Radiocommunication Bureau (BR)

Addendum 1 to
Circular Letter
5/LCCE/109

15 February 2024

To Administrations of Member States of the ITU, Radiocommunication Sector Members, ITU-R Associates and ITU Academia participating in the work of Radiocommunication Study Group 5

Subject: **Announcement of a new proposal for candidate radio interface technology for the terrestrial radio interface(s) for IMT-2020 for the Revision 3 of Recommendation ITU-R M.2150 "Detailed specifications of the terrestrial radio interfaces of International Mobile Telecommunications-2020 (IMT-2020)", and invitation to participate in its subsequent evaluation**

1 Introduction

Following on from the successful completion of the first release in 2020 and subsequent revisions of Recommendation ITU-R M.2150, ITU-R is continuing the work on ITU-R Recommendations for the terrestrial components of the IMT-2020 radio interface(s). This work is guided by Resolution ITU-R 65 and utilizing IMT-2020 process in IMT-2020/2(Rev.2).

Within the ITU-R, the work on IMT-2020 is being conducted in ITU-R Working Party 5D (WP 5D) of Study Group 5 as the group responsible for this work.

2 Purpose of this Circular Letter

The purpose of this Circular Letter is:

– to announce reception by ITU-R of a submission of a new proposal for candidate radio interface technology (RIT) for the terrestrial components of IMT 2020 in the update cycle for the revision 3 of Recommendation ITU-R M.2150;

– to invite the formation of Independent Evaluation Groups (IEGs) and the subsequent submission of evaluation reports on this new candidate RIT according to the established detailed timeline.

The Working Party 5D timeline shows that the submission of updates and new proposals to be considered in the revision cycle is scheduled to begin from WP 5D meeting No. 44 (June 2023) and end at WP 5D meeting No. 50 (October 2025)[1].

[1] Also, see general information about IMT-2020, WP 5D planned meeting dates, and further information about this planned revision, on the web page of WP 5D.

3 Proposed candidate technology

ITU-R WP 5D has reviewed the candidate technology proposed from a proponent to the 45th meeting of WP 5D under Step 3 of the IMT-2020 submission and evaluation process, and acknowledged this submission as "complete" in conformance with Section 5 of Report ITU-R M.2411.

– Doc. IMT-2020/89 – *Acknowledgement of candidate RIT submission from Nufront under Step 3 of the IMT-2020 process*

For convenience, this submitted proposal is referenced in Document IMT-2020/88 with supplementary information and also posted on the web page of "Submission and evaluation process for Revision 3 of Recommendation ITU-R M.2150 (2024-2025 work)".

4 Evaluation of candidate RITs or SRITs

Following the IMT-2020 process on "Submission/Reception of the RIT and SRIT proposals and acknowledgement of receipt" in accordance with Document IMT-2020/2(Rev.2), WP 5D started the evaluation from its 45th meeting in February 2024, and the evaluation will last until the 48th meeting in February 2025, when WP 5D expects to receive the final evaluation reports from the Independent Evaluation Groups.

Potential Independent Evaluation Groups (IEGs) are requested to register with ITU-R no later than 13th June 2024 to better enable dialog between the IEGs and Proponent Nufront in order to meet the planned deadlines. See Annex 1 for further details related to this request.

To facilitate the evaluation activities by registered or potential Independent Evaluation Groups, a designated Evaluation Group discussion area under the WP 5D web page has been set up, associated with the candidate technology submission for Revision 3 of Recommendation ITU-R M.2150, and will be accessible for registered IEGs.

5 Procedural Information and further details

Annex 1 provides a high-level overview of the process and procedures established for this revision of Recommendation ITU-R M.2150.

Updates on the revision 3 of Recommendation ITU-R M.2150 will be announced on the IMT-2020 web page or in an Addendum to this Circular Letter.

Mario Maniewicz
Director

Annexes: 2

ANNEX 1

1 Web page for IMT-2020

The Radiocommunication Bureau has established a "*Web page for Revision 3 of IMT-2020 Recommendation ITU-R M.2150 (2024-2025 work)*" to facilitate the development of update and new proposals and the work (if necessary) of the evaluation groups. The IMT-2020 web page will provide details of the revision process including the submission of proposals, and will include the RIT and SRIT submissions, evaluation group registration and contact information, evaluation reports and other relevant information on the continued development of IMT-2020. The IMT-2020 web page will be updated dynamically to reflect changes. Consequently, participants in the IMT-2020 development activities are kindly requested to periodically check that web page.

