

Consideration of Candidate Technology
Submissions for
“ETSI (TC DECT) and DECT Forum Proponent”
&
“Nufront Proponent”
in IMT-2020 Process

CURRENT SITUATION & A PROPOSED WAY FORWARD

(7 July 2020)

Chairman - Working Party 5D

WP 5D Meeting #35e

23 June - 9 July 2020

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Where are we at this moment?

General observations on the following steps of IMT-2020 Process for WP 5D Mtg #35e

- Referring to Resolution ITU-R 65 and Doc. IMT-2020/2 (Process)
 - IMT-2020 process has completed these key stages:
 - **Step 3** (Submission/reception of the RIT and SRIT proposals and acknowledgement of receipt)
 - **Step 4** (Evaluation of candidate RITs or SRITs by independent evaluation groups)
 - Step 3 (Submission) & Step 4 (Evaluation) will not be reopened
 - Step 6 & 7 do not accept further evaluation reports from IEGs
 - Step 7 only accept inputs and discussions from the proponent on “consensus building” amongst the technology candidate as specifically defined in Step 7
 - **Criteria of WP 5D assessment in Step 6 & 7 follows Doc IMT-2020/2 and Report ITU-R M.2411**
 - Utilizes the evaluations in **Step 4**
 - **Step 6** (Review to assess compliance with minimum requirements)
 - **Step 7** (Consideration of evaluation results, consensus building and decision)
 - **Conclusions of Step 6 & 7 determines advancement to Step 8: inclusion in draft new Rec. ITU-R M.[IMT-2020.SPECS] as IMT-2020 technology**

Step 4 & Step 6 Synopsis (All Technology Submissions)

Step 4 Synopsis for “Proponent 3GPP”



The number below is counted based on IMT-2020/39-51 (all IMT-2020/ZZZ documents)

IMT-2020 submissions	IMT-2020 Doc. Number	Final evaluation reports
3GPP	IMT-2020/13	Total 7 relevant IEG evaluation reports from 7 IEGs confirmed that the candidate 3GPP SRIT proposal in IMT-2020/13 fulfils the minimum requirements for the five test environments comprising the three usage scenarios. In addition, it is confirmed that <u>each component RIT of the SRIT</u> also fulfils the minimum requirements of at least two test environments.
	IMT-2020/14	Total 10 relevant IEG evaluation reports from 10 IEGs confirmed that the candidate 3GPP RIT proposal in IMT-2020/14 fulfils the minimum requirements for the five test environments comprising the three usage scenarios.

Step 4 Synopsis for “Proponent China” and “Proponent Korea”



The number below is counted based on IMT-2020/39-51 (all IMT-2020/ZZZ documents)

IMT-2020 submissions	IMT-2020 Doc. Number	Final evaluation reports
China (People Republic of)	IMT-2020/15	Technically identical to NB-IoT part in IMT-2020/13 and NR part in IMT-2020/14. Total 5 relevant received evaluation reports confirmed that the candidate China (People’s Republic of) RIT proposal in IMT-2020/15 fulfils the minimum requirements for the five test environments comprising the three usage scenarios.
Korea (Republic of)	IMT-2020/16	Technically identical to IMT-2020/14. Total 5 relevant received evaluation reports confirmed that the candidate Korea (Republic of) RIT proposal in IMT-2020/16 fulfils the minimum requirements for the five test environments comprising the three usage scenarios.

Step 4 Synopsis for “Proponent TSDSI”



The number below is counted based on IMT-2020/39-51 (all IMT-2020/ZZZ documents)

IMT-2020 submissions	IMT-2020 Doc. Number	Final evaluation reports
TSDSI	IMT-2020/19 Rev.1	Total 3 relevant IEG evaluation reports from 3 IEGs confirmed that the candidate TSDSI RIT proposal in IMT-2020/19 (Rev 1) fulfils the minimum requirements for the five test environments comprising the three usage scenarios.

Step 6 Conclusion on “3GPP Proponent”, “China Proponent”, “Korea Proponent”, and “TSDSI Proponent Submissions



- ✓ ● 3GPP SRIT
- ✓ ● 3GPP RIT
- ✓ ● China
- ✓ ● Korea
- ✓ ● TSDSI



No question on whether the candidate technologies from these proponents meet the minimum requirements in all test environments of IMT-2020.
Consequently, the meeting **agrees** that they meet the requirements and criteria defined in 6 a) of Res.65

Step 4 Synopsis for “Proponent ETSI (TC DECT) & DECT FORUM”



IMT-2020 submissions	Final evaluation reports
ETSI (TC DECT), DECT FORUM IMT-2020/17 Rev.1	<p>Total 6 relevant IEG evaluation reports, among them:</p> <p>3 IEGs evaluation reports on 3GPP NR RIT component confirmed that the “3GPP 5G NR” RIT as one component RIT of the IMT-2020/17(Rev 1) candidate technology proposal fulfils the minimum requirements for the five test environments comprising the three usage scenarios (AND consequently also fulfilling the minimum requirements of at least two test environments is necessary for a component RIT)</p> <p>4 IEGs evaluated the “DECT 2020 NR RIT” component</p> <ul style="list-style-type: none">• 3 received evaluation reports indicated that the evaluation groups were of the opinion that this candidate “DECT 2020 NR RIT” component does not meet the minimum requirements of Urban Macro-URLLC test environments• 1 received evaluation report indicated that the evaluation groups were of the opinion this candidate “DECT 2020 NR RIT” component meets the minimum requirements of Urban Macro -URLLC test environments, but it was inconclusive whether it meets the minimum requirements of the Urban Macro-mMTC test environment.• There was NO evaluation report provided to WP 5D (besides the proponent’s own self-evaluation provided with the submission) to indicate that the “DECT 2020 NR RIT” component fulfils all the necessary minimum requirements for an RIT component of an SRIT (at least two test environments)

Step 4 Synopsis for “Proponent Nufront”



IMT-2020 submissions	Final evaluation reports
Nufront IMT-2020/18 Rev.1	<p data-bbox="397 391 1429 434">Total 8 relevant IEG evaluation reports, among them</p> <ul data-bbox="397 505 2244 1062" style="list-style-type: none"><li data-bbox="397 505 2244 605">• 5 IEG were of the opinion that the candidate Nufront proposal in IMT-2020/18(Rev.1) did not meet the minimum requirements of eMBB and Urban Macro-URLLC test environments.<li data-bbox="397 676 2244 776">• 1 IEG indicated that the candidate Nufront proposal in IMT-2020/18(Rev.1) did not meet the minimum requirements of Urban Macro-URLLC test environments.<li data-bbox="397 848 2244 948">• 1 IEG indicated that the evaluation group was inconclusive whether it met the minimum requirements of all required test environments.<li data-bbox="397 1019 2244 1062">• 1 IEG indicated it meets the minimum requirements of all required test environments.

