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| PROPOSED MODIFICATION TO RESOLUTION 92 |
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| **Abstract:** | This document contains the proposal for modification of the WTSA Resolution 92, “Enhancing the standardization activities in the ITU Telecommunication Standardization Sector related to non-radio aspects of international mobile telecommunications”. Based on the consideration of the standardization progress of IMT-2020 and IMT-2030 related subjects, Resolution 92 is proposed to be revised to enhance the standardization work on non-radio aspects of IMT-2020 and IMT-2030 related subjects. The main modifications include describing the standardization progress of IMT-2020 and IMT-2030 related subjects; promoting the standardization work on topics for IMT-2020 and IMT-2030; strengthening the role of ITU-T SG17 on security aspects of IMT-2020 and IMT-2030; promoting the standardization strategy, network evolution, implementation and best practice of IMT systems in Member States; and other editorial changes. |
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Introduction

IMT systems (including IMT-2020 and beyond) are being utilized widely in the emerging networks, making positive and important contribution to the United Nations Sustainable Development Goals (SDGs) and World Summit on the Information Society (WSIS) action lines. In the 2022-2024 study period, ITU-T study groups have made good progress on the standardization work related to non-radio aspects of IMT-2020 and beyond, which includes, but is not limited to:

1) ITU-T SG13 has advanced the standardization activities in network requirements and functional architecture, network softwarization, fixed, mobile and satellite convergence, quality of service (QoS) mechanisms, and emerging network technologies for IMT-2020 and beyond; has advanced the standardization activities in applying IMT-2020 networks and beyond in developing countries; and has initiated the Technical Report ITU-T TR.IMT2030-terms.

2) ITU-T SG17 has advanced the standardization activities in security and published an IMT-2020 security standardization roadmap which addresses ongoing and published specifications from ITU, other relevant Standards Development Organizations (SDOs), consortia and forums, including an overview of IMT-2020 security from the perspective of standards development.

ITU-R WP 5D agreed on the overview timeline for IMT towards 2030 and beyond during the meeting WP 5D #41. Report ITU-R M.2516-0 provides a broad view of future technical aspects of terrestrial IMT systems considering the timeframe up to 2030 and beyond. Recommendation ITU-R M.2160-0 provides the trends, usage scenarios and capabilities of IMT-2030.

To meet the requirements of diverse usage scenarios and network evolution, the scopes of current ITU-T Questions are to be extended by introducing new subjects related to IMT-2020 and IMT‑2030. Standardization activities on these subjects will promote the development, deployment, application and evolution of IMT-2020 and IMT-2030 networks. In addition, security and resilience are two key enablers to ensure the secure operation of IMT-2020 and IMT-2030.

Proposal

APT Member Administrations propose to modify Resolution 92 to add the standardization progress of ITU-T and ITU-R on IMT-2020 and IMT-2030; to advance the standardization work on the non‑radio aspects of IMT-2020 and IMT-2030; to promote the standardization work on security aspects for IMT-2020 and IMT-2030, and strengthen the role of ITU-T SG17 in terms of security and resilience; to promote the standardization work on sustainability for IMT-2020 and IMT-2030; to strengthen the collaboration with other SDOs, and promote efficient standardization work on IMT systems; to explore the possibility of establishing an observatory for IMT-2020 and IMT-2030, and develop guidance on economic drivers for IMT-2020 and IMT-2030; and to promote the standardization strategy, network evolution, implementation and best practice of IMT systems in Member States.

MOD APT/37A31/1

RESOLUTION 92 (Rev. New Delhi, 2024)

Enhancing the standardization activities in the ITU Telecommunication Standardization Sector related to non-radio aspects of international
mobile telecommunications

(Hammamet, 2016; Geneva, 2022; New Delhi, 2024)

The World Telecommunication Standardization Assembly (New Delhi, 2024),

considering

*a)* that International Mobile Telecommunications (IMT) is the root name that encompasses all IMT systems and their further development, including IMT-2000, IMT-Advanced, IMT-2020 and IMT-2030, collectively (see Resolution ITU‑R 56 (Rev. Dubai, 2023) of the Radiocommunication Assembly);

*b)* that IMT systems (including IMT-2020 and IMT-2030) have contributed to global economic and social development, and are intended to provide telecommunication services on a worldwide scale, regardless of location, network or terminal used;

*c)* that Recommendation 207 (Rev. Sharm el-Sheikh, 2019) of the WRC, on the future development of IMT for 2020 and beyond, is foreseen to enhance, *inter alia*, data rates in comparison with currently deployed IMT systems;

*d)* that there is growing interest in adopting emerging technologies and solutions based on the standards of IMT-based open radio access networks;

