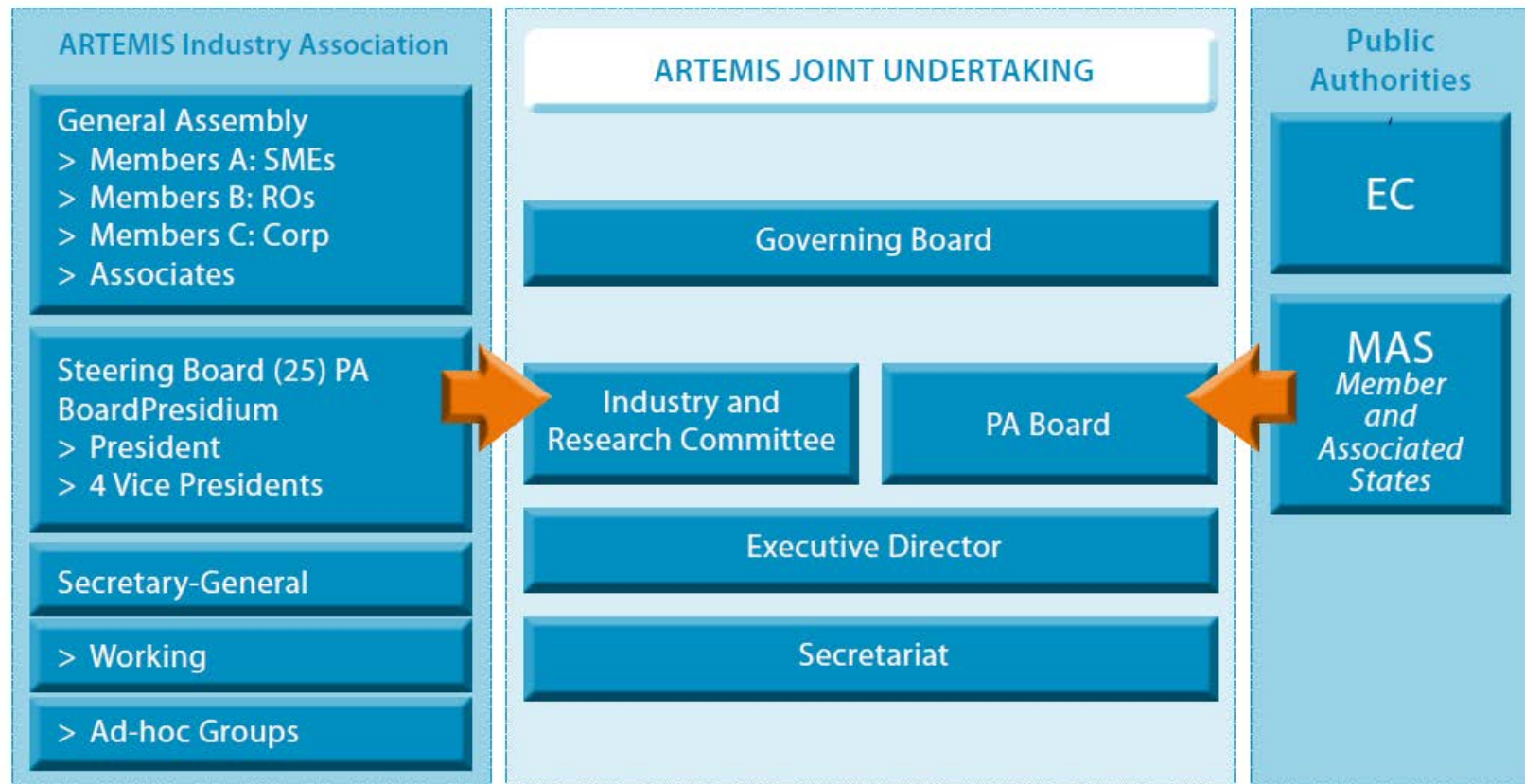# ARTEMIS Successes

The programme so far and thoughts on the future
Eric Schutz – Executive Director, ARTEMIS-JU

