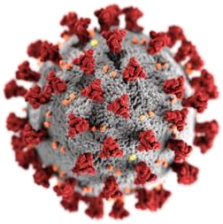
Nordic IoT News

No. 3-2020

IoT and COVID-19

One of the key issues with the COVID-19 pandemic is whether the 5G buildout will slow or accelerate? Generally, market analysts assume that 5G buildout may take a short-term hit given the economic slowdown (e.g. Spain, France and Austria have all made the decision to delay 5G spectrum auctions due to COVID-19). However, they believe that in the long term, 5G might accelerate through government funding and use cases that demonstrate the value of high-speed connectivity during COVID-19 to support work-from-home, telehealth, remote care and government/public safety and enterprise demand.



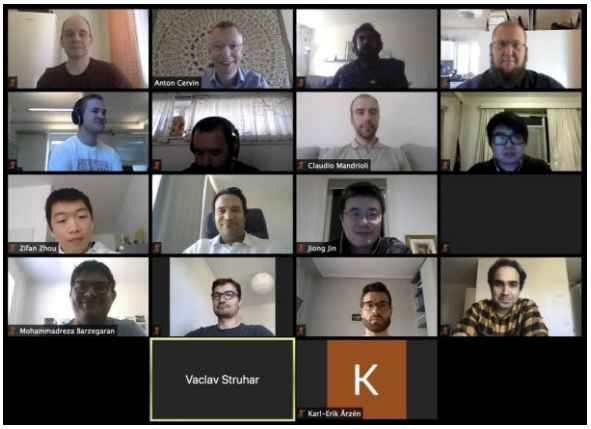
In Wuhan, China, for example, Huawei installed a 5G network in a specialist hospital in three days: 5G-enabled robots can assist practitioners in taking care of patients in the hospital and take measurements, reducing the amount of time medical staff need to spend with infectious patients.

So, the good news is that our IoT Hub students will still be highly sought-after resources in the buildout of 5G and all the related services.

Fog-IoT Workshop – now on-line!

On 21 April, the Hub organized the 2nd Fog-IoT Workshop with about twenty participants. We have asked our PhD student Claudio Madrioli from Lund University to present his experience from attending to this on-line event:

I believe going to a workshop has two main points: getting an insight on the work other researchers are doing and receiving input on your own work. But, especially in the early stages of research, the latter happens mainly in almost random and informal discussions. Even better in front of a nice cup of coffee. Despite the great work of the organizers and the chief Anton Cervin it was hard to get the same brainstorming feeling in Zoom. But, despite this, the Fog-IoT workshop for me has been a great opportunity to get interesting insights on the ongoing research in the field of industry 4.0 and especially on its variety. This makes me look forward to the next Fog-IoT workshop and the opportunity to meet in person all the interesting researchers and people of the community!



Here is a screenshot with some of the participants from the workshop

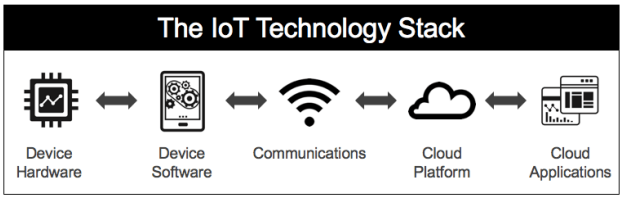
Aalto University, FI
Lund University, SE
Norwegian University of Science and Technology, NO
Royal Institute of Technology, SE
Technical University of Denmark, DK

The Hub's IIoT Roadmap

Recently our management group decided that one of the major activities throughout the remaining duration of the Hub should be the development of an Industrial IoT Roadmap. The roadmap will be presented in two steps, the first one already by the end of 2020 by means of a harmonized slide deck. Two years later this presentation will be refined to a printed version like those international roadmaps generally available for the forecast of the IoT development. Being rooted in northern Europe it will apart from the industrial perspective also have a significant Nordic profile, i.e. reflect the current research profile of the Hub partners.

So far, the Hub partners have identified 18 Industrial IoT topics where they have detailed knowledge, experience, and lab/prototype access:

- Autonomous systems
- Industry 4.0
- Resilient Systems-of-systems
- Health IoT
- Resource-Constrained Wireless Networking for IIoT
- Time-predictable Execution and Communication
- Unified and time-aware communication in distributed many-core processors
- Sustainable transportation with an emphasis on highly automated urban goods transportation and personal mobility
- LpWAN: Low Power Wide area Networking
- IoT for Health and asset tracking
- Ethernet for Automotive
- Consolidated IoT for Smart Environments
- Real-Time Fog Cloud Infrastructures
- 5G-based steering of Unmanned Aerial Vehicles
- Industrial 5G
- Computation management at the Fog/Edge (especially for sensing applications)
- Functional interface to test, tune and configure ICs through their lifetime
- Computing Continuum



On-line training initiative

Apart from the above-mentioned roadmapping activity, the Hub will also throughout the duration of the project focus on how to increase the utilization of on-line training. Already today several of our courses are offered in an on-line fashion. However, the offerings during the Corona pandemic have demonstrated that we need to change the dynamics of the on-line lectures by increasing the student's activeness. This could be achieved for instance by introducing students polling systems, providing access to virtual labs or mixing the more trivial lectures with YouTube sessions. Generally, the reasons hindering a widespread use of online training may be summarized by:

- Making the course too long
- Not understanding the audience
- No control over learning
- Not enough engagement
- No testing conducted

This kind of raising the quality of on-line training is important, since all Hub partners are highly dependent on this kind of offerings – recently NTNU has announced that due to the Corona pandemic there will be no regular lectures this Fall!