



# p.S.H.I.E.L.D.

*pilot embedded Systems archItecturE for multi-Layer Dependable solutions*

## EXECUTIVE summary

To help safeguard society, pSHIELD will guarantee the Security, Privacy and Dependability (SPD) of Embedded Systems (ES) by making these "built in" features of future designs. Monitoring of hazardous materials being transported by train will be used to validate the results.

## RELEVANCE CALL 2008 objectives

The SHIELD consortium proposes a compact R&D, or pilot, project (pSHIELD) to address the core concepts of SHIELD. The pilot is intended to be a pioneer investigation enhanced with R&D activities that will be proposed in the future ARTEMIS Calls.

## MARKET innovation

The project will have a great impact on the SPD market of the ES. By addressing the reusability of previous designed solutions, the interoperability of advanced SPD technologies and the standardised SPD certifiability, it is possible to estimate an overall 30% cost reduction for a full SHIELD oriented design methodology. The composability of the SHIELD architectural framework will have great impact on the system design costs and time to market of new SPD solutions in ES. The integrated use of SPD metrics will have impact on the development because the qualification, (re-)certification and (re-)validation process of a SHIELD framework instance will be faster, easier and widely accepted.

## TECHNICAL innovation

pSHIELD will approach SPD at 4 different levels: node, network, middleware and overlay. For each level, the state of the art in SPD of single technologies and solutions will be improved and integrated (hardware and communication technologies, cryptography, middleware, smart SPD applications, etc.). The SPD technologies will be enhanced with composable functionality to incorporate the pSHIELD architectural framework.

The pSHIELD project will be focused on:

- > Demonstrate composability
- > New technologies
- > Modularity and expandability
- > Innovative, modular, composable, expandable and highly dependable architectural framework
- > Metrics
- > Validation of the SHIELD integrated system in one application scenario.



### ADMINISTRATIVE PROJECT COORDINATOR

Josef Noll

### INSTITUTION

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### EMAIL

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### START

June 2010

### TECHNICAL PROJECT COORDINATOR

Antonio Di Marzo

### DURATION

19 months

### INSTITUTION

SESM - FINMECCANICA

### TOTAL INVESTMENT

€ 5.4 M

### EMAIL

adimarzo@sesm.it

### PARTICIPATING ORGANISATIONS

16

### WEBSITE

www.pshield.eu

### NUMBER OF COUNTRIES

6

