

ARTEMISIA ASSOCIATION

The association for R&D actors in the field of ARTEMIS



Next Steps towards the ARTEMIS JTI/JU Research Agenda

Laila Gide

Madrid, November 6th, 2007

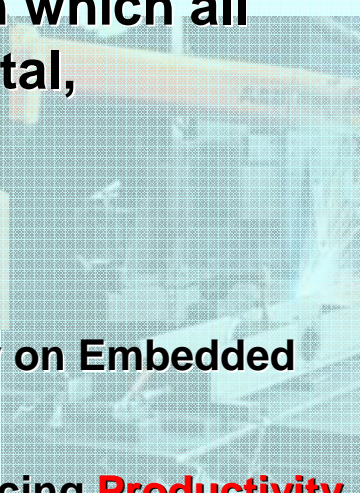
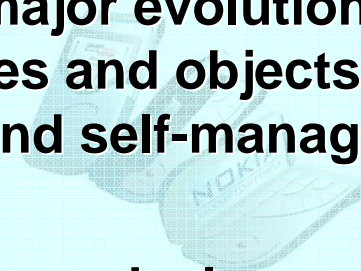
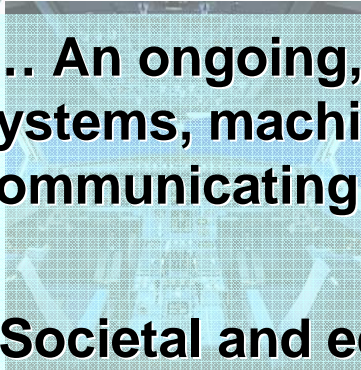
ADVANCED RESEARCH & TECHNOLOGY FOR EMBEDDED INTELLIGENCE AND SYSTEMS



The ARTEMIS Vision



- ... An ongoing, major evolution of our society in which all systems, machines and objects will become digital, communicating and self-managed
- 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** between Europe and the US and Asia
 - **Security, Safety and Quality-of-Life** in our society will increasingly depend on ES technologies





Implementing ARTEMIS as a Joint Technology Initiative (JTI)

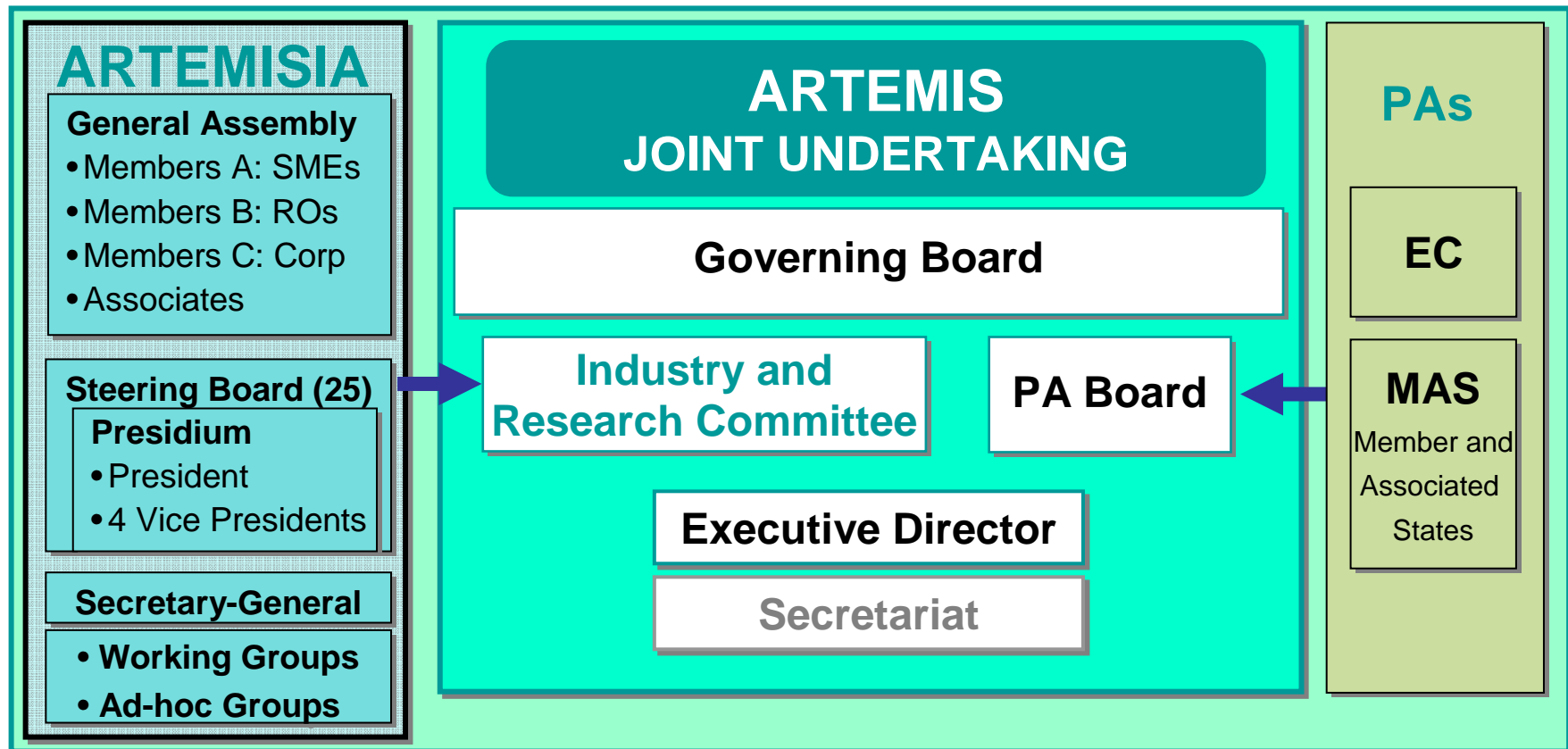


- **ARTEMIS – A European Technology Platform candidate for Joint Technology Initiative, to combine the best of FP and EUREKA worlds**
 - Common evaluation/monitoring processes among participating countries
 - Harmonised & synchronised national funding
- **JTI needs a Legal structure: a Joint Undertaking (“JU”)**
 - based on Art. 171 of the EU Treaty
 - To guarantee agreed JTI processes, as basis for EC and national decisions, e.g.:
 - to launch Project Calls, evaluate proposals, etc...
 - to receive and manage funds from EC, industry and possibly other sources
 - Governance principles
 - Transparency & openness in participation & operations
 - Industry-led public-private partnership, Public Authorities decide when public money is involved
- **ARTEMIS JU** to be launched in 2007
- R&D actors typically represented by a (not-for-profit) Association
 - E.G. the “ARTEMISIA Association” for the ARTEMIS JU



