



## **ARTEMIS und seine zukünftigen Schwerpunkte, wie z.B. Automation und Maintenance**

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AVL List GmbH.  
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## **Promotion of the ARTEMIS Austria Platform**

### Today's Situation:

- Contact to the JTI in general via website or national authorities and the promotion agency FFG
- Infineon, ARC and AVL are members of Steering Board as well as Working Groups
- ARTEMIS has an annual congress where also non ARTEMIS members can participate for information
- ARTEMIS platform or clusters on embedded systems exist already or are in the process of establishment:
  - EICOSE (Oldenburg, Toulouse, Paris) - European Institute for Complex Safety Critical Systems Engineering COIE
  - ESI (Spain) – European Software Institute
  - Process IT(Sweden) COIE
  - ARTEMIS-Hungary
  - ...



## Promotion of the ARTEMIS Austria Platform

- Embedded Systems are today an important innovation topic in all industry sectors for energy reduction, improvement of productivity, safety, offering specific functions, etc.
- Potential for innovation is stimulated
- FIT-IT activities of BMVIT have initiated very early such projects on national basis, which should now lead to international projects
- Austria has a proven track record in international research programs (e.g. performance in ICT-FP: 230% of desired value)



## Promotion of the ARTEMIS Austria Platform

### Aim of the Platform (1)

- Spreading of information through contact to ARTEMIS
- Transfer inputs from members
- Promotion of members' interests to the EU platform
- Demonstration of important activities to the politicians
- Improvement of visibility of Austrian actors in Europe



## Promotion of the ARTEMIS Austria Platform

### Aim of the Platform (2)

- Initiation of specific R&D activities in Austria
- Promotion of accomplished national RTD activities
- Organisation of national events and promotion of ARTEMIS
- Links to other relevant European platforms and clusters
- Through creation of a national platform the information flow should be faster, more specific, national interests are more focused also for future calls



## ARTEMIS Austria Platform – Advisory Board Members

- Univ.-Prof. Dr. Hermann Kopetz
- DI Johann Massoner
- Dr. Stefan Poledna
- DI Erwin Schoitsch
- DI Roland Sommer
- Mag. Edeltraud Stiftinger
- Dr. Josef Affenzeller
- Prof. Pree (Univ. Salzburg)
- Prof. Schlacher (Univ. Linz)
- Profactor





## Promotion of the ARTEMIS Austria Platform

For further information:

[www.artemis-austria.net](http://www.artemis-austria.net)

Platform support:

**eu|te|ma**  
TECHNOLOGY MANAGEMENT

eutema Technology Management GmbH.

Dr.-Karl-Lueger-Ring 10

1010 Wien

office @ eutema.com

Tel: 01 524 53 16



## The story of ARTEMIS

- The European Technology Platform on Embedded Systems :  
**Advanced Research & Technology for EMBEDDED Intelligence and Systems**
- **An initiative of European Industry and the EC**
  - DG Information Society and Media
  - Initiated by 10 of the top-25 EU companies in terms of global R&D
    - Industry, academia, SME federation, ITEA2, MEDEA+ involved
    - 24 countries + EC involved
      - » Most of the 25 countries involved in ITEA2 (Eureka)
  - Proposed as a Joint Technology Initiative (JTI)
- Aim: develop and drive a joint **European vision and strategy on embedded systems** through a “Joint Technology Initiative”
  - Create and keep jobs in Europe
    - Through products and related services
    - Through design and manufacturing excellence
  - **Implemented as a “Joint Undertaking” (JU)**





## ARTEMIS vision

... An ongoing, major evolution of our society in which all systems, machines and objects will become digital, communicating and self-managed ...