Advanced Research & Technology for Embedded Intelligence and Systems

ARTEMIS is a Public-Private Partnership

ARTEMIS Industry Association	ARTEMIS JOINT UNDERTAKING	Public Authorities
General Assembly > Members A: SMEs > Members B: ROs > Members C: Corp > Associates	Governing Board	EC
Steering Board (25) PA BoardPresidium > President > 4 Vice Presidents	Industry and Research Committee — PA Board	**MAS** *Member and Associated States*
Secretary-General	Executive Director	
> Working	Secretariat	
> Ad-hoc Groups		

▶ 'Industry' is represented by the ARTEMIS Industry Association

▶ 'Public Authorities' (PAs) are represented by the PA Board

ARTEMIS JU Research:
The guiding principles

▶ **"Think BIG"**

 ▷ **= projects with appropriate critical mass and significant societal impact**

▶ **"Act Socio-Economic"**

 ▷ **= improved industrial efficiency "... to strengthen European competitiveness and allow the emergence of new markets and societal applications."**

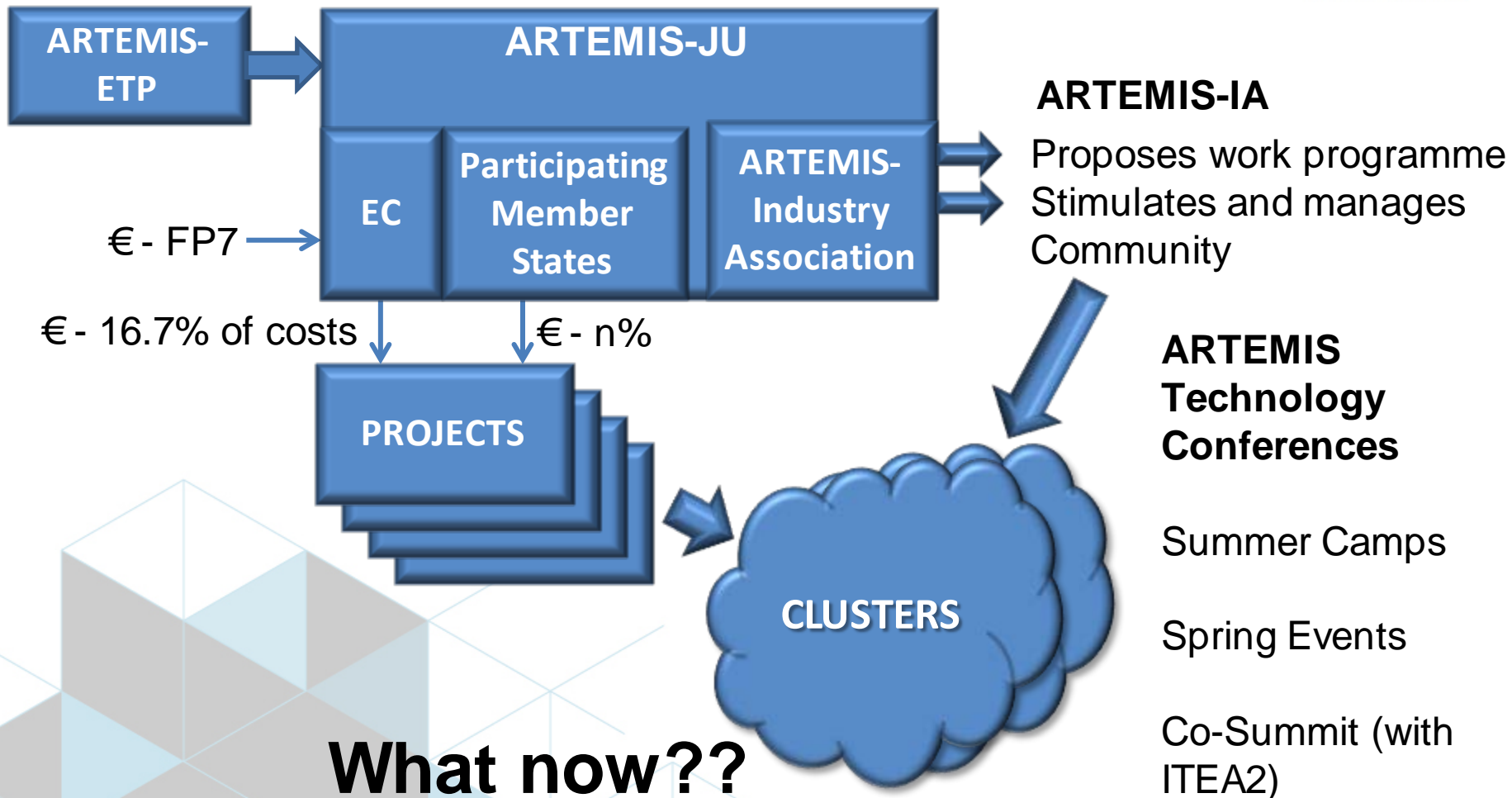 ▶ i.e. a focus on key technical issues, solving high-visibility issues with **commercially valorisable results**

