



**Building Artemis**

**ADVANCED**  
RESEARCH  
and **TECHNOLOGY**  
for EMBEDDED  
INTELLIGENCE & SYSTEMS

# Contents

- Technology Platforms
- Building ARTEMIS
- A possible JTI in Embedded Systems

# Technology Platforms

**Private-public partnerships to mobilise European R&D & innovation efforts to achieve common goals**

## Pre-requisites

- A strategically important area of technology
  - For Europe's future industrial competitiveness
  - With hard research or structural challenges to address
- Ability to define and pursue common vision
  - Capitalising on European strengths
- A committed industrial and research constituency
  - Agreement on objectives, challenges, specific strategies
  - Mobilising the necessary efforts

# EC policy motivation

- Develop and drive forward coherent R&D strategies<sup>1</sup>
  - In strategic areas
- Ramp up R&D investment in Europe<sup>1</sup>
  - Towards 3%
- Bring together fragmented efforts
  - Building ERA

<sup>1</sup> Technology Platforms introduced in the Commission Communication on an Action Plan for 3% of GDP for research (2003)

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# The Artemis Technology Platform

*Advanced research and technology in embedded intelligence and systems*

## Aim and scope

- Develop and drive joint European vision and strategy on Embedded Systems
  - R&D and educational challenges
  - structural challenges: IPR, open source software, standards, research infrastructure,...
- Align fragmented R&D efforts in ERA along common strategic agenda at Community, intergovernmental and national levels

ARTEMIS Steering Board includes 9 of the top-25 EU companies in terms of global R&D



# Stakeholders are committed



 **Erkki Lillanen**  
Commissioner  
European Commission  
*E. Lillanen*

 **Jürgen Diermann**  
Chairman and CEO  
ABB  
*J. Diermann*

 **Niël Forgeard**  
Chairman and CEO  
Airbus  
*N. Forgeard*

 **Matt Bross**  
CTO  
British Telecom  
*M. Bross*

 **Daniele Pecchini**  
CEO  
COMAU  
*D. Pecchini*

 **Karl-Thomas Neemann**  
CEO  
Continental Tyres  
*K. Neemann*

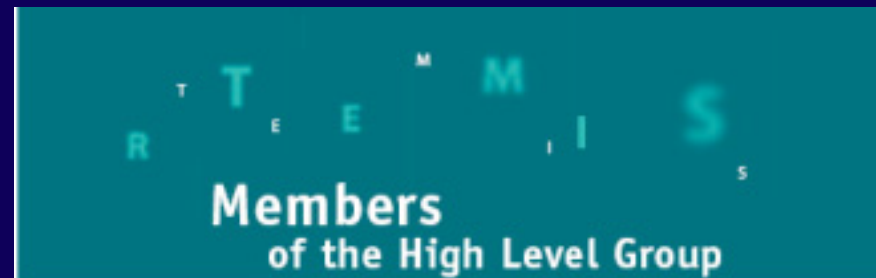
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Daimler Chrysler  
*T. Weber*

 **Håkan Eriksson**  
Senior Vice President  
and CTO  
Ericsson  
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Deputy Chairman of the Board, corporate R&D  
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 **Pasquale Pistorio**  
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 **Jon Frederik Boksaas**  
CEO  
Telcel  
*J. Boksaas*

