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Collaboration plan with other Smart Anything Everywhere projects

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Editor:	Holger Pfeifer
Institution:	fortiss GmbH, München, Germany
E-mail:	pfeifer@fortiss.org

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¹ R=Report, DEC= Websites, patents filling, etc., O=Other

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Consortium Information

Name (and contact data)	Institution (incl. address)
Holger Pfeifer pfeifer@fortiss.org	fortiss Guerickestraße 25, D-80805 München, Germany

Authors

Name	Institution	Contact
Holger Pfeifer (coordinator CPSE Labs)	fortiss	pfeifer@fortiss.org
Olivier Thomas (coordinator EuroCPS)	CEA	olivier.thomas@cea.fr
Rainer Günzler (coordinator Smarter-SI)	HSG-IMIT	Rainer.Guenzler@hsg-imit.de
Régis Hamelin (coordinator GateOne)	BLUMORPHO	hamelin@bmorpho.com

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Executive Summary

This document constitutes the joint collaboration plan of the projects GateOne, Smarter-SI, CPSE Engineering Labs, and EuroCPS that contribute to the Smart Anything Everywhere initiative (SAE). It presents the envisaged activities of the four projects to liaise and cooperate with one another. The cooperation aims at exploiting synergies between the projects and increasing the impact of the initiative. The potential elements of the cooperation are described and the specific activities that the projects jointly plan to undertake during the first project period are listed.

This document has been authored jointly by the coordinators of the respective SAE projects.

1 Introduction

1.1 Smart Anything Everywhere Initiative

In response to new challenges arising from the increased integration of digital components and smart functionality in products and services of everyday life, the European Commission proposed the creation of a “Smart Anything Everywhere (SAE)” Initiative. At the core of the initiative are networks of competence centres, usually research technology organisations (RTOs) or technology transfer-oriented university institutes who cluster a wide spectrum of technical and application knowledge to support innovation.

The ecosystems built under these initiatives are based on collaboration between researchers, large industries and SMEs which will help to transfer knowledge and resources available to a much wider group of companies. SMEs and middle size companies can experiment with new technologies, try them out in their processes and work together with the suppliers of the technology to adapt it to their specific needs.

A first group of four Innovation Actions, GateOneⁱ, Smarter-SIⁱⁱ, CPSELabsⁱⁱⁱ, and EuroCPS^{iv}, are combining efforts under the SAE initiative, which will support experiments with the aim of involving SMEs and midcaps in the field of Cyber-Physical Systems (CPS), Internet of Things (IoT) and Smart Systems Integration (SSI).

1.2 GateOne

GateOne’s mission is to accelerate smart systems adoption by European SMEs in facilitating their access to advanced technologies for the development of innovative and smart solutions. GateOne offers Innovation as a Service to the benefit of SMEs in structuring a complete and adapted innovation chain to contribute to the Smartization of Europe.

The concept is based on an innovative and pragmatic approach to cross the valley of death. Our Innovation Action is designed to enter efficiently into a new management paradigm in implementing critical size mechanisms. We will work on a unique Pan European portfolio of smart systems technologies to make them attractive and available for evaluation by a large panel of European SMEs. 20% of the portfolio will be related to bioelectronics technologies.

In implementing the New Product Introduction process, our service will provide a collaboration framework between SMEs and RTOs, to progress from Lab to Market. From a complementary smart systems technologies portfolio we will work on 50 small scale projects to deliver innovation concept in the form of demonstrators. They will be produced at the only condition that an SME expresses interest and engages to enter into a testing phase. Our innovation service will allow low risk evaluation conditions. We will introduce “product concept” designed on a business case to meet SMEs expectations. We will structure, an adapted innovation chain, while validating the cost efficient manufacturability of the solution. A broad diffusion will make GateOne a European entry point of state-of-the-art technology for smart systems. Inherited from COWIN CSA success and commitment of RTOs to further apply and develop the COWIN approach, GateOne will lead to a major breakthrough for European competitiveness in engaging SMEs in the smartization wave. The support

of the European Commission will validate the concept and prepare its sustainability with RTOs, industrials and private investors support.

