

The 5G Wireless Ecosystem: 2017 – 2030 – Technologies, Applications, Verticals, Strategies & Forecasts

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Abstracts

Despite the lack of sufficient LTE coverage in parts of the world, mobile operators and vendors have already embarked on R&D initiatives to develop 5G, the next evolution in mobile networks. 5G is expected to provide a single network environment to deliver not only existing mobile broadband and IoT services, but also new innovations such as self-driving cars, cloud robotics, 3D holographic telepresence and remote surgery with haptic feedback.

In fact, many mobile operators are betting on 5G to diversify their revenue streams, as conventional voice and data service ARPUs decline globally. For example, South Korea's KT has established a dedicated business unit for holograms, which it envisions to be a key source of revenue for its future 5G network.

At present, the 3GPP and other SDOs (Standards Development Organizations) are engaged in defining the first phase of 5G specifications. However, pre-standards 5G network rollouts are already underway, most notably in the United States and South Korea, as mobile operators rush to be the first to offer 5G services. SNS Research estimates that by the end of 2017, pre-standards 5G network investments are expected to account for over \$250 Million.

Although 2020 has conventionally been regarded as the headline date for 5G commercialization, the very first standardized deployments of the technology are expected to be commercialized as early as 2019 with the 3GPP's initial 5G specifications set to be implementation-ready by March 2018. Between 2019 and 2025, we expect the 5G network infrastructure market to aggressively grow a CAGR of nearly 70%, eventually accounting for \$28 Billion in annual spending by the end of 2025.

These infrastructure investments will be complemented by annual shipments of up to 520 Million 5G-capable devices.

The “5G Wireless Ecosystem: 2017 – 2030 – Technologies, Applications, Verticals, Strategies & Forecasts” report presents an in-depth assessment of the emerging 5G ecosystem including key market drivers, challenges, enabling technologies, usage scenarios, vertical market applications, mobile operator deployment commitments, case studies, spectrum availability/allocation, standardization, research initiatives and vendor strategies. The report also presents forecasts for 5G investments and operator services.

The report comes with an associated Excel datasheet suite covering quantitative data from all numeric forecasts presented in the report, as well as a 5G deployment tracking database covering over 60 global 5G trials, demos and commercial deployment commitments (as of Q1'2017).

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LIST OF COMPANIES MENTIONED

3GPP (Third Generation Partnership Project)

5G Americas

5G Forum, South Korea

5G PPP (5G Infrastructure Public Private Partnership)

5G TSA (5G Open Trial Specification Alliance)

5GAA (5G Automotive Association)

5GMF (Fifth Generation Mobile Communications Promotion Forum, Japan)

5GRUS

5GTF (5G Technical Forum)

5GTR (Turkish 5G Forum)

Alcatel-Lucent

Alpentel Technologies
Alphabet
America Movil
Anatel (Agencia Nacional de Telecomunicacoes)
Arcep
Argela
ARIB (Association of Radio Industries and Businesses)
Arqiva
Ascenta
AT&T
AT&T Mexico
Athena Wireless Communications
ATIS (Alliance for Telecommunications Industry Solutions)
Avanti Communications
AVC Networks Company
Batelco
Bell Canada
BMW Group
Broadband Forum
BT Group
C Spire
CableLabs
CAICT (China Academy of Information and Communications Technology)
CCSA (China Communications Standards Association)
CEA (French Alternative Energies and Atomic Energy Commission)
CEA Tech
CEA-Leti
CEPT (European Conference of Postal and Telecommunications Administrations)
China Mobile
China Telecom
China Unicom
Chunghwa Telecom
Cisco Systems
CITEL (Inter-American Telecommunication Commission)
Claro Brasil
CMHK (China Mobile Hong Kong)
CMRI (China Mobile Research Institute)
CNIT (Italian National Consortium for Telecommunications)
Cobham Wireless

Cohere Technologies
ComReg (Commission For Communications Regulation, Ireland)
CpqD (Center for Research and Development in Telecommunications, Brazil)
CTTC (Centre Tecnologic de Telecomunicacions de Catalunya)
Datang Mobile
Datang Telecom Group
Dish Network
DSA (Dynamic Spectrum Alliance)
DT (Deutsche Telekom)
Du (Emirates Integrated Telecommunications Company)
EE
Elisa
EPFL (Ecole Polytechnique Federale de Lausanne)
Ericsson
Etisalat
ETRI (Electronics and Telecommunications Research)
ETSI (European Telecommunications Standards Institute)
EURECOM
Eutelsat
Facebook
FET (Far EastOne Telecommunications)
FiberTower Corporation
FICORA (Finnish Communications Regulatory Authority)
Fraunhofer FOKUS
Fraunhofer HHI
Fraunhofer IIS
Fraunhofer-Gesellschaft
Fujitsu
FuTURE Mobile Communication Forum, China
GISFI (Global ICT Standardization Forum for India)
Globe Telecom
Google
GSA (Global mobile Suppliers Association)
GSMA
GTI
Hiroshima University
HPE
Huawei
Hughes Network Systems