▶ **"Act Multi-national" (= "Act Pan-European")**

  ▶ **= considers national/regional strategic priorities**

▶ **"Think Different"**

  ▶ **= significant and complementary added-value to existing programmes**

Creating Impact

ARTEMIS-ETP → ARTEMIS-JU

ARTEMIS-IA

EC | Participating Member States | ARTEMIS-Industry Association

€ - FP7 →

Proposes work programme
Stimulates and manages Community

€ - 16.7% of costs | € - n%

PROJECTS

CLUSTERS

ARTEMIS Technology Conferences

Summer Camps

Spring Events

Co-Summit (with ITEA2)

What now??

Clusters

- **Hi-REL**
  - CESAR, CHARTER, CHESS, SYSMODEL, iFEST, RECOMP, MBAT, pSAFECER, nSafeCer, DESERVE, VARIES, VeTeSS

- **Energy Efficient Communities and Electric Car**
  - eDIANA, ME3GAS, e-GOTHAM, ENCOURAGE, IoE, POLLUX

- **Low-Power Multi Core**
  - INDEXYS, SCALOPES, ACROSS, ASAM, SMECY, PRESTO, CRAFTERS, PaPP

- **Things of the Internet**
  - EMMON, iLAND, SMART, SOFIA, SIMPLE, WSN-DPCM, DEMANES

