SCOTT Newsletter October 2020

CONTENT

Welcome!

This is the **October 2020 edition** of the SCOTT newsletter, highlighting news & achievements from SCOTT during Q3 2020.

This is also our final edition, as the project ends now. So it is time to say "**Thank you**" to you, dear reader, and to the whole SCOTT family: project coordination, ECSEL project officer, our reviewers and advisors, and the whole SCOTT consortium. It has been a wonderful time!

Please distribute this newsletter to all interested parties in your organization. We appreciate your feedback, please send comments or requests to scott@v2c2.at.

Interested in more? Check out our new project **InSecTT**: Intelligent Secure Trustable Things (https://www.insectt.eu/) InSecTT

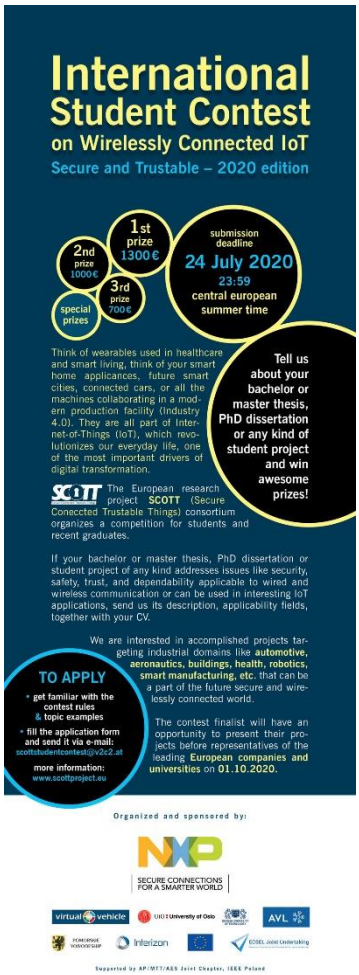
Enjoy the reading!

SCOTT project organizes IoT Student Contest - cool prizes and intership to win!

Jul 15

Students: tell us about your bachelor or master thesis, PhD dissertation or any kind of accomplished student project addressing security, safety, trust, and dependability in IoT and win up to 1300 € or more, and additionally get access to interesting internship/job offers. The contest finalists will have the opportunity to present their projects to representatives of leading European companies and universities.

Visit our website for more details:
www.scottproject.eu/studentcontest



Introducing SCOTTs Reference Architecture Workpackage (WP26)

Jul 21

SCOTT WP26 targets the design of reliable and secure network components. The objective is to define infrastructure organization guidelines in the form of a reference architecture that

will enable interoperability and will contribute to build trust in the different SCOTT IoT (Internet of Things) industrial use cases. The SCOTT reference architecture addresses trust issues by mapping infrastructure entities, their functionalities and their relationships (interfaces) to a multitude of building blocks that deal with security, privacy, safety, and dependability features. The SCOTT reference architecture provides compatibility with the most important standard architectures, while introducing novel concepts such as the SCOTT bubble and the Trustworthiness vector indicator that provide enhanced IoT designs. The SCOTT reference architecture builds on detailed functional, entity, information, and domain model perspectives that cover the needs of multiple IoT stakeholders and industrial lifecycles in the domains of aeronautics, railway, building, healthcare, and automotive. More specifically, WP26 has achieved the following milestones: Definition of a detailed functional model based on the ISO sensor network reference architecture fused with modern IoT architectures based on ITU, IEEE, ISO, and IoT ARM standards, providing a detailed extension of requirements, interfaces and flow analysis for the main use cases of the project. Improvement of the Bubble entity layered model of the SCOTT architecture using fog, edge computing and 5G modern architecture concepts. Link of architectural and network security to safety issues using the philosophy of aeronautics and automotive safety related standards. Full interoperability analysis with other IoT and cloud computing platforms such as Fiware, Microsoft Azure, IBM, etc. Implementation of trustworthiness and security metrics analysis for different layers of the architecture and different entities of each use case. Definition of the Level 2 interoperability solution for communication between Bubbles with trustworthiness vector indicator provided by the cloud computing solution of the railway domain Definition of a set of Bubble gateway components with enhanced security for automotive, wireless avionics intra-communications, and building access control. Improved modelling of vehicular network components and networks that will have an impact on the reliability of IoT solutions, Creation of network components that allow connectivity in challenging and remote locations using a variety of technologies such as satellite links, obstacle and metallic environments, turbulence conditions, etc. Definition of cloud computing elements that allow a variety of use cases to benefit from centralized processing with improved security, privacy and (if applicable) safety. Implementation of security metrics, security classes and privacy labels in different use cases. Alignment of spotlight use cases with the reference architecture, highlighting interfaces, vulnerabilities and risk assessment.