Resolution ITU-R 65 has a clear mandate

- Resolution ITU-R 65 directs the ITU-R, to put it simply, “*have no doubt*” that radio interface technologies that are agreed to be IMT (in this case IMT-2020) are able to meet the defined minimum performances requirements under a defined process, including evaluation of the candidate technologies with established criteria to be assessed and met.
- These evaluations and technical criteria are linked back to the IMT technology being able to support and fulfil the “Vision” for IMT.
- The IMT process and established criteria for IMT-2000, as well as for IMT-Advanced and the results of that process presented in Rec. ITU-R M.1457 and Rec. M.2012 has demonstrated that indeed the resulting IMT technologies have enabled the IMT Visions to be realized globally and quite successfully.
- *For IMT-2020 and the 5G revolution, ITU-R must be able to say it has followed and completed what Res 65 instructs for the IMT-2020 candidate technology submissions for all the IMT-2020 candidate technology submissions.*
- Anything less is a disservice to all the stakeholders relying on IMT-2020.

ITU-R Res. 65 Based

Conclusion on

“ETSI (TC DECT & DECT Forum Proponents” Submission



DECT 2020 NR
RIT Component



Controversial on whether the candidate technologies from these proponents meet the minimum requirements in all test environments of IMT-2020.

Consequently, the meeting **[cannot] agree[s]** *that they meet the requirements and criteria defined in 6 a) of Res.65*

It is evident, if we are to abide by Res ITU-R 65

- based on the process and technical information provided by the required deadlines for each process stage,
- the deliberations through Step 3 and Step 4 of the process by ITU-R members and the IEGs, and
- recognizing the difference of view between the formally received IEG evaluation reports (see Doc IMT-2020/38, etc),

That

- **in alignment with the mandate in Res 65 resolves 6d)**
 - *ITU-R at this time in this IMT-2020 process cycle cannot for the candidate DECT 2020 NR RIT component proposal based on the facts of the process “**ensure that they meet the requirements and criteria defined in 6 a)**” in order to fulfil the minimum requirements for the two test environments – thereby the entire SRIT cannot fulfil the criteria.*
 - It is noted, that in a dedicated time of discussion at Mtg #35e under the Step 6 context, of Docs 5D/ 156, 157, 158 submitted by a member, *that the differences of view on the ability of the technology to fulfil the minimum requirement remains unresolved.*

ITU-R Res. 65 Based Conclusion on “Nufront” Submission



Nufront



Controversial on whether the candidate technologies from these proponents meet the minimum requirements in all test environments of IMT-2020.

Consequently, the meeting **[cannot] agree[s]** *that they meet the requirements and criteria defined in 6 a) of Res.65*

It is evident, if we are to abide by Res 65

- based on the process and technical information provided by the required deadlines for each process stage
- the deliberations through Step 3 and Step 4 of the process by ITU-R members and the IEGs, and
- recognizing the difference of view between the formally received IEG evaluation reports *(see Doc IMT-2020/38, etc),*

That

- **in alignment with the mandate in Res 65 resolves 6d)**
 - *ITU-R at this time in this IMT-2020 process cycle cannot for the candidate Nufront proposal based on the facts of the process “ensure that they meet the requirements and criteria defined in 6 a)” in order to fulfil the minimum requirements for the five test environments comprising the three usage scenarios.*
- It is noted, that in a dedicated time of discussion at Mtg #35e under the Step 6 context, of informal materials placed on the Share folder by the Proponent, *that the differences of view on the ability of the technology to fulfil the minimum requirement remains unresolved.*

Status of “Proponent ETSI (TC DECT) and DECT Forum” and “Proponent Nufront” submissions for Step 8

Based on Step 6 the candidate submissions from

- Proponent “ETSI (TC DECT) and DECT Forum”
- Proponent “Nufront”

have not separately and individually been agreed to have satisfied in this IMT-2020 process cycle the established criteria required to pass Step 6 (per the defined schedule for the decision and completion of Step 6 @ Mtg #35)

Hence in this underway IMT-2020 process cycle, these individual candidate submissions each cannot move forward to Step 7 nor Step 8 (per the defined schedule for the decision and completion of Step 7 @ Mtg #35)

and would therefore, each not be able to be included in Step 8 in this underway IMT-2020 process cycle, (per the IMT-2020 process and Resolution 65), in the first release of the draft new Recommendation ITU-R M.[IMT-2020.SPECS] due to be finished by WP 5D for submission to Study Group 5 Meeting in Nov 2020.

However, the door is not closed, future revisions of the Recommendation ITU-R M.[IMT-2020.SPECS] remain individually open to the “Proponent ETSI (TC DECT) and DECT Forum” and “Proponent Nufront” submissions.

A proposed way forward for
“Proponent ETSI (TC DECT) and DECT Forum”
and
“Proponent Nufront”
submissions

Is there a way forward for “Proponent ETSI (TC DECT) and DECT Forum” and “Proponent Nufront” submissions?