 **Denis Rangec**  
CEO  
Thales  
*D. Rangec*

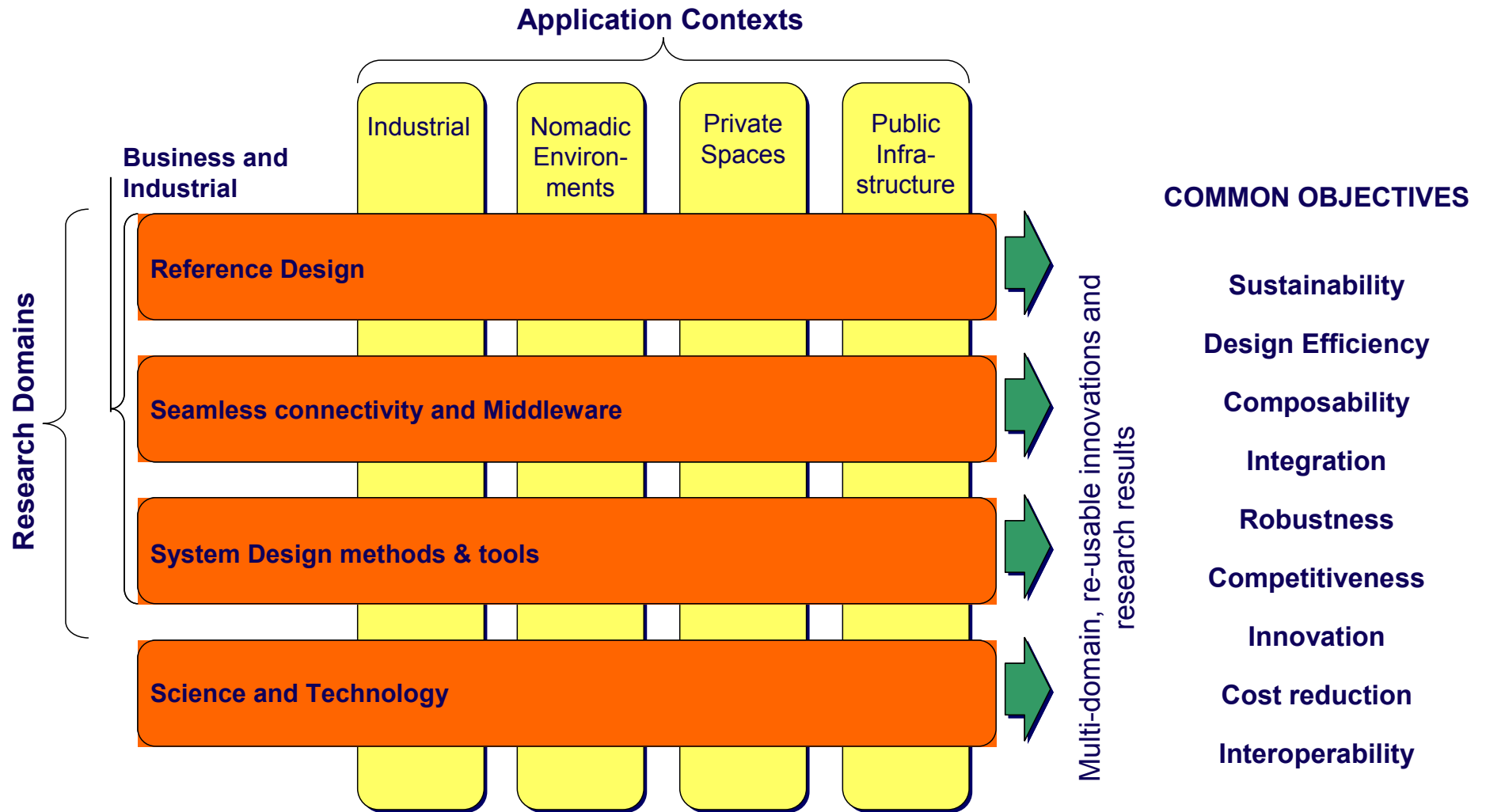
 **Peter Skalicky**  
Rector  
Vienna University of  
Technology  
*P. Skalicky*