1.3 Smarter-SI

The project SMARTER-SI is inspired by the Strategic Research Agenda of EPOSS: The participating RTOs from Germany (*Hahn-Schickard, CIS and IPHT*), Sweden (*Swerea IVF*), Ireland (*Tyndall National Institute*), Spain (*IK4 IKERLAN*) and Switzerland (*CSEM*) aim to develop a Cooperative Foundry for distributed small lot production. This will accelerate a wider deployment of Smart Systems Integration with greater access to design and manufacturing capabilities for prototyping, early validation and first production for SMEs to exploit in niche markets. The strategic objective is to lower entry barriers by implementing the cooperative approach based on utilising existing process steps and building blocks with high technology readiness levels, which are already available at the RTOs and their industrial project partners. This will help to close the gap between technology and application and in turn will advance innovative products for SMEs in Europe. The system approach will enable these companies to reach for a higher profit margin than currently achievable with components sales for smart products. SMARTER-SI will thus facilitate a greater level of innovation and know-how that will reside within Europe and will be difficult to replicate by competitors in other regions for the manufacture and production of similar products. The project is designed to be a test bed to realise 10 Application Experiments through the Cooperative Foundry as “first user”-type action lines that will trigger an upcoming bigger action, e.g. in ECSEL.

With respect to the common stage-gate-scheme of innovation processes, GateOne concentrates on the early states to initiate the innovation circle between RTOs and SMEs, to generate product ideas and to pass the first quality gate (“GateOne”) on their product life cycle, while SMARTER-SI focusses on the later stages and gates opening the way to pre-series and product launch.

1.4 CPS Engineering Labs

The CPS Engineering Labs (CPSE Labs) project is a H2020 Innovation Actions and is part of the Smart Anything Everywhere Initiative. The focus of CPSE Labs is on smart cyber-physical systems (CPS), which are considered to be the next revolution in ICT with lots of game-changing business potential for integrated services and products.

Mastering the engineering of complex and trustworthy CPS is key to implementing CPS-based business models. Current CPS, however, are often engineered and maintained at very high cost and sometimes with unknown risks, and recent technological progress from R&D projects is not readily available to most innovators. The CPS Engineering Labs therefore equips innovators - businesses, researchers, and students - with CPS engineering infrastructure, knowledge, and tools for realizing novel CPS-based products and services, with the explicit goal of expediting and accelerating the realization of smart CPS.

The CPSE Labs build upon existing R&D centres – in Madrid, Munich, Oldenburg, Newcastle, Stockholm, and Toulouse – and turn these already excellent regional clusters into world-class hotspots for CPS engineering. These *Design Centres* develop and maintain a common strategic innovation agenda for building up novel and complete CPS value chains. Based on this strategy the CPSE Labs build up and maintain a portfolio of added-value experiments, which have a clear

innovation objective. They build upon results and achievements from large-scale national and European projects on the rigorous design of embedded systems and CPS. Experience gained from experiments, validation results, and best practices, cross-cutting engineering principles that underpin the integration of cyber and physical elements of CPS are continuously integrated and disseminated by the CPSE Labs.

The CPSE Labs' marketplace provides an open forum for sharing platforms, architectures, and software tools for the engineering of dependable and trustworthy CPS. The ultimate goal is to establish a CPS engineering framework which sets a world-wide standard.

1.5 EuroCPS

EuroCPS is a holistic project gathering several design centres in order to boost and initiate synergies between Innovative companies, major CPS-platforms and CPS-competency providers.

The motivation of this project is to enable companies making new CPS products to get access to leading edge technology platforms from large companies and support from competency partners. The outcome is to boost and sustain the demand for local manufacturing and catch the IoT market by improving the European competitiveness.

Thus, the first goal of the project is to bring innovative CPS to business from any sectors. To do so, the role of the networking partners is to help companies that innovate to evaluate their needs and define the right industrial experiments. The second goal is to link user and supplier across value-chains and regions. Here, the competence partners provide Industrial Experiment services, coaching and development plan. To guaranty transparency, each industrial experiment is supported, managed and monitored by the cascade funding partners coming from RTOs and technology transfer-oriented university institutes.

In this framework, EuroCPS enables three kind of projects: (i) Software (SW) intensive project which aims at building software prototype demonstrator running on a CPS platform, (ii) System integration project which aims at building integrated system prototype demonstrator and (iii) CPS with innovative component project which aims at building an integrated SW-HW prototype based on specific HW-SW component.

Those project could be built upon tree kinds of platforms: (i) Software type platforms (Avionic, Integrated and Open Development), (ii) Integration system type platforms (Connectivity, STM32 Microcontroller, iNEMO Inertial, Quark System on Chip) and (iii) Hardware type platforms (Power Management, Silicon Process and Package Technology).