Find out more via https://scottproject.eu/

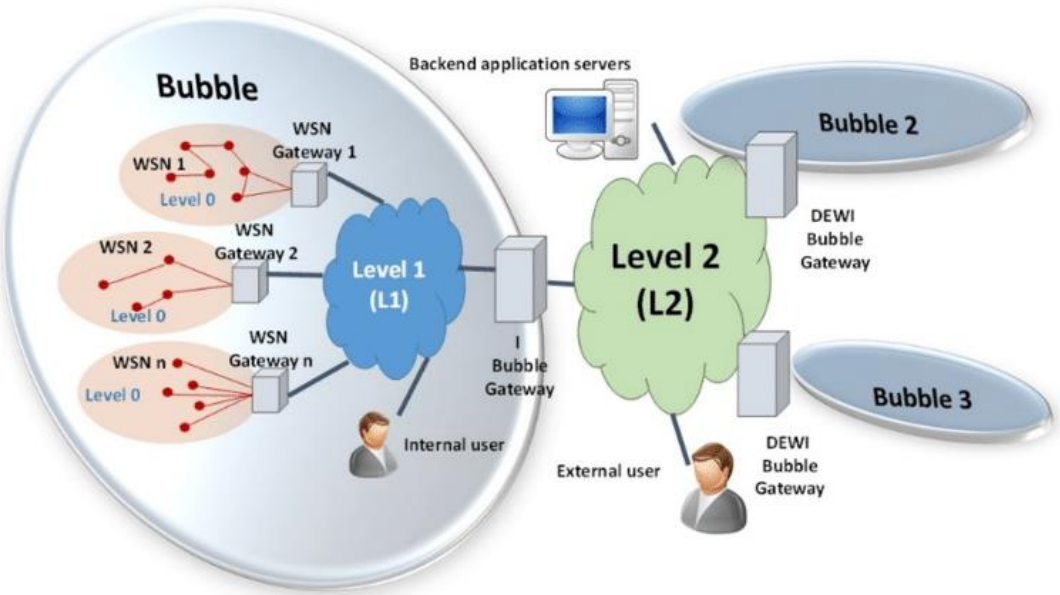


Fig. 1 Bubble entity model of the SCOTT Reference architecture

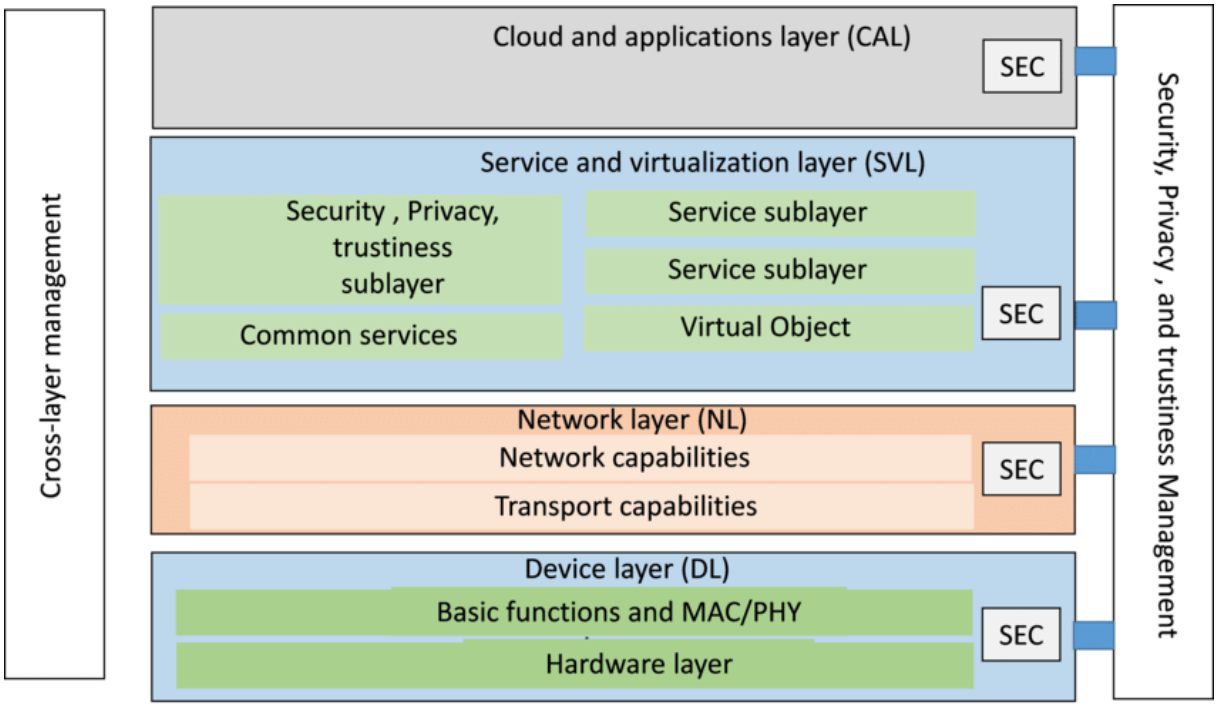


Fig. 3 Functional model of the SCOTT reference architecture

Secure Connected Trustable Things

International SCOTT Student Contest - Deadline extended!