ARTEMIS JU structure

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





ARTEMISIA Association



- **The ARTEMISIA Association was established on 17th Jan 2007, accepting members now**
 - www.artemisia-association.org for information on joining **ARTEMISIA**
- **Two main goals:**
 - **To manage and maintain the ARTEMIS SRA**
 - Takes over the function and day-to-day operation of the ARTEMIS ETP
 - Provide proposals to the JU for the Research Agenda
 - **To represent the R&D actors in the ARTEMIS JU**
 - Industrial corporations
 - SMEs
 - Research Institutes and Universities
 - Other parties with vested interest in ES R&D



ARTEMISIA



ARTEMISIA is the ARTEMIS Industrial Association created in January 2007 under Dutch law that formally represents the interests of industry and public research organisations in the Joint Undertaking (JU) to be established for the implementation of the JTI.

Role

ARTEMISIA is the voice of the industrial and research players in the ARTEMIS JU: it will take responsibility for the evolution of the SRA and its application in defining calls for proposals for collaborative R&D projects that will become eligible for public funding through the ARTEMIS JU.

Membership

Membership of ARTEMISIA brings voting rights for elections and key decisions in ARTEMISIA, permits involvement in shaping the future evolution of the SRA and other policies, and provides access to an extensive and respected network of potential R&D partners.

Since its creation (Jan 2007) , over 110 members have join ARTEMISIA

Membership status (August 2007)



ARTEMIS JU

Implementation status



- May 15 - Draft Council Regulation on establishing the JU and its Statutes
 - Council decision expected before end 2007
- **ARTEMISIA** is preparing proposals for the **content of the JU Research Agenda**, based on the ARTEMIS SRA
 - 2 “**ARTEMISIA** Summer Camps” in August / September 2007, with follow-on discussions.
- **ARTEMIS JU** is scheduled to start operating in early 2008



Envisioned synergetic cooperation to attain the targets of the ARTEMIS SRA



ARTEMIS
Industry-driven vision
Common pan-European SRA
Coordination and policy alignment in ERA

FP7

- Upstream
- ICT collab. R&D
- ERC
- Marie Curie
- Research infrastr.

WP

JTI/JU

- Downstream
- Unified processes
- National contracts
- EC co-funding
- Innovation Env.

RA

EUREKA

- Downstream
- ITEA 2
(embedded part),
MEDEA+
(application part)
- National contracts

RM

National / Regional Programmes



The ARTEMIS Strategic Research Agenda



From Vision to Implementation – the ARTEMIS SRA : a holistic vision

A well-calibrated focused R&D strategy

- ARTEMIS' SRA assumes an inclusive approach:
 - The Research Agenda itself
 - Research infrastructure, stimulating innovation
 - E.g. Centres of Excellence (CoE's), SME involvement, ...
 - Education
 - Standards
 - Financing mechanisms and instruments ("JTI")
 - Governance
- The SRA is not a closed, static reference
 - Planned evolution assures its continued relevance
 - A broad audience will federate Europe's important actors and catalyse participation in the vision

