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**CONTRIBUTION TO ITU-R WORKING PARTY 5D
LIAISON STATEMENT TO EXTERNAL ORGANIZATIONS MINIMUM
REQUIREMENTS RELATED TO TECHNICAL PERFORMANCE
FOR IMT-2030 RADIO INTERFACE(S)**

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1. Introduction

On 29 October 2024 ITU-R Working Party (WP) 5D issued a liaison statement to External Organizations (Document 5D/TEMP/167) to contribute to “Minimum requirements related to technical performance for IMT 2030 radio interface(s)”. For ITU-R WP 5D meeting #49 (24 June-3 July 2025) the following is expected:

- Proposed associated target values for the candidate items for the minimum technical performance requirements

This contribution is based on activities of the Smart Networks and Services Joint Undertaking (SNS JU) and the 6G Smart Networks and Services Industry Association (6G-IA) as the representative of the private side in the Joint Undertaking. The SNS JU is partly funded by the European Commission.

This contribution complements the contribution Document 5D/553 [1] presented in ITU-R WP 5D meeting #48 (4-13 February 2025), where a definition, background information and justification were provided for each capability item of the Recommendation [ITU-R M.2160](#) [2].

¹ Submitted on behalf of [6G-IA](#)

2. Target values

In the following table you can find the proposed target values for each KPI:

- The first column indicates the section in chapter 4 of Annex 5.9 to Document 5D/563 [3].
- The value ranges provided are intended to indicate the level of agreement between the members of 6G-IA. They are not to be interpreted as that individual 6G-IA members agree to all values in the range.
- Some capabilities and values ranges require further analysis.

Section	Capability	Target value
4.1	Peak data rate Downlink Uplink	20-50 Gbps [1-2.5]x IMT-2020 10-25 Gbps [1-2.5]x IMT-2020
4.2	User experienced data rate Dense urban, Immersive Communication, downlink For uplink, the definition requires further discussion.	125-500 Mbps [1.25-5]x IMT-2020 tbd
4.3	Spectral Efficiency	
4.3.1	Peak Spectral Efficiency Downlink, Immersive Communication Uplink, Immersive Communication	45-60 bps/Hz [1.5-2]x IMT-2020 22.5-30 bps/Hz [1.5-2]x IMT-2020
4.3.2	Average Spectral efficiency Dense urban, Immersive Communication, downlink Dense urban, Immersive Communication, uplink Indoor Hotspot, Immersive Communication, downlink Indoor Hotspot, Immersive Communication, uplink Rural, Immersive Communication, downlink Rural, Immersive Communication, uplink	11.7-23.4 bps/Hz [1.5-3]x IMT-2020 8.1-16.2 bps/Hz [1.5-3]x IMT-2020 13.5-27 bps/Hz [1.5-3]x IMT-2020 10.12-20.25 bps/Hz [1.5-3]x IMT-2020 4.95-9.9 bps/Hz [1.5-3]x IMT-2020 2.4-4.8 bps/Hz [1.5-3]x IMT-2020
4.3.3	5th percentile user Spectral efficiency Dense urban, Immersive Communication, downlink Dense urban, Immersive Communication, uplink Indoor Hotspot, Immersive Communication, downlink Indoor Hotspot, Immersive Communication, uplink Rural, Immersive Communication, downlink Rural, Immersive Communication, uplink	0.337-0.675 bps/Hz [1.5-3]x IMT-2020 0.225-0.45 bps/Hz [1.5-3]x IMT-2020 0.45-0.9 bps/Hz [1.5-3]x IMT-2020 0.315-0.63 bps/Hz [1.5-3]x IMT-2020 0.18-0.36 bps/Hz [1.5-3]x IMT-2020 0.067-0.135 bps/Hz [1.5-3]x IMT-2020
4.4	Area traffic capacity Indoor Hotspot, Immersive Communication, downlink	10-50 Mbps/m² [1-5]x IMT-2020
4.5	Connection Density Massive Communication	10⁶ – 10⁷ devices/km² [1-10]x IMT-2020
4.6	Mobility Dense urban, Immersive Communication Indoor Hotspot, Immersive Communication Rural, Immersive Communication	30-50 km/h 10-20 km/h 120-500 km/h
4.6.1	Mobility interruption time	0
4.7	Latency	

Section	Capability	Target value
4.7.1	Immersive Communication, downlink	2-8 ms
	Immersive Communication, uplink	2-8 ms
	Hyper Reliable and Low Latency Communication, downlink	1 ms
	Hyper Reliable and Low Latency Communication, uplink	1 ms
4.7.2	Control plane latency	
	Immersive Communication	10-20 ms
	Hyper Reliable and Low Latency Communication	10-20 ms
4.8	Reliability	
	Hyper Reliable and Low Latency Communication	99,999%
4.9	Joint / Composite requirement [on data rate, ...]	
	The definition requires further discussion.	tbd
4.10	Coverage	
	Coverage does not require direct evaluation and could be described and reported by (S)RIT proponents as part of the submission template. Coverage refers to the ability to provide access to communication services for users in a desired service area as defined in [2].	Target values are not applicable
4.11	Positioning	
		0.4 m - < 1 m
4.12	Bandwidth	
		400 MHz
4.13	Sensing-related capabilities	
	6G-IA could give elements for definition and targets values later in time.	tbd
4.14	AI-related capabilities	
	6G-IA could give elements for definition later in time. AI-related capabilities could be evaluated by inspection.	Target values are not applicable
4.15	Energy Efficiency	
	6G-IA could give elements for definition and targets values later in time.	tdb
4.16	Security	
	Details are still under discussion. Security capabilities could be evaluated by inspection or be moved to the submission template.	Target values are not applicable
4.17	Resilience	
	Details are still under discussion. Resilience capabilities could be evaluated by inspection or be moved to the submission template.	Target values are not applicable
4.18	Interoperability	
	Details are still under discussion. Interoperability capabilities could be evaluated by inspection or be moved to the submission template.	Target values are not applicable

3. References

1. Document 5D/553. Contribution to ITU-R Working Party 5D liaison statement to external organizations minimum requirements related to technical performance for IMT-2030 radio interface(s), (02/2025).
2. ITU-R: Framework and overall objectives of the future development of IMT for 2030 and beyond. Recommendation [ITU-R M.2160](#), (11/2023).

3. Annex 5.9 to Working Party 5D Chair's Report. Working Document Towards a Preliminary Draft New Report ITU-R M. [IMT-2030.TECH PERF REQ]: Minimum requirements related to technical performance for IMT-2030 radio interface(s), (02/2025).