- Yes, but the “way forward”
 - must respect Resolution ITU-R 65 in all regards and particularly *resolves 4* in any defined approach
 - must respect the IMT-2020 process in Doc IMT-2020/2
 - must not impact the candidate technology submissions that have successfully navigated this IMT-2020 cycle by the defined deadlines from moving into Step 8
 - must not delay the current schedule for the first Release of Rec M.[IMT-2020.SPECS] planned for completion in October/November 2020 and subsequent submission to Study Group 5 in November 2020 - i.e., the first release is the priority for resources in WP 5D in its completion.
- **Two Possible Options**
 - **Option 1:** The general “open call” revision schedule for the next cycle of IMT-2020
 - **Option 2:** These two candidate submissions each individually to carry-on in the current process (Step 4 to Step 7), under an extension, rewinding back to Step 4

For Reference:

“Option 1 Way forward for “Proponent ETSI (TC DECT) and DECT Forum” and “Proponent Nufront” submissions

- In the context of this discussion (we will call it “Option 1”) there is a ‘formal path’ per Res ITU-R 65, *resolves 6h*)

Option 1: When the general “open call” revision schedule for the next update of IMT-2020 to produce a Revision of the Rec. ITU-R M.[IMT-2020 SPECS] is announced by a Circular Letter (*defining this next “open call” update is a planned action for the WP 5D work program in 2021*), then these technologies can, along with any other new candidate technologies, enter this next update afresh as a ‘new submission’ (no carry-over history) starting again from Step 1 in the “open call” revisions process. *As noted by the IMT-2020 process flow, this is necessarily a multi-year procedure for new submissions.*

In other words, Option 1 is “business as usual”.

Proposal:

Option 2 Way Forward for “Proponent ETSI (TC DECT) and DECT Forum” and “Proponent Nufront” submissions

- However, in the context of this discussion, an “Option 2” is defined, proposed here, as an ‘alternative path’ on an exceptional one-time basis
- Option 2: Alternatively, and exceptionally, WP 5D could agree to permit
 - these two candidate submissions each individually to carry-on in the current process of evaluation and assessment, under an extension,
 - each rewinding back to Step 4,
 - and if successful, from Step 4 to the Step 8 of the process extension, WP 5D would include the successful Step 8 radio interface technology (ies)
 - in a timely manner in next Revision prepared subsequent to the published first release of the Rec ITU-R M.[IMT-2020.SPECS].
- This proposed next Revision will be focused only on the possible inclusions of the “Proponent ETSI (TC DECT) and DECT Forum” and/or “Proponent Nufront” submissions in the 1st update of Rec ITU-R M.[IMT-2020.SPECS]

Way Forward Option 2 Pictorially (Picture not to scale)

WP 5D #35e
July 2020

WP 5D #36
Oct 2020

WP 5D #36bis
Nov 2020

IMT-2020 CURRENT PROCESS

- 3GPP Proponent SRIT
- 3GPP Proponent RIT
- China Proponent RIT
- Korea Proponent RIT
- TSDSI Proponent RIT

**Completes
Nov 2020
with no delay**

First Release Rec IMT
M.[IMT-2020 SPECS]
Study Group 5
November 2020

Editor's Note: Original picture replaced with the more detailed picture from Executive Summary. 7-10-20

First Release Timeline

**WP 5D #36 or 36bis
Oct/Nov 2020**

**Schedule, Workplan, &
External Liaison to IEGs**

**WP 5D #37
Feb 2021**

**WP 5D #38
June 2021**

**WP 5D #39
Oct 2021**

IMT-2020 CURRENT PROCESS

(Step 4 reset & onward Steps extension)

- ETSI (TC DECT) and DECT Forum Proponent SRIT
- Nufront Proponent RIT

**Completes
in 2021**

Focused Revision 1
Rec IMT M.[IMT-2020
SPECS] Study Group 5
Update should be
completed in WP
5D/ITU-R no later
than Meeting #39,
preferably sooner.

Focused Revision Timeline

Process fork

OPTION 2 Details-1

- Under Option 2
- The reset to Step 4 for these technology submissions
 - would “invite the existing registered Independent Evaluation Groups to kindly re-engage in the reset on Step 4 for these technologies”
 - would use in the reset/extension of the process:
 - the currently in play completed Step 3 submissions,
 - respectively, the existing historical record of IEG evaluations relevant to each technology, is still applicable throughout the reset Step 4 – and such evaluations have the opportunity to be revisited and updated,
 - the new contributions recently submitted after Step 4 had closed as formal contributions to WP 5D Mtg #35e
 - additionally, taking into account the rich scope of details in the actual specifications submitted in Documents 5D/173 and 5D/188 respectively, and further,
 - any newly developed analyses contributed by IEGs and/or members when the reset evaluation Step 4 is reopened.
 - In other words ‘we will re-evaluate and then move forward appropriately based on that re-evaluation with the respective individual “Proponent ETSI (TC DECT) and DECT Forum” or “Proponent Nufront” candidate technology submission we have previously received including the provided relevant specifications (GCS or DIS) that were submitted to WP 5D meeting #35e, as well as the relevant Annex Sections 1 & 2 compiled and developed “in anticipation” at Mtg #35e respectively for each of these technology submissions.’
 - A new schedule specifically related

OPTION 2 Details-2

- Under Option 2

- In order to align with the submission from Step 3 and to preserve the “equality” aspect of the technology submissions across the technologies that were submitted for this first cycle on IMT-2020, the relevant GCS and DIS specifications shall be locked “in time” to those submitted as of WP 5D Meeting #35e, as such:
 - For “**Proponent ETSI (TC DECT) and DECT Forum**”: Considering Document 5D/173 and more specifically as amended and captured in the respective [] (squared bracketed text) originally compiled in 5D/TEMP/148 as Annex 3 Sections 1 and 2 in the proposed PDNR Rec ITU-R M.[IMT-2020 SPECS] as initially compiled in WP 5D Mtg 35e.. Under the Option 2, this Annex (locked at the 35e meeting) should be administratively captured in a separate TEMP document to be attached to the Chairman’s Report of the 35e meeting with an appropriate introductory note. **This is now captured in 5D/TEMP/173. See, Chairman’s Report 5D/222 Ch 5 Att 5.XX**
 - For “**Proponent Nufront**”: Considering Document 5D/188 and more specifically as amended and captured in the respective [] (squared bracketed text) originally compiled in 5D/TEMP/148 as Annex 5 Sections 1 and 2 in the proposed PDNR Rec ITU-R M.[IMT-2020 SPECS] as initially compiled in WP 5D Mtg 35e. Under the Option 2, this Annex (locked at the 35e meeting) should be administratively captured in a separate TEMP document to be attached to the Chairman’s Report of the 35e meeting with an appropriate introductory note. **This is now captured in 5D/TEMP/174 . See, Chairman’s Report 5D/222 Ch 5 Att 5.XX**
- The respective existing Form As, Certification Bs, and Certification Cs shall remain in force.

