

# Nordic IoT News

## No. 4-2019

### Creating a roadmap for Industrial IoT

*In November 2019, the Hub organized an IoT roadmapping workshop in Stockholm. The theme and purpose of the workshop was talks and overviews of existing roadmaps to come up with a synthesis based on the views of our staff and the invited people.*



The workshop was kicked-off with introductory speeches by Paul Pop and Martin Törngren. The key note speaker of the workshop was Dr. Haydn Thompson, who gave an overview of existing roadmaps with a focus on IIoT roadmaps on AI and Edge/Fog computing. Haydn Thompson has over 30 years' experience working in a mixture of senior industrial research and development roles in flight control systems, space programmes and signal processing applications for leading companies. Currently he is Managing Director and Owner of THHINK Wireless Technologies Ltd who are involved in an EU Support Action named CPSoS - Towards a European Roadmap on Research and Innovation in Engineering and Management of Cyber-Physical Systems of Systems. It will establish the state-of-the-art and future research challenges in the area of Cyber Physical Systems of Systems. Cyber-physical systems of systems are large complex physical systems that interact with and are controlled by a considerable number of distributed and networked computing elements and human users. Examples are rail systems, electric grids, smart buildings, and large production facilities.

His presentation was followed by short pitches provided by the Hub seniors attending the workshop, and each pitch was collected in a poster that was made generally available during the workshop. With their various backgrounds they were able to complement the overall picture of where IIoT is moving in the next decade. The new IIoT roadmap will be published in the autumn of 2020.

### One of the first HI2OT student to graduate is Didem Gürdür Broo. In 2019 she finished her PhD in Mechatronics at KTH.



University of Cambridge

Currently, she is a postdoctoral researcher at KTH-ICES where she teaches research methodology and advanced mechatronics project courses, in addition to supervising students on mechatronics and robotics thesis projects. Didem is now moving to Cambridge for a research associate position at University of Cambridge.

During her Ph.D., Didem has been part of HI2OT and collaborated with universities and companies all around the Nordic countries while conducting research on data and visual analytics for cyber-physical systems. Her position at University of Cambridge will be a milestone in her career and an opportunity to become an independent research leader in the domain of sustainable, ethical, human-centered cyber-physical systems.

## Distinguished lecturer programme

On 18 November we had Dr. George Oikonomou, Senior Lecturer in IoT Networking at the University of Bristol, UK to give a 3h lecture on “the Contiki-NG open source operating system for low-power, severely constrained wireless embedded devices: Introduction and hands-on crash-course for beginners.” This lecture was fully streamed to all Hub students.

In order to assess the quality of the streaming one of our students, Jaakko Harjuhahto from Aalto attended the event remotely from Helsinki. The recommendations for future streaming events are that the camera should be placed closer to the screen and preferably only make use of a single screen (no mirror screen) - this may also improve the sound quality. In order to keep the speaker within the camera range it could be advisable to indicate an allowable floor space (e.g. taped boundaries on the floor)

Otherwise, Jaakko was very impressed by the lecture content that was interesting and smoothly delivered.

## EF ECS 19-21 November in Helsinki

During the recent EF ECS Conference, 19-21 November in Helsinki, the Hub was present at the Brokerage event which attracted more than 600 participants. In the past, the Hub partners have identified 18 potential project subjects that they would like to pursue. For the EF ECS Conference this list was narrowed down to four project subjects.



Vesa Hirvisalo, Aalto and Erik Larsson, LTH were present at the event presenting the Hub and distributing Hub info to promising consortia. The organizers of this event are the key research programmes of AENEAS, ARTEMIS-IA, EPoSS, ECSEL and the European Commission, in association with EUREKA.

## Hub Communication Workshop

On November 20, an external communication consultant was invited to provide a workshop for our Hub students. The purpose of the training program was to enable the participating researchers to ensure a high visibility of their projects and to maximize the impact of the results. The deliverables of the workshop were texts written by each participant, suitable for use in the relevant channels of the respective projects and supporting the overall communication objectives of the projects. Furthermore, the workshop provided training of the participants in putting their individual abilities, interests and means to the best use in communicating their own research in particular

The half-day workshop was provided by Martin Einfeldt, who is communications advisor, specializing in transforming vast and complex subject matter into text and illustrations that reach and impact a wide audience, without compromising factuality or credibility. He is also associate lecturer at University of Copenhagen where he teaches creativity, innovation, communication and the use of humor for these purposes.

## New PhD students associated with the Hub

Two new PhD students have been associated with the Hub. Please welcome:

- 5G network slicing strategies for a smart factory  
Jaspreet Walia, Aalto University
- Towards Mitigating the Impact of UAVs on Cellular Communications  
Hellaoui Hamed, Aalto University



In total we now have 45 PhD students affiliated to the Hub meaning that their Hub activities are eligible for funding. Please visit <http://www.nordic-iot.org/doctoral-school/list-of-affiliated-phds/> for a complete list of students.



Aalto University, FI  
Lund University, SE  
Norwegian University of Science and Technology, NO  
Royal Institute of Technology, SE  
Technical University of Denmark, DK