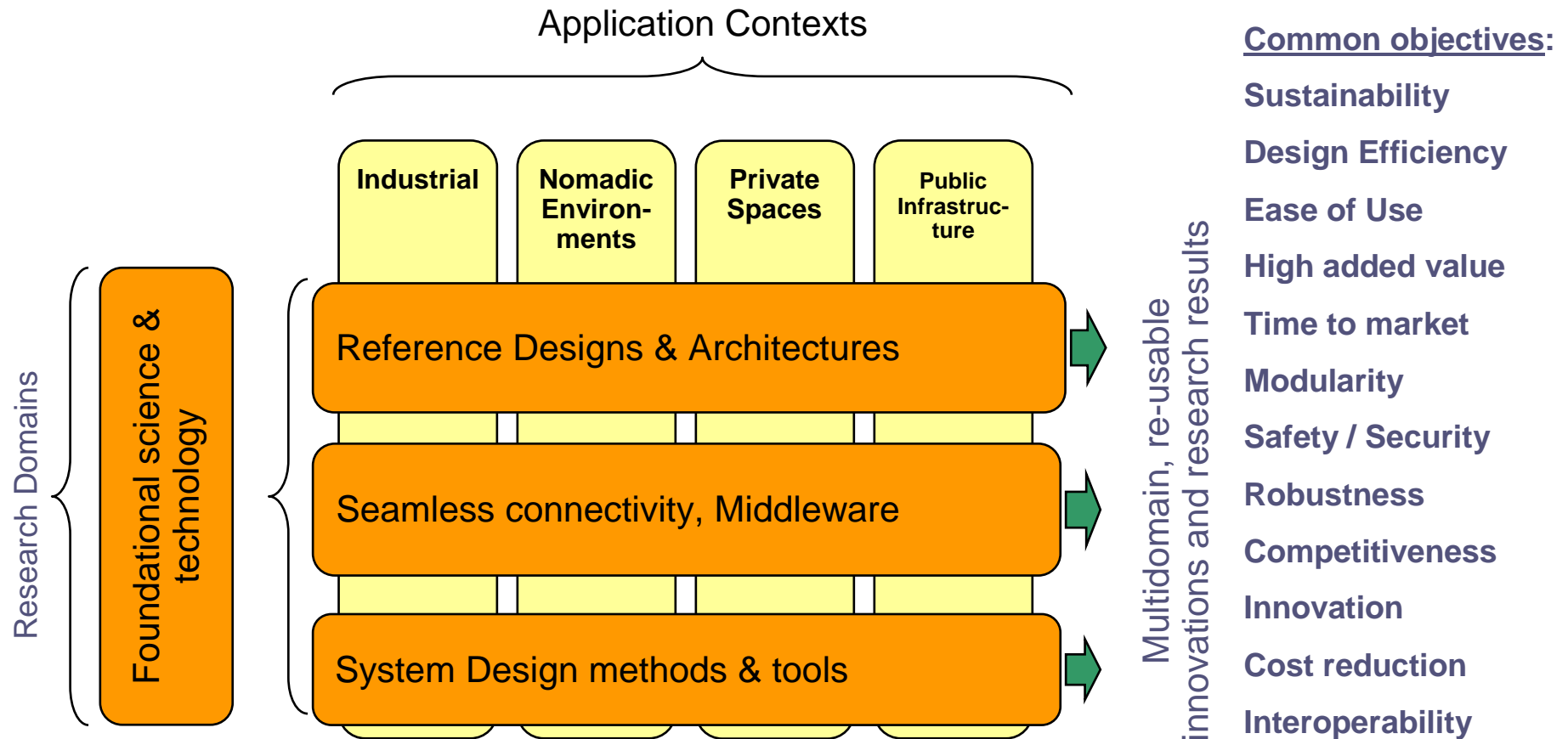




The ARTEMIS Strategic Agenda



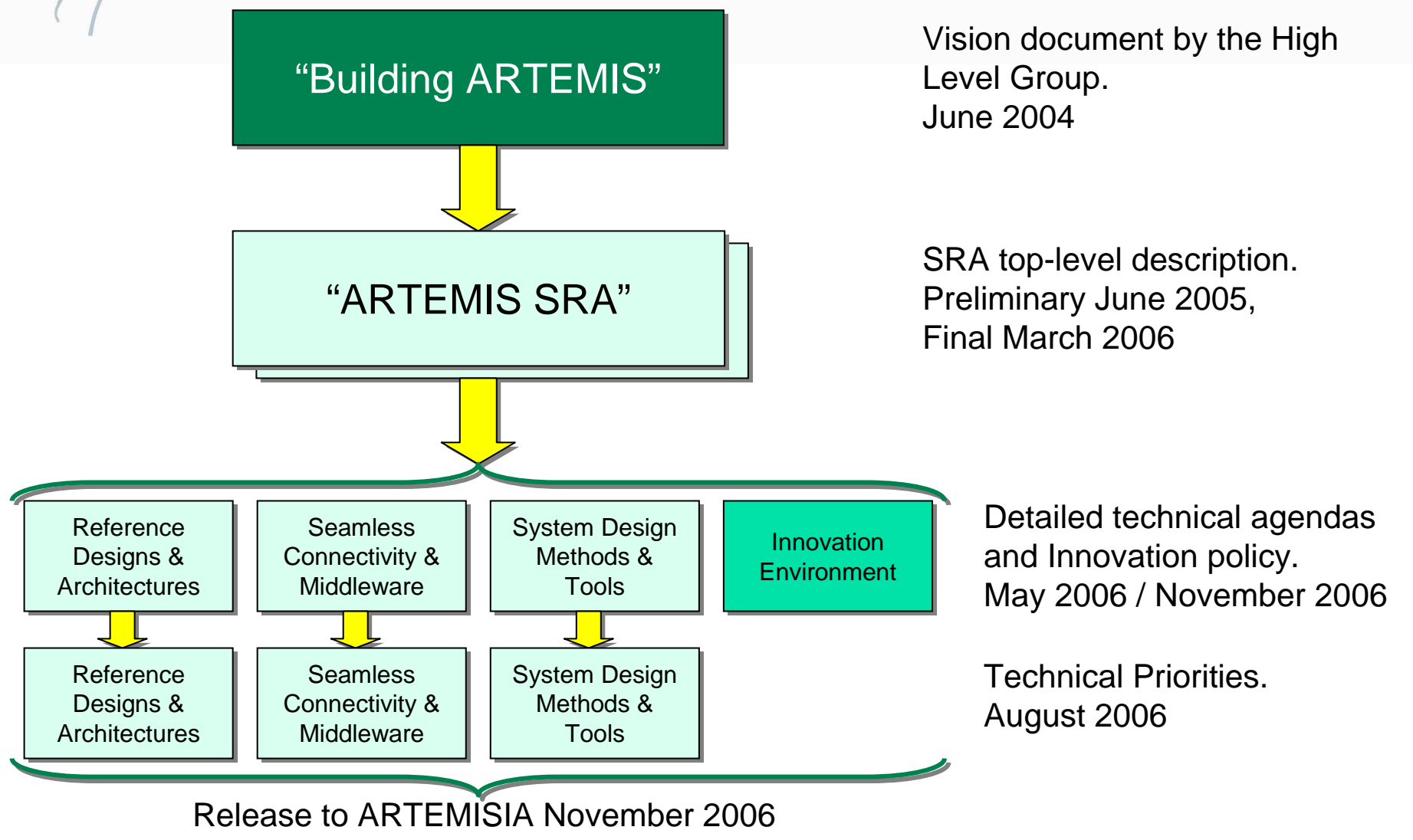
- ARTEMIS envisages **cross-application** solutions





