IRISS
Implementation of Research & Innovation on Smart Systems Technologies

Publishable summary

The objectives of IRISS are to hedge and extend competitive advantages of European industry in order to make Europe number one in the world in Smart Systems research and production. Therefore this coordination and support action focuses on improvements of the European innovation system in the Smart Systems sector, which comprises:

- the formulation of a coherent strategy involving all major stakeholders
- the opening of new application fields and markets
- the intensification of cooperation in the Smart Systems value chain, paying particular attention to the inclusion of SMEs
- the overcoming of fragmentation in the political landscape.

In its second and final year, the project continued its excellent progress and achieved significant results in its work packages on coordination and interaction of national and EU R&D programmes (WP2), on the Smart Systems value chain with a focus on SMEs (WP3), take-up of Smart Systems by relevant industrial sectors (WP4 and WP5), in the strategy and road mapping (WP6), international cooperation (WP7), and infrastructure, engagement and dissemination (WP8) work packages.

In WP2 a second Mirrors/Cluster workshop was organised on how to brief national/regional administrations on the new Strategic Research Agenda (SRA). This 2nd workshop brought together representatives of clusters and other organizations with a role as regional or national “information multiplier” for smart systems technology. They were briefed by specialists in each sector on different chapters of the SRA and on the overall method of effectively presenting the SRA to their regional administrations and other stakeholders, in order to muster support all over Europe for the topics discussed therein. To this end a Presentation Kit was prepared which is publically available as an additional outcome of this work package. In addition, commitments on dissemination of the SRA by the workshop participants were recorded.

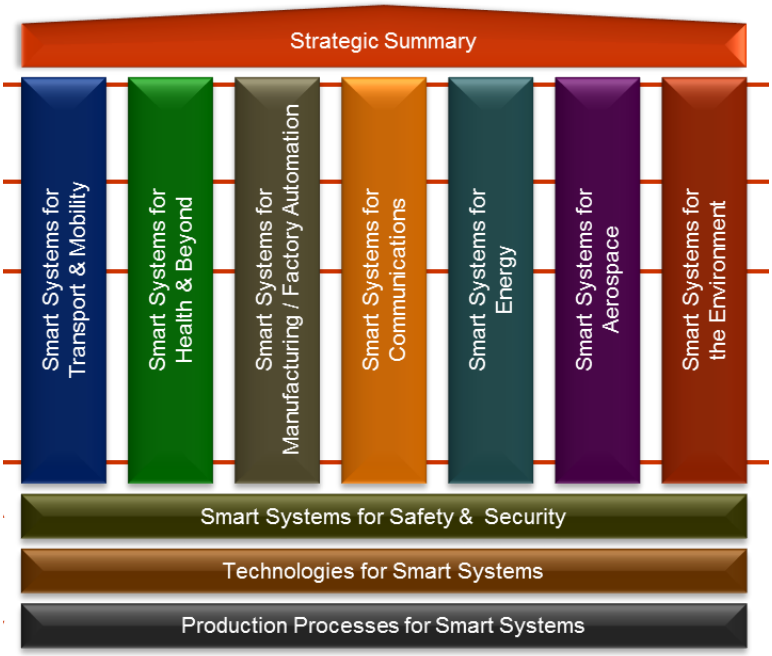
WP3 developed an SME Tutorial on “Future opportunities for SME in Smart Systems R+I”, presented in a dedicated session at the SSI 2013 conference in Amsterdam on 13th March 2013. The SME Tutorial, which was also made publically available in a dedicated area at the EPoSS Website for future use by interested SME, comprises tutorial modules on funding opportunities, networking through clusters and technological platforms, success stories of SME going from research to products and technology alignment relevant for bringing SME into the value chain.

WP3 further provided an analysis on value creation of SSI. Based on data available on the year 2011 the analysis found an annual share of value added of about 120 billion € as the “SSI enabled market”, i.e. revenues facilitated by the application of Smart Systems Integration by industrial sectors as Electronics, ICT, Automotive and others. From this it estimated annual expenses for research and development of about 10 billion € related to SSI, which is quite above the 4.8 billion € reported for the European semiconductor industry.

In the two work packages on take-up of Smart Systems by relevant industrial sectors (WP4 on manufacturing / factory automation and WP5 on health and beyond) the respective new EPoSS expert working groups, the Working Groups on Applied MNBS (Micro-Nano-Bio Systems) and that on Smart Systems for Manufacturing & Robotics had several meetings in the second year of the project. They have consolidated common positions, have provided SWOT analyses, overviews on funding and business opportunities, and have provided roadmaps and SRA for their sectors.

A major achievement in WP6 was the Smart Systems Integration SRA, that

- looks towards 2020+ based upon expert information contributed by the members of EPoSS, and the wider community,
- describes current status and future prospects for Smart Systems in terms of technologies and markets in 32 subsectors within 7 applications sectors, and 3 further transversal domains that underpin the development, production and use of Smart Systems,
- forecasts the introduction of progressive classes of Smart Systems across all of the subsectors,



- analyses the European strengths, weaknesses, opportunities and threats regarding Smart Systems across each sector and transversal domain, and as a result puts forward research priorities.

Its structure recognises the connection between Smart Systems and the application sectors that they serve and is different from other Strategic Research Agenda that are purely technology-driven.

Another success of WP6 is the participation of EPoSS together with ENIAC and ARTEMIS in the new JTI ECSEL (Electronic Components and Systems for European Leadership).

WP7 provided a wide-ranging data collection regarding Smart Systems Integration and its enabling technologies of different regions of the world with a focus on the US, Japan, Brazil and China. The respective report gives an overview about the mentioned countries and provides an extensive comparison with the situation in Europe. In addition, it highlights different aspects of potential collaboration with different regions of the world, indicates reasons for collaboration and potential benefits for Europe.

WP8 successfully linked activities of all work packages to a large cross-section of SSI community and the wider public. Particularly mentionable are the dissemination of WP2, WP3 and WP6 activities and results, the intensive collaboration with other networks and the engagement and applications-pull exercises in the two take-up areas of WP4 and WP5, but also in new and until now SSI unaware sectors such as flexible, organic, or other new or smart enabled materials, advanced manufacturing and design, energy applications, environmental applications and the service industries.