- **HMI**
  - CAMMI, SMARCOS, ASTUTE, D3CoS

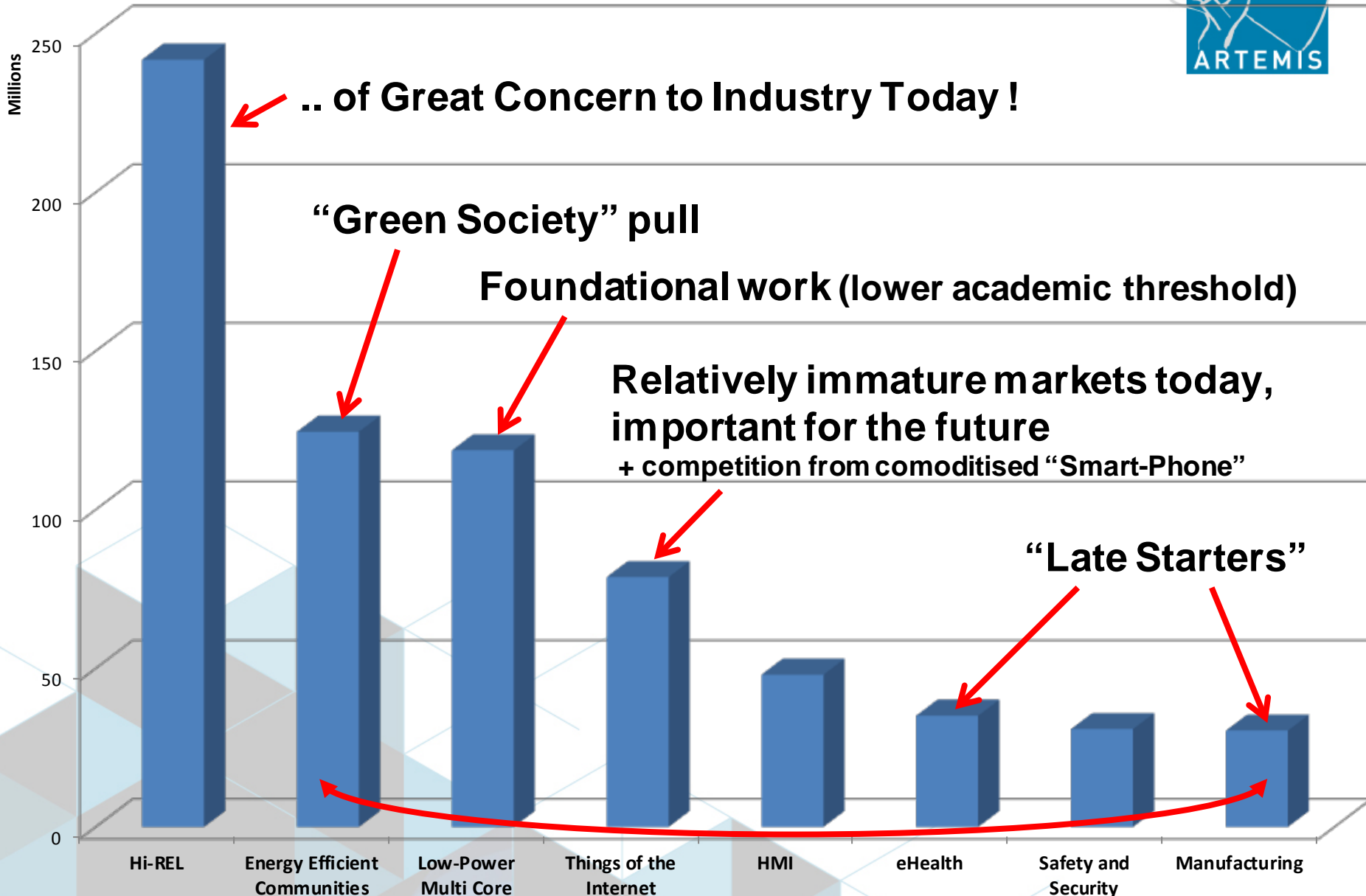- **eHealth**
  - CHIRON, HIGH PROFILE

- **Safety and Security**
  - pSHIELD, nSHIELD, SESAMO

- **Manufacturing**
  - eSONIA, R3-COP

CLUSTERS

ARTEMIS – Total investment per cluster

.. of Great Concern to Industry Today !

"Green Society" pull

Foundational work (lower academic threshold)

Relatively immature markets today, important for the future
+ competition from comoditised "Smart-Phone"

"Late Starters"

Millions

250

200

150

100

50

0

Hi-REL | Energy Efficient Communities | Low-Power Multi Core | Things of the Internet | HMI | eHealth | Safety and Security | Manufacturing

ARTEMIS-JU – Call 2013 The Next Wave continues …

- ▶ **What: - Build on the emerging clusters to seed**
  - ▷ **"Centres of Innovation Excellence"**
    - ▶ **ARTEMIS-IA Labelled**
      - ▷ **"EICOSE" –Safety-critical embedded systems**
      - ▷ **"ProcessIT Europe" – Manufacturing**
      - ▷ **"EE4IB" – Intelligent Buildings / communities**

- ▶ **How ?**
  - ▷ **ARTEMIS INNOVATION PILOT PROJECTS (AIPPs)**
    - ▶ **Large initiatives integrating output from ARTEMIS projects and clusters**
    - ▶ **Addressing technological, societal and business needs**

CoIEs and Tool Platforms ?

- ▶ **Centre of Innovation Excellence:**
  - ▷ A formalisation of the "Self-sustaining Innovation Eco-systems" concept
    - ▶ Long-lived collaborations of active players in different parts of a "supply-chain" in a specific business or application domain.
  - ▷ Must meet various criteria to receive an ARTEMIS-IA label.
    - ▶ See http://www.artemis-ia.eu/coielabel