For Option 2, the Addendum 7 Annex 1 of the Circular Letter 5/LCCE/59 should be amended to administratively edit the following text

• ...

Steps 5 to 7 are hereby concluded for the candidate technologies listed in Section 2.

2) Final decision on IMT-2020 technologies for Step 8 and the first release of the specifications to be included in draft new Recommendation ITU-R M.[IMT-2020.SPECS]

ITU-R has determined that the IMT-2020 candidate technology submission proposals listed below have successfully completed Step 7 and all preceding Steps, and thus are accepted for inclusion as IMT-2020 technologies in the standardization phase for IMT-2020 as described in Step 8.

Candidate technology submissions accepted for Step 8 for first release of Recommendation ITU-R M.[IMT-2020.SPECS]:

- Candidate SRIT submission from 3GPP proponent (Acknowledgement of submission under Step 3 of the IMT-2020 process in [IMT-2020/13](#)).
- Candidate RIT submission from 3GPP proponent (Acknowledgement of submission under Step 3 of the IMT-2020 process in [IMT-2020/14](#)).
- Candidate RIT submission from China (People's Republic of) (Acknowledgement of submission under Step 3 of the IMT-2020 process in [IMT-2020/15](#)).
- Candidate RIT submission from Korea (Republic of) (Acknowledgement of submission under Step 3 of the IMT-2020 process in [IMT-2020/16](#)).
- Candidate RIT submission from TSDSI (Acknowledgement of submission under Step 3 of the IMT-2020 process in [IMT-2020/19\(Rev 1\)](#)).

For Option 2, the Addendum 7 Annex 1 of the Circular Letter 5/LCCE/59 should be amended to administratively add the following text (adding after the prior text previous slide)

3) IMT-2020 candidate technology submissions requiring additional evaluation

ITU-R has determined that the IMT-2020 candidate technology submission proposals listed below will require additional evaluation to conclude their respective final assessments through Steps 6 and Step 7 of the current process. They will, therefore, on an exceptional basis continue in the process, rewinding to Step 4 in order to consider additional supplied material. Should each of these technology submissions individually and separately successfully navigate the rewind to Step 4 and the subsequent Steps 5 -8 of the current IMT-2020 process extension, they would consequentially be included in a timely revision to the published first release of Recommendation ITU-R M.[IMT-2020.SPECS].

Candidate technology submissions granted an extension in the IMT-2020 Process:

- Candidate SRIT submission from ETSI (TC DECT) and DECT Forum (Acknowledgement of submission under Step 3 of the IMT-2020 process in [IMT-2020/17\(Rev 1\)](#)).
- Candidate RIT submission from Nufront (Acknowledgement of submission under Step 3 of the IMT-2020 process in [IMT-2020/18\(Rev 1\)](#)).

This process extension for these specific candidate technology submissions will not impact the schedule for the first release of Recommendation ITU-R M.[IMT-2020.SPECS] and the inclusion of the identified Proponent submissions identified in Section 2 above that will proceed into Step 8.

... continue with remainder of the Annex 1 to the Circular Letter

Documentation

- It is proposed that this current slide presentation be captured as an IMT-2020 document.
- The Chairman's Report should appropriately reflect these matters.

Consequential Editorial Edits by BR/Secretariat

- The following TEMP documents from Mtg 35e may need to be editorially reviewed by the Secretariat in post meeting preparations for consistency with the Option 2 way forward
 - TEMP related to Circular Letter Addendum 7 (mentioned previously)
 - TEMP related to draft new Report M.[IMT.OUTCOME]
 - TEMP related to draft new Rec M.[IMT-2020.SPECS]
 - TEMPs related to Liaisons to RIT/SRIT Proponents, GCS Proponents, ...
 - TEMPs related to Liaisons to Transposing Organizations

Additional Background Information

Resolution ITU-R 65



Res 65

Background - Resolution ITU-R 65 (2015)

“Principles for the process of future development of IMT for 2020 and beyond”



Res 65

Resolves

2 that the development of Recommendations and Reports for the future development of IMT **shall be** an ongoing and **timely process with defined outputs** that take into account developments external to ITU-R;



Doc. IMT-2020/2
Submission, evaluation
process, and consensus
building for IMT-2020

4 that the process for developing Recommendations and Reports for the future development of IMT **shall give equal opportunity to all proposed technologies to be evaluated against the requirements for the future development of IMT;**

6 that, in light of the above *resolves*, **this process shall include:**



Rep ITU-R **M.2410** (IMT-2020.TECH PERF REQ) 2017
Rep ITU-R **M.2411**(IMT-2020.SUBMISSION) 2017
Rep ITU-R **M.2412** (IMT-2020.EVAL) 2017

6a) *the definition of minimum technical requirements and evaluation criteria, based on the framework and overall objectives of the future development of IMT, that support the new capabilities expressed in relevant Recommendation(s), taking into account end user requirements and without unnecessary legacy requirements;*

6h) an ongoing and timely process where **new radio interface technology proposals may be submitted and existing radio interface specifications can be updated;** the process should have flexibility to allow proponents to seek evaluation against any version of the approved criteria currently in force,

Background Res. ITU-R 65 cont.