*e)* that IMT systems (including IMT-2020 and beyond) are being utilized and will be utilized widely in the near future to build a user-centred information ecosystem, and this will make a positive and important contribution to the United Nations Sustainable Development Goals (SDGs);

*f)* that the ITU Telecommunication Standardization Sector (ITU‑T) is actively continuing its studies on non-radio aspects of standardization for IMT systems (including IMT-2020 and beyond);

*g)* that the development of a roadmap for all standards activities relating to IMT in the ITU Radiocommunication Sector (ITU‑R) and ITU‑T, in order to independently manage and advance their work on IMT and to coordinate it so as to ensure full alignment and harmonization of the work programmes within a complementary framework, is an efficient means of achieving progress in both Sectors, and that such a roadmap concept facilitates the communication of issues relating to IMT with organizations external to ITU;

*h)* that the ITU‑T study groups and ITU‑R have had, and continue to have, effective informal coordination via liaison activity with respect to the development of Recommendations relating to IMT for both Sectors;

*i)* that Resolution 43 (Rev. Buenos Aires, 2017) of the World Telecommunication Development Conference (WTDC) acknowledged the continuous need to promote IMT systems (including IMT-2020 and beyond) throughout the world, and in particular in developing countries[[1]](#footnote-1)1;

*j)* that the ITU‑R Handbook on Global Trends in International Mobile Telecommunications defines IMT and provides general guidance to relevant parties on issues related to the deployment of IMT systems and for the introduction of their IMT-2000 and IMT-Advanced networks, as well as IMT-2020;

*k)* that the Report ITU-R M.2516-0 “Future Technical Trends of Terrestrial IMT Systems Towards 2030 and Beyond” provides a broad view of future technical aspects of terrestrial IMT systems and Recommendation ITU-R M.2160-0 “Framework and overall objectives of the future development of IMT for 2030 and beyond” sets the basis for the future development of IMT-2030;

*l)* that IMT systems (including IMT-2030) are now being evolved to provide diverse usage scenarios and applications such as immersive communication, hyper reliable and low-latency communication, massive communication, ubiquitous connectivity, artificial intelligence (AI) and communication, and integrated sensing and communication; IMT-2030 is expected to be built on overarching aspects such as sustainability, connecting the unconnected, security and resilience, and ubiquitous intelligence, and a substantial number of countries have started implementing these;

*m)* that Study Group 1 of the ITU Telecommunication Development Sector (ITU‑D) is involved in activities closely coordinated with ITU‑T Study Group 13 and ITU‑R Study Group 5 in order to identify the factors influencing the effective development of broadband, including IMT systems (including IMT-2020 and beyond), for developing countries;

*n)* that some ITU-T study groups are conducting work and developing Recommendations related to non-radio aspects of IMT-2020 and beyond under the lead of Study Group 13;

*o)* that Study Group 13 has taken a lead role on non-radio aspects of IMT-2020 project management coordination across all ITU-T study groups and progressed the study of network aspects of IMT-2020, which includes studies on network requirements and functional architecture network softwarization, fixed, mobile and satellite convergence, quality of service (QoS) mechanisms and emerging network technologies for IMT-2020 and beyond;

*p)* that Study Group 13 has advanced the standardization activities in applying IMT-2020 networks and beyond in developing countries, covering areas including satellite communications, big data, AI and energy efficiency;

*q)* that Study Group 13 established the Joint Coordination Activity for IMT-2020 and beyond (JCA-IMT2020) to coordinate ITU-T's IMT-2020 standardization work with focus on non-radio aspects within ITU-T and to coordinate communication with Standards Development Organizations (SDOs), consortia and forums also working on IMT-2020-related standards;

*r)* that JCA-IMT2020 is maintaining a roadmap for IMT-2020 standardization which addresses ongoing and published specifications from ITU, other relevant SDOs, consortia and forums;

*s)* that Study Group 13 established the Focus Group on Autonomous Networks (FG-AN) to conduct an analysis of autonomous networks in order to identify relevant gaps and issues in standardization activities related to this topic;

*t)* that Study Group 11 has progressed the study of signalling and control protocol aspects of IMT-2020, which includes studies on protocols supporting control and management technologies; signalling requirements and protocols for network attachment, including mobility and resource management; protocols supporting distributed content networking and information-centric networking; and protocol testing;

*u)* that Study Group 11 established the Focus Group on Testbeds Federations for IMT-2020 and beyond (FG-TBFxG) to develop the required application program interfaces (APIs) aligned with the Testbeds Federations Reference Model;

*v)* that Study Group 16 has progressed the study of Vehicle-to-Everything (V2X) supporting by IMT-2020 system, which includes studies on use cases and requirements of future vehicular multimedia systems based on IMT-2020 system;