- ▶ **Tool Platform**
  - ▷ Collaborations of tool vendors and users
  - ▷ Agreement on processes, interoperability and interfaces
  - ▷ Covering a defined and significant part of a (system) design flow
  - ▷ Embracing non-functional aspects
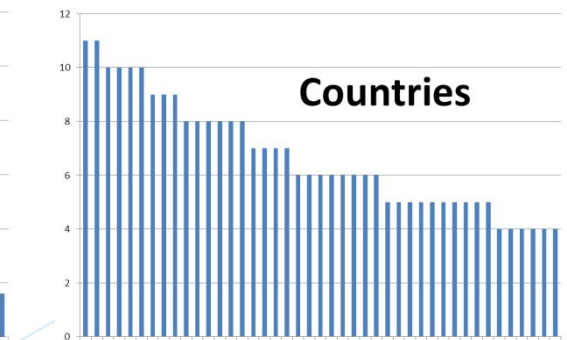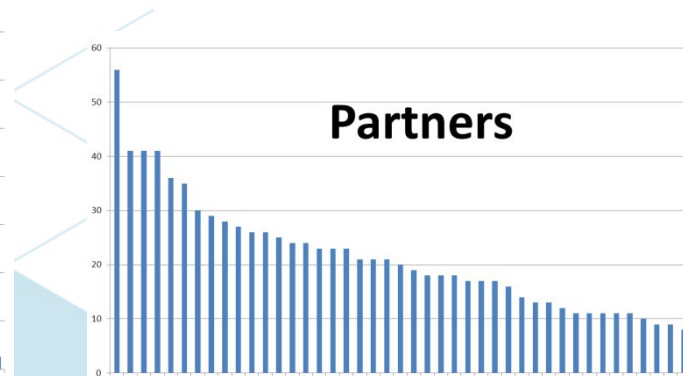 - ▷ http://www.artemis-ia.eu/tool_platforms for details.

What is a typical ARTEMIS (ASP) project?

▶ Some project statistics (Call 2008 – 2011):

▷ Total Budget (min max) = 2.5 M€ to €59 M€

▷ Number of partners (min max) = 8 to 56

▷ Number of Countries (min max) = 4 to 11

▷ >90% of projects are 3 years, <10% are 2 years

What is an **ARTEMIS Innovation Pilot Project?**

▶ **A Very large project**

  ▷ **Like a "Pilot Line" or "Living Lab"**

▶ **More Development and Innovation, less Research**

▶ **Pan-European**

▶ **Impact, Impact, Impact!**

▶ **Very large budget (~100 Mio € over 3 years)**

ARTEMIS 5 years on…
What have we built ?

▶ **"ASP"** projects, targeting **EXCELLENCE:**

  ▷ Wide scope, covers most of the rich ARTEMIS SRA

  ▷ "Affordable" competition

▶ **"AIPPs"**, targeting **EFFICIENCY:**

  ▷ Less competition, more focus

  ▷ Driven by ARTEMIS-IA and the industrial community it supports

ARTEMIS 5 years on...

▶ "Flexible" interface between these project types and the programme:

▷ Common list at evaluation

▶ All proposals fly on their own merits

▷ Industry, through **ARTEMIS-IA**, plays an important role

▶ (Analogous to the Aerospace industry in "Clean-Sky" JU)

