



1st International Workshop on Satellite Communications – Challenges and Integration in the 5G ecosystem.

IEEE ICC 2017, Paris, France, 25 May, 2017

The recent 5G vision brochure by the European 5G Infrastructure Association (5G PPP) foresees 5G as the convergence of heterogeneous infrastructures such as fixed, mobile and satellite for broadcast services. 5G will not be just an evolution of mobile broadband networks but it will bring new unique network and service capabilities by integrating networking, computing and storage resources into one programmable and unified infrastructure.

The satellite industry is clearly committed to revisit and revamp the role of satellite communications. Central, key enabling technologies such as Software Defined Networking (SDN) and Network Function Virtualization (NFV) are anticipated to become key technological enablers for improved and more flexible integration of satellite and terrestrial segments. In turn, developing self-organizing capabilities and intelligent techniques for routing the traffic in hybrid backhaul networks will allow supporting the ever increasing mobile traffic in access networks and a much higher exploitation of all deployed resources by evenly balancing the load among terrestrial and satellite links. Improvements in the spectrum efficiency in the extended Ka band for backhaul operations can also be expected through novel interference mitigation and advanced antenna techniques. Besides pursuing capacity and energy efficiency, providing resilience against link failures or congestion enhances paves the way to make satellite communications to become a constituent part well integrated within the anticipated multi-layer/heterogeneous 5G-network architecture.

The goal of this workshop is to discuss the challenges and suggest solutions for the accelerated integration of Satellite Communications in the 5G networks landscape. The workshop builds on some ongoing efforts on the synergy of Satellite and Terrestrial Communications explored in the European research ecosystem, such as in H2020 projects VITAL (www.ict-vital.eu) and SANSA (www.sansa-h2020.eu) which support it. It is however an international event and hence welcomes research contributions from all geographic regions, aiming at strengthening the exchange of ideas among its participants, reinforcing liaisons among industrial and academic players, improving focus of innovation and aligning towards common goals and milestones. Besides the accepted technical papers, the workshop will also feature invited talks and panel discussions by international experts in the areas of both 5G and satellite networks.

Topics of interest:

The workshop seeks contributions that address, but are not limited to, the following topics of interest:

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| • Satellite communications | • Heterogeneous 5G / satellite network architectures |
| • Channel models for satellite / terrestrial networks | • Software Defined Networking (SDN) |
| • Intelligent / smart antennas | • Network Function Virtualization (NFV) |
| • Interference mitigation techniques | • Dynamic resource assignment |
| • Satellite network ground segment architectures | • Service orchestrators |

Important Dates:

Paper Submission: **18 November 2016**
Notification Date: 17 February 2017
Final Paper: 10 March 2017
Workshop Date: 25 May 2017

Organizing Committee:

Oriol Sallent, Universitat Politècnica de Catalunya, Spain
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