



## **Samsung Introduces 5G Future, Multi-Connected World of Technology, People and Things at Mobile World Congress 2016**

*New solutions will unlock the possibility of future mobile networks and services*

**SEOUL, Korea – February 17, 2016** – Samsung Electronics, will showcase 4G LTE and advanced mobile technologies that pave the way towards a 5G future at this year’s Mobile World Congress (MWC). To provide ultra-fast mobile communication with reliable mobility and architectural flexibility, Samsung is also introducing multilink connectivity technology, centralized radio, Internet of Things, and mmWave radio access solutions.

“The evolution of communication technologies has transformed the way people live their lives,” said Youngky Kim, President and Head of Networks Business at Samsung Electronics. “5G technology will offer us a new level of experience, which is immersive, tactile and ubiquitous. Thanks to seamless mobility, higher throughput and low latency of 5G technology, new services like hologram calls, virtual reality broadcasting of live football games and self-driving cars will enrich our lives.” he added.

### **5G Technology**

At MWC 2016, Samsung will make 5G technology a reality by introducing reliable mobility and feasibility to utilize spectrums above 6GHz. Samsung will demonstrate the capability of the technology by transmitting eight Ultra High-Definition 4K videos over the air without delays. The company will simultaneously use its mmWave radio system for spectrums above 6GHz. This will show a low latency of less than one millisecond and a high speed data communication in gigabit throughput.

In addition, Samsung will introduce world’s first mobile handover test using the mmWave radio system and smartphone-integrated, multiple antenna modules in a small form factor. It is another footstep toward realization of 5G technology into reality that no one has not yet introduced.

### **Multi-link Connectivity Solution**

The explosive growth in demand for mobile data is forcing operators to find new ways to make their network architecture simple and flexible. Operators face challenges to efficiently manage heterogeneous networks that include LTE/WiFi, macro/small cells, licensed/unlicensed spectrums and even different generations from 2G to 5G.

To address these challenges, Samsung will present a range of new solutions, including LTE-Unlicensed (LTE-U) / License Assisted Access (LAA), Multi-Path Transfer Control Protocol (MP-TCP), D-RAN Inter-site Carrier Aggregation and Samsung Smart Multi-Linktm.

Multi-Path Transfer Control Protocol (MP-TCP) technology is currently one of the key priorities for Samsung. This technology allows aggregation among independent networks using different technologies, such as WiFi, IoT, 3G, 4G, 5G and more. Distinguished from other technologies such as Dual/Multi connectivity, MP-TCP enables the merging of data streams from each independent network, including non-3GPP standard based networks, at the Internet Protocol (IP) layer, which makes aggregation much simpler and faster. This technology has already been successfully commercialized in Korea, one of the world’s most data-centric countries, last year.

Samsung is also introducing Smart Multi-Link™ for the first time, based on its Unified Core architecture. This is designed to support backward and forward compatibility, incorporating 2G to 5G technology, in addition to embracing non-3GPP standard technologies. Using Network Function Virtualization (NFV) and Self Defined Network (SDN), Smart Multi-Link™ enables the transformation of distributive networks into one unified and flexible network.

## **Internet of Things (IoT)**

The key lineup of Samsung IoT solutions will be seen at this year's MWC as well; including IoT Core, Gateways and various radio access solutions such as a standalone IoT base station, IoT integrated Digital Unit (DU) and LoRa™ based Unlicensed Low Power Wide Area (LPWA).

Samsung will also introduce its Mission-Critical IoT service, a new use case incorporated with Public Safety-LTE. As a total solution provider of consumer electronics and carrier solutions, Samsung can provide a complete package of Mission-Critical IoT services, even including a diverse range of sensors and devices.

Not only will Samsung fulfill its requirements for 3GPP standards such as CAT-0, CAT-1, CAT-M, NB-IoT in 2016, but the company will also unveil its 'standard beyond' technologies in 2017, which will be especially optimal for Mission-Critical IoT.

## **Public-Safety LTE**

Samsung will demonstrate its live Push-to-Talk services with multiple handheld devices, to show a typical emergency use case. In particular, this demonstration will be showcased with Evolved Multimedia Broadcast Multicast Services (eMBMS), which enables HD videos and images to be broadcast to multiple devices instantly with minimized network resources. And with a virtualized core solution, a single PS-LTE network can be configured and operated independently for each government agency such as the police, fire services and national railways, while being controlled efficiently from a single point at the main control center.

Furthermore, Samsung will be deploying the world's first 3GPP standard based PS-LTE network in Korea as the only end-to-end solution provider—from devices to core and radio solutions.

## **Centralized-RAN Evolution: C-RAN 2.0+**

With commercial deployment of C-RAN in Korea, Samsung has already undergone two cycles of upgrades. This year, Samsung will enhance its C-RAN platform once again by introducing C-RAN 2.0+. Retaining the benefits from Samsung's Smart SON and Smart Scheduler, base stations will detect the interference at the cell-edge and control radio transmission power in real time and maximize the total data throughput by 40~50% on average.

C-RAN is already considered a revolutionary part of the cellular industry's future. Samsung's continuous C-RAN evolution will be an important asset for operators preparing for 5G networks.

All of these latest solutions will be exhibited at the Samsung booth (Exhibit Hall 2 Stand 2M10) during Mobile World Congress 2016 from February 22-25 in Barcelona, Spain.

**About Samsung Electronics Co., Ltd.**

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