

# ICT European Technology Platforms

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# ETPs: What is it? (reminder)

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An ETP :

- brings together the main stakeholders in an RTD field.
- identifies common RTD goals of industrial relevance
- develops a Strategic Research Agenda to achieve these goals.
- SRA addresses technology & non-technology barriers
- stakeholders include industry, academia and the investors in research, public or private



# ETPs: In which field?

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- The objectives should be of strategic importance for Europe
  - Requiring intensive research and technology progress
- There is a need to create a critical mass
  - public and private resources, regional, national and European level.
- There is a well identified industrial and research community
  - ready to collaborate in a common Strategic Research Agenda.
- There is a clear commitment from the stakeholders
  - (industry, academia, Member States, the EU, financial institutions etc.) to invest in the implementation of the roadmap.
- The platform is open
  - to include new relevant players at any time



# 9 ETPs established in the ICT area

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1. ARTEMIS (Embedded systems)
2. ENIAC (Nanoelectronics)
3. eMobility (Mobile and wireless communications)
4. EUROP (robotics)
5. NEM (Networked and Electronic Media)
6. NESSI (Networked European Software & Services Initiative)
7. ISI (The Integral Satcom Initiative)
8. Photonics21 (Photonics for the 21th Century)
9. EPoSS (Smart Systems Integration)

<http://cordis.europa.eu.int/technology-platforms/>





# ARTEMIS (Advanced R&D on Embedded Intelligent Systems)

- Aims:
  - Sustain Europe's world lead in embedded ICT,
  - e.g. for aerospace, automotive, communications,, private environments, nomadic environments, public infrastructure.
- Examples of expected benefits:
  - industry standards to ensure that systems developed by different vendors can work together.
- Founding Members
  - ABB, Airbus Industrie, ARM, AVL, BT, Continental Teves, Catalonia Technical University, Daimler Chrysler, Ericsson, Fraunhofer Institute, High Tech SME Federation, IMEC, ITEA, Medeaplus, Nokia, Parades, Philips, Robert Bosch, ST Microelectronics, Symbian, Siemens, Telenor, Thales, Verimag, Tech. Univ. Vienna.
- <http://www.cordis.lu/ist/artemis>





# ARTEMIS (Advanced R&D on Embedded Intelligent Systems )

ARTEMIS strategy is to establish common technology to support the development of high value-added Embedded Systems across different application contexts. The SRA covers major challenges in:

- system architectures,
- middleware,
- design methodologies,
- reference designs for embedded platforms, embedded computing and networking,
- wireless sensor networks,
- design and software tools,
- security, interoperability,
- quality of service and basic research.



# European Nanoelectronics Initiative Advisory Council (ENIAC)

- Aims:
  - To master the revolutionary transition from Microelectronics to Nanoelectronics,
  - strengthen the competitiveness of European industry,
  - serve the future needs of European society,
- Examples of expected Benefits:
  - integrated intelligent nanoelectronic solutions for industrial and social applications.
- Founding Members:
  - Aixtron, AMD, ARM, ASML, Bosch, CEA/CNRS, CSEM, Fraunhofer, Freescale, IBM, IMEC, Infineon, MEDEA+, NMRC, Nokia, Philips, STMicroelectronics, Thales, Unaxis, VTT
- <http://www.cordis.lu/ist/eniac>



# ENIAC (Nanoelectronics)

## Five application areas:

1. **Health** – The Doctor in your Pocket, Real-Time Diagnostics, Bio-Chips / Body-Sensors;
2. **Mobility / Transport** - 100% Safety on the Road, Integrated Transport Systems, Preventing Pollution;
3. **Security / Safety** - Personal Emergency Systems, Protection against Crime and Terrorism, Secure Home Environment;
4. **Communications** - Seamless Wired / Wireless Access, Mobile Services, Protection of Privacy / Content;
5. **Education / Entertainment** - Learning Anywhere/Anytime, Content with Best Quality, Content Protection.

## SRA Technology domains:

- **Complex digital circuits;**
- **Beyond CMOS: pushing the physical limits of scaling;**
- **Non-digital functions and human interface;**
- **Heterogeneous Integration: total system integration;**
- **Equipment and Materials: enabling technology into manufacturing;**
- **Design Automation: effective platform-based system design.**



# Joint Technology Initiatives

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ARTEMIS and ENIAC, are proposed as Joint Technology Initiatives using Article 171 of the Treaty in FP7.

These will allow to pool together the required funding from the private sector, from the member states and from the Community to support the Platform's SRAs.

They will facilitate the cooperation between all stake holders in order to improve Europe's competitive position and respond to Europe's societal needs.

