, non-compartmentalised nature
- Ability to choose priority research topics, embracing new areas according to changing industrial needs

=> This guarantees the *continuing relevance and sustainability of I*PROMS*

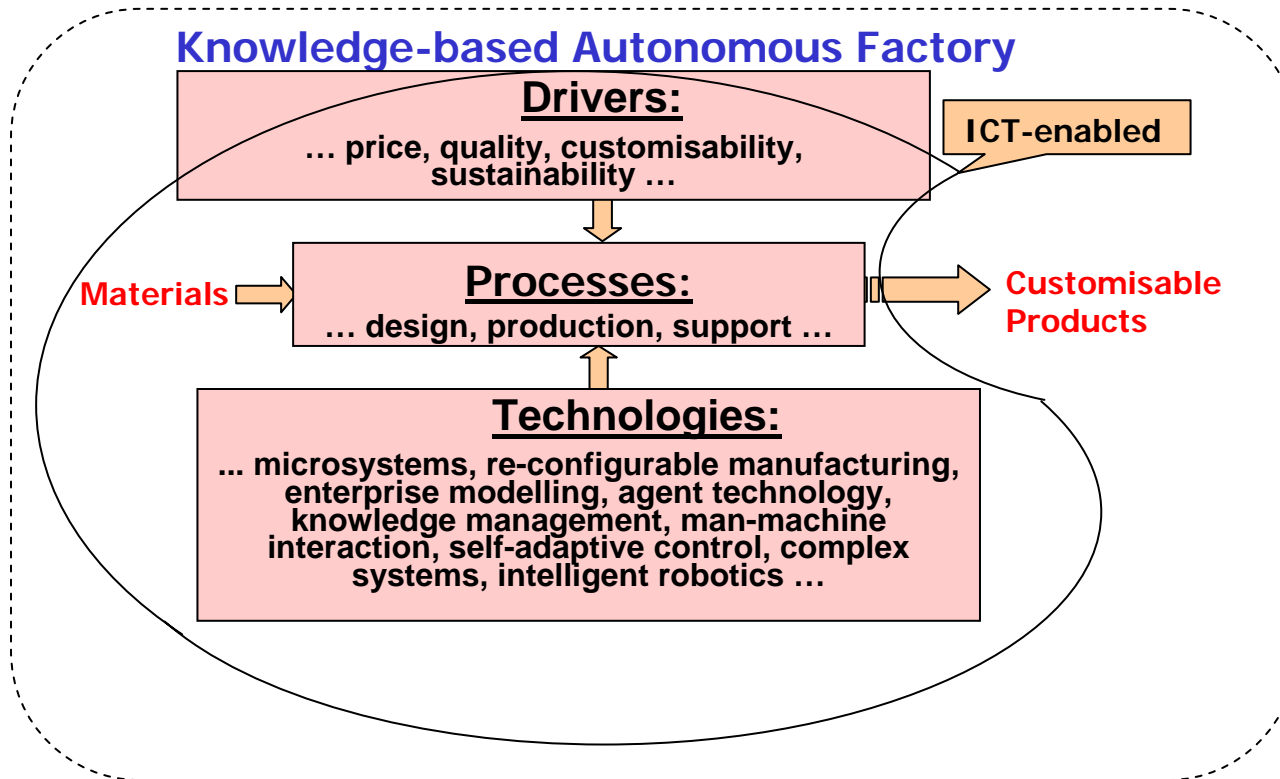


Focus

- Development of new processes and flexible, intelligent manufacturing systems
- Development of new and user-friendly production equipment and technologies
- Incorporation of new technologies/ equipment into the factory of the future



Vision



Research Clusters (1)

- ***Advanced Production Machines (APM)***
 - Multi-function Machines
 - Re-configurable Machines
- ***Production Automation and Control (PAC)***
 - Collaborative Agent-based manufacturing automation
 - Self-adaptive control
 - Human-machine interaction



Research Clusters (2)

- ***Innovative Design Technology (IDT)***
 - Concurrency
 - Design Complexity
- ***Production Organisation and Management (POM)***
 - Cost-effective and rapid reconfiguration of the factory
 - Integration of human and technical resources