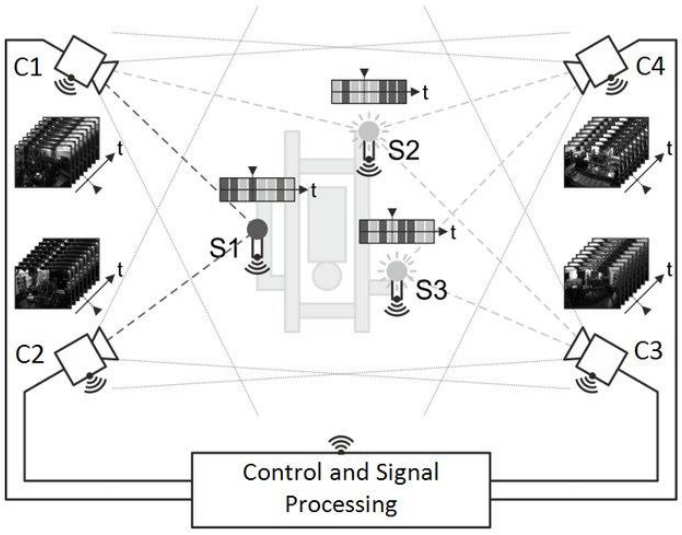
Jul 27

One more week to apply in the International Student Contest on Wirelessly Connected IoT in 2020 Due to your inquiries and holiday period, the contest organizers have decided to extend the submission deadline by one week to 31 July 2020! We are interested in accomplished projects targeting domains like automotive, aeronautics, buildings, health, robotics, smart manufacturing, etc. that can be a part of the future secure and wirelessly connected world. Apply now! More information is available here: https://scottproject.eu/studentcontest/

New Paper: Location-based Trustworthiness of Wireless Sensor Nodes using Optical Localization

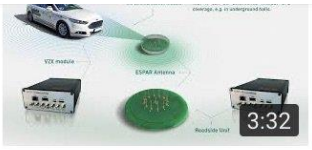
Aug 13

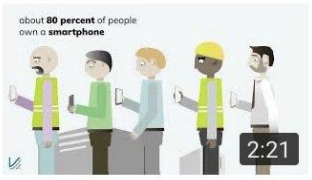
A continually growing number of sensors is required for monitoring industrial processes and for continuous data acquisition from industrial plants and devices. The cabling of sensors represent a considerable effort and potential source of error, which can be avoided by using wireless sensor nodes. These wireless sensor nodes form a wireless sensor network (WSN) to efficiently transmit data to the destination. For the acceptance of WSNs in industry, it is important to build up networks with high trustworthiness. The trustworthiness of the WSN depends not only on a secure wireless communication but also on the ability to detect modifications at the wireless sensor nodes itself. This paper presents the enhancement of the WSN's trustworthiness using an optical localization system. It can be used for the preparation phase of the WSN and also during operation to track the positions of the wireless sensor nodes and detect spatial modification. The location information of the sensor nodes can also be used to rate their trustworthiness.



COVID-19 impacts our planned SCOTT Public Day

Sep 8





Since the beginning of SCOTT in May 2017, we were looking forward to the “Grand Finale”, presenting our results and ideas in a “Public Day” in Graz (in co-location with the final project review).

Then came COVID-19.

After consultation with our ECSEL Programme Officer we jointly decided that the SCOTT final review meeting, as well as the SCOTT public day, will not take place in physical presence. The review meeting is able to move into the virtual world, but we are still working to find a solution for the public event. Date and format still have to be decided. We will keep you updated.

In the meantime: have a look and watch some impressive videos on SCOTT’s YouTube presence: https://m.youtube.com/channel/UC8MfGTuS5W_HKb-EtPo-8EA

Whitepaper on IoT&Cloud security

Sep 16

Making IoT secure is essential, but non-trivial. Have you ever wondered how to secure the communication of an IoT device with a cloud server with all the „hops“ in between?