6 that, in light of the above *resolves*, this process shall include:

Step 6

6 d) *an evaluation by ITU-R of the radio interface technologies proposed for the future development of IMT to ensure that they meet the requirements and criteria defined in 6 a) above; such an evaluation may utilize the principles for interaction of ITU-R with other organizations as detailed in Resolution ITU-R 9;*

Step 5

6 e) consensus-building with the objective of achieving harmonization in response to the *considering* paragraphs of this Resolution and which would have the potential for wide industry support of the radio interfaces that are developed for the future development of IMT;

Definition of "ensure":

- Make certain that (something) shall occur or be the case.
- Make certain of obtaining or providing (something)
- (ensure against) Make sure that (a problem) shall not occur.

6 f) a standardization phase in the future development of IMT, where ITU-R develops the IMT radio interface specification Recommendation(s) based on the results of an evaluation report (defined in resolves 6 d))

and of consensus-building (defined in resolves 6 e)) ensuring that the specifications meet the technical requirements and evaluation criteria as defined in 6 a) or 6 g);

in such a standardization phase, work may proceed in cooperation with relevant organizations external to ITU in order to complement the work within ITU-R, using the principles set out in Resolution ITU-R 9;

Step 7
towards 8

IMT-2020 Process



IMT-2020/2

Some Tenets of the IMT-2020 Process (Doc IMT-2020/2 Rev 2)

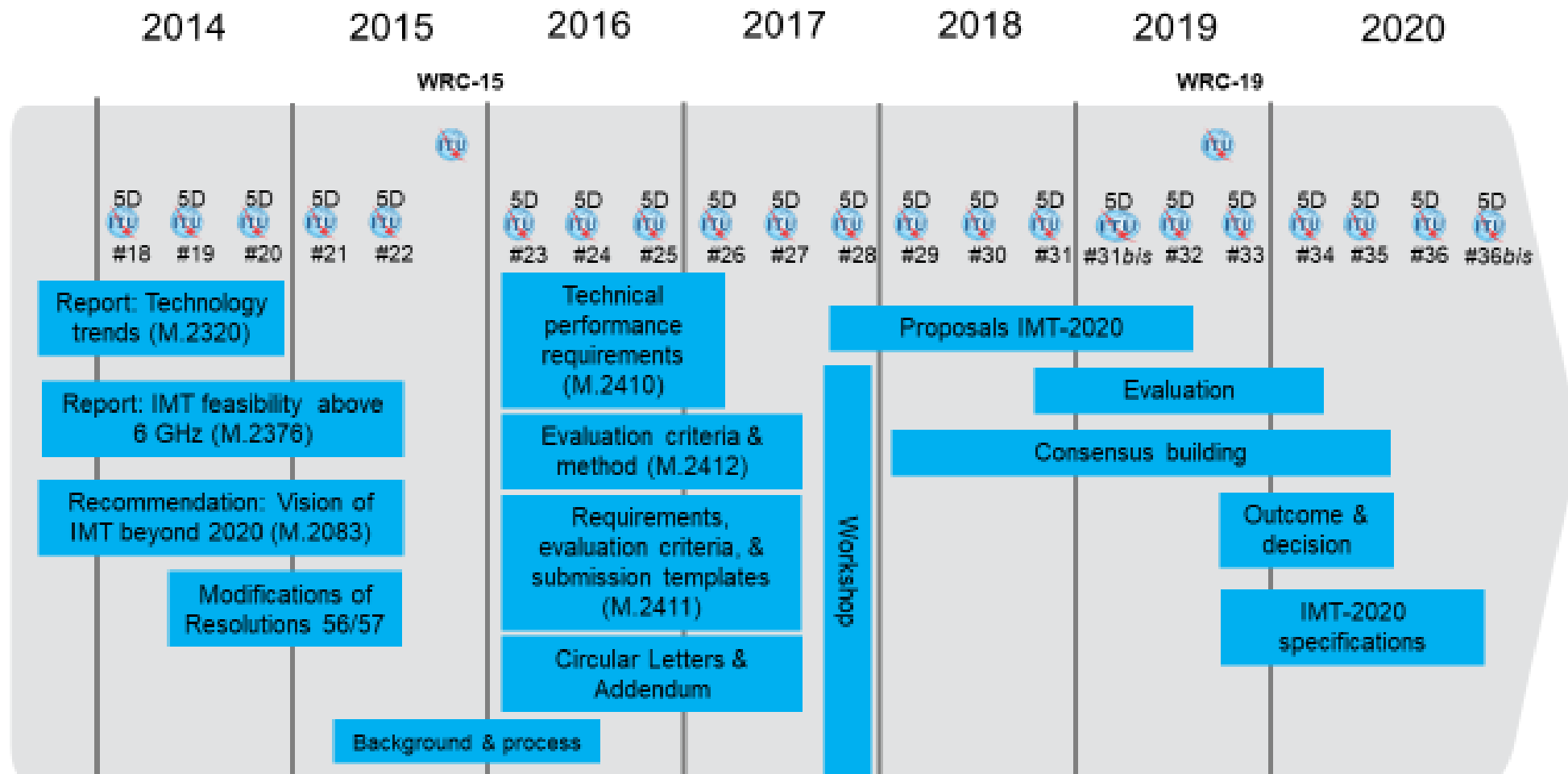
- Addresses the development of radio interface technologies for IMT
- Is based on and adheres to the Principles in Resolution ITU-R 65
- The process is a Step-wise progression
- Steps 3, 4, 6, 7, 8 require successfully navigation of the preceding Steps in order to proceed
- Each Step has an associated defined and openly published time for initiation and for completion
- Each Step/stage has been allocated more that ample time in the overall schedule
- Materials to be submitted to WP 5D for each step are clearly identified as to what and when
- The process clearly identifies what is to be submitted, evaluated, and the evaluation criteria.
- On-going liaisons and regular updates in Circular Letter 5/LCCE/59 as well as the WP 5D dedicated IMT-2020 web-page ensures full communication
- For consistency in defining IMT radio interface technologies, the IMT-2020 process parallels the well established processes utilized for IMT-2000 and IMT-Advanced