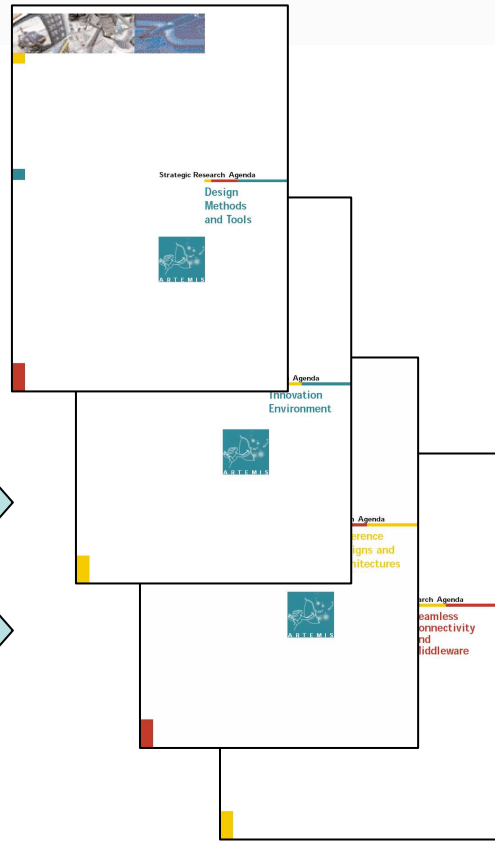
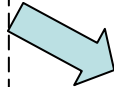
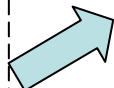
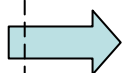
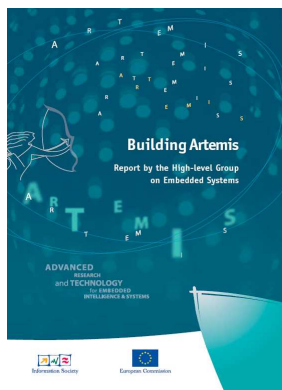
ARTEMIS SRA – The inclusive Approach

History and development





ARTEMIS SRA – the next Steps



2004

2005-2006

2006

2007



The ARTEMIS : The next steps...and constraints



“ARTEMIS and Societal Scale Research projects”

- The ARTEMIS(IA) SRA starts from a top-down Vision, guided by society’s perceived needs and the vision of European Industry
 - **Identifies the “Application Contexts”**
 - Bottom-up Scientific and Technological analysis of these Contexts yielded the Research Domains and Priority Topics. Together with Innovation Environments...
- The ARTEMIS SRA provides inputs to the ARTEMIS JU Research Agenda (RA), Work-Programs (WP) etc...
- The ARTEMIS SRA allows:
 - Large number and diverse Application themes with the risks duplication of technology developments
 - Over-specific application themes in the field for innovative ideas
 - mapping coverage of the ARTEMIS SRA matrix
 - Clearer (but broader) perimeter definition yields better focus
 - Limits risk of duplicate technology developments

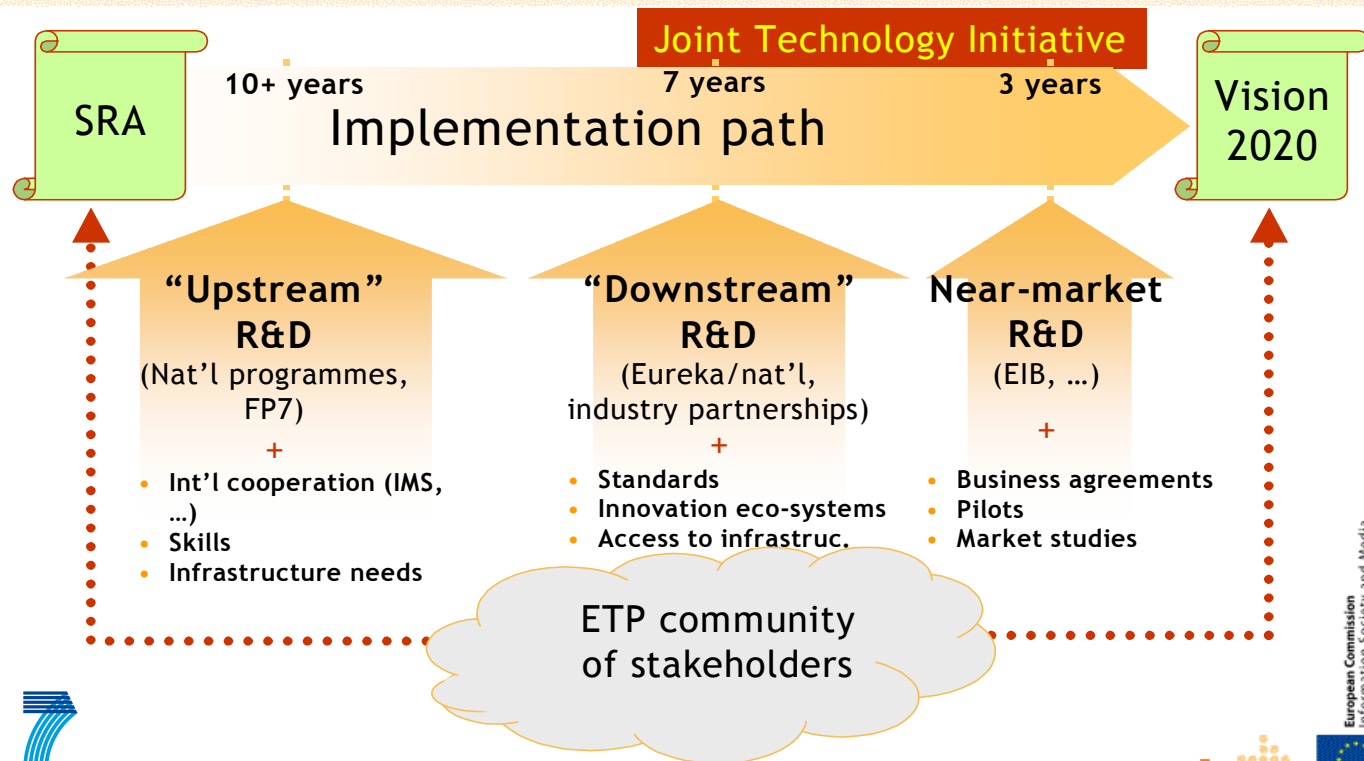


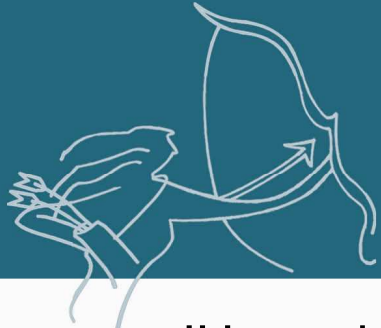
ARTEMIS JTI/JU

JU Research – a matter of “selection”



