

SEMIoTICS Overview

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SEMIoTICS is a European Union project funded under the **H2020-IoT-03-2017** work programme, launched on January 2018.

It has a three-year duration and its main scope is to develop a **pattern-driven framework**, built upon existing IoT platforms, **to enable and guarantee secure and dependable actuation and semi-autonomic behaviour in IoT/IIoT applications**. Patterns will encode proven dependencies between security, privacy, dependability and interoperability (SPDI) properties of individual smart objects and corresponding properties of orchestrations involving them.

The SEMIoTICS framework will support **cross-layer intelligent dynamic adaptation**, including heterogeneous smart objects, networks and clouds. To address the complexity and scalability needs within horizontal and vertical domains, SEMIoTICS will develop and integrate smart programmable networking and semantic interoperability mechanisms. The above will be validated by industry, using

three diverse scenarios and will be offered through an open API. More specifically, the three IoT application scenarios include two verticals in the areas of renewable energy and health care and one horizontal in the area of smart sensing. These scenarios have been selected since they involve: **(a)** different and heterogeneous types of smart objects (i.e., sensors, smart devices, actuators) and software components; **(b)** different vertical and horizontal IoT platforms; and **(c)** different types of SPDI requirements.

Furthermore, the SEMIoTICS consortium is ideally positioned to **ignite and foster a European IoT ecosystem**, covering the whole value chain of IoT, local embedded analytics and their programmable connectivity to the cloud IoT platforms with the associated security and privacy provisions. The consortium is striving for a common vision of creating EU's technological capability of innovative IoT landscape both at European and international level.

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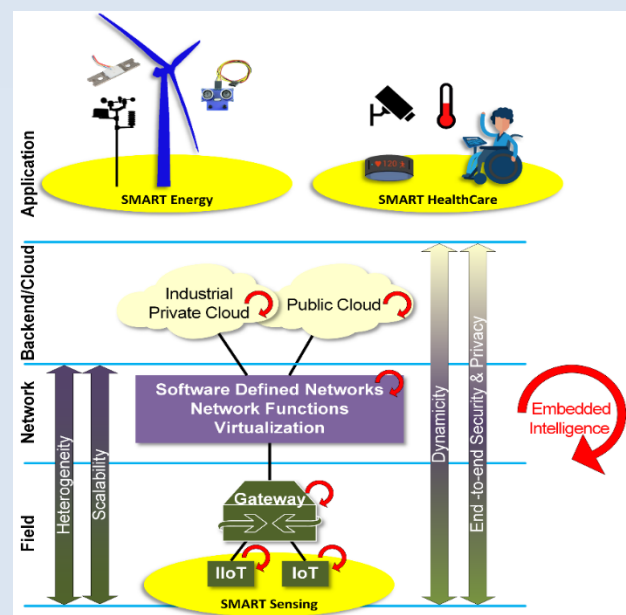
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SEMIoTICS Kickoff Meeting



The SEMIoTICS **F2F kickoff meeting** was successfully held on March 7th, 2018 at the headquarters of SIEMENS AG in Munich, Germany!!

SEMIoTICS Dissemination Activities

IOTSWC 2017



SEMIoTICS was presented by CTTC in IoT Solutions World Congress 2017 in Barcelona

IOTSWC 2017



SEMIoTICS was also presented by IQU in IoT Solutions World Congress 2017 in Barcelona

SCEWC 2017



SEMIoTICS was presented by CTTC and IQU in Smart City Expo 2017 in Barcelona

MWC 2018



SEMIoTICS was presented by CTTC in Mobile World Congress 2018 in Barcelona

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We're on the Web!
See us at:
<https://www.semiotics-project.eu/>

Publications

1. E. Datsika, A. Antonopoulos, D. Yuan, C. Verikoukis, Matching Theory for Over-the-top Service Provision in 5G Networks
IEEE Transactions on Wireless Communications, to appear.
2. P.-V. Mekikis, E. Kartsakli, A. Antonopoulos, L. Alonso, C. Verikoukis, Connectivity Analysis in Clustered Wireless Sensor Networks Powered by Solar Energy
IEEE Transactions on Wireless Communications, vol. 17, no. 4, pp. 2389-2401, April 2018.
3. A. Antonopoulos and C. Verikoukis, COPS: Cooperative Statistical Misbehavior Mitigation in Network-Coding-aided Wireless Networks
IEEE Transactions on Industrial Informatics, vol. 14, no. 4, pp. 1436-1446, April 2018.
4. E. Datsika, A. Antonopoulos, N. Passas, G. Kormentzas, C. Verikoukis, Green Resource Management for Over-The-Top Services in 5G Networks using Matching Theory
IEEE ICC, 20-24 May 2018, Kansas City, MO, USA.

SEMIoTICS in social media

SEMIoTICS is present in:



So please follow us
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with the project progress!