



WP7: Knowledge exchange and industrial validation

Final Review - Feb 2012

Josef Noll (Movation), major contributions from CS, CWIN, SE, UNIROMA1, MGEP, UNIGE, SESM

ARTEMIS Call 2009 – SP6100204



Objective of WP7

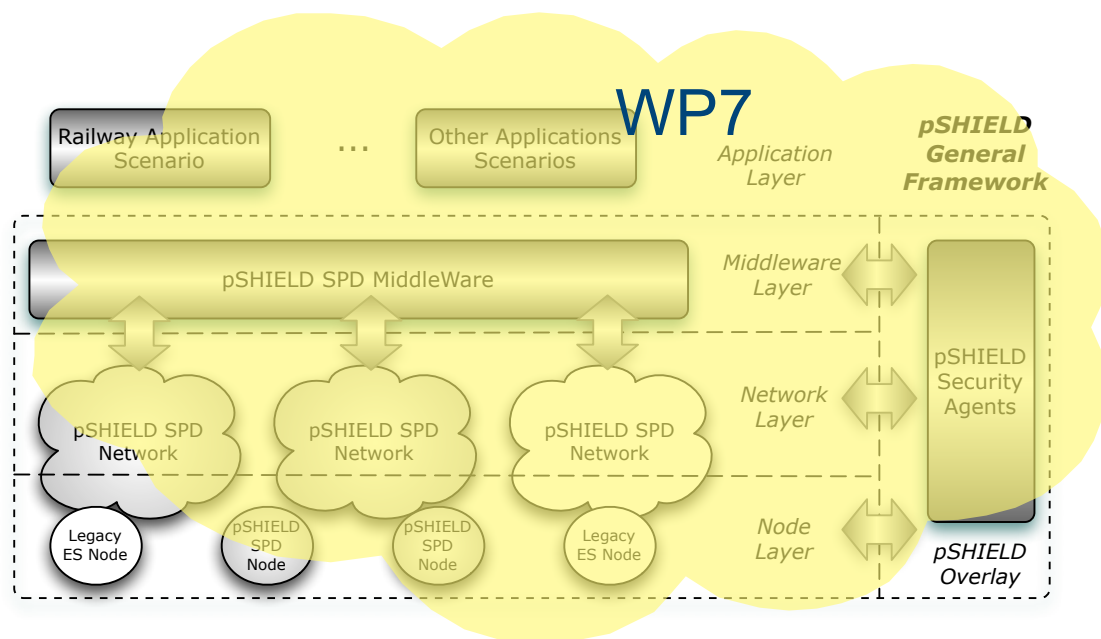
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- **Dissemination** (*Task 7.1; Task Leader: SESM, Partners: ASTS, ATHENA, CS, CWIN, ESI, MAS, MGEP, THYIA*)
- **Exploitation of results** (*Task 7.2; Task Leader: CWIN, Partners: ASTS, CS, ED, SCOM, THYIA*)