Implementing the Strategic Research Agenda





ARTEMIS JTI/JU

JU Research – a matter of scale



- JU needs to make **LARGE SCALE** projects of **SIGNIFICANT SOCIETAL IMPACT**
- JU - RA needs to address this aspect more clearly by encouraging projects that:
 - Achieve critical mass for effective implementation, consistent with the JU's significant budgets
 - **avoid “saupoudrage”, to use Commissioner Reding’s words...**
 - “Strengthen European competitiveness and sustainability and allow emergence of new markets and societal applications” [Council Regulation proposal]
 - Demonstrate the application impact of the R&D results
 - **and the associated public benefits where possible**
 - Show maximum valorisation of R&D results and foster collaboration between public and private sectors
 - **show the “Value for Money” of the ARTEMIS JU research**
 - **feed industry with high-grade innovations**
 - “Innovation Environments” to facilitate this



ARTEMIS JTI/JU

JU Research – a matter of “Differentiators”

- The JU RA must consider the expectations of the JU and resulting projects:
 - “Think BIG”
 - = large projects with significant impact that open new business opportunities
 - “Socio-Economic Benefits”
 - = improved industrial efficiency “... to strengthen European competitiveness and allow the emergence of new markets and societal applications.” i.e. a focus on key, high-visibility applications
 - “Multi-national”
 - = considers national/regional strategic priorities
 - “Think Different”
 - The need to differentiate the JU approach from Eureka (ITEA2, MEDEA+) as by definition the JU must bring new ways for proceeding
 - address more downstream R&D than the 7th FP
 - assess the socio-economic impact and not only the technology challenges