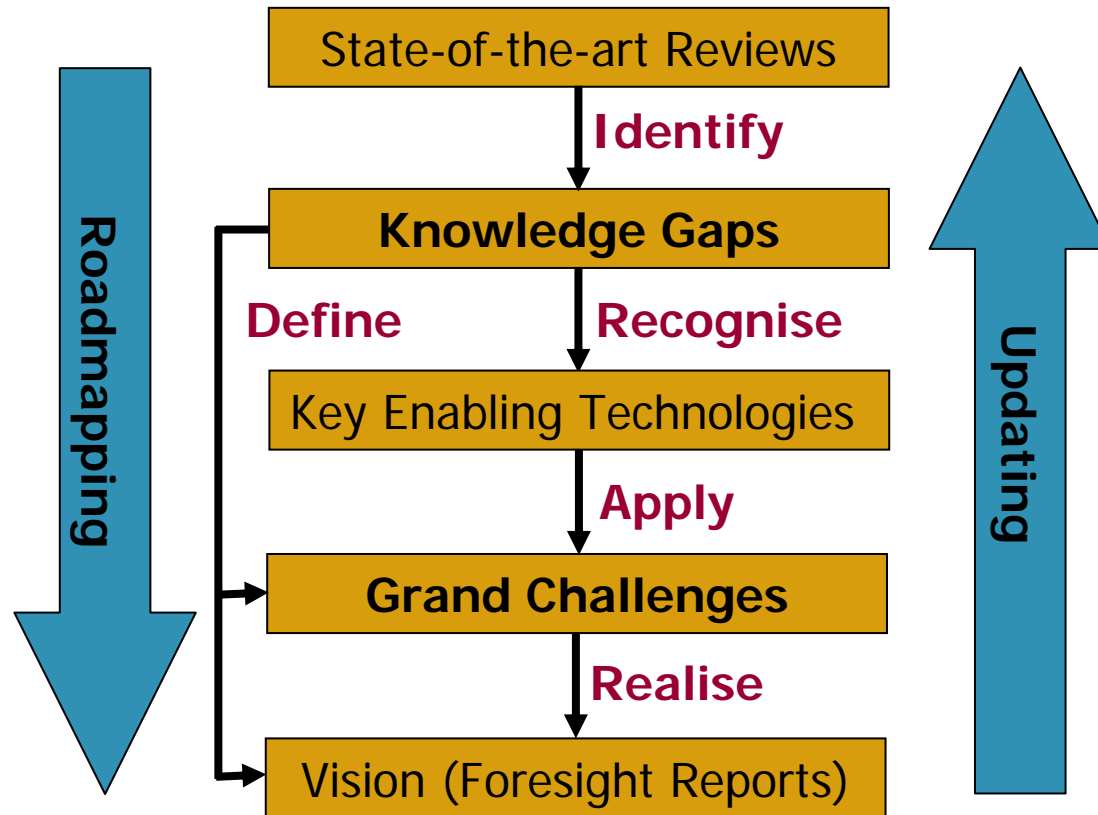


Manufacturing Challenges

- **Concurrent** Engineering
- **Integration** of Human and Technical Resources
- Conversion of Information to **Knowledge**
- Environmental **Compatibility**
- **Reconfigurable** Enterprises
- **Innovative** Manufacturing Processes and Products



Vision Realisation (1)

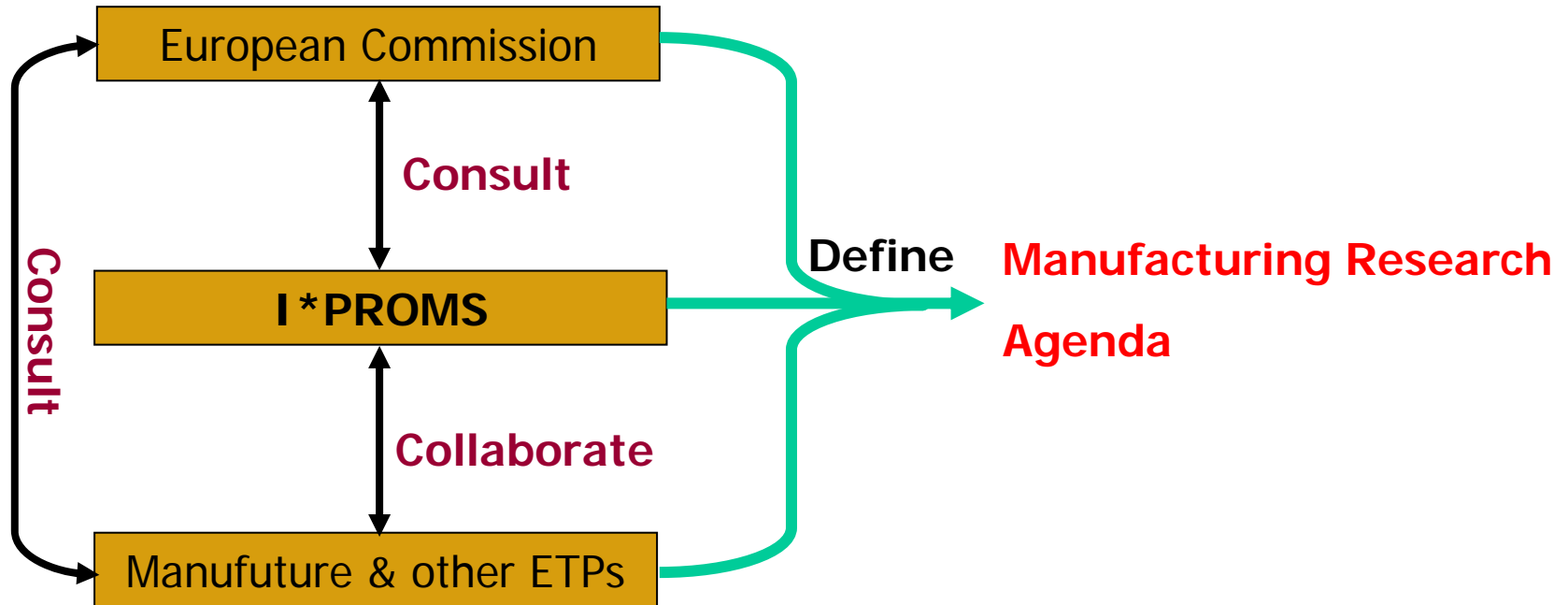


Vision Realisation (2)