 **Antoine Petit**  
Head of STIC  
CNRS/Writing  
*A. Petit*

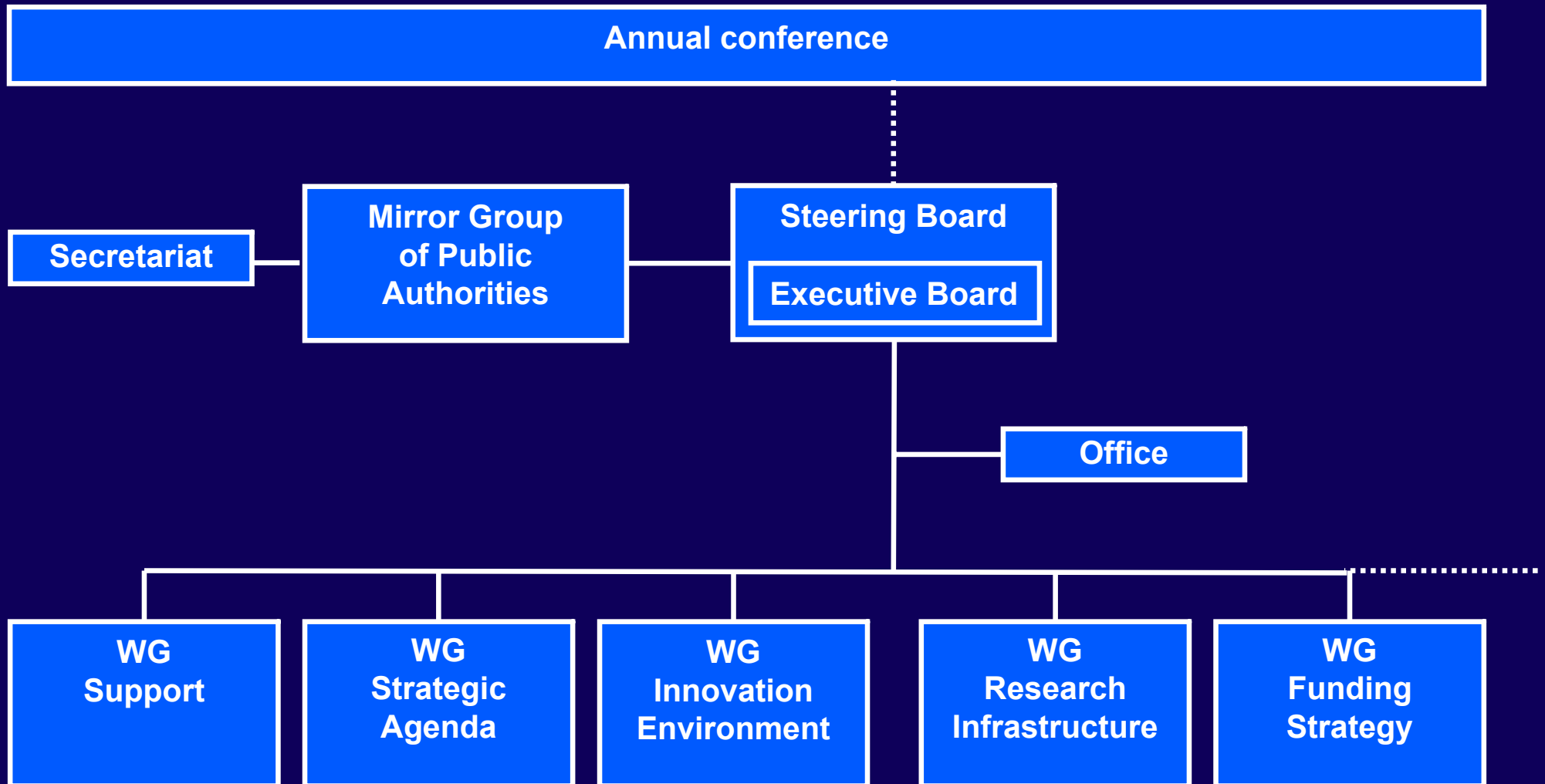


# Outline of Strategic Research Agenda (SRA)

- Vision & high-level Targets
- Application contexts
  - Industrial systems, nomadic environments, private spaces, public infrastructures
- Research agenda
  - Reference designs, connectivity and middleware glue, design tools & software components, interaction with environment, security
  - Science and Technology
- Making it happen
  - ARTEMIS policies (standards, regulations, IPR, Open Source, education...)
  - Financing mechanisms & instruments
  - Governance structure
  - Stimulating innovation
- Communication and dissemination



# Governance structure



Rules of Procedure and Terms of Reference ensure openness, transparency and dissemination

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# R&D support for Embedded Systems is fragmented



## Strategic Priority Embedded Systems within IST/FP6

- 58 M€ funding in Call 2 and 75 M€ in Call 5; also ES elsewhere



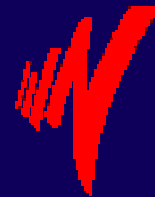
## ICT cluster projects within EUREKA

- ITEA (1999-2007): software-intensive systems; 3.2 B€ costs
- MEDEA+ (2001-2008): systems on silicon; 4.0 B€ costs



