



Project Overview

pSHIELD Review Meeting
Kjeller/Oslo, 29-30th September 2011

ARTEMIS Call 2009 – SP6100204



What is pSHIELD?

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- SHIELD project focused on the research of SPD (Security, Privacy, Dependability) functionalities within the context of Embedded Systems aimed at getting them as “built in” rather than as “add-on” functionalities with the final goal of making easier SPD certification in future ESs
- **pSHIELD** is a pilot project addressing the core concepts of SHIELD in a restricted scenario, with a rearranged consortium tailored on the pilot’s scope and with a reduced R&D effort

What is pSHIELD focused on?

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- Demonstrate composability
- New technologies
- Modularity and expandability
- Innovative, modular, composable, expandable and high-dependable architectural framework
- Metrics
- Validate the SHIELD integrated system in one application scenario

Demonstrate composability

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The main novelty is the composability of SPD functionality at different layers among different technologies.

Pilot Project: the mechanism behind the composability will be investigated at design level and will be demonstrated in a reduced but significant context

SPD Technologies for Embedded Systems will be investigated and enriched

Pilot Project: a sub-set of the foreseen SHIELD technologies will be used to be the very first significant example of SPD composability

Modularity and expandability

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pSHIELD approaches SPD in Embedded Systems at three layers: Node, Network and Middleware. These layers will be made interoperable by means of semantic abstraction.

The SHIELD project will design the core architectural framework.

Pilot Project: starting from the common architectural framework will refine and tailor it on Railways scenario

Metrics are the other novelty in the SHIELD project

Pilot Project: a first “working” metric for SPD quantification and composition will be defined

Validate the SHIELD integrated system in one application scenario



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The pilot project will validate the architectural framework by means of a specific application scenario

Main issues to concentrate on

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- **Innovation**

- Improve SPD Technologies for Embedded Systems
- Define a mechanism for SPD Technologies composition
- Identify a mean for SPD quantification in complex/composed systems (metrics composition)

- **Outcome**

- Produce prototypes for new SPD Technologies
- Produce a “proof of concept” of the composition mechanism
- Standard procedure for metrics elicitation and composition

Project Status (1/2)

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- pSHIELD is a pilot project of 19 months duration (now at M16), expected to end by 31.12.2011
- Delivered M0.1....M0.6 after the mid-term review
- Re-organisation of project management
 - New technical manager, administrative leader and project manager

- Minor changes in partners, good progress
 - Selex Comms and ElsigDatamat merged in a new company named SelexElsag, ESI renamed as Tecnalia, ISD withdrew (minor contribution foreseen)
 - 60-90% of work performed (except WP6)
 - 11/11 ordinary deliverables produced in this period
- Pilot demonstration of SPD functionalities established through 1 demonstrator and 4 prototypes