2 Evaluation of candidate RITs or SRITs

Proposed updates that are new candidate RITs or SRITs proposals will be evaluated by the ITU membership, standards organizations and other organizations as appropriate to the relevant process.

In the event of the reception of new candidate technology proposals by ITU-R, potential Independent Evaluation Groups are requested to register with ITU-R[2] as identified in the schedule documents. The evaluation groups are kindly requested to submit evaluation reports to the ITU-R in accordance with the evaluation process delineated on the IMT-2020 web page. The evaluation reports will be considered in the development of the revised Recommendation M.2150 describing the relevant radio interface specifications.

It is noted that the current technology proposal from Proponent Nufront, and the associated detailed specifications now available, are indicated by the Proponent to be improvements built upon the previous technology already made available in prior specifications to Working Party 5D and examined in the prior evaluations.

Furthermore, noting that WP 5D expects to receive the final evaluation reports from the Independent Evaluation Groups on this IMT-2020 candidate technology RIT by its 48th meeting (February 2025), and that the IEGs are encouraged to provide interim evaluation reports for the 47th meeting (October 2024), *potential Independent Evaluation Groups are requested to register with ITU-R no later than 13th June 2024* to better enable dialog between the IEGs and Proponent Nufront in order to meet the planned deadlines. To reduce duplicated work, the evaluation from IEGs can consider to focus on a set of technical performance requirements (Annex 2) which were not fulfilled by the proponent's prior specification, according to some of the IEGs. Note this does not imply that an IEG is restricted to evaluate this technology for other technical performance requirements nor provide a complete evaluation.

Based on the above, this 13th June 2024 date is requested of the potential IEGs even though the schedule outlined in Document IMT-2020/87(Rev.1) currently indicates in the table titled 'High level schedule for New Technology Proposals for the Revision 3', that the "Opportunity for registration of Evaluation Groups is a window at WP 5D Meeting #45".

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[2] The evaluation group registration form, if necessary, is available at "*Web page for Revision 3 of IMT-2020 Recommendation ITU-R M.2150 (2024-2025 work)*".

ANNEX 2

List of minimum technical performance requirements

This is a list of the minimum technical requirements with which some of Independent Evaluation Groups concluded that the technology submission IMT-2020/76 does not comply. It refers to IMT-2020/85 "Summary of Step 4 of the IMT-2020 process for evaluation of IMT-2020 candidate technology submissions IMT-2020/76".

Minimum technical performance requirements item, units, and Report ITU-R M.2410-0 section reference	**Category**			**Required value**
	Usage scenario	**Test environment**	**Downlink or uplink**	
Peak data rate (Gbit/s) *(4.1)*	eMBB	Not applicable	Downlink	20
			Uplink	10
User experienced data rate (Mbit/s) *(4.3)*	eMBB	Dense Urban – eMBB	Uplink	50
5^{th} percentile user spectral efficiency (bit/s/Hz) *(4.4)*	eMBB	Indoor Hotspot – eMBB	Downlink	0.3
			Uplink	0.21
	eMBB	Dense Urban – eMBB	Downlink	0.225
			Uplink	0.15
	eMBB	Rural – eMBB	Downlink	0.12
			Uplink	0.045
Average spectral efficiency (bit/s/Hz/ TRxP) *(4.5)*	eMBB	Indoor Hotspot – eMBB	Downlink	9
			Uplink	6.75
	eMBB	Dense Urban – eMBB	Downlink	7.8
			Uplink	5.4
Connection density (devices/km^2) *(4.8)*	mMTC	Urban Macro – mMTC	Uplink	1 000 000
Reliability *(4.10)*	URLLC	Urban Macro – URLLC	Uplink or Downlink	$1\text{-}10^{-5}$ success probability of transmitting a layer 2 PDU (protocol data unit) of size 32 bytes within 1 ms in channel quality of coverage edge
Mobility Traffic channel link data rates (bit/s/Hz) *(4.11)*	eMBB	Dense Urban – eMBB	Uplink	1.12 (30 km/h)
Bandwidth and Scalability *(4.13)*	Not applicable	Not applicable	Not applicable	At least 100 MHz
				Up to 1 GHz

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