** the SRA is a living document, changing mostly by additions

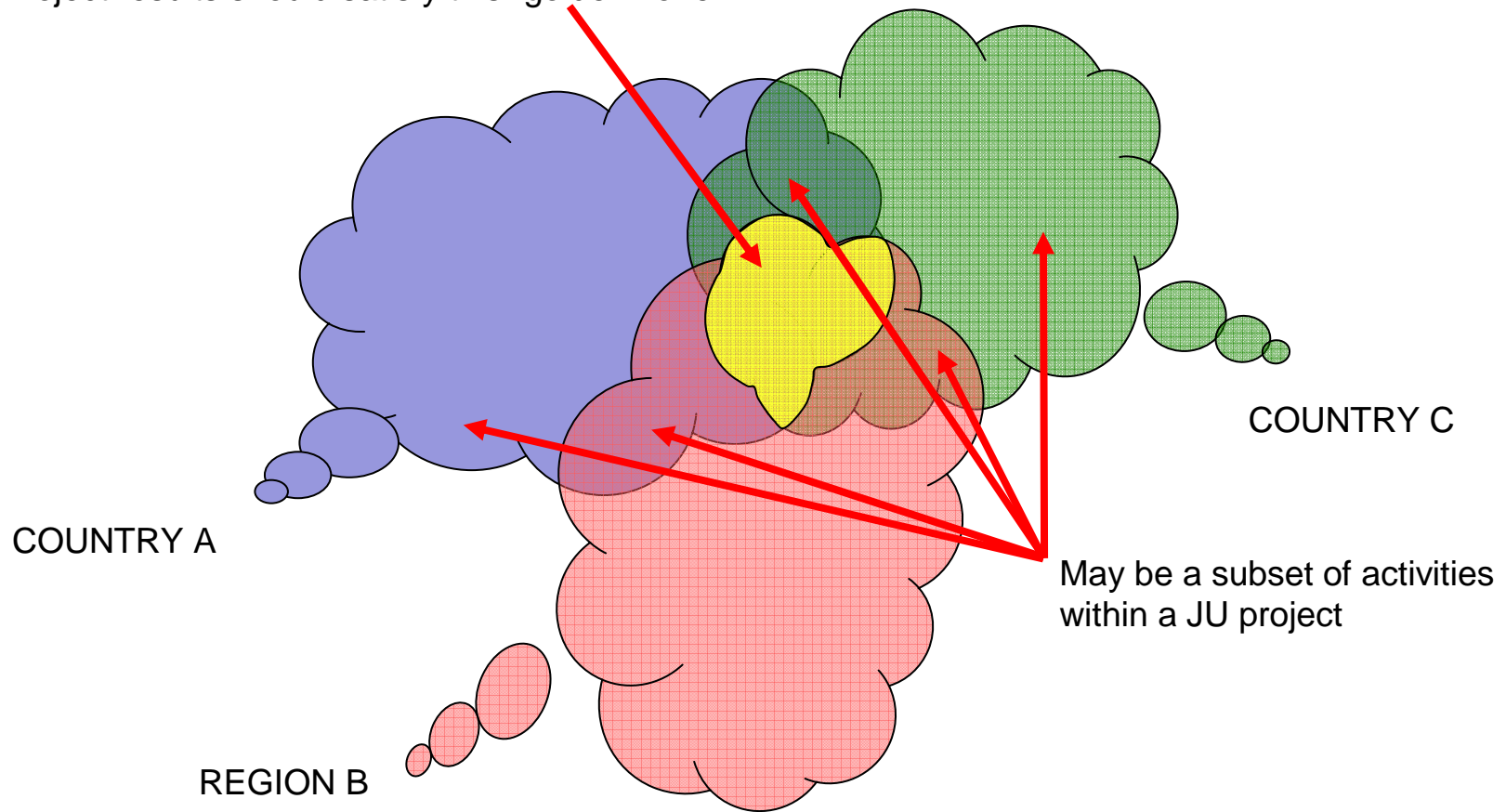


ARTEMIS JTI/JU

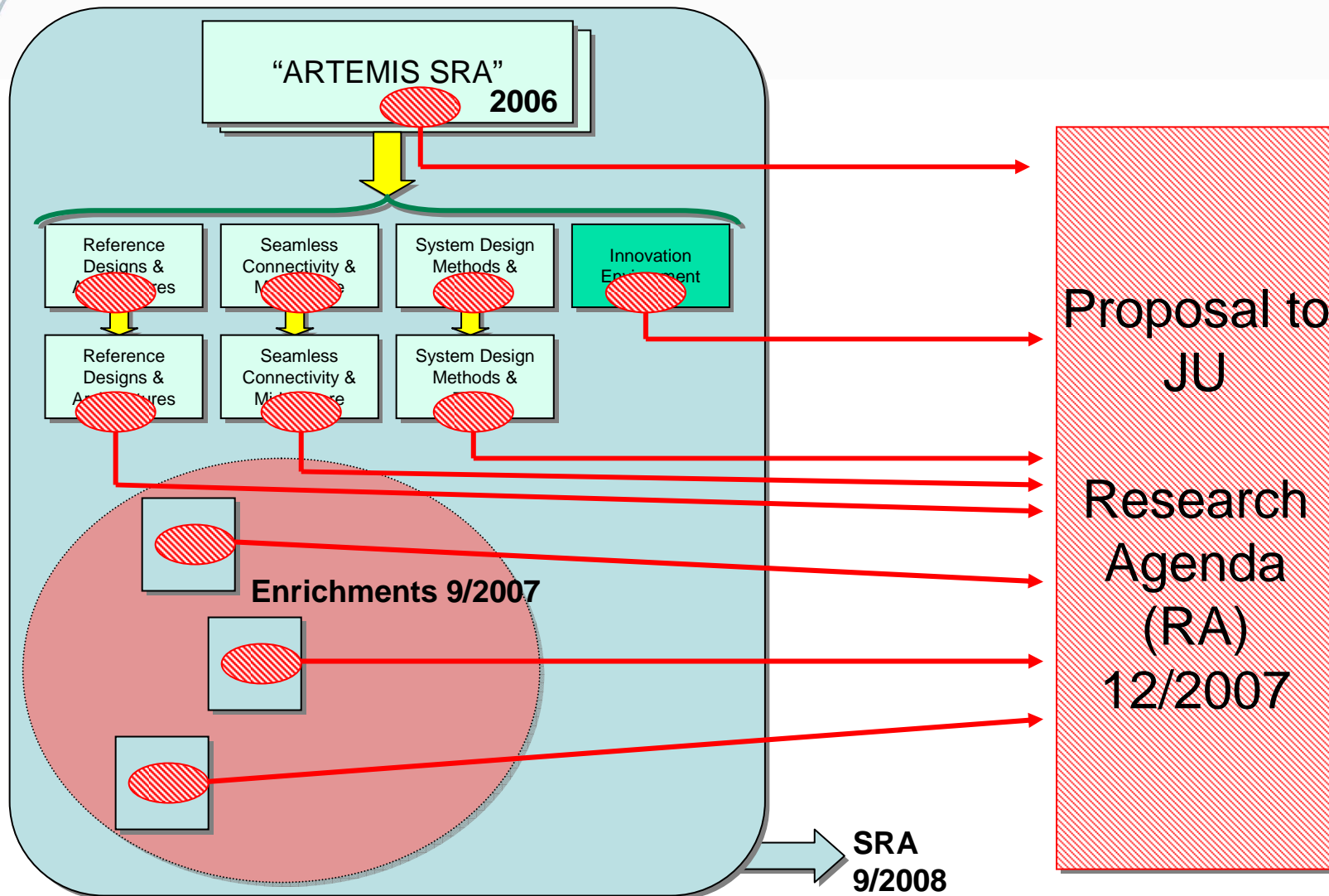
National / Regional application priorities



JU Project results should satisfy this “golden zone”