## National/regional programmes

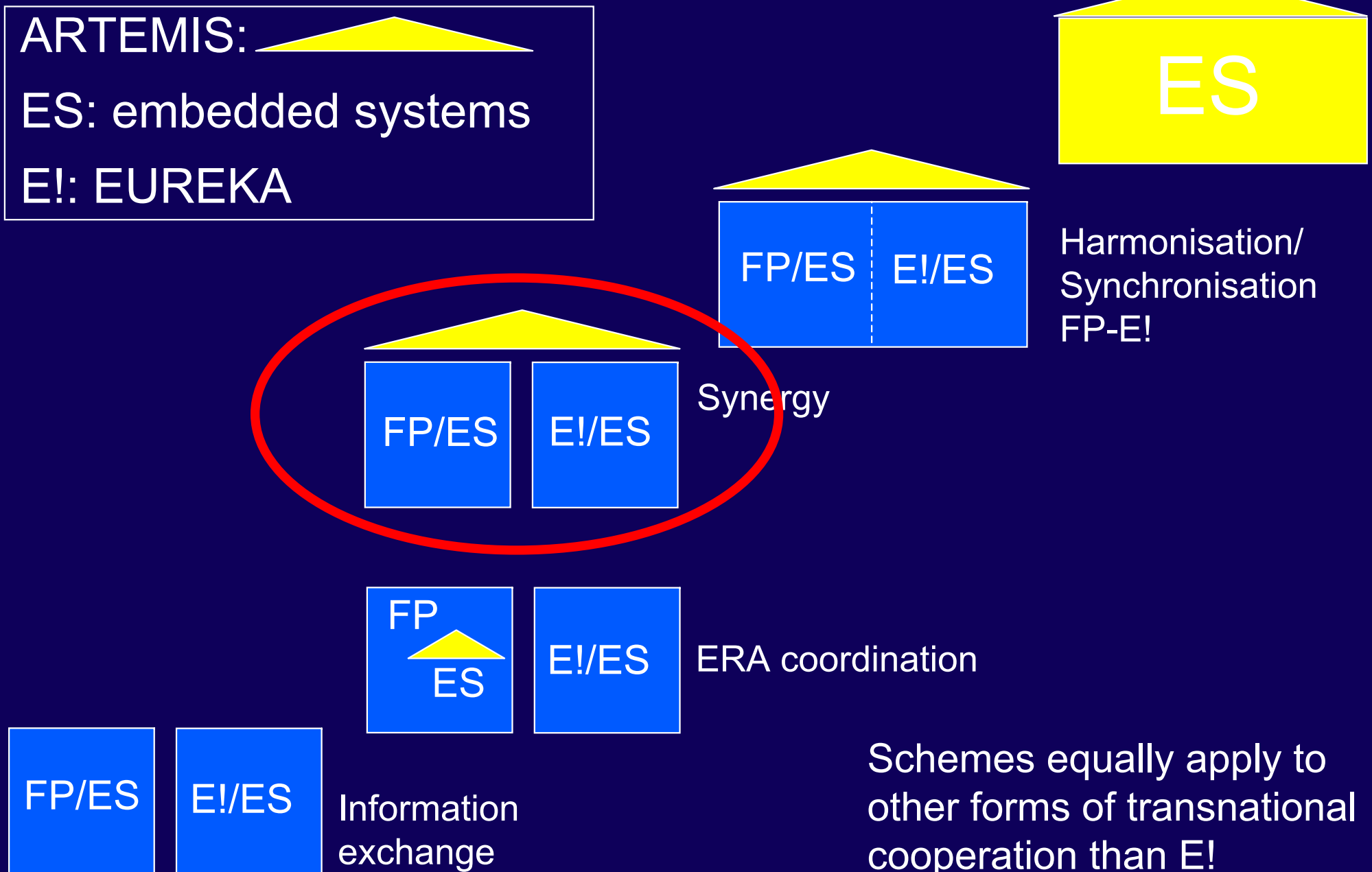
- e.g. in NL: PROGRESS, ESI



EU Competitiveness Council and EUREKA Ministers call for closer cooperation and more synergy between FP and EUREKA

- Instrumental role for ETPs, JTIs

# Roadmap for gradual integration under joint SRA



# ARTEMIS proposes synergetic approach

## ARTEMIS

Industry-driven long-term vision

Common pan-European SRA

Overall coordination and policy alignment in ERA

Joint monitoring of projects and impact assessment of programmes

### FP7 - regular instruments

- Via normal Calls for Proposals FP7
- Focus on upstream part of SRA
- RTD cooperation in ICT theme
- Frontier research via ERC
- Marie Curie actions for training and mobility of researchers
- Research infrastructures for Centres of Excellence

**Synergy**

### Joint Technology Initiative

- Long-term industry-led PPP
- Focus on downstream part of SRA
- RTD cooperation in ITEA/MEDEA-like programme and other transnational projects
- In-kind industry commitment (staff)
- EU contribution via common legal structure of Member States involved

# Establishing a possible Joint Technology Initiative

- Likely prerequisites for EU contribution
  - Concrete JTI objectives
  - Adherence to common pan-European ARTEMIS SRA by all stakeholders
  - Open, transparent and effective governance
  - Earmarked (multi-annual) budgets in participating States and industrial commitment
  - Harmonised/synchronised funding procedures between States
  - Legal structure, e.g. EEIG of national Public Authorities, able to receive and manage funding from the Community
- Potential benefits
  - Creates the critical mass needed to pursue the common ARTEMIS objectives
  - Gives incentive for Member States to provide more and better aligned funding
  - Exploits strengths of EUREKA and helps overcoming its weaknesses
  - Avoids national duplication of international programmes / procedures

# Funding scheme suggested by ARTEMIS Steering Board