Then this white paper might be a good read for you:

Security Scan Methodology for Cloud Connected IoT Devices from Nokia Bell Labs and other partners of SCOTT, see https://scottproject.eu/download/whitepaper-security-scan-methodology-for-cloud-connected-iot-devices/

Learn more about SCOTT by visiting https://scottproject.eu/

SCOTT Offline Trip Analyzer from VIF, RISE and JIG

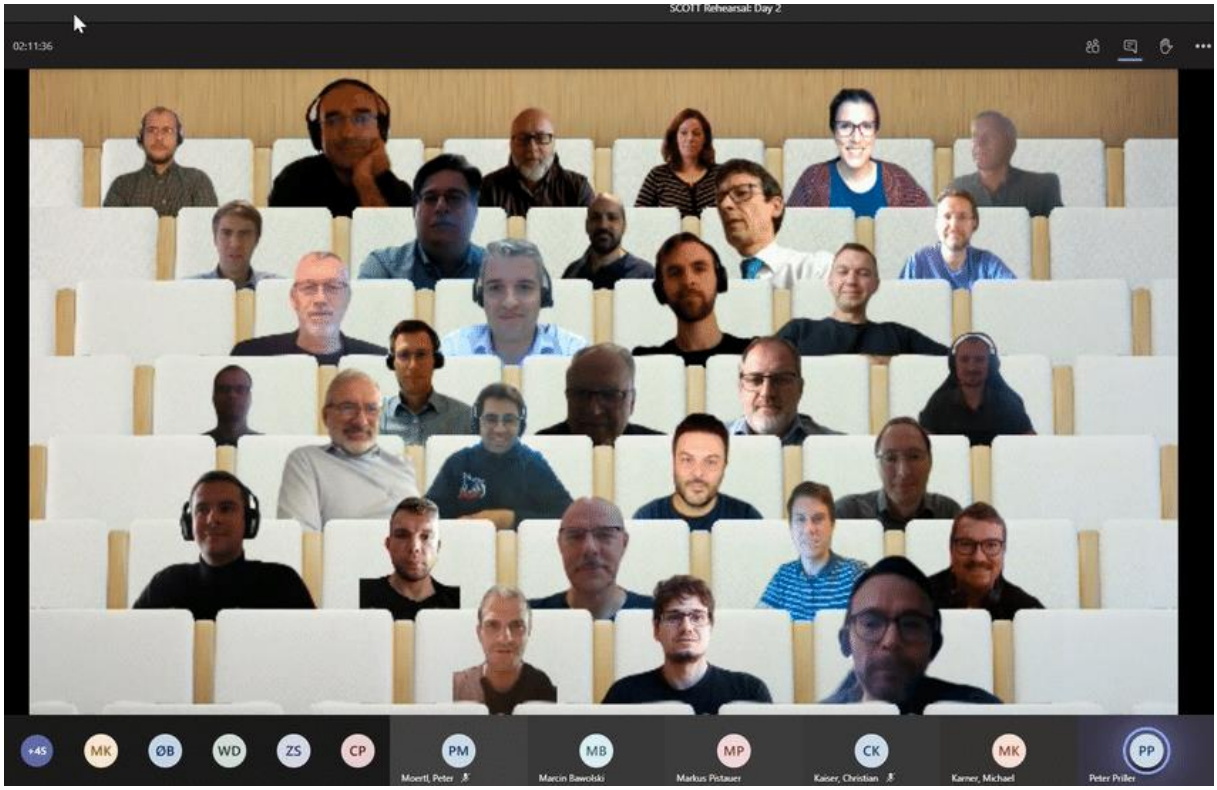
Sep 24

Watch our latest video of the SCOTT result from the RISE (Research Institutes of Sweden), VIF (Virtual Vehicle) and JIG collaboration: https://www.youtube.com/watch?v=lkePDircbIY

SCOTT: Final Review about to start

Sep 29

We are proud to present SCOTT's results in the Final Review Meeting taking place now (September 29th and 30th). Under normal circumstances we'd have a huge meeting room full of hands-on demonstrators, with lots of experts sharing interesting presentations. Due to the current COVID-19 situation, everything moved online. This picture shows our virtual meeting room this morning, filling up during the preparation of the review meeting.



SCOTT
Secure Connected Trustable Things

Interested in more? InSecTT has started

Oct 27

Check out https://www.insectt.eu/

AI + IoT = AIoT

The InSecTT partners believe that Artificial Intelligence of Things (AIoT) is the natural evolution for both AI and IoT because they are mutually beneficial. AI increases the value of the IoT through machine learning by transforming the data into useful information knowledge, while the IoT increases the value of AI through connectivity and data exchange.