



International Telecommunication Union

ITU Workshop on
Spectrum Management for
Internet of Things Deployment
(Geneva, 22 November 2016)

Update on ITU-R Working Party 5D Studies Related to IoT and MTC

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**ITU WORKSHOP ON SPECTRUM
MANAGEMENT FOR INTERNET
OF THINGS DEPLOYMENT**

**GENEVA, SWITZERLAND
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Organised by:



Working Party 5D has established “SWG-Usage” under the General Aspects WG to currently address several distinct activities/studies related to IoT and MTC topics

“SWG Usage” has the following Terms of Reference:

- a) Development of deliverable(s) to complement of Recommendation ITU-R M.2083 for IMT usage in various vertical industry sectors.
 - *Relates to Res ITU-R 66*
- b) WP 5D Conference Related Work towards
 - *WRC Resolution 958 (WRC-15), Annex 3*
 - *WRC-19 agenda item 9.1, issue 9.1.8 (MTC).*
- c) In addition, in Mtg #25, the SWG agreed to the development of WP 5D working document(s) as appropriate on technical and operational aspects of IMT radio networks, as well as the spectrum needs, and possible harmonized use of spectrum on Narrowband and Broadband IMT machine type communication. This will commence in Mtg #26 (Feb 2017)

RES. ITU-R 66: Studies related to wireless systems and applications for the development of the Internet of Things



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recognizing

- a) Resolution 197 (Busan, 2014) of the Plenipotentiary Conference, on Facilitating the Internet of Things to prepare for a globally connected world;
- b) the use of different radiofrequency bands by radiocommunication services, many of which provide communication channels, infrastructure and capacity that could be used in IoT deployment with the aim of ensuring cost-effective deployment and efficient use of the radiofrequency spectrum;
- c) that IoT is a concept encompassing various platforms, applications, and technologies that are, and will continue to be, implemented under a number of radiocommunication services;
- d) that the implementation of IoT currently does not require specific regulatory provisions in the Radio Regulations,

resolves to invite ITU-R

- 1 to conduct studies on the technical and operational aspects of radio networks and systems for IoT;
- 2 to develop ITU-R Recommendations, Reports and/or Handbooks as appropriate, on the basis of the studies referred to above,

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WRC-19 Agenda Item 9.1, Issue 9.1.8 (MTC):



Resolution 958 (WRC-15), Annex Item 3:

Studies on the technical and operational aspects of radio networks and systems, as well as spectrum needed, including possible harmonized use of spectrum to support the implementation of narrowband and broadband machine-type communication infrastructures, in order to develop Recommendations, Reports and/or Handbooks, as appropriate, and to take appropriate actions within the ITU Radiocommunication Sector (ITU-R) scope of work.

Allocation of ITU-R preparatory work for WRC-19

(Reference: [Circular Letter CA/226](#))

WRC-19 agenda item	WR Resolution	Responsible Group	Concerned Groups
Issue 9.1.8	958 (WRC-15) Annex Issue 3)	WP 5D	WP 1B, WP 5A