*w)* that Study Group 17 has continued addressing threats and vulnerabilities, which affect efforts to build confidence and security in the use of IMT-2020 systems; this includes studies on security and trust frameworks, guidelines and capabilities for IMT-2020 networks and edge computing, including Intelligent Transport System (ITS) built on IMT-2020;

*x)* that Study Group 17 has published an IMT-2020 security standardization roadmap which addresses ongoing and published specifications from ITU, other relevant SDOs, consortia and forums, including an overview of IMT-2020 security from the perspective of standards development;

*y)* that Study Group 20 has progressed the study of smart cities and communities (SC&C) and Internet of Things (IoT) by examining generic requirements, key vertical industry requirements, and focusing on the application of emerging technologies in SC&C and IoT,

noting

*a)* Resolution 18 (Rev. Geneva, 2022) of this assembly, on principles and procedures for the allocation of work to, and coordination between, ITU‑R and ITU‑T;

*b)* Resolution 59 (Rev. Buenos Aires, 2017) of WTDC, on strengthening coordination and cooperation among the three ITU Sectors on matters of mutual interest;

*c)* Resolution 45 (Rev. Kigali, 2022) of WTDC, on mechanisms for enhancing cooperation on cybersecurity, including countering and combating spam;

*d)* Resolution 130 (Rev. Bucharest, 2022) of the Plenipotentiary Conference (PP), on strengthening the role of ITU in building confidence and security in the use of information and communication technologies;

*e)* Resolution 135 (Rev. Bucharest, 2022) of PP, on ITU's role in the durable and sustainable development of telecommunications/information and communication technologies, in providing technical assistance and advice to developing countries and in implementing relevant national, regional and interregional projects;

*f)* Resolution 71 (Rev. Bucharest, 2022) of PP, on Strategic Plan for the Union for 2024-2027,

resolves to instruct the Telecommunication Standardization Advisory Group

1 to facilitate coordination of the standardization activities related to the non-radio side of IMT systems (including IMT-2020 and IMT-2030) among all relevant study groups, focus groups, joint coordination activities, etc.;

2 to strengthen and accelerate activities related to the development and deployment of IMT systems based on standards for open and interoperable network technologies and solutions, such as non-radio aspects of IMT systems for access networks, particularly recognizing challenges in developing countries;

3 to ensure collaboration among relevant ITU-T study groups and with relevant SDOs and forums and consortia for open and interoperable network technologies and solutions, including non-radio aspects of IMT systems for access networks;

4 to encourage, in cooperation with Study Group 13 and other relevant study groups, collaboration with other SDOs on a wide range of issues associated with the non-radio aspects of IMT systems,

instructs study groups of the ITU Telecommunication Standardization Sector

1 to strengthen collaboration and coordination on standardization activities in respect of IMT systems (including IMT-2020 and IMT-2030) with other relevant standards organizations, in order to ensure a productive and practical standards solution for the global telecommunication/information and communication technology (ICT) industry;

2 to advance efficient and effective standardization work on the non-radio aspects of IMT systems, including IMT-2020 and IMT-2030, as well as applications of relevant network technologies to achieve the United Nations SDGs, such as SDG 8 (decent work and economic growth), SDG 9 (industry, innovation and infrastructure), and SDG 11 (sustainable cities and communities);

3 to promote ITU-T standardization work on the requirements of developing countries related to IMT in general and IMT-2020 and IMT-2030 in particular while keeping a focus on mitigating digital divide;

4 to be responsible for the development and annual reporting of ITU‑T's standards strategy on IMT;

5 to promote efficient and effective standardization work on intelligent manufacturing to enable high-quality productive forces for IMT-2020 and IMT-2030;

6 to promote efficient and effective standardization work on improving energy efficiency and reducing network complexity for IMT-2020 and IMT-2030,

instructs Study Group 2 of the ITU Telecommunication Standardization Sector

to continue promoting the studies on standardization activities related to numbering, naming, addressing and identification (NNAI) issues and other operational aspects such as the operation, management and maintenance of IMT-2020 and IMT-2030,

instructs Study Group 3 of the ITU Telecommunication Standardization Sector

to consider the ITU-T studies related to, *inter alia*, regulatory and economic questions relevant to IMT systems, including IMT-2020 and IMT-2030, within its mandate,

instructs Study Group 5 of the ITU Telecommunication Standardization Sector

to continue promoting the studies on standardization activities related to IMT environmental requirements, including energy efficiency, minimizing energy consumption, efficient deployment and operation, and e-waste management for sustainability,