... with important societal and economical consequences

- Competitiveness of most industry sectors will rely on Embedded Systems (ES) innovation capability
- ES technologies are critically important in rebalancing Productivity Growth in Europe
- Security, Safety and Quality-of-Life in our society will increasingly depend on ES technologies

ARTEMIS objective: world leadership in intelligent electronic systems



## Embedded Systems applications

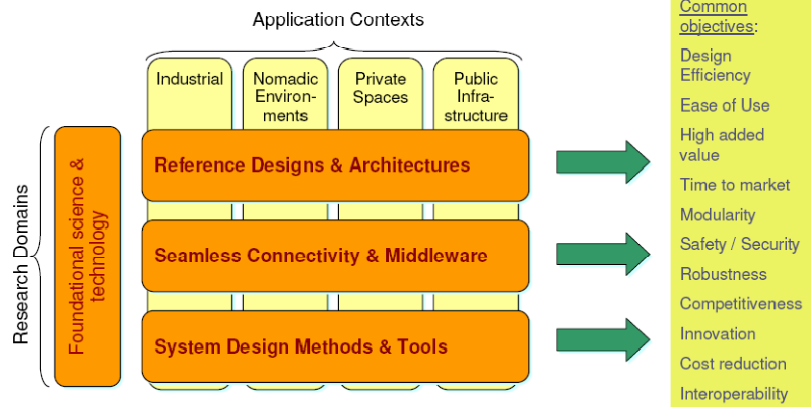
- Embedded Systems bring intelligence and ease of use
  - To products
  - For manufacturing etc...
  - In addition: energy savings, reduced costs, ...
- Demanding applications compared to general purpose computers
  - Ever increasing complexity (design and maintenance)
  - Reliability,
  - Availability (24/7),
  - Safety, security,
  - Time critical, ...





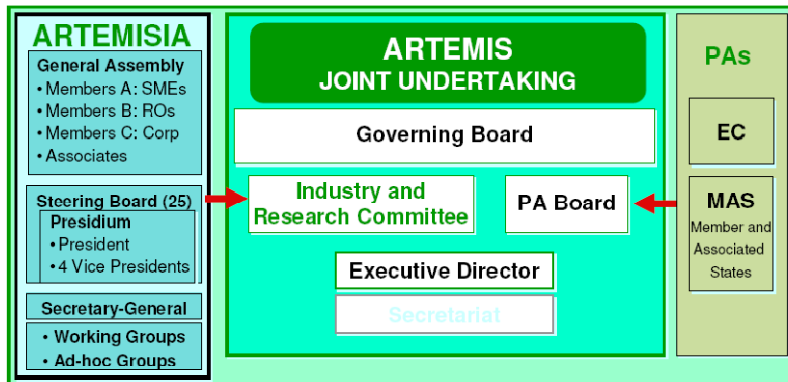
# ARTEMIS- ETP Strategic Research Agenda


ARTEMIS envisages cross-application solutions



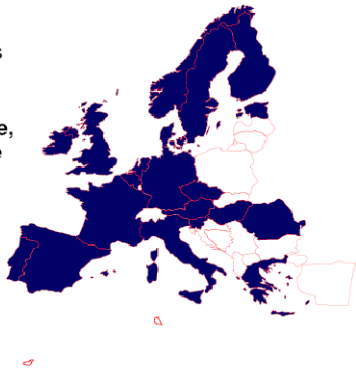
# ARTEMIS JU structure

- Members of ARTEMISIA Steering Board are also members of the Industry and Research Committee



 **ARTEMIS JU members**

- ARTEMIS JU
  - ARTEMISIA industrial association
  - Commission
  - 22 Member + Associated States
- Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, the Netherlands, Norway, Portugal, Romania, Slovenia, Spain, Sweden, the United Kingdom



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**“Self-Sustaining Innovation Eco-Systems  
for European Leadership  
in Embedded Systems”**

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## Definition of CoIE

### Definition CoIE

For ARTEMIS, an **Innovation Ecosystem** will be a group of **multi-country, multi-organization**, interconnected businesses and R&D actors, including existing Centres of Innovation Excellence

that, by efficient planning, acting and cooperation, achieve a significant advantage in innovation success in a specific market.

Innovation ecosystems exist mainly to create new, self-sustaining business, which in turn drives employment, social responsiveness, etc.