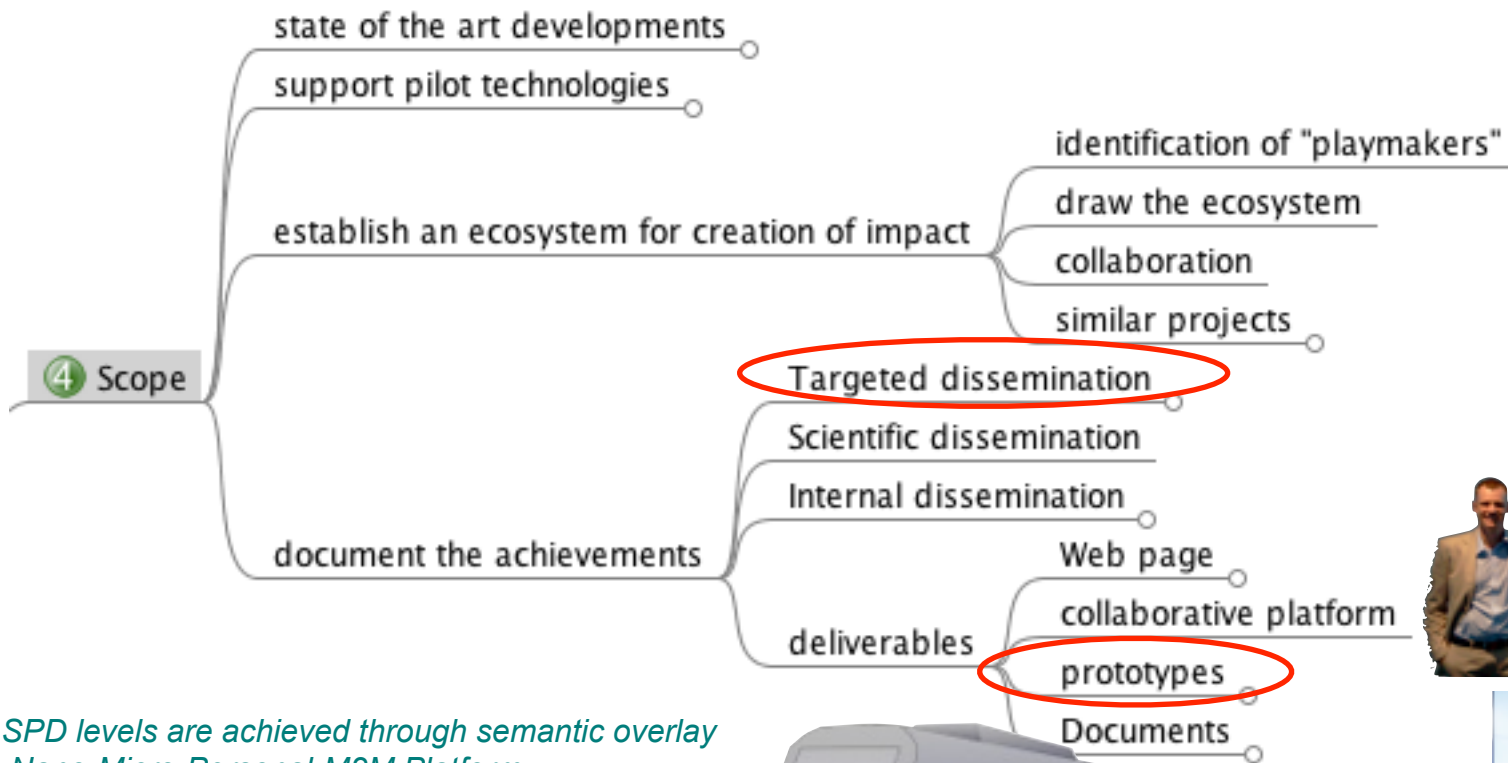
The industrial dissemination & exploitation activities play essential role, in ARTEMIS perspective, in the validation of research results in industrial sector

Deliverables:

- D7.1.1 Web Site (M2) *Public*
- D7.1.2 Dissemination Report (M19) *Public*
- D7.2.1 Exploitation Plan (M19) *Public*



