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Standardization Building Blocks

IEEE Future NETWORKS

An IEEE 5G and Beyond Technology Roadmap
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Abstract

This chapter, produced by the Standardization Building Blocks (SBB) Roadmap Working Group, describes a wide range of global standards, consortia, and alliance activities enabling and defining future networks use cases, architectures, technical interface specifications, compliance, and test requirements, and regulatory environment over a ten-year time horizon.

The primary objective of the SBB Roadmap is to illustrate the "master timeline" for the standardization of wireless communications technologies. With the advent of every new generation of wireless networks, the capabilities of technologies expand, and economic conditions change resulting in an increasingly broader standardization scope. Accordingly, the scope of the SBB includes:

- depicting the value chain of the global system integrator Standards Developing Organizations (SDOs),
- illustrating the effort of relevant alliances and consortia that drive standardization, and open-source activities.

The target audience for this road map are end-users, content producers using networks for content distribution, network service providers, equipment manufacturers, infrastructure vendors, component suppliers, and test and measurement service and equipment providers.

This roadmap recommends that the core technology stakeholders take a proactive approach to harmonize standardization with their vision for long-term technology evolution.

Keywords:

Emerging Technologies, Fifth Generation (5G), Industry consortia, Future Networks Initiative, Institute of Electrical and Electronics Engineers (IEEE), IEEE Standards Association (IEEE-SA), Internet Engineering Task Force (IETF), Industrial Internet Consortium, Internet Research Task Force (IRTF), International Organization for Standardization (ISO), International Telecommunication Union (ITU), Multiple In-Multiple Out (MIMO), Millimeter-Wave (mmWave), New Radio (NR), Open RAN, Open Source Organizations, Reference Architecture, Standards Developing Organizations (SDOs), European Telecommunications Standards Institute (ETSI), Autonomic/Autonomous Networking Standards.

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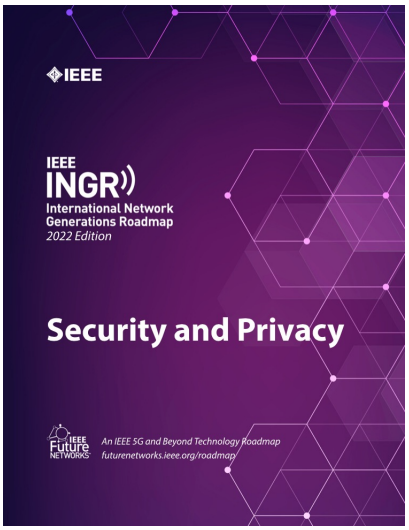

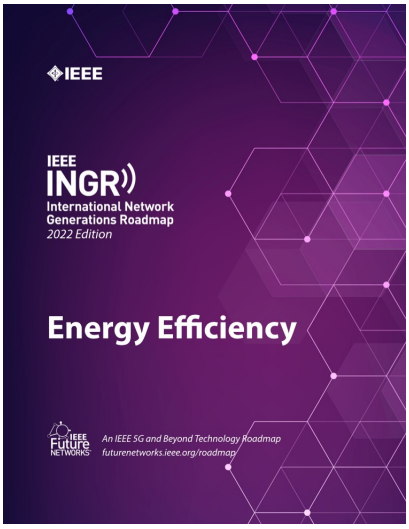

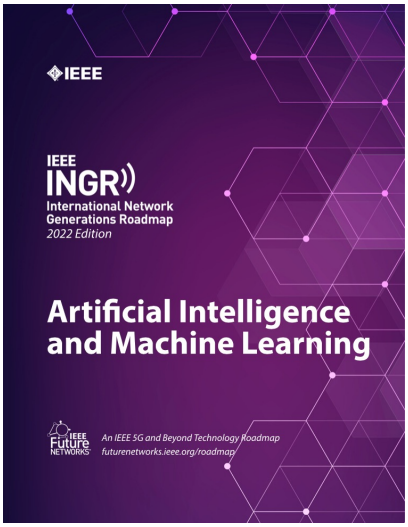

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