



ABCDE



Scientific Report

First name / Family name

Konstantinos Kotis

Nationality

GREEK

Name of the *Host Organisation*

VTT Technical Research Centre of
Finland

First Name / family name
of the *Scientific Coordinator*
Period of the fellowship

Artem Katasonov

01/12/2011 to 30/11/2012



I – SCIENTIFIC ACTIVITY DURING YOUR FELLOWSHIP

- Research topic
 - Semantic Interoperability in Smart Environments / IoT
- Aim
 - Solve interoperability problem of heterogeneous IoT entities at information level i.e. devices, applications, ‘things’ developed by different Vendors must “understand” each other
- Research areas
 - Ontology Eng. (alignment), Semantic Web, IoT, Smart Spaces, Web Services
- Focus
 - Development of a semi-automated Semantic Interoperability Service (SIaaS) for the deployment of applications in IoT environments
- Proposition of the “Semantic Smart Gateway Framework” (SSGF)
 - Semantic Registry (using an IoT ontology), Matchmaking of IoT entities, Alignment of their semantics (domain ontology definitions)
- Implementation of a “Smart Proxy” solution for SSGF
- 5 publications (CISIS 2012, ruSMART 2012, OM 2012, IJDST)
- 2 projects (IoT/TEKES, iCore/FP7) participation (deliverables, meetings)
- Participation in a soft. tools’ contest (OAEI 2011.5, OAEI 2012)
- Participation in co-authoring of related project proposals (FP7)

II – PUBLICATION(S) DURING YOUR FELLOWSHIP

[1] Kotis, K., A. Katasonov, and J. Leino, "Aligning Smart and Control Entities in IoT", *The 5th Conference on Internet of Things and Smart Spaces 2012*, issue LNCS 7469, St. Petersburg, RU, Springer, pp. 39-50, 2012

Download: [Kotis@VTT_ruSMART2012_camera.pdf](#) (500.23 KB)

[2] Kotis, K., and A. Katasonov, "Semantic Interoperability on the Web of Things: The Semantic Smart Gateway Framework", *CISIS 2012*, Palermo, Italy, 2012.

Download: [VTT_SmartGateways2012_camera.pdf](#) (162.85 KB)

[3] Kotis, K., and A. Katasonov, "Semantic Interoperability on the Internet of Things: The Semantic Smart Gateway Framework", *International Journal of Distributed Systems and Technologies (IJDST)*, In Press.

[4] Kotis, K., A. Katasonov, and J. Leino, "ASE results for OAEI 2012", *Seventh International Workshop on Ontology Matching, ISWC 2012*, Boston, CEUR-WS, 11/2012.

[5] Kotis, K., A. Katasonov, and J. Leino, "AUTOMSV2 results for OAEI 2012", *Seventh International Workshop on Ontology Matching, ISWC 2012*, Boston, CEUR-WS,



11/2012.

III – ATTENDED SEMINARS, WORKHOPS, CONFERENCES

1. ERCIM Seminar II, 24-25 Oct. 2012. Sophia Antipolis, France
2. The Fifth Conference on Internet of Things and Smart Spaces 2012, August 27-28, 2012. St.-Petersburg, Russia
3. The Sixth International Conference on Complex, Intelligent, and Software Intensive Systems (CISIS-2012) July 4th-July 6th, 2012, Sanpaolo Palace Hotel, Palermo, Italy
4. IERC AC4 Semantic Interoperability Workshop, IoT Week 2012, 18-22 Jun. 2012, Venice, Italy
5. The Seventh International Workshop on Ontology Matching, collocated with the 11th International Semantic Web Conference ISWC-2012, November 11th, 2012, The Boston Park Plaza Hotel & Towers, Boston, MA, USA

IV – RESEARCH EXCHANGE PROGRAMME (REP)

1. Technical University of Vienna

Distributed Systems Group (DSG)
Prof. Shahram Dustdar
dustdar@infosys.tuwien.ac.at
18-25/03/2012

2. University of Zurich

Dynamic and Distributed Information Systems Group (DDIS)
Prof. A. Bernstein
bernstein@ifi.uzh.ch
01-07/10/2012