- from scope to impact



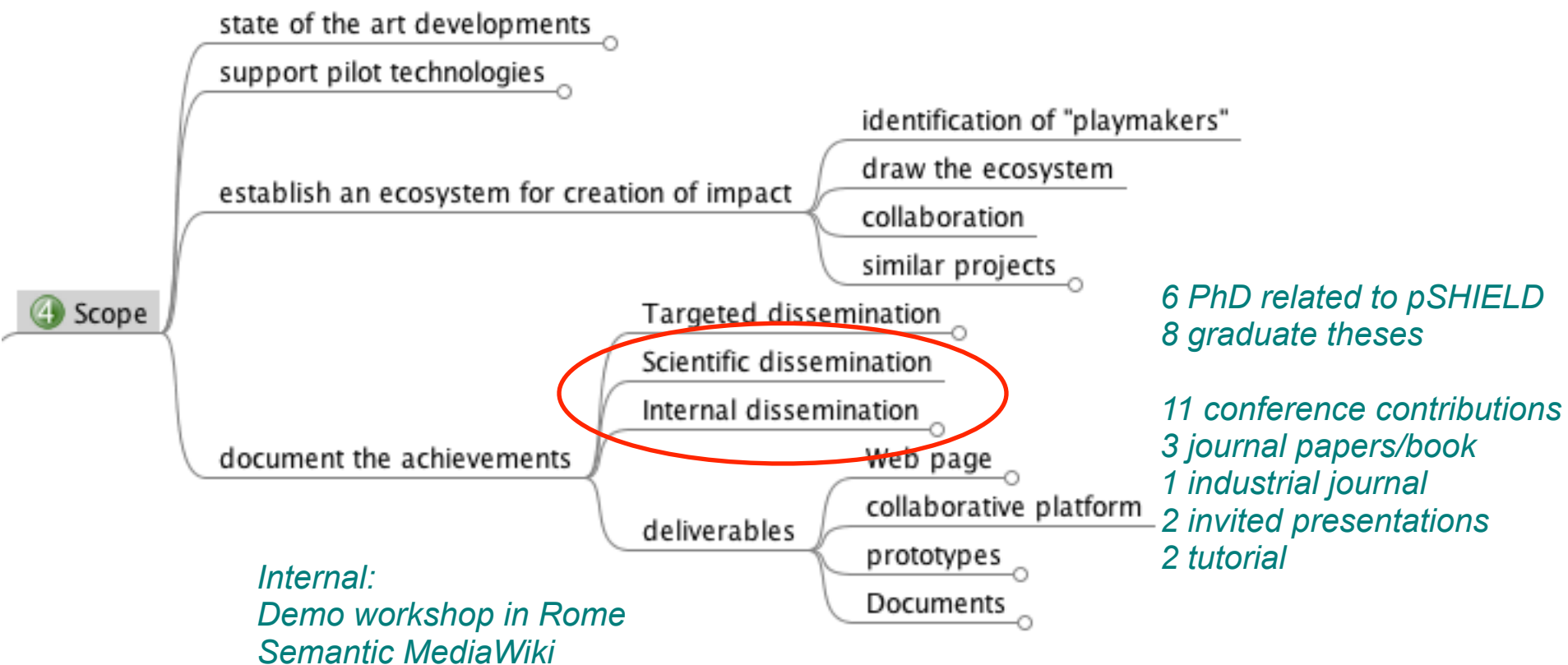
*Telecom,
Hardware,
Energy
Applications*



*SPD levels are achieved through semantic overlay
Nano-Micro-Personal-M2M Platform
Monitoring trains with WSNs
FPGA Power Node Prototype
Cognitive Radio Node Prototype*



- scientific dissemination



pSHIELD Dissemination

pSHIELD has dissemination activities towards the following main areas:

- Targeted Industrial Dissemination
- Scientific dissemination
- Industrial publications
- Workshops and Exhibitions

Targeted Industrial Dissemination

Industrial Contacts

This page summarises the feedback provided from companies and public organisations after meetings with pSHIELD participants. These meetings are established to either discuss technology, applications or aspects of the ecosystem for secure sensor information. *Note: The word status is used in this text as the status of December 2011 (the end of the pSHIELD project).*

From the Norwegian side, the main focus is on bringing pSHIELD sensors into a standardised machine-to-machine (M2M) and machine-to-business (M2B) environment. Movation is member of ETSI and Artemisia, and through these ones foster interoperability as e.g. ETSI TS102.690 "Functional architecture for an M2M platform". Movation has the main focus on bringing pSHIELD results to the sensor and Telecom industry in Norway. A close cooperation of the pSHIELD partners Movation and CWIN is established with Telecom Objects, resulting in the first implementation of

Industrial publications

- Giuseppe Martufi, Fabrizio de Seta, "pSHIELD for Embedded System Security", EDlink 37 (Elsag Datamat Company Magazine), Rome, 2010.

Workshops and Exhibitions

- Valentina Casola, Mariana Esposito, Francesco Flammini, and Nicola Mazzocca, "Monitoring railway infrastructures, a case-study for the pShield project" The 2nd International Workshop on Mobile Commerce Cloud Computing, Network and Communication Security 2012 at IMIS 2012.(UNDER REVISION)
- Josef Noll, "Security challenges in the Internet of Things" ([Media:CoSummit-SecurityInIoT-Oct2011.pdf](#)), [[ARTEMIS/ITEA2 Co-Summit 2011](#)], Panel on Trends in ICT Security, 24-26 October 2011, Helsinki, Finland
- Josef Noll (Movation AS), Przemyslaw Osocha (SESM), "pSHIELD project - demonstration of SPD prototypes", [[ARTEMIS/ITEA2 Co-Summit 2011](#)] Exhibition, 24-26 October 2011, Helsinki, Finland ([Media:pSHIELD-overview-ArtemisSummit2011.pdf](#))
- Przemyslaw Osocha, João Carlos Cunha, "SPD Power Node ES solution in pSHIELD framework". ERCIM/