To be successful, innovation ecosystems must comprise a range of actors in a suitable environment and nurture a cooperation culture to work across boundaries by various forms of partnerships.



## Definition of Partners

### Partners

An ARTEMIS ecosystem **must** include partners that are active in the market.

#### A partner could be

an institution or an initiative based on a group of individuals or teams, or a local CoE,  
working closely together,  
with highly recognized experience and capabilities in their domain



## Innovation and R&D

### The actors shall share

**common interests** – potentially from key technology research to a market - that provide a focus both for the participants and for the outside world to recognise the ecosystem.

a **culture** of openness, trust, fairness and willingness to cooperate;

a base of **world-class knowledge and experience**.

a **stimulating environment** that facilitates and encourages, rather than inhibits, interaction, stimulating situations in which “**solution ideas meet problem situations**”.

support development of **academic excellence** regarding both technology and cooperation

The main R&D domain of the ecosystem should **fit the ARTEMIS SRA**



## Labeling Criteria: Mandatory Elements

### A CoIE must

have a **mission document** of the CoIE and some basic rules of interaction.

nominate a **Chairman or Speaker**, acting as point of contact for the CoIE to the outside world.

have an **action plan that implements its mission**:

The **action plan describes the main activities** driving the Innovation system forward, such as common meetings, workshops, pre-studies/pre-projects, R&D projects, different interest groups (technology, branch etc), events etc involving representatives from all stakeholders e.g. researchers, developers, producers, users, financiers, marketing etc;

The action plan **must be updated at least once a year**.

A CoIE builds and maintains **relations to other networks** (inter-cluster cooperation) and **to the public authorities**

A CoIE contributes to **enhance the EU competitiveness**

A CoIE has to **demonstrate its activities on a regular base**, e.g. publish a yearly activity and progress report that describes, amongst others, the progress made on ARTEMIS label criteria



# European Monitor & Control market

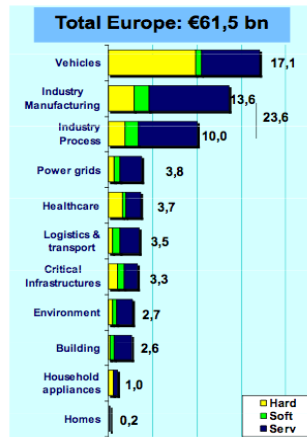


EC - DG INFSO - SMART 2007047  
Monitoring and control: today's market, its evolution till 2020 and the impact of ICT on these

WORKSHOP: Brussels the 9th of October 2008

## 4. European Monitoring & Control Markets by application

- With around 62 billion euros, the European Monitoring & Control market represents 1/3 of the World market.
- As the European and US markets together are the leading and developed Monitoring & Control markets, their global structures are comparable:
  - European suppliers are amongst the World leaders.
  - One significant difference: a lower position for the Healthcare Monitoring & Control market due to a leading US position (60% of the world demand).
  - **Services dominate.**
  - **Vehicles** represents the majority of the share of hardware value.
  - M&C for the Home is underdeveloped.



A report & a presentation prepared by:  
**DECISION Etudes Conseil RPA**

Available for download: <http://www.decision.eu/smart2007.htm>



# Market growth - ProcessIT

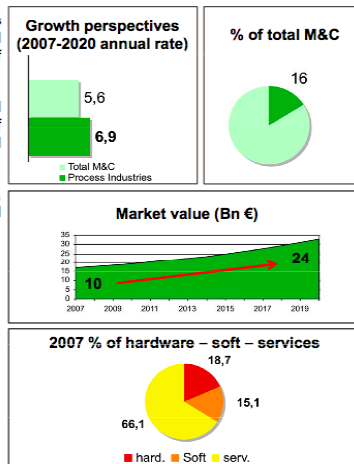


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## European M&C market for Process Industries

- **Industry process control** refers to those products monitoring the inputs and outputs of a process conducted predominately by industry in the extraction or production of oil, gas, chemicals, food, and aggregates.
- Control of these inputs and outputs can then be regulated by a device located at source or through a network of sensors and devices controlled by a central computer and its associated IT network.
- Such controls can be applied to ensure worker safety, maximise efficiency in order to create lower costs, and introduce flexibility to each process.
- Globalization and cost pressure will renew localization strategies.
- A few number of suppliers from emerging economies propose new solutions on the process control market.
- Main challenges on the process industries market are similar to those from the industries manufacturing ones with an higher sensibility to environmental concerns, energy saving questions, and CO<sup>2</sup> issues.