IMT-2020/2

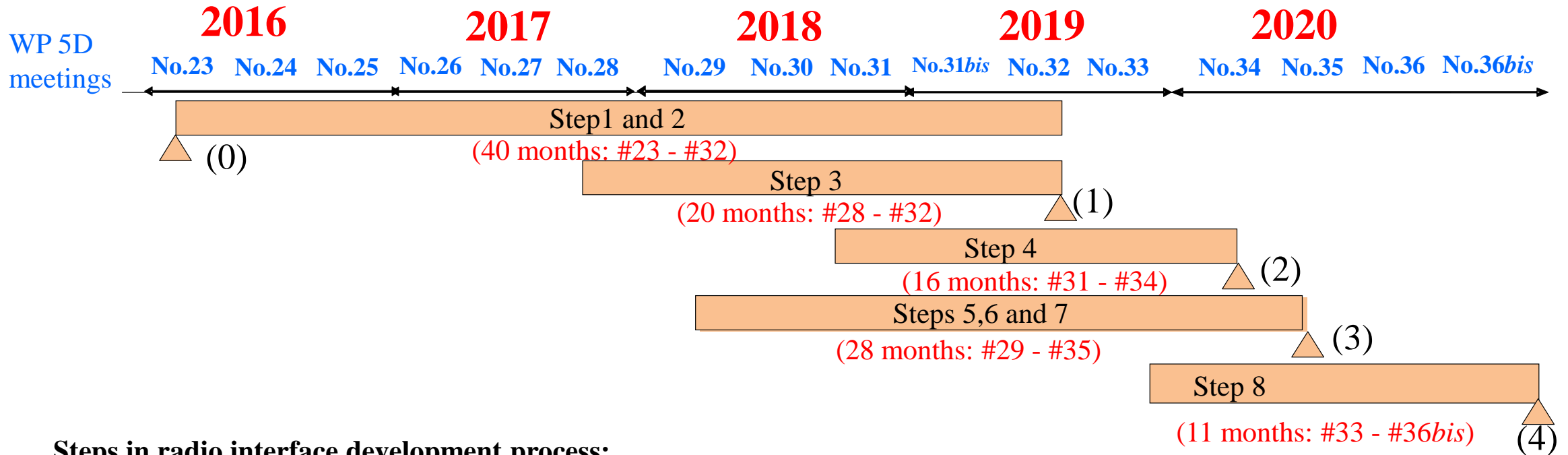
WP 5D timeline for IMT-2020

Detailed specifications for the terrestrial radio interfaces



Note: Meeting #36bis is a focused meeting (technology) for finalization of Step 8 of the IMT-2020 process and completing draft new Recommendation ITU-R M. [IMT-2020.SPECS]

Schedule for the development of IMT-2020 radio interface Recommendations



Steps in radio interface development process:

- Step 1: Issuance of the circular letter
- Step 2: Development of candidate RITs and SRITs
- Step 3: Submission/Reception of the RIT and SRIT proposals and acknowledgement of receipt
- Step 4: Evaluation of candidate RITs and SRITs by Independent Evaluation Groups

- Step 5: Review and coordination of outside evaluation activities
- Step 6: Review to assess compliance with minimum requirements
- Step 7: Consideration of evaluation results, consensus building and decision
- Step 8: Development of radio interface Recommendation(s)

Critical milestones in radio interface development process:

- | | | | |
|--|------------|---|----------------------|
| (0): Issue an invitation to propose RITs | March 2016 | (2): Cut off for evaluation report to ITU | February 2020 |
| (1): ITU proposed cut off for submission of candidate RIT and SRIT proposals | July 2019 | (3): WP 5D decides framework and key characteristics of IMT-2020 RIT and SRIT | June 2020 |
| | | (4): WP 5D completes development of radio interface specification Recommendations | November 2020 |

Background – IMT-2020/2 Step 6 & 7

Step 6 – Review to assess compliance with minimum requirements

In this step WP 5D makes an assessment of the proposal as to whether it meets a version of the minimum technical performance requirements and evaluation criteria of the IMT-2020 in Report [ITU-R M.2411-0](#).

In this step, the evaluated proposal for an RIT/SRIT is assessed as a qualifying RIT/SRIT, if an RIT/SRIT fulfils the minimum requirements for the five test environments comprising the three usage scenarios.

Such a qualified RIT/SRIT⁴ will go forward for further consideration in Step 7.

According to the decision of the proponents, earlier steps may be revisited to complement, revise, clarify and include possible consensus-building for candidate RITs or SRITs including those that initially do not fulfil the minimum requirements of IMT-2020 that are described in Report [ITU-R M.2411-0](#).

WP 5D will prepare a document on the activities of this step and assemble the reviewed proposals and relevant documentation. WP 5D will keep the proponents informed of the status of the assessment. Such documentation and feedback resulting from this step can facilitate consensus building that might take place external to the ITU-R in support of Step 7.

Footnote 4. As defined in Step 2, each component RIT of the SRIT needs to still fulfil the minimum requirements of at least two test environments.

Background – IMT-2020/2 Step 6 & 7

Step 7 – Consideration of evaluation results, consensus building and decision

In this step WP 5D will **consider the evaluation results of those RITs or SRITs that have satisfied the review process in Step 6.**

Consensus building is performed during Steps 4, 5, 6 and 7 with the objective of achieving global harmonization and having the potential for wide industry support for the radio interfaces that are developed for IMT-2020. This may include **grouping of RITs or modifications to RITs to create SRITs that better meet the objectives of IMT-2020.**

An RIT or SRIT⁶ will be accepted for inclusion in the standardization phase described in Step 8 if, as the result of deliberation by ITU-R, **it is determined that the RIT or SRIT meets the requirements of Resolution ITU-R 65, resolves 6 e) and f) for the five test environments comprising the three usage scenarios.**

Footnote 6. As defined in Step 2, each component RIT of the SRIT needs to still fulfil the minimum requirements of at least two test environments.