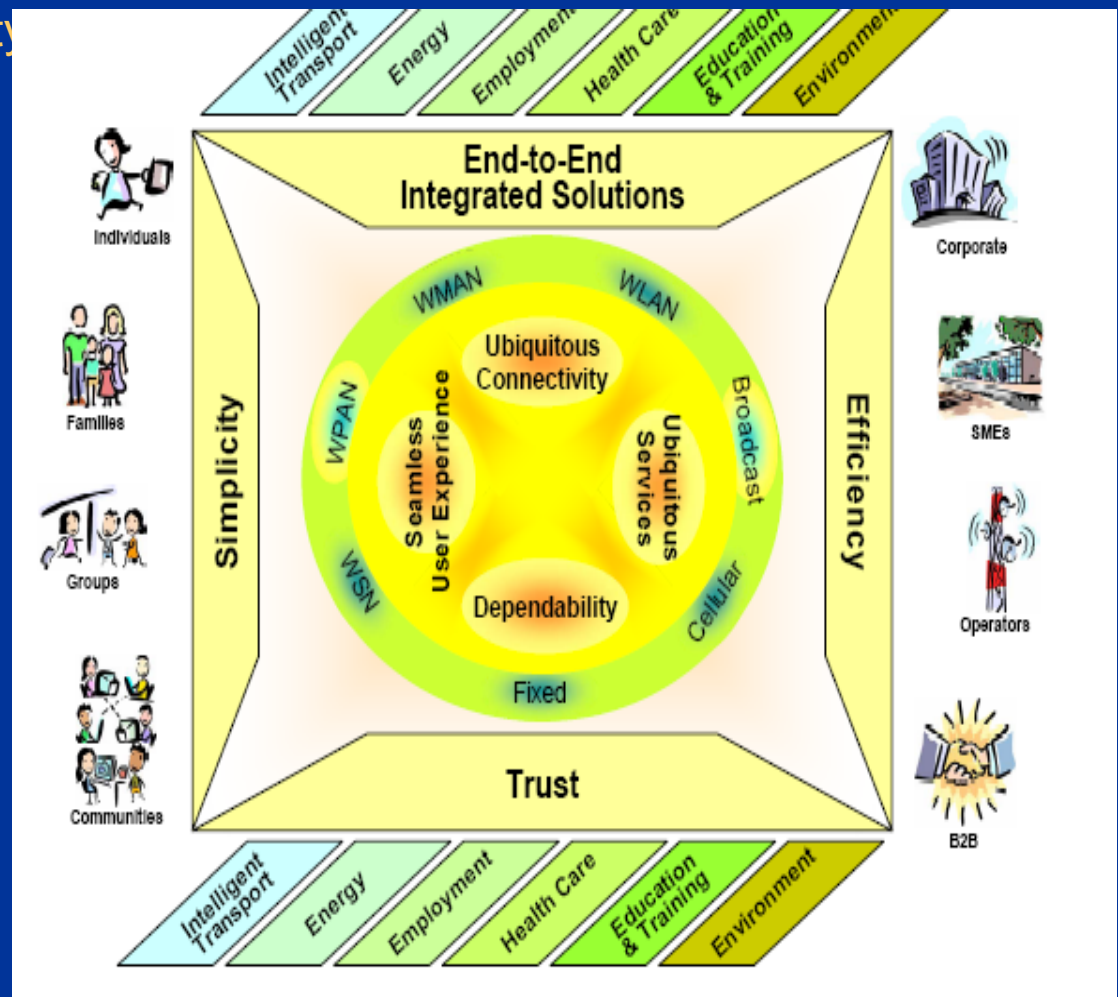


- Aims:
  - Reinforce Europe's world leadership in mobile and wireless communications and services.
- Examples of expected Outputs
  - : sustain world lead in mobile communication technologies.
  - secure, easy-to-use, "always with you" services, e.g. mobile access to the web.
- Members
  - Alcatel, Deutsche Telekom , Ericsson, France Telecom, Hutchison 3G Europe, Lucent Technologies, Motorola, Nokia, Philips, Siemens, STMicroelectronics, Telecom Italia Mobile, Telefónica Móviles España, Thales Communications, and Vodafone.



The SRA covers research in the following main areas:

- Seamless User Experience
- Security and Dependability
- Ubiquitous Services
- Ubiquitous Connectivity
- New and flexible Business models





# Networked and electronic media platform (NEM)

NEM represents the convergence of existing and new technologies, including broadband, mobile and new media across all ICT sectors, to create a new and exciting era of advanced personalized services.