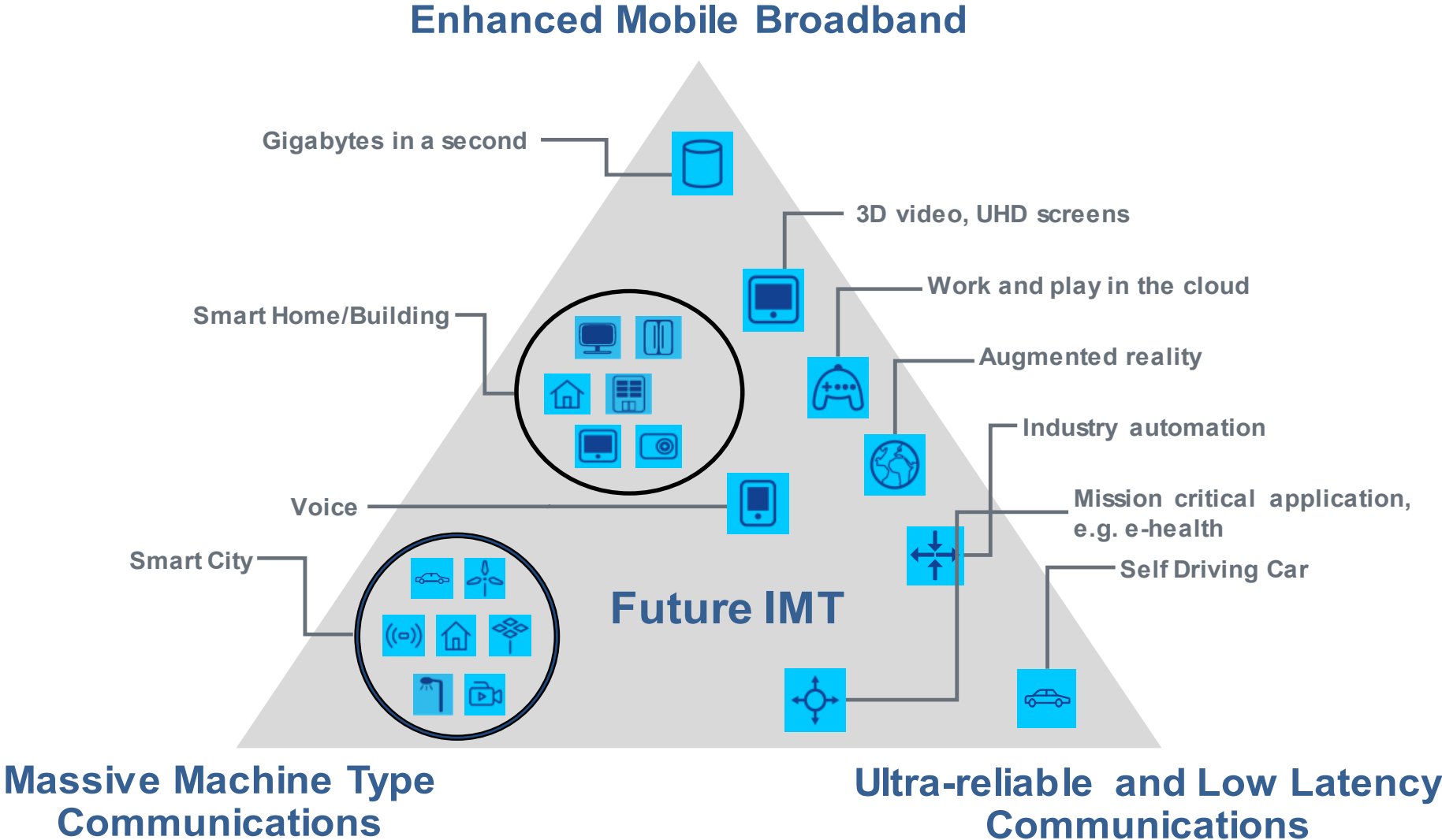
- The SWG is progressing work on the development of a new report addressing the use of terrestrial IMT by other industry sectors.
- Working document towards PDN Report ITU-R M.[IMT BY INDUSTRIES] is now available. The SWG has also agreed that if a substantial amount of material was developed for any individual use case, a standalone Report on that use case could be developed.
- Latest Information is in the Chairman's Report of the 25th Meeting (Oct 2016) of WP 5D - [Doc 5D/374 Chapter 3](#) in these Attachments:
 - 3.11 Meeting report of SWG USAGE
 - 3.14 Working document towards a preliminary draft new Report M.[IMT.BY.INDUSTRIES]
 - 3.15 Detailed workplan (and milestones) for the development of the draft new Report ITU-R M.[IMT.BY.INDUSTRIES]



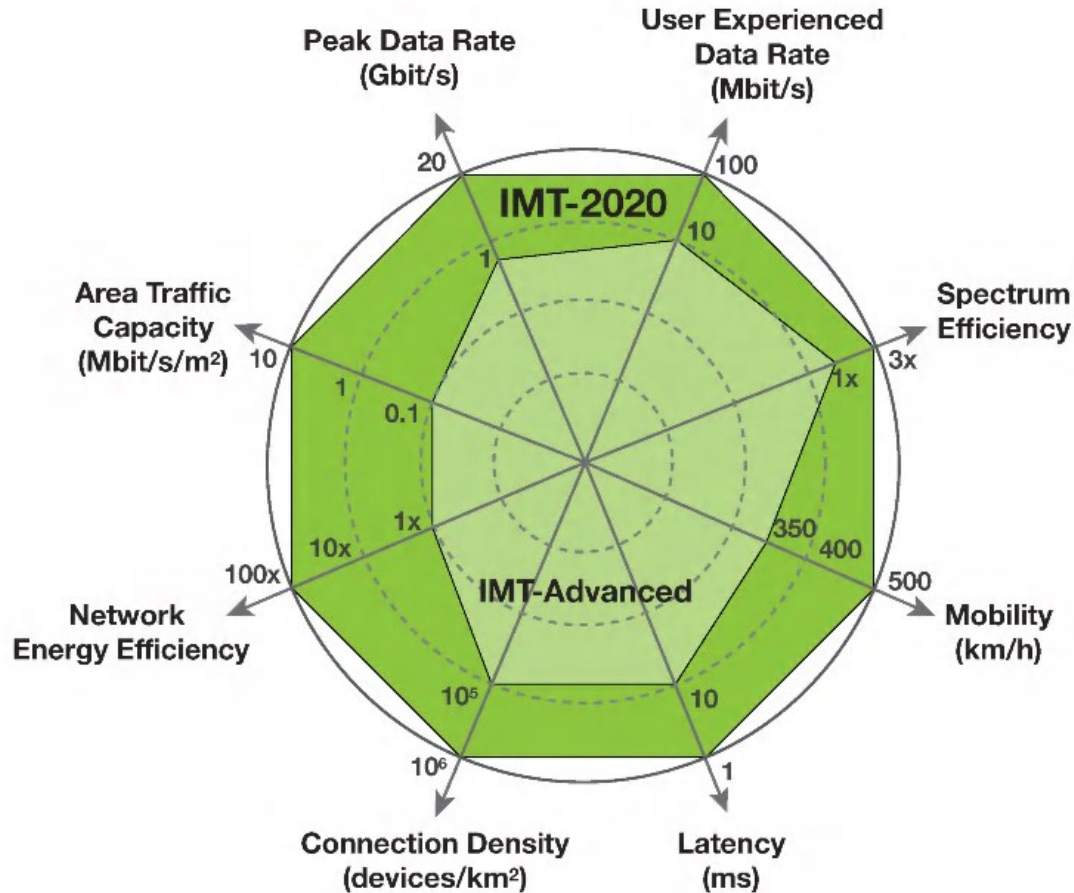
- The SWG to date has developed
 - an initial Working Document Towards Draft CPM Text for WRC-19 Issue 9.1.8 (MTC), and
 - the detailed workplan towards completion of this WRC-19 deliverable.
- Latest Information is in the Chairman's Report of the 25th Meeting (Oct 2016) of WP 5D - [Doc 5D/374 Chapter 3](#) in these Attachments:
 - *3.11 Meeting report of SWG USAGE*
 - *3.12 Working Document Towards Draft CPM text for WRC-19 issue 9.1.8*
 - *3.13 Detailed workplan (and milestones) for work related to WRC-19 agenda item 9.1, issue 9.1.8 (MTC)*

