



Trusted Apps for open Cyber Physical System (CPS): Industrial Achievements and new Research Perspectives

hosted at the EC's Joint Research Centre Ispra, Italy

May 10th 2017, Ispra, Italy

Abstract:

Open and smart **cyber-physical systems (CPS)** are considered to be the next revolution in ICT with enormous economic potential enabling novel business models for integrated services and products. In many areas of CPS devices, e.g. **for automotive, medical and industrial automation**, there is a strong trend towards open systems, which can be extended during operation by instantly adding functionalities on demand.

The main goal of the TAPPS research project is to extend and customize CPS devices with new 3rd party services and features within a Trusted Apps platform in an efficient, secure and most important trusted way. The TAPPS project (GA 645119 – H2020 – ICT – 2014-1) is part of the European Commission Horizon2020 program.

The TAPPS solution will address all necessary layers from hardware over software to an app store concept always ensuring security and full real-time support for the applications. The extensibility and the pervasive trusted environment of TAPPS are important differentiators that will enable new market extensions to keep pace with user expectations and latest technology.

As current, rich execution platforms for apps are limited in security, the TAPPS project will develop a novel platform supporting real-time execution. Furthermore, TAPPS will provide and validate an end-to-end solution for development and deployment of trusted apps, including an App Store and a model-based tool chain for trusted application development including verification tools. These solutions are validated for health and automotive application domains using industrial, realistic use cases paving the way for future exploitation in further demanding application domains.

The seminar includes **expert speakers** from major, international companies specialized in engineering CPS and developing cyber security solutions. We also welcome two **keynote speakers from Bosch and Continental**. During the seminar, there will be the opportunity to promote the results of TAPPS and to go more in depth in partners' core competences related to Cyber security for Cyber Physical Systems.

Location: JRC Ispra, Via Enrico Fermi 2749, I - 21027 Ispra (VA). Ispra is located 30km from Malpensa airport at Milano, Italy.

Free Registration by May 3st via Email to tapps-event@lists.fortiss.org

More information: www.tapps-project.eu



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Agenda

09:00 – 10:00	Registration and Security Control
10:00 – 10:15	Welcome , Dr.-Ing. Harald Scholz, Interoperability Centre for Electric Vehicles and Smart Grids (JRC, Italy)
10:15 – 10:55	High Performance computing - the next challenge for automotive controller architectures , Dr. Stefan Voget, Head of Hardware & Software Laboratory Department Artificial Intelligence and Robotics (Continental Automotive GmbH, Germany)
11:00 – 11:40	Control your car with Automotive Apps , Markus Schweizer, SW Platforms and Technologies (Robert Bosch GmbH, Germany)
11:40 – 12:00	Coffee break
12:00 – 12:30	Trusted Apps - TAPPS - overview presentation , Prof. Christian Prehofer (fortiss & TU München, Germany)
12:30 – 13:00	Secure Communication for Complex & Distributed Real-Time CPS , Marcello Coppola (STMicroelectronics – Grenoble, France) & George Kornaros (Technological Educational Institute of Crete, Greece)
13:00 – 14:00	Networking lunch
14:00 – 14:30	Cyber security through virtualization , Alvise Rigo (Virtual Open Systems – Grenoble, France)
14:30 – 15:00	Market Place Platform & Methodology for Critical Environments , Julien Avarre (Actility, Paris, France)
15:00 – 15:30	App-enhanced Health Trolley for Drug Administration - Healthcare use case , Riccardo Dodi (Ospedale San Raffaele, Milano, Italy)
15:30 – 16:00	Secure Platform for Electric Vehicle Control System - Automotive use case , Giovanni Gherardi (Energica Motor Company S.p.A, Modena, Italy)
16:00 – 16:30	Coffee break
16:30 – 17:00	Networks and Technologies for Autonomous Manufacturing in Industry 4.0 – Industry use case , Andreas Eckel (TTTech, Austria)
17:00 – 17:15	Automotive CPS @JRC , G.Baldini (JRC)
17:15 – 17:30	CPS needs for Autonomous Driving , B.Ciuffo (JRC)
17:30 – 18:00	Cyber security and Interoperability for Electromobility Supply Infrastructures , Dr.-Ing. Harald Scholz (JRC)

TAPPS Partners:

fortiss

www.fortiss.org - Fortiss has a strong expertise on engineering CPS on the software side, including tool chains and verification.



www2.st.com - ST is a leading micro electronics manufacturer and focuses on trusted hardware, as needed in this project.

TTTech

www.ttttech.com - TTTech is a leader in deterministic networking for CPS systems and focuses on network virtualization for CPS, under security and real-time constraints.



www.virtualopensystems.com - VOS is a leader in open-source virtualization solutions for automotive and other CPS domains and focuses on computing virtualization and connection to other CPS devices.



www.actility.com - Actility is a leading SME in the area of M2M communication protocols and is the first company to introduce an App Store for this. Actility will focus on the App Store and App deployment.



Fondazione

CENTRO SAN RAFFAELE

www.eservices4life.org - FCSR (Fondazione Centro San Raffaele) is an innovative health care research institute which is linked to an Italian hospital which ensures the impact and exploitation of the results. FCSR is in charge of the medical trial.





T.E.I. of Crete

<https://www.teicrete.gr/en> - Informatics, Engineering, Health, Agriculture and Food, Economics and Management, Environment.

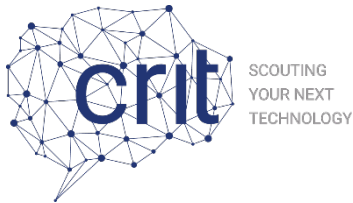


www.energicamotor.com - Energica is a highly innovative SME in the automotive area, contributing with a motorcycle trial.

Third Party



External Partner



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