



Bologna, Italy, August 28, 2017

Workshop on:

***Understanding Better the Limits of LPWAN Technologies and 5G
in Automotive Environments and Industry 4.0.***

The workshop will be part of the 14th International Symposium on Wireless Communication Systems (ISWCS 2017), technically co-sponsored by the IEEE Communications Society (ComSoc), to be held in Bologna, Italy, on August 28-31, 2017. The workshop will take place on August 28, 2017. Paper submissions are invited on the Workshop topic.

The workshop will include two keynote speeches (offered by Intel, France, and Telecom Italia Mobile, Italy) and a session with technical presentations selected based on this call. Workshop papers will be reviewed by the Workshop TPC; they will be part of the Conference Proceedings (if the authors wish to do so), but they will not be uploaded to IEEE Xplore.

Call for Workshop Papers

The IoT paradigm, making all unmanned “things” (daily objects, industry machines, sensors, robots, animals, cars, etc.) connected to the Internet, addresses a very large set of application domains. Some of them may require communication solutions able to cover distances up to (or more than) 10 km in rural areas. Recently, the interest of industry towards this category, denoted as Low Power Wide Area Networks (LPWAN), grew significantly.

Several competing technology providers are in fact pushing their LPWAN products on global market. Some proprietary solutions are already available, such as Sigfox or LoRaWAN, while the 3GPP is supporting the evolution of standards such as LTE Cat M1 and NB-IoT. The latter technology in particular seems to be of enormous interest for mobile network operators in Europe.

The performance of LPWAN devices need to be estimated, theoretically and experimentally, in terms of throughput, average latency and energy efficiency, while the behavior and the capacity of large networks needs to be assessed as well as the interaction with other independent networks using the same or a different technology. Results are emerging in the scientific community that emphasize strengths and weaknesses of these technologies.

Among the key application domains of LPWANs is Industry 4.0, where a mix of 5G and LPWAN technologies might respond to the different requirements set by different applications. Meanwhile, there is a push to consider these technologies also for application domains not considered initially of their competence, like for instance automotive environments; in the latter case, 5G and short-range technologies enabling direct vehicle-to-vehicle communications, i.e. with the well known and largely experimented IEEE 802.11p and/or the LTE-V2X currently being added to Release 14, is expected to play a major role.

In this workshop we will focus on the automotive and industry domains where, depending on the specific user application (self-driving, platooning, sensory data transmission, etc), NB-IOT or LTE Cat M1 might be interesting competitors with respect to 5G. The scope of the workshop is to discuss the comparison among the different technologies in the above contexts.

Submission Guidelines

Prospective authors are invited to submit high-quality technical papers (max 6 pages) using standard IEEE conference templates that can be downloaded from the link <http://iswcs2017.org/call-for-papers/>. The proposal should be submitted by the deadline, to the Workshop Chair, via email (see below).

Key Dates

- Paper submission: Thursday, May 4, 2017
- Acceptance notification: Friday, June 16, 2017

Organising Committee

Workshop Chair

Roberto Verdone, Univ. of Bologna (IT): roberto.verdone@unibo.it

Technical Programme Committee

Alessandro Bazzi (CNR, IT), Fabio Luigi Bellifemine (Telecom Italia Mobile, IT), Laurent Clavier (University of Lille, FR), Massimo Condolucci (King’s College London, UK), Raymond Knopp (Eurecom, FR), Barbara Mavi Masini (CNR, IT), Stefania Sesia (Intel, FR).