IoT & MTC Are An Integral Part of the IMT-2020 Vision

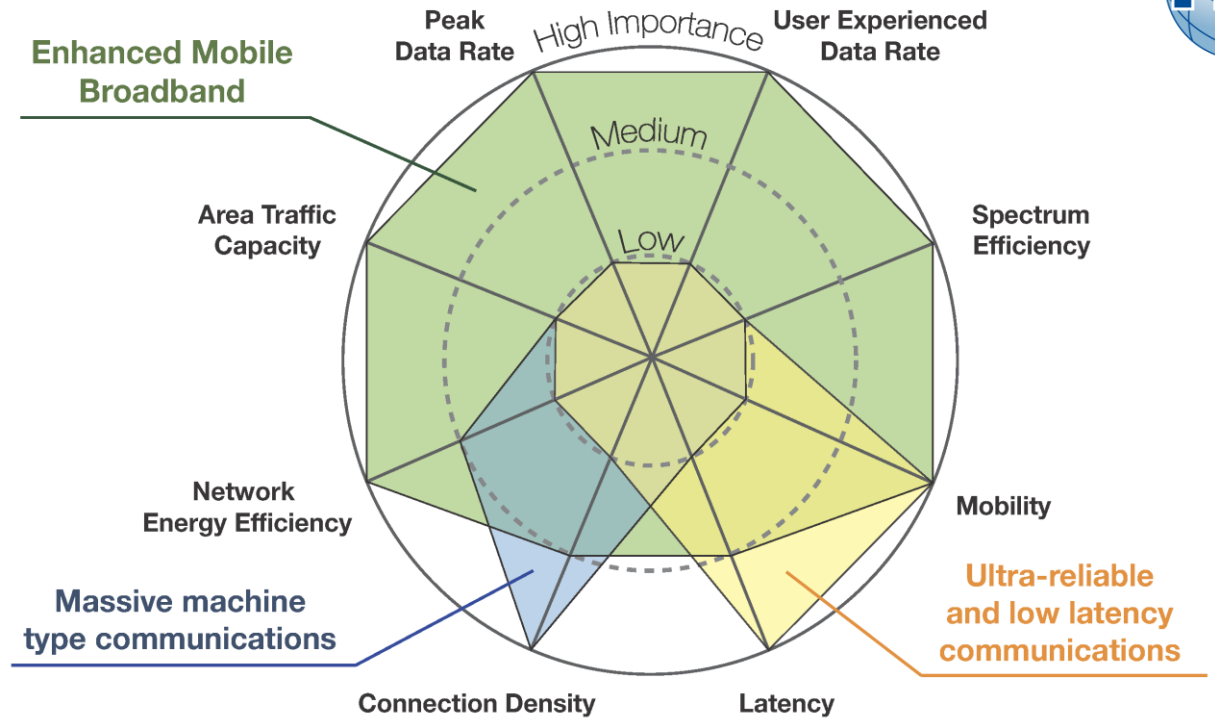
5G Usage Scenarios from the ITU-R IMT-2020 Vision Recommendation



5G Capability Perspectives from the ITU-R IMT-2020 Vision Recommendation



Enhancement of key capabilities from IMT-Advanced to IMT-2020



The importance of key capabilities in different usage scenarios

The values in the figures above are targets for research and investigation for IMT-2020 and may be revised in the light of future studies. Further information is available in the IMT-2020 Vision Recommendation (Recommendation ITU-R M.2083)

Thank You