ARTEMIS SRA inputs into the JU-RA

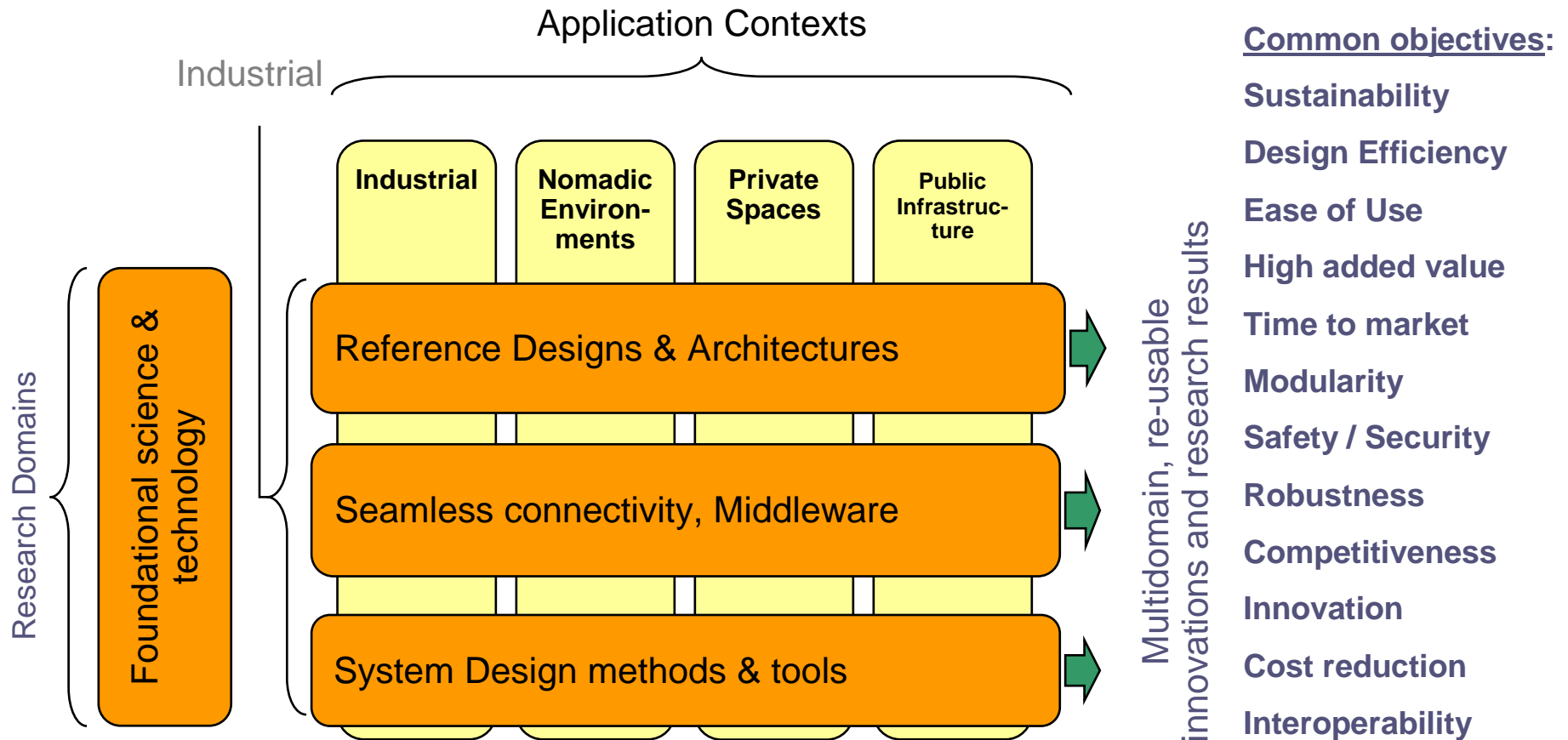




Think back to the ARTEMIS Strategic Agenda



- ARTEMIS envisages **cross-application** solutions

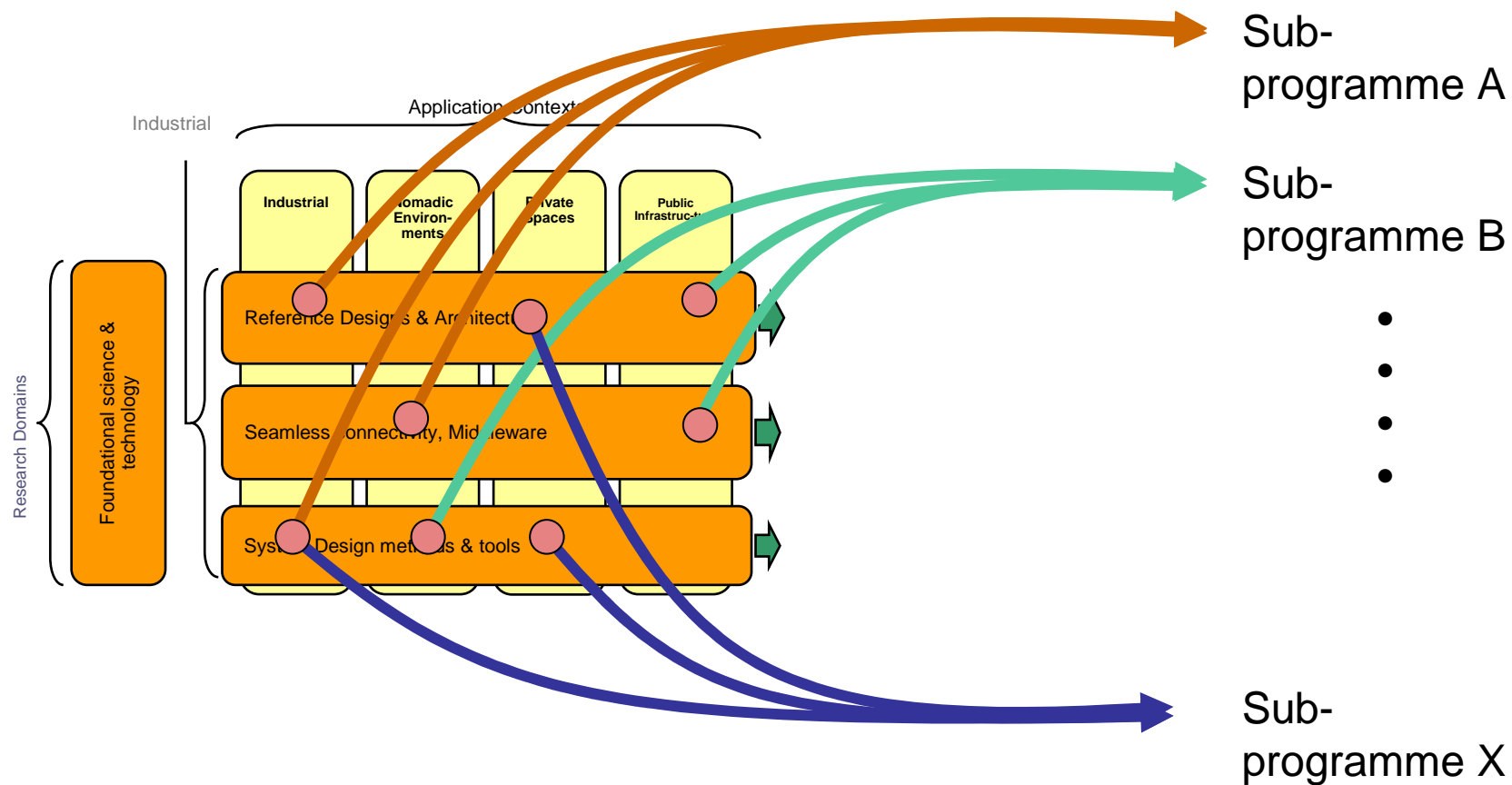


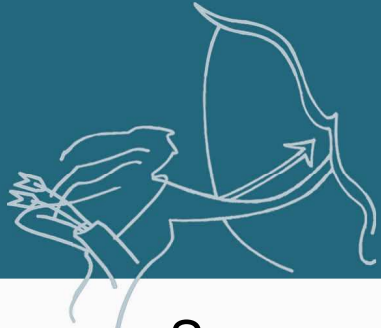


Sub-programmes relationship to the ARTEMIS SRA



- Example of how Sub-programmes draw on the technical challenges and Application Domains defined in the ARTEMIS SRA