instructs Study Group 11 of the ITU Telecommunication Standardization Sector

to continue promoting the studies on standardization activities related to the non-radio aspects of IMT signalling requirements, protocols and testing frameworks, specifications, methodologies, capabilities, and interoperability for IMT systems (including IMT-2020 and IMT-2030),

instructs Study Group 12 of the ITU Telecommunication Standardization Sector

to continue promoting the studies on standardization activities of service, QoS and quality of experience related to the non-radio aspects of IMT systems (including IMT-2020 and IMT-2030),

instructs Study Group 13 of the ITU Telecommunication Standardization Sector

1 to maintain the roadmap of, and continue promoting, IMT standardization activities in ITU‑T, which should include work items to progress standardization work related to the non-radio aspects of IMT systems (including IMT-2020 and IMT-2030), and share this with relevant groups of ITU‑R and ITU‑D and external organizations, such as through coordination work ensured by JCA-IMT2020;

2 to maintain and update on an annual basis the supplement to the ITU-T Recommendation containing the current version of the IMT-2020 and IMT-2030 standardization roadmap;

3 to continue promoting the studies on non-radio aspects of IMT system (including IMT-2020 and IMT-2030) network requirements and architecture, including network softwarization (e.g. non-radio aspects of cloud or open radio access network, multi-access edge computing, etc.); network slicing; network capability openness, including open network interconnection and exposure; network management and orchestration; fixed, mobile and satellite convergence; QoS mechanisms; digital twin network; autonomous network; emerging network technology; and the use of machine learning (ML);

4 to promote JCA-IMT2020 and beyond and to continue coordinating the standardization activities of IMT systems (including IMT-2020 and IMT-2030) among all relevant study groups, focus groups and other SDOs,

instructs Study Group 15 of the ITU Telecommunication Standardization Sector

to continue promoting the studies on non-radio aspects of IMT's transport network (e.g. fronthaul and backhaul) standardization activities, including network requirements, architecture, function and performance, characteristics, enabling technologies, management and control, synchronization, etc., for IMT systems (including IMT-2020 and IMT-2030),

instructs Study Group C of the ITU Telecommunication Standardization Sector

to continue promoting the studies on standardization activities related to future vehicular multimedia system, assisted driving and autonomous driving, including use cases, application requirements, network requirements, functions, QoS, and interfaces for IMT systems (including IMT-2020 and IMT-2030),

instructs Study Group 17 of the ITU Telecommunication Standardization Sector

1 to continue promoting the studies on standardization activities related to security and resilience for end-devices, network and applications for IMT-2020 and IMT-2030, including the trust framework;

2 to maintain and update the ITU-T Technical Paper containing the current version of the IMT-2020 and IMT-2030 security standardization roadmap;

3 to promote coordination and collaboration with ITU-R and other SDOs, such as the 3rd Generation Partnership Project (3GPP) Service and System Aspects Working Group 3 (SA3), on security and resilience aspects of IMT-2020 and IMT-2030, in the course of development of the relevant specifications or ITU-T Recommendations,

instructs Study Group 20 of the ITU Telecommunication Standardization Sector

to continue promoting the studies on standardization activities related to SC&C and IoT for IMT‑2020 and IMT-2030,

instructs the Director of the Telecommunication Standardization Bureau

1 to bring this resolution to the attention of the Directors of the Radiocommunication Bureau and the Telecommunication Development Bureau;

2 to continue conducting seminars and workshops while promoting the participation of developing countries in standardization activities related to non-radio aspects of IMT, the standards strategy, technical solutions and network applications, taking into account specific national and regional requirements,

encourages the Directors of the three Bureaux

1 to investigate new ways to improve the efficiency of ITU work on IMT, and to examine the possibility of establishing an observatory for IMT-2020 and IMT-2030, including appropriate guidelines if needed, taking into account budgetary considerations;

2 to promote studies on standardization activities related to regulatory and economic questions relevant to accommodating non-radio aspects of IMT-2020 and IMT‑2030 use cases, and to encouraging and supporting market growth, innovation, collaboration and telecommunication/ICT infrastructure investment;

3 to develop guidance on the economic drivers and sustainability for non-radio aspects of IMT-2020 and IMT-2030 deployment,

invites Member States, Sector Members, Associates and Academia

1 to participate actively in the standardization activities of ITU‑T on developing Recommendations on non-radio aspects of IMT systems (including IMT-2020 and IMT-2030);

2 to share non-radio standards strategy, network evolution experience, application cases, efficient deployment and operation, implementation and best practice of IMT systems (including IMT-2020 and IMT-2030) in relevant seminars and workshop events, especially in developing countries.

1. 1 These include the least developed countries, small island developing states, landlocked developing countries and countries with economies in transition. [↑](#footnote-ref-1)