Scientific dissemination

- Mariana Esposito, Inaki Eguia, Francesco Flammini, Alfio Pappalardo and Erkuden Rios, "Formalizing SPD metrics for Embedded Systems Multilayer approach" Second Eastern European and Mediterranean Software Process Improvement Conference (EuroMed SPI II), Zamudio, Spain, October 6-7, 2011.
- Josef Noll, "Security, Privacy and Dependability in the Internet of Things (IoT)", WWRF#27, invited paper to WG7, 18.-20. October 2011
- Josef Noll, Zahid Iqbal and Mohammad M.R. Chowdhury, "Integrating context- and content-aware mobile services into the cloud", CWI/CTIF seminar on Mobile Cloud Computing and wireless applications, 24.-25. October 2011, Aalborg University in Copenhagen
- A. V. Voyiatzis, K. Stefanidis and D. N. Serpanos: "Increasing Lifetime of Crypto Keys on Smartphone Platforms with the Controlled Randomness Protocol", In Proceedings of 6th Workshop on Embedded Systems Security WESS 2011, October 2011
- Iñaki Garitano, Roberto Uribeetxeberria and Urko Zurutuza, "Review of SCADA Anomaly Detection Systems", Soft Computing Models in Industrial and Environmental Applications, 6th International Conference SOCO 2011, Salamanca (Spain) in April, 2011, ISBN 9783642196447
- Urko Zurutuza, Enaitz Ezpeleta, Álvaro Herrero and Emilio Corchado "Visualization of Misuse-based Intrusion Detection: Application to Honeynet Data", Soft Computing Models in Industrial and Environmental Applications, 6th International Conference SOCO 2011, Salamanca (Spain) in April, 2011, ISBN 9783642196447
- Ekhiotz Jon Vergara, Simin Nadjm-Tehrani, Mikael Asplund and Urko Zurutuza, "Resource Footprint of a Multicast Protocol Implementation on Multiple Mobile Platforms", Fifth International Conference on Next Generation Mobile Applications, Services and Technologies, NGMAST 2011, Cardiff, Wales, UK, 14-16 September 2011.
- Fiaschetti A., Lavorato F., Suraci V., Palo A., Tagliatalata A., Morgagni A., Baldelli A., Flammini F., "On the use of semantic technologies to model and control Security, Privacy and Dependability in complex systems" Proc. Of 30th International Conference on Computer Safety, Reliability and Security (SAFECOMP'11), Sep. 2011. Naples, Italy
- Sarfraz Alam, Mohammad M. R. Chowdhury, Josef Noll, "Interoperability of Security-enabled Internet of Things", to appear in Wireless Personal Communication Special Issue on "Internet of Things and Future Applications", Springer-Netherlands, 2011.
- Mohammad M. R. Chowdhury, Josef Noll, "Securing Critical Infrastructure: A Semantically Enhanced Sensor Based Approach", 2nd International Conference on Wireless

PhD and Master Education related to pSHIELD

pSHIELD has opened questions of academic requests, thus five master/bachelor theses and six PhD theses are related to the project. The most relevant theses related to pSHIELD are included here.

- Mariana Esposito, cycle XXVI, Ph.D. in Computer and Control Engineering (ongoing research activity).
- Mr. Iñaki Garitano, "Metodología para el diseño, implantación y mantenimiento de sistemas de seguridad para SCADA" - foreseen PhD thesis
- Andrea Fiaschetti, cycle XXV, Ph.D. in System Engineering (ongoing research activity).
- Sarfraz Alam, "Secure interworking of sensor systems in heterogeneous business environments" (tentative title), PhD thesis, to be finished in Q2.2012
- Sk. Shariful Alam, "Opportunistic Spectrum Sensing ar Transmissions in Cognitive Radio" (tentative title), PhD thesis, University of Genova, to be finished in Q4.2011:
- Kresimir Dabcevic (initiated), "Security Threats and Detection Techniques in Cognitive Radio Networks" (tentative title), PhD thesis, University of Genova, to be finished in Q4.2014

WP7 emphasises industrial dissemination & exploitation activities

Excellent results for

- targeting dissemination
 - industrial eco-system established, e.g. IoT - Future Internet Value Creation Network
 - contacts established
- pilot prototypes
 - five++ prototypes established
 - focus on various aspects
- scientific dissemination
 - 6 PhD, 8 graduate, 11 conference contrib., 2 invited papers, 3 journal papers
- internal dissemination
 - workshops and Semantic MediaWiki