How we proceeded: Summer Camp Achievements



- Summer-Camp 1 (delegates from SB companies)
 - Identified a set of societal drivers, allowing further meetings to focus
- “Volunteers meeting” (idem)
 - Added the business dimension. Identified preliminary set of “Sub-Programmes” (8 applications and 4 transversal themes)
 - List of 8 + 4 rationalised (by WG SRA) to 4+4
 - **Avoid overlaps**
 - **Broaden scope yet assuring adequate focus**
- Summer-Camp 2 (delegates from ARTEMISIA GA)
 - 8 Expert groups (each with two leaders plus rapporteur)
 - **Established high-quality, highly motivated teams from industry and academia**
 - preliminary Sub-programme description documents
 - Refined post-meeting and submitted to WG SRA
- SC2 results added to explanatory text yielding the preliminary “Proposals to the JU ...” document



Sub-programmes

(as refined since the Summer Camp 2, Vienna 2007)



- 1. Methods and Processes for Safety-enabling Embedded Systems**
- 2. Person-Centric Health Management**
- 3. Smart Environments and Scalable Digital Services**
- 4. Efficient Manufacturing and Logistics**
- 5. Computing Environments for Embedded Systems**
- 6. Information Security, Privacy and Dependability**
- 7. Energy Management and Eco Sustainability**
- 8. Human Centred Design of Embedded Systems**



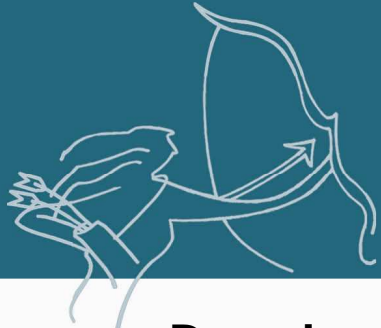
Sub-Programmes (final) and contacts

	Sub-Programme	Focal Points	Rapporteur
1	Methods and Processes for Safety-enabling Embedded Systems	W. Damm, H. Portier	Pierre Vielcanet
2	Person-centric Health Management	G. vdBroek	Ed Brinksma
3	Smart Environments and Scalable Digital Services	P. Liuha, T. Koljonen	Tullio Salmon
4	Efficient Manufacturing and Logistics	D. Brodtkorb, L. Benini	Detlef Streitferdt
5	Computing Environments for Embedded Systems	C. Lecluse, Rudy Lauwereins	Gerard Maniez
6	Information Security, Privacy and Dependability	E. Ladis, N. Iarossi	Evangelos Ladis
7	Energy Management and Eco Sustainability	Sergio Bandinelli	Luca Benini
8	Human Centred Design of Embedded Systems	G. Cristau	A. Lädtke

Re-grouped Sub-Programmes

Application Themes and Transversal Themes

N°	TITLE	DM&T	SC&M	RD&A	MPSoC	Industry T/M	Private Spaces	Nomadic Enviro.	Public Infrastr.	Focal Point
1	Methods and Processes for Safety-enabling Embedded Systems.	X	X	X	X	T			X	W. Damm H. Portier
2	Person-centric Health Management	X	X	X	X		X		(x)	G. vdBroek
3	Smart Environments Eco-Systems and Scalable Digital Services incl. Mobile Media	?	X	X			X	X		P. Liuha T. Koljonen
4	Efficient Manufacturing and Logistics	?	X	X		M				D. Brodtkorb L. Benini
I	Design Flow and MULTI (multi-processor / multisensor) (DFM)	XX	x	X	XX	X	X	X	X	C. Lecluse R. Lauwereins
II	Information Security, Privacy and Dependability, including security for Infrastructure and Improved Mobility	x	XX	XX	x	X	X	X	X	E. Ladis N. Iarossi
III	Energy Management and Eco Sustainability	X	XX	X	x	X	X	X	X	S. Bandinelli
IV	HMI (Human-machine interfaces)	X	x	XX	X	X	X	X	X	G. Cristau



Sub-programmes Template

- **Domain**
 - Application & market relevance: ex: Automotive/Transportation, ..
 - Societal benefit: ex: (Health, Security,
 - Cross domain aspects
 - Business opportunities: (incl. new business opportunities, new/existing value chain, services,..
- **Challenges**
 - Example : deployment of innovative vision-based applications ...
- **Main Goal & Approach** (Short description of the project areas) for example :
 - Define and validate a standard HW platform interface/API ,Build development tools for efficient ...Major visible exported results (e.g demonstrators, documents, standards...)
- **Positioning wrt ARTEMIS objectives & SRA**
 - key Artemis challenges in : RDA, SCM, DMT, Innovation Environment, MPSoC
- **Sub-programme scale**
 - Structure, organization, technical coordination
 - Size (effort in man.year or budget)
 - Duration.
- **Innovation**
 - Technology transfer, impact on value chain, education, standards,..
 - Innovation infrastructures (Test beds, integration platforms,..)



Next Steps



- WG SRA distributed the preliminary Sub-programme “Fiches” to the SC2 participants
- SC2 will augment these fiches, following the revised groupings, guarding over:
 - Relevance for the SRA Application Contexts
 - Relevance for the SRA Research Domains and their priorities
 - The incorporation of feedback from the WG Innovation Environments
 - Balanced coverage of all of these aspects of the ARTEMIS SRA
- WG SRA will consolidate the finalised fiches and explanatory text into an “Inputs for the ARTEMIS RA” document
- WG SRA will then generate proposals for all documents required by the JU, with the support of all concerned parties.



Steps forward



- **Join ARTEMISIA to show strong commitment of R&D actors**
 - To continue ETP activities of R&D actors
 - To make ARTEMISIA truly representative of R&D actors
 - To enable financial commitment to EC/JU

- **Submit application form and declaration of accession**
 - Available on <http://www.artemis-office.org> , together with AoA and ASA

- **Participate in the elaboration of the Strategic Agenda of the ATYEMIS JU**
 - Next General-Assembly on December 11



Thank you!