- Aims:
  - Accelerate the pace of innovation and convergence of the audiovisual, content and telecoms sectors.
- Examples of expected benefits
  - Increased competitiveness more coherent regulation and standardisation policies worldwide.
- Founding Members
  - Alcatel, the European Broadcasting Union (EBU), France Telecom, Intel, Nokia, Philips, Telefónica and Thomson.
- <http://www.nem-initiative.org>





# Networked and electronic media platform (NEM)

## SRA Research Priorities

- Content production, management, storage, indexing, protection, presentation.
- Network infrastructure and network services for high value added services.
- Convergence of delivery networks (fixed/mobile, on demand, live, interactive), services and devices ranging from hand held terminals to digital cinema.
- Security of networks and digital rights management
- Multimedia search engines
- Advanced, reach media ready terminals





# Networked European Software and Services Initiative (NESSI)

The *NESSI* vision introduces a new technological scenario, characterized by large distributed systems with many data collection points, services, and computers that evolve data into knowledge and help humans coordinate the execution of complex tasks.

- Aims:
  - Develop new software and electronic services architecture, based on open standards with view to provide knowledge economy development and leadership of European software industry.
- Examples of expected benefits
  - more flexible business models, easier to develop services, greater privacy and safety.
- Founding Members
  - Atos Origin, British Telecom, Engineering Ingegneria Informatica S.p.A., IBM, HP, Nokia, ObjectWeb, SAP AG, Siemens, Software AG, Telecom Italia S.p.A., Telefónica.

[www.nessi-europe.com](http://www.nessi-europe.com)





# Networked European Software and Services Initiative (NESSI)

The SRA includes:

- Develop the **backbone infrastructure for European e-Services** and the supporting technologies, strategies and deployment policies
- Improve the **quality and dependability of software and systems** and help mastering the growing complexity
- Foster **openness, safety, security** and the well-being of citizens through the adoption of open standards, open source software and new societal applications.
- **Energizing the software and service industry**, reducing its traditional fragmentation, and providing European service operators a lead in future markets.



# European Robotics Platform (EUROP)

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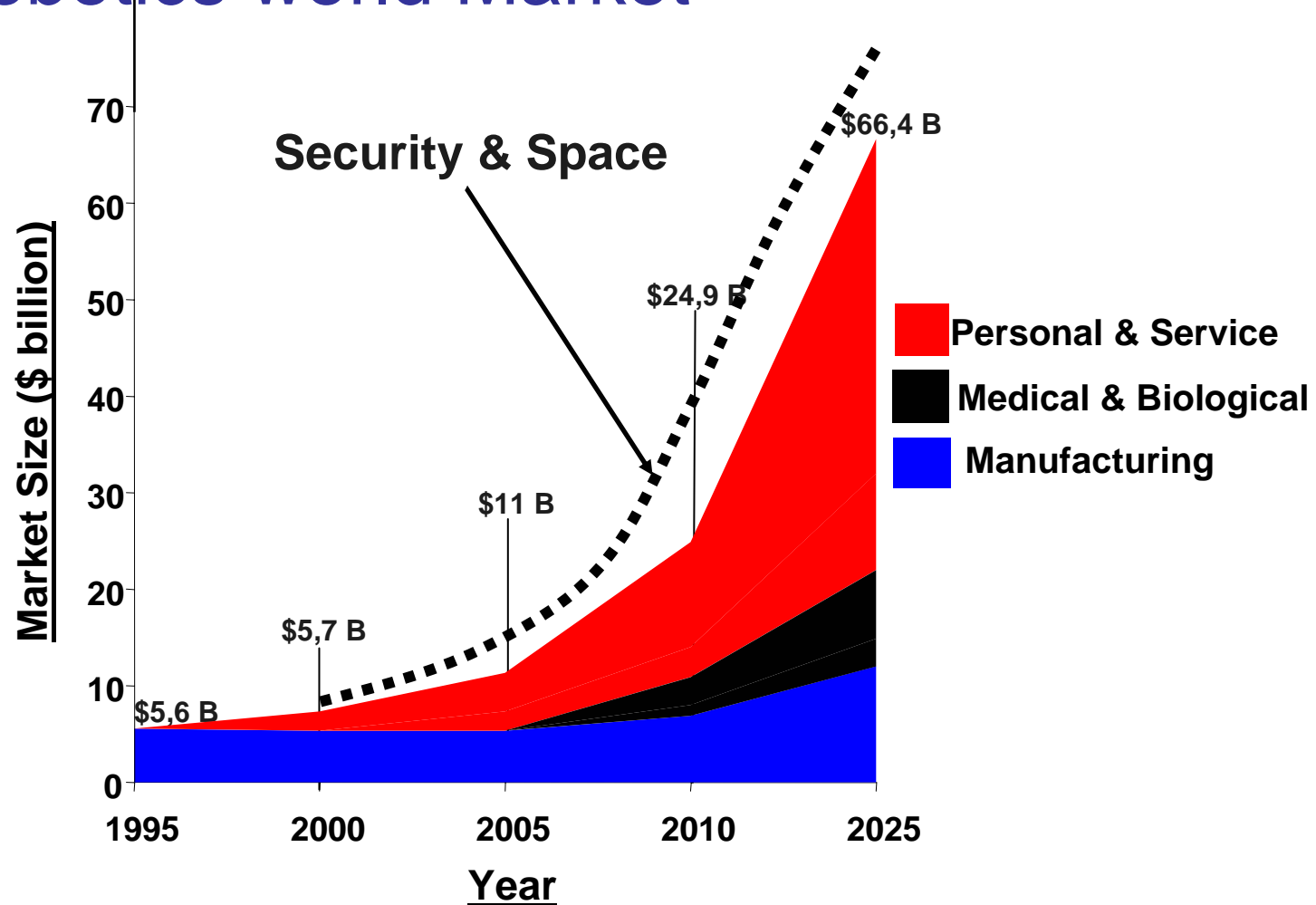
- Aims:
  - Boost the development of robotic businesses within Europe
  - bring the benefits of capable robot services to citizens.
- Example of expected benefits
  - maintain Europe's leadership in industrial robotics
  - expand it into the emerging markets: service, security, space etc.
- Strategic Research Agenda
  - Step 1: Roadmaps on Product Scenarios (horizon 2010 – 2020)
  - Step 2: Roadmaps on Underpinning Technologies
- Founding Members
  - KUKA, ABB, COMAU, Philips, Finmeccanica, SAFRAN, EADS, Thales, INDRA, Dassault Aviation, BAE Systems, Electrolux, Zenon, RURobots, OCRobotics, Qinetiq, CEA, Fraunhofer