- Help define EU future research agenda
- Strengthen collaboration with **Manufuture**
- Prioritise partners' research activities
- Facilitate integration Partners' resources
- Align activities with EC research policy
- Generate value-added research projects
- Contribute to overcoming fragmentation



Vision Realisation (3)



Intended Impact (1)

- Higher degree of **re-configurability**
- Easier **integration** of manufacturing resources and legacy systems
- Greater **autonomy** and intelligence capabilities
- Extreme **customisation** (lot size)



Intended Impact (2)

- Integration of key EU research institutions in the field of manufacturing
- Re-structuring research within the whole area of Production Machines and Systems
- Enabling the creation of a knowledge-based, highly competitive EU industry



Website

- Downloads (roadmaps, papers, books, ...)
- Discussion fora
- Web-based advisory service for SMEs
- Latest manufacturing news
- information about relevant world-wide events

<http://www.iproms.org>



Virtual Conferences (1)

- Online web-based Conference
- Free participation including paper downloading
- **107** papers from **31** countries during IPROMS 2006
- Over **4000** registered participants from **71** countries
- Still open for downloading of presentations/ papers
- Conference topics appear at top of list when searched on Google
- Truly global forum for discussion and dissemination of manufacturing research results



Virtual Conference (2)

- 3rd IPROMS Virtual Conference on **2-13 July 2007**
- Submission site for IPROMS 2007 is now open
- Deadline for full paper submission is **28 February 2007**

<http://conference.iproms.org>



Partners

Co-ordinator: Cardiff University

1. United Kingdom: Cardiff, Warwick, Cambridge, Oxford, UMIST, Newcastle

2. Austria: Profactor

3. Czech Republic: CTU

4. Finland: VTT

5. France: CETIM, ENIT, INRIA, Robosoft

6. Germany: Clausthal, IAO, IFW, IPK, IPA, Schneider Electric

7. Greece: Patras

8. Ireland: DCU

9. Italy: Fidia, CRF, Naples

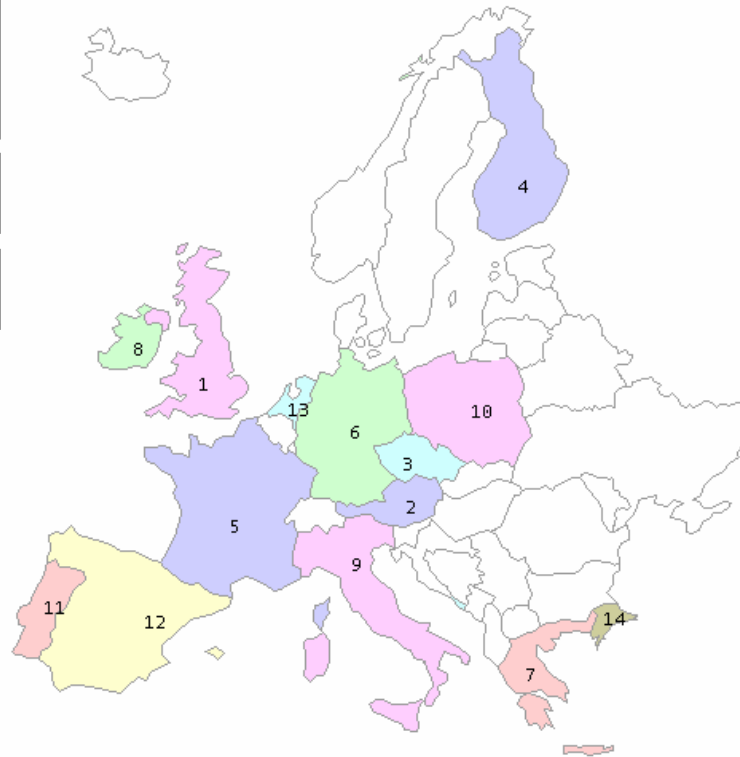
10. Poland: PIAP

11. Portugal: Minho

12. Spain: Fatronik, Tekniker

13. Netherlands: TNO

14. Turkey: Sakarya



30 Core Partners from 14 European Countries



Associates

- Academic (**63**)
- Industrial (**57**)
- Trade groups (**13**)
- Public (**4**)
- Publishing (**5**)

From 40 countries worldwide



Associates (2)

Benefits:

- Free registration
- First hand access to information & Expertise
- Participation in joint research ventures
- Access to a vibrant dissemination platform

<http://www.iproms.org/associate>



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The End

Thank you