History of Actions by “Proponent ETSI (TC DECT) and DECT Forum” and “Proponent Nufront” on submissions
and
Synopsis of Meetings #32, #33, & #34
on submission and evaluation

History “Proponent ETSI (TC DECT) and DECT Forum” submissions throughout the process (Doc IMT 2020/

Meeting number	Input contributions	Remarks
WP 5D #30 <i>June 2018</i>	5D/ 978	Initial description template (DECT NR RIT)
WP 5D #31 <i>Oct 2018</i>	5D/ 1046 (Attachment: 5D/ 1046!P1)	Initial characteristics template and link budget template (DECT NR RIT)
WP 5D #31bis <i>Feb 2019</i>	–	No update information in this meeting
Meeting number	Input contributions	Remarks
WP 5D #32 <i>July 2019</i>	Document 5D/ 1230 (Attachment: 5D/ 1230!P1 Attachment: 5D/ 1230!P2) Document 5D/ 1253	Final submission Component DECT NR RIT) Component 3GPP 5G NR
WP 5D #33 <i>Dec 2019</i>	Document 5D/ 1299 (Attachment: 5D/ 1299!P1 Attachment: 5D/ 1299!P2) Document 5D/ 12 (Attachment: 5D/ 12!P1)	Revised submission (submitted before September 10, 2019 per ‘Way Forward’) Component DECT NR RIT) It is clarified that Doc. 5D/12 replicates material from the original submission for convenience of use with 5D/1299. System parameters for DECT-2020 MMTC simulations

Submission could not be determined to be a ‘COMPLETE’ in Mtg #32 per the hard deadline in the schedule for providing a complete submission due to

“Proponent ETSI (TC DECT) and DECT Forum”

Mtg #32 July 2019 (Doc IMT 2020/DOC IMT-2020/26 Rev 1 Part II)

- **Overall Submission:**

- Working Party 5D has so far identified at WP 5D Meeting #32, in its review of the **ETSI (TC DECT) submission in Document [5D/1230](#), some submission deficiencies and clarification of technology issues which impact the submission and the ability of WP 5D to have the submission move forward in the IMT-2020 process.**

- **For the Self-Evaluation:**

- This submission cannot, in its current form, be determined to have satisfactorily fulfilled Section 4.3 for the self-evaluation.
- The supplied self-evaluation and any amendments accepted during WP 5D Meeting #32 *for the “DECT-2020 NR” RIT - DECT-2020 NR RIT Component of submitted SRIT* do not yet permit WP 5D to determine if a complete and satisfactory self-evaluation as required by the IMT-2020 process has been fully provided.

History “Proponent Nufront” submissions throughout the process (Doc IMT 2020/

Meeting number	Input contributions	Remarks
<p>WP 5D #32 <i>July 2019</i></p>	<p>5D/1238 (Attachment Part 1: 5D/1238!P1; Attachment Part 2: 5D/1238!P2; Attachment Part 3: 5D/1238!P3; Attachment Part 4: 5D/1238!P4; Attachment Part 5: 5D/1238!P5)</p>	<p>Final submission</p> <ul style="list-style-type: none"> • IPR policy compliance • Characteristics template • Link budget template • Compliance template • Self-evaluation report • General patent statement
<p>WP 5D #33 <i>Dec 2019</i></p>	<p>5D/1300 (Attachment Part 1: 5D/1300!P1; Attachment Part 2: 5D/1300!P2; Attachment Part 3: 5D/1300!P3; Attachment Part 4: 5D/1300!P4; Attachment Part 5: 5D/1300!P5; Attachment Part 6: 5D/1300!P6; Attachment Part 7: 5D/1300!P7)</p>	<p>Revised submission (submitted before September 10, 2019 per ‘Way Forward’)</p> <ul style="list-style-type: none"> • IPR policy compliance • Characteristics template • Link budget template • Compliance template • Self-evaluation report • General patent statement • EUHT specification

“Proponent Nufront”

Mtg #32 July 2019 (Doc IMT 2020/DOC IMT-2020/27 Rev 1 Part II)

- **Overall Submission:**

- Working Party 5D (WP 5D) has so far identified at WP 5D meeting #32, in its review of the Proponent Nufront submission in Document [5D/1238](#), some submission deficiencies and clarification of technology issues which impact the submission and the ability of WP 5D to have the submission move forward in the IMT-2020 process.

- **For the Self-Evaluation:**

- This submission cannot, in its current form, be determined to have satisfactorily fulfilled Section 4.3 for the self-evaluation.
- The supplied self-evaluation and any amendments accepted during WP 5D meeting #32 for Nufront “EUHT” RIT do not yet permit WP 5D to determine if a complete and satisfactory self-evaluation as required by the IMT-2020 process has been fully provided.

Special Way Forward on Submissions (*applicable to “Proponent ETSI (TC DECT) and DECT Forum”, “Proponent Nufront”, and Proponent TSDSI*) Mtg #32 July 2019 (Doc IMT-2020/26 Rev 1 Part II)

- Grant that, *on a one-time exceptional basis*, the relevant materials necessary for the Proponent to provide a complete and satisfactory self-evaluation adhering in all ways to the IMT-2020 process and procedures in Document IMT-2020/2 Rev 1, and in particular with regard to the relevant Compliance Templates, could (must) be provided for consideration by WP 5D by a hard (non-waivable) deadline of no later than 10 September 2019 by 16:00 hours UTC to the Radiocommunications Bureau.
- The date of **September 10** is chosen because it is critical that the **External Independent Evaluation Groups have the necessary information** that would ordinarily have been supplied to them from Meeting #32, as the full sets of all candidate submissions assessed to be “complete” were to be liaised to the IEGs from Meeting #32.
- It is acknowledged the candidate submission technologies **operating under this exception would be able to be evaluated under Step 4, pending the decision in WP 5D #33 meeting.**

Special Way Forward on Submissions

Mtg #32 July 2019 (Doc IMT-2020/26 Rev 1 Part II)

- Working Party 5D reserves its right to make the final decision (on the respective submissions requested to provide further information) **in regard to their proceeding forward in the IMT- 2020 process at WP 5D Meeting #33** in December 2019.
- The final decision (as above) must and will be taken at WP 5D Meeting #33 and shall not be further postponed. Additional delays in the IMT-2020 process would not practically be able to be considered or granted.
- It is cautioned that these deviations to the IMT-2020 process should not be a precedent for the future of the IMT processes.