[www.roboticsplatform.com](http://www.roboticsplatform.com)

# European Robotics Platform (EUROP)

## The Robotics world Market





# ISI (The Integral Satcom Initiative)

ISI is focused on all aspects of satellite communications, including broadcasting, broadband, and mobile applications, and their convergence.

## Aims:

- To foster and develop the entire industrial sector, maximize the value of European research and technology development, and contribute positively to EU policies.
- Example of expected benefits
  - integration of data communications with Galileo and GMES
  - design and realization of European security systems
  - harmonization of regulatory frameworks and fair regulations for complementary ground components and spectrum usage
  - open standards as enablers for mass-market applications in ICT, Space, Security, Transport, and Environment.
- Constituency
  - 160 institutions from 25 countries: Austria, Belgium, Bulgaria, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Israel, Italy, Luxembourg, Norway, Poland, Portugal, Romania, Russia, Slovenia, South Korea, Spain, Sweden, Switzerland, United Kingdom, USA.



<http://www.isi-initiative.eu.org/>



# Photonics21 (Photonics for the 21th Century)

- The photonics industry plays a vital role in securing leadership in areas such as information and communication, lighting, manufacturing, security , life science and health.
- Photonics21 is a Technology Platform for all stakeholders in photonics.
- The SRA will provide the critical environment necessary for visionary and industrially relevant R&D in photonic components, systems and applications.
- The Platform undertakes to establish Europe as a leader in the development and deployment of Photonics in five industrial areas:
  - Information and Communication,
  - Lighting and Displays,
  - Manufacturing,
  - Life Science,
  - and Security
  - as well as in Education and Training.



<http://web13.vdi.net-build.de/>



# EPoSS (Smart Systems Integration)

EPoSS is an industry driven initiative defining R&D and innovation needs and policy requirements related to Smart Systems Integration and integrated Micro and Nanosystems.

## Aims:

- Strengthening Europe's capacity to organise and to deliver innovation by providing a common European approach on innovative Smart Systems Integration from research to production.
- Example of expected benefits
  - Maintain Europe's leadership in smart micro-systems and related technologies
- Founding Members
  - **ARDACO, BOCH, DRAGER, SIEMENS THALES, EADS, CONTINENTAL, PIRELI, OLIVETTI, etc.**
  - <http://www.smart-systems-integration.org/public>





**EPoSS**

European Technology Platform  
on Smart Systems Integration

# EPoSS (Smart Systems Integration)

## The SRA research priorities:

- Development of next-generation smart systems
- Micro/nano/biotechnologies' convergence
- Integration and use of smart materials
- Transfer from smart systems to viable products
- Communication & data management for smart systems
- Energy management for smart systems
- Societal impact & educational issues
- Bridging the gap between research and product development



# Conclusions

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- ETPs can be of high value to stakeholders and to European economy and society
  - build partnerships to share risk, pool resources, and compete
  - speed up innovation, by knowledge and experience sharing
  - build consensus to turn research results into products and services
  - Increase research effort and Improve return on investment in RTD
- But
  - should be open and avoid closed club

THANK YOU FOR THE ATTENTION!