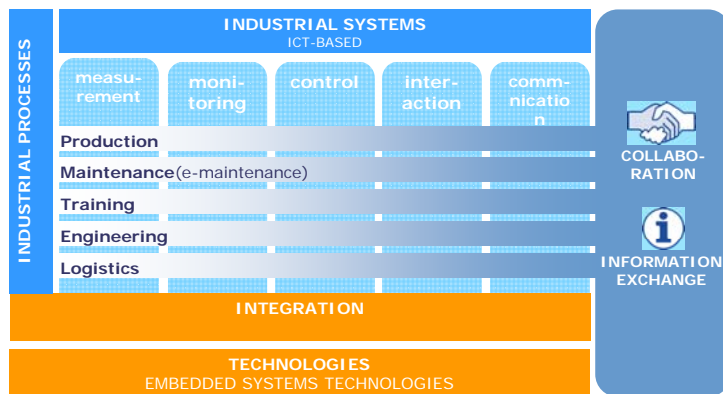
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## Embedded system use in process M&C

Defined by today's and tomorrow's industrial processes and ICT systems



## Focus

- Manufacturing automation in
  - Paper & pulp
  - Metals
  - Mining & minerals
  - Oil & gas
  - Chemical
  - Energy & power
  - Pharmaceutical
  - Food processing
  - Infrastructure



## Cooperation model



## Value proposition for each group of stakeholders – End users

- To end users - plant owners, the technology suppliers offer competitive solutions and long-term solution responsibility. The research groups offer state-of-the-art knowledge and insights valuable to innovative solutions.
- End users values are: Finding and coordinating automation needs with other end users and technology suppliers that strongly influence future technology development that lead to increased efficiency in processes like production, maintenance, logistics, training and engineering.



## Value proposition for each group of stakeholders – Technology suppliers

- To technology suppliers, plant owners offer important industry context, and constitute potential joint ventures and potential customers. The research groups offer knowledge support and assistance in developing innovative solutions to identified problems.
- Technology suppliers values are: Close contact to end users needs, reference installation customers and a network of academic research. Bringing plans and technology to the table will strongly influence project investments for new competitive products and services in system areas like measurement, monitoring, control, interaction and communication.



## Value proposition for each group of stakeholders – Academia

- To research organisations, plant owners offer access to challenging industrial contexts, and technology suppliers' means partners interested in the innovation and commercialization of research findings.
- Research organisations values are: Close contact to industrial needs both from end users and suppliers. Bringing both basic science and technology competence to the table will strengthening research focus and dissemination capabilities.



## Value proposition for each group of stakeholders – Public authorities

- To public authorities, the outcome related to each group of stakeholders above means growth, and the relations to the centre means opportunities to influence a well-recognized development area of Europe and the regions of their own.
- Public authorities will also have an early understanding of industrial development directions and investment plans. Thus enabling a focused coordination of public actions related to the industrial needs.



## Open innovation strategy

- Need finding based on trust among partner
- Supporting the further development of academic excellence
- Development of a joint technology road map and strategies therefore
- Project incubation based on need finding and road map
- Project consortia formation supporting the formation of business and competence infrastructure (end users, large enterprises, SME's, academia and public authorities)
- Maintain and develop the European leadership in ProcessIT
- Supporting a sustainable society growth



## Action plan

- Roadmap
- Project incubation
- Recruitment and education
- Standardization
- Investigate Open Source and Open Tool
- Action plan update cycle