i5GF (Indonesia 5G Forum)
ICASA (Independent Communications Authority of South Africa)
ICTA (Information and Communication Technologies Authority, Turkey)
IEEE (Institute of Electrical and Electronics Engineers)
IETF (Internet Engineering Task Force)
IFT (Instituto Federal de Telecomunicaciones)
IIC (Industrial Internet Consortium)
IMDA (Info-communications Media Development Authority of Singapore)
IMDEA Networks Institute
IMT-2020 (5G) Promotion Group, China
Inatel (National Institute of Telecommunications, Brazil)
Industry Canada
Inmarsat
Intel Corporation
InterDigital
Istanbul University
ITRI (Industrial Technology Research Institute)
ITU (International Telecommunication Union)
JRC (Japan Radio Company)
Juniper Networks
KCL (King's College London)
KDDI Corporation
Keysight Technologies
KPN
KT Corporation
KUKA
Kumu Networks
LG Electronics
LG Uplus
Ligado Networks
Linux Foundation
M1
MACOM Technology Solutions
Malaysia 5G Committee
MCMC (Malaysian Communications and Multimedia Commission)
MCTIC (Ministry of Science, Technology, Innovation and Communications of Brazil)
MediaTek
MegaFon
METU (Middle East Technical University)

MIC (Ministry of Internal Affairs and Communications, Japan)
Microsoft Corporation
MIIT (Ministry of Industry and Information Technology, China)
Mitsubishi Electric
Mobily
MOEA (Ministry of Economic Affairs, Taiwan)
Moogsoft
MOST (Ministry of Science & Technology, China)
MOST (Ministry of Science & Technology, Taiwan)
MSIP (Ministry of Science, ICT and Future Planning, South Korea)
MTS (Mobile TeleSystems)
MTSFB (Malaysian Technical Standards Forum Bhd)
Murata Manufacturing
NBTC (National Broadcasting and Telecommunications Commission, Thailand)
NDRC (National Development and Reform Commission, China)
NEC Corporation
Net4Mobility
NGMN (Next Generation Mobile Networks) Alliance
NI (National Instruments)
NICT (National Institute of Information and Communications Technology, Japan)
Nokia
Nokia Networks
NTT Communications
NTT DoCoMo
NYU (New York University)
O3b
OCP (Open Compute Project) Foundation
OFCA (Office of the Communications Authority, Hong Kong)
Ofcom
OMA (Open Mobile Alliance)
ON.Lab (Open Networking Lab)
ONF (Open Networking Foundation)
Ooredoo
Optus
Orange
Panasonic Avionics Corporation
Panasonic Corporation
PLTD
Proximus

PTS (Swedish Post and Telecom Authority)
pureLiFi
Qorvo
Qualcomm
RF DSP
RF360 Holdings
Rogers Communications
Rohde & Schwarz
Roskomnadzor
Rutgers University
Samsung Electronics
Samsung Group
SES
SiBEAM
SIMalliance
SingTel
SK Telecom
Small Cell Forum
Smart Communications
SmarTone
SoftBank Group
Sonera
Sony Corporation
SpaceX (Space Exploration Technologies Corporation)
Sprint Corporation
StarHub
STC (Saudi Telecom Company)
Stromnetz Berlin
Swisscom
TAICS (Taiwan Association of Information and Communication Standards)
Taiwan Mobile
Taiwan Star Telecom Corporation
TCG (Trusted Computing Group)
TDK Corporation
Tele2
Telecom Italia Group
Telefonica
Telenor
Telia Company

Telstra
Telus
Thales Group
TI (Texas Instruments)
TIA (Telecommunications Industry Association)
TIM (Telecom Italia Mobile)
Time Warner
Titan Aerospace
TM Forum
T-Mobile USA
Tokyo Institute of Technology
TRA (Telecommunications Regulatory Authority, UAE)
TSDSI (Telecommunications Standards Development Society, India)
TTA (Telecommunications Technology Association of Korea)
TTC (Telecommunication Technology Committee, Japan)
TU Dresden
Turkcell
U.S. Cellular
U.S. Department of Commerce
U.S. Department of Defense
U.S. FCC (Federal Communications Commission)
U.S. NIST (National Institute of Standards and Technology)
U.S. NSF (National Science Foundation)
UN (United Nations)
University of California San Diego
University of Edinburgh
University of Kaiserslautern
University of Oulu
University of Southern California
University of Surrey
UT Austin (University of Texas at Austin)
UTS (University of Technology Sydney)
Verizon Communications
VimpelCom
Vodafone Australia
Vodafone Germany
Vodafone Group
Vodafone Hutchison Australia
Vodafone Qatar

Vodafone Turkey
VTT Technical Research Center
W3C (World Wide Web Consortium)
WBA (Wireless Broadband Alliance)
Wi-Fi Alliance
WinnForum (Wireless Innovation Forum)
WWRF (World Wireless Research Forum)
Xilinx
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