To reach these goals, EuroCPS will launch three open calls and select around 30 industrial experiments. The industrial experiment selection will rely on the excellence of the project, the impact on the ecosystem and the industrialization implementation possibility and prospects. Mainly industrial experiments with high TRL will be considered. Financial support will be 70% of each industrial experiment budget, up to 150k€. The maximum duration of an industrial experiment will be 18 months.

1.6 Collaboration among the Smart Anything Everywhere projects

The remainder of this document describes the envisaged activities of the four projects that contribute to the Smart Anything Everywhere initiative to liaise and cooperate with one another. The cooperation aims at exploiting synergies between the projects and increasing the impact of the initiative. In the following section, we describe potential elements of the cooperation, while Sect. 3 lists the specific activities that the projects jointly plan to undertake during the first project period.

2 Elements of cooperation

This section describes potential elements of the cooperation among the projects of the SAE initiative.

2.1 Objectives

Each innovation action will have a beginning and an end, in the framework of the H2020 program. But one objective is that the **Smart Anything Everywhere initiative remains known as the European Entry point to Smart Systems and CPS competences**. This must remain as a legacy for all the future Innovation Actions (IA) but would also be helpful for all the current actions which are targeting sustainability.

We distinguish two levels of such cooperation: first, activities that are necessary to build up and further develop the Smart Anything Everywhere initiative as a *brand*, and second, activities that aim at exploiting synergies between the projects.

2.2 Brand Management

The term *Brand Management* can be understood as comprising activities to define a brand *identity* as the starting point for building up a brand, and, subsequently, to further develop the brand to achieve a desired brand *image*, i.e. the perception of the brand by external stakeholders or customers.

In corporate governance, brand management is generally seen as an integrative, cross-functional element of the management and hence should be anchored at the highest level of the organization. In view of this, we believe that developing the brand “Smart Anything Everywhere” is preferably not only done on the level of the individual projects that are part of the initiative, but rather led and managed through an overarching process such as a dedicated Coordination and Support Action. Nevertheless, the four SAE projects are fully committed to contributing to a successful branding of the SAE.

Definition of the brand identity

The brand identity, i.e. the self-concept of the brand, is the foundation for the positioning of the brand and defines what the brand should stand for. Relevant dimensions of the identity include questions such as

- What is the use, the added value of the brand?
- On top of this, what is interesting about the brand?
- What is unique about the brand?

Answers to these kind of questions can be developed for instance by means of

- Dedicated workshops between the SAE projects and EC representatives
- Specific questionnaires examining the identity and positioning of the individual projects

The four projects individually plan to support this task by contributing viewpoints on the project’s own thematic focus, strategic objectives, stakeholders addressed, and intended positioning in the eco-system.

Brand development

A brand commonly evolves through a long-term process of developing customer trust. A central role is played by the quality of the product or service, its recognition value, and its acceptance by the intended target group. In terms of the SAE initiative, the quality aspect is largely determined by the individual projects. Nonetheless, elements that can contribute to a perceived high quality of the services of the SAE includes, for instance

- Providing access to know-how and facilities available in the projects
- Sharing links to innovation networks used and newly established by the projects
- Cross-project processes to guide external stakeholders to services provided by the individual projects and their respective partners
- Exchanging best practice in quality management between the projects

In order to make the SAE initiative known to a broad audience and achieve a high recognition value of the SAE brand, marketing and dissemination activities are required. The SAE projects plan to contribute to such activities in terms of

- supporting the development of a common web-portal for SAE, contributing information about the focus themes of the design centres (EuroCPS and CPSE Labs) and the services provided (GateOne and SMARTER-SI), sharing news about relevant projects events, announcing Open Calls launched by the projects (EuroCPS and CPSE Labs), reporting on results and achievements of conducted experiments with external participants;
- participation at and active contribution to common brokerage and dissemination events organised by the SAE projects;
- joint participation at relevant innovation and dissemination events.

Assessing the brand image

Key to successful brand development is to regularly assess the created image of the brand and its acceptance by the indented target groups. The four projects plan to support this process through

- contributing to the definition of focused KPIs suitable to measure the SAE image and the impact achieved by its projects and activities. For example, this can be measured by the number of contacts which can be initiated through the SAE website or specific communication activity, or by the capability of contacts to be directed from one initiative to the other.
- contributing to conducting polls and interviews of target groups to assess brand recognition and acceptance

Challenge and strategy

Our strategy will be to build the brand of Smart Anything Everywhere on the success of our respective brandings. In the first year of the project, each IA will have to build its own brand. This is a major factor for success. The Smart Anything Everywhere brand will then receive traction from the success of the 4 current actions and will remain as a standalone brand. As a legacy, future IAs should benefit of the Smart Anything Everywhere brand to accelerate their visibility.

