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Keynote Title: Trends and Challenges for 5G and Beyond, and 6G Networking

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Abstract:

5G is now being deployed in many countries. The new connected end points of communication networks will play key roles in 5G era, such as autonomous vehicles, various smart sensors and IoT, as well as the enhanced Internet and any other existing communications devices. Various research initiatives have started in academia, industry, and standard bodies have started studies toward 6G mobile wireless networks.

This talk reviews trends in Global ICT and describes 5G architecture and use cases, and then addresses possible technical pillars of 6G, which are enhanced 5G technologies and/or new technologies possibly to be adopted in 6G. It also discusses the issues and challenges in realization and in deployment as an infrastructure.

Biography

Koichi Asatani received his B.E.E.E., M.E.E.E. and Ph. D. degrees from Kyoto University in 1969, 1971 and 1974, respectively. From 1974 to 1997, he was with NTT and engaged in R&D on optical fiber communication systems, hi-definition video transmission systems, FTTH, ISDN, B-ISDN, ATM networks, IP Networks and their strategic planning. From 1997 to 2014, he served as Professor at Kogakuin University. From 1999 to 2012, he was with Graduate School of Global Information and Telecommunication, Waseda University as Visiting Professor. He was Chair Professor, Nankai University, Tianjin, China for 2014-2018. He is currently Professor, Shanghai University, China, and also Professor Emeritus, Kogakuin University. He is Life Fellow of IEEE and Life Fellow of IEICE. He was appointed as Distinguished Lecturer of IEEE ComSoc for 2006-2008, 2011-2012, and 2013-2014.

He is Ex-Chair and Advisory Board Member of IEEE ComSoc TC on Communication Quality and Reliability (CQR-TC), Feature Editor on Standards (1993-1999), Senior Technical Editor (1999-2005) of IEEE Communications Magazine. From 1988 through 2000, he served as Vice-Chair of ITU-T SG 13, and Chair of a Working Party of SG13, responsible for digital networks including GII, IP networks, NGN and Future Networks. He served as Chair for National Committee on Next Generation Networks in Japan. He also served as Chair, R&D and Standardizations Working Group, Next Generation IP Network Promotion Forum. He served as IEEE ComSoc Director, Membership Programs Development for 2014-2015. He served as Chair, IEEE ComSoc GIMS Committee for 2018-2019, and is IEEE ComSoc Fellow Evaluation Committee member for 2019-2021. He is serving as a Member at Large of Board of Governors, IEEE ComSoc. He also has been serving as a Board member, IEICE, and Chair, IEICE Standards Activities since 2014.

He served as various positions of numerous IEEE conferences, including General Chair of International CQR Workshop 1994, General Chair of International Symposium of Interworking 96, General Chair of SIIT2009, Symposium Co-Chair of Communications QoS, Reliability and Performance Modelling Symposium at ICC and Globecom (2002-2004), which he founded in 2002. He was Executive Chair at ICC2011 in Kyoto, Tutorial Co-Chair at ICC2016, and General Co-Chair at IEEE 5G Summits Tianjin (2016) and Tokyo (2017).