WP 5D Meeting #33 December 2019 (Doc 5D/37 Chapter 5)

Review of updated materials of IMT-2020 submissions

As per the agreed way forward at the 32nd WP 5D meeting regarding candidate IMT-2020 RIT/SRIT submissions of ETSI (TC DECT) and DECT Forum, Nufront and TSDSI, the respective proponents provided updated materials of their submissions on September 10th of 2019.

ETSI (TC DECT) and DECT Forum	Doc. 5D/1299
Nufront	Doc. 5D/1300
TSDSI	Doc. 5D/1301

After review of these updated materials of submissions under the IMT-2020 Process Step 3 – Submission / reception of the RIT and SRIT proposals and acknowledgement of receipt, the meeting determined that the submissions of ETSI (TC DECT) and DECT Forum, Nufront and TSDSI are “complete” per Section 5 of Report ITU-R M.2411. In the course of this review, documents for observations on the submissions were updated (Docs. 5D/TEMP/14, TEMP/15, and TEMP/16). Respective acknowledgements of the submissions were developed (Docs. 5D/TEMP/17, TEMP/18 and TEMP/19).

There are concerns on the submission in Document 5D/1300 (Nufront) regarding potential contradictions between its technical specification and self-evaluation report, which were not solved in the meeting. The proponent and parties with these concerns are encouraged to solve them urgently through discussions in [Evaluation Group discussion area](#) before the next meeting of WP 5D.

In the IMT-2020 process, an acknowledgement of a “complete” submission under Step 3 does not imply any conclusions on the results of the formal evaluation under Step 4 to 7. A submission is acknowledged as “complete” if it fulfilled, for that candidate technology submission, supplying all requested information in the format specified following the guidance of Report [ITU-R M.2411](#) – *Requirements, evaluation criteria and submission templates for the development of IMT-2020*.

Working Party 5D (WP 5D) held a workshop on “IMT-2020 Terrestrial Radio Interfaces Evaluation” on 10 and 11 December 2019, with around 100 participants at Meeting #33 in Geneva. (Doc 5D/37 Chapter 1 Att 1)

- The objectives of the workshop were: – to promote information sharing on IMT-2020; – **to facilitate dialogue within ITU-R WP 5D and amongst the proponents as well as the evaluation groups.**
- The convener opened the workshop with remarks **on its importance to promote efficient and intensive dialogue and discussion amongst the proponents and Independent Evaluation Groups**, facilitating the IMT-2020 radio interface development process and by noting that each Independent Evaluation Group is required to submit its final evaluation report in February 2020.
- In the morning of the first day, **the proponents** of IMT-2020 terrestrial radio interfaces (3GPP Proponent, China, Korea, ETSI TC DECT, Nufront and TSDSI) **presented their technologies and self-evaluation reports, followed by Q&A for technical clarifications** and observations on future consensus building.
- During the course of the afternoon **ten registered Independent Evaluation Groups presented their organization, evaluation methods, proposed technologies under evaluation, summary of interim evaluation reports submitted to WP 5D #33 meeting and so forth.**
- **There were observations and questions on the interim evaluation reports from proponents and other Independent Evaluation Groups.** Some of the Independent Evaluation Groups had posted questions to proponents in the “Evaluation Groups discussion area” and it is encouraged to use this tool further to facilitate communication among the interested parties.
- **The workshop session in the morning on the second day was a joint session with SWG Evaluation and SWG Coordination, in which the interim reports submitted to WP 5D #33 meeting were considered in detail.**
- Participants in both the workshop and WP 5D meeting expressed views that the workshop and this interlinked session approach were very productive and beneficial and that this contributed to a successful outcome of the December 2019 milestones.
- This workshop was a continuation of the previous one on IMT-2020 **held in 2017, Munich, which addressed the process, requirements, and evaluation criteria for IMT-2020** as well as views from proponents on the developments of IMT-2020 radio interfaces and activities of the IEGs.

WP 5D Meeting #34 February 2020

(Doc 5D/134 Chapter 5) also see Doc IMT-2020/38 for the IMT-2020 documents created by the referenced TEMPS

- **Evaluation of IMT-2020 candidate technology submissions**
- This 34th WP 5D meeting is a milestone of the IMT-2020 submission and evaluation process: Step 4 – Evaluation of candidate RITs or SRITs by independent evaluation groups.
- Twelve Independent Evaluation Groups (IEGs) submitted to this meeting twenty-seven evaluation reports of all the candidate technology submissions. The meeting reviewed these evaluation reports, with participations of the IEGs, the proponents of candidate technology submissions and other participants.
- The Step 4 was completed with all the evaluation reports recorded (5D/TEMP/75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85 and 86). Evaluation report summaries are captured in the respective documents (5D/TEMP/112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 125 and 126).
- The meeting also developed an overall summary – Summary of Step 4 of the IMT-2020 Process for Evaluation of IMT-2020 Candidate Technology Submissions (5D/TEMP/124), which also captures different views raised during the discussion at the meeting.
- It was noted that Step 4 (evaluation by independent evaluation groups) was completed at this meeting as planned, and WP 5D would proceed the following Steps in the IMT-2020 development process. Especially Step 6 (assessment for compliance) and Step 7 (consensus building and decision) are to be completed at the next 35th meeting. **The ITU members are encouraged to submit their contributions to the next meeting considering the summary documents above which facilitates further discussions in Steps 6 and 7.**

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