Smart Networks and Services Partnership

Stakeholder workshop

4 July 2019
Tuscany Region Offices, Place Schumann, Brussels

Context. The next Research and Innovation programme proposed by the Commission beyond 2020, Horizon Europe, has now entered into its preparatory phase. In that context, the area of Smart Networks and Services has been identified by the Commission as a potential research area for a partnership implementation. The current ideas for such a partnership focus on the future connectivity and service infrastructure supporting the digital society and the digital transformation of our economic sectors. A value chain approach could reinforce and leverage European strongholds in connectivity and create opportunities in multiple related domains, notably the device domain, taking into account the myriad of innovative IoT devices that will be connected, and the cloud computing domain enabling big data and AI based applications. In this regard, there are also new opportunities offered by edge computing and the emerging requirement to provide services close to the user. In addition, cybersecurity emerges as a very important research issue in the context of European strategic autonomy, cutting across the various building blocks of such a device-network-service infrastructure, with blurring boundaries between these constituting elements. In terms of operational implementation, it is envisaged that this partnership will build on the successful structures of the 5G PPP with an extended scope and strategic reinforcement.

Against this background, the workshop will contribute to:
- Identify the needed technological elements of the future network and services infrastructure;
- identify how the various domains of research work (next-generation IoT, networks beyond 5G, next-generation cloud computing) and infrastructure elements complement each other within a comprehensive system perspective;
- assess how new service paradigms (e.g. industrial applications and ultra-low latency, local user data control, automation..) and related technological implementation (edge computing, AI assisted applications..) impact on the architecture of the future and discuss the research and scientific implications;
- identify the strategic industrial opportunities for the various domains, i.e. how research activities can be leveraged towards industrial know how and products in Europe;
- assess the core technological roadblocks and the constituents of an upcoming roadmap leading to eventual delivery of such converged platform by 2030;
- identify the main security challenges and associated technological approaches/R&I challenges for such a roadmap.

Other core technologies (radio, virtualisation, AI, etc.) may be addressed ad hoc but will be subject of a more in depth follow up event before the end of the year in view of progressing the target SRIA.

The main deliverable of this event should consist in a comprehensive overview of the scope of activities leading to technologies of future Smart Network and Services infrastructure with the associated constitutive building blocks and related technological R&I and scientific challenges to be addressed with a 2030 perspective.

Workshop Structure
Key sessions will be arranged with speakers, 20 minutes presentation each, plus 40 min of open discussion with all participants, in an open panel session.

Program

8:30-9:00	**Registration**
9:00 – 9:15	**Welcome and EC Introduction** ***Focus:*** next MFF, partnership approach, main timing and stakeholder contributions needed *Peter Stuckmann (EC), Rui Aguiar(Networld2020)*
9:15-9:30	**Networld 2020/Smart Networks Task Force Introductory statements** ***Focus:*** preparatory work, work in relation to existing MoUs, envisaged deliverables *Werner Mohr (Nokia, Networld2020)*
9:45 – 12:00	**Next-generation IoT** *Chair: Maziar Nekovee (Sussex University)* ***Focus:*** Next generation devices and their multiple connectivity requirements, in the context of multiple applications and business scenarios. This will also cover the requirements towards innovative services and required supporting technologies from the connectivity/service platforms including edge computing opportunities and advanced architectural scenarios (e.g. blockchains for IoT) *Hakon Lonsethagen (Telenor), Joseph Eichinger (Huawei), Nicola Ciulli (Nextworks), Ovidiu Vermesan (Sintef)*
12:00- 13:00	**Lunch** (networking lunch on site)
13:00 – 15:00	**Next-generation Cloud Computing** *Chair: Rui Aguiar (Instituto de Telecomunicações)* ***Focus:*** next generation computing platforms to support service delivery, both from an infrastructure management perspective with blurring boundaries between computing, connectivity and devices, and from the perspective of enabling future applications based on big data and AI. This will cover the related technological building blocks and outline European industry opportunities beyond the established platforms. *Aurora Ramos (Atos). Benny Koren (Mellanox), Josef Urban (Nokia), Lutz Schubert (Ulm University)*
15:00- 15:15	**Coffee**
15:15 – 17:15	**Cybersecurity for smart networks and services** *Chair: Artur Hecker (Huawei)* ***Focus:*** the pervasive introduction of software technologies within connectivity and service platforms offer multiple opportunities but also increase risks. The session will review the various attacks and threats that may be envisaged in the long term future, address current security architecture and building blocks and identify their limitations and how they may need to evolve in the future. Promising emerging technologies to secure device/network/service platforms with an end to end perspective (DLT, quantum, …) are in scope. *Emmanuel Dottaro (Thales), Fabio Martinelli (CNR), Ghassan Karame (NEC), Luis Barriga (Ericsson)*
17:15-17:30	**Wrap up, way forward** *Bernard Barani (EC), Rui Aguiar (Instituto de Telecomunicações, Networld2020))*

Support

https://www.networld2020.eu/event/smart-networks-and-services-partnership-stakeholder-workshop-4-july-2019-brussels/?instance_id=118