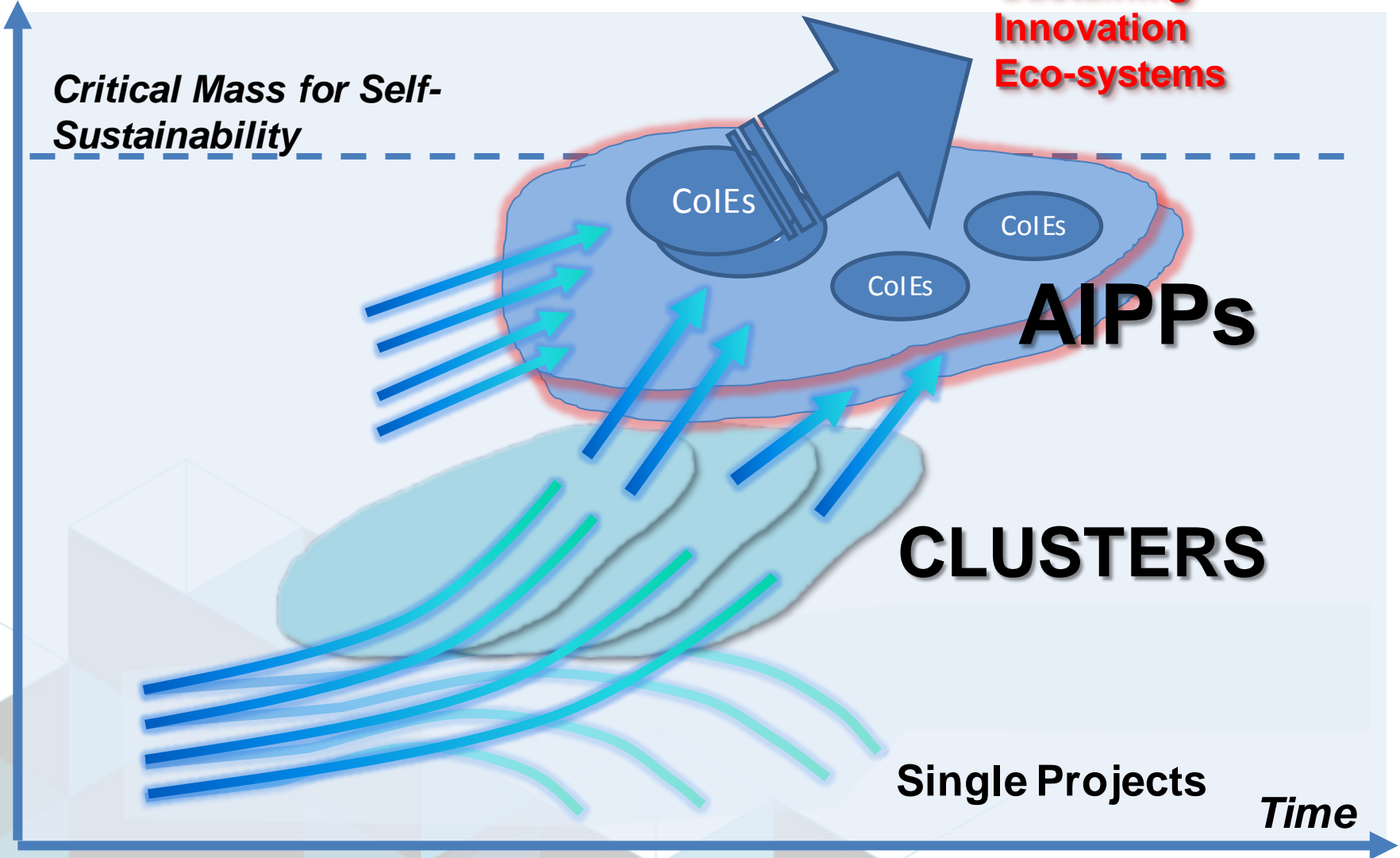▷ **COMPLEMENTARITY towards "Open Innovation"** with AIPPs mapping to "CoIEs" as a living motor.

AIPPs – Step up to Innovation Excellence

"Energy"

Self-Sustaining Innovation Eco-systems

Critical Mass for Self-Sustainability

CoIEs

CoIEs

CoIEs

AIPPs

CLUSTERS

Single Projects

Time

and where 5 years further on ???

▶ Elements of the programme to build on

▷ **ARTEMIS-IA** as a community is a reality

▷ **CoIE**'s are a reality

▷ **SAFETY CRITICAL** systems – an ARTEMIS highlight

▷ Good start on the "Societal grand challenge" of **Energy Efficiency**

▷ Verstile multi-core approaches, to be amalgamated

▷ eHealth support starting, want to see it grow…

and where 5 years further on ??? ...

▶ **Plus ...**

   ▷ International recognition of European industrial leaders

   ▷ Strong base of excellent SMEs as Innovation Agents

      ▶ = ~1/3 of the ARTEMIS-IA community !

   ▷ International recognition of European academic excellence

   ▷ Long standing and sturdy reputation for a "quality and reliability" mindset

   ▷ Europe's history of collaborative R&D&I

Conclusion: The ARTEMIS charter is still living!

"ARTEMIS must continue to complement the range of European funding schemes with a market-facing Embedded Systems programme, to reap societal and economic benefits through Open Innovation structured around "Centres of Innovation Excellence", fuelled by its unique tri-partite funding model and orchestrated by the ARTEMIS Industry Association..."

(Eric Schutz - Executive Director, ARTEMIS Joint Undertaking)

Thank you!

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Advanced Research & Technology for Embedded Intelligence and Systems