2.3 Exploiting Synergies

The fact that the four SAE projects differ in various aspects such as general objectives, addressed technology domains and stakeholders, or means to involve external parties, also provides opportunities to gain synergies. Some potential measures mentioned above for brand development, like sharing links to innovation networks established by the projects, or the definition of cross-project processes to guide external stakeholders to services provided by individual projects, also have synergetic effects. We have listed the following potential collaboration below.

- Organisation of regular meetings of SAE coordinators to plan and assess the general co-operation activities
- Definition and maintenance of a joint communication plan, including
 - common press releases and news announcements
 - all relevant events (international workshops, forums, symposia, conferences and fairs) to present SAE as European Initiative or to organize workshops, booths etc.
- Analysis of communities relevant to the SAE projects, to find and share overlaps
- Harmonization of experiments with specific innovation focus
- Share best practices and promotion of professional learning among industry and academia
- Establishing a common marketplace for various project assets, such as CPS and Smart Systems platforms, architectures, and software tools
- Initiate common working groups, e.g. on platforms, tool chain and architectures, or on business modelling, strategic coaching
- Explore possible synergies in sustainability

3 Specific collaboration activities in first project period

Based on the general outline of necessary and potential collaboration elements presented in the previous section, this section lists the specific activities that the four projects contributing to the SAE initiative jointly plan to undertake within the first project period. It should be noted that this only covers the specific activities for collaboration among the projects. In addition, each of the projects has dedicated work packages that cover the individual projects' activities in some of these areas (e.g., dissemination, standardisation).

Brand building, Communication and Dissemination

Past actions:

- ✓ Launch of a common SAE website: publication project news, events, Open Calls, experimental results, etc.
- ✓ Joint booth at Artemis/ITEA Co-Summit (Berlin, March 10+11)
- ✓ SAE launch event in Grenoble, March 26-27, 2015

Future actions:

SAE Communication plan

- Joint press release
- Relay communication on :
 - Webinars, open calls for the projects, and workshops
 - Common set of slides : 1 slide SAE/1 slide for each IA

SAE events:

Joint booth at ICT 2015, Lisbon October 20-22, 2015

(<http://ec.europa.eu/digital-agenda/en/ict2015-innovate-connect-transform-lisbon-20-22-october-2015>)

- Organise a “SAE session” at EPoSS Annual Forum, Leuven Oct. 12.-15. (<http://www.smart-systems-integration.org/public/news-events/events/eposs-annual-forum-2015-mnbs-2015/eposs-annual-forum-2015-mnbs-2015>)

Specific respective individual events where each IA will promote its brand and SAE will be mentioned (non exhaustive list)

- Participation of EuroCPS at an Internet of Things Pit Stop, London Apr 27-28, organized by Digital Catapult (<http://www.digitalcatapultcentre.org.uk/event/sensing-environments-an-internet-of-things-pit-stop/>)
- Participation of CPSE Labs at the Road4FAME EU-Consultation Meeting, Brussels May 22 (<http://de.amiando.com/road4fame-consultation.html>)

- Participation of EuroCPS at ICT week organized by the Austrian Ministry of Technology and Innovation (June 8-12, 2015), Vienna
- ST-I – University of Bologna, 1st EuroCPS workshop, Bologna - April 8, 2015
- first webinar on the 28th of April organized by Gateone
- 8 regional workshops to be organized by Gateone, 4 workshops to be organized by Smarter-SI.

Exploiting synergies

- Setup of a schedule for regular meetings of SAE coordinators to plan and assess the general co-operation activities
- Initiate the development of a portfolio of services provided by SAE projects
 - EuroCPS and CPSE Labs: Structured presentation of the design centres' expertise, available platforms, experiment objectives and results, etc.
- Establishing and sharing link to innovation networks:
 - CPSE Labs: Scouting of opportunities for SAE projects or experiment parties to link with EIT ICT Labs

ⁱ GateOne: www.gateone-project.eu

ⁱⁱ Smarter-SI: www.smarter-si.eu

ⁱⁱⁱ CPSE Labs: www.cpse-labs.eu

^{iv} EuroCPS: www.eurocps.org