

RESOLUTION ITU-R 57-2

Principles for the process of development of IMT-Advanced

(2007-2012-2015)

The ITU Radiocommunication Assembly,

considering

- a) that Question ITU-R 229/5 addresses the future development of the terrestrial component of IMT;
- b) that Recommendation ITU-R M.1645 defines the framework and overall objectives of the future development of IMT-2000 and systems beyond IMT-2000 for the radio access network based on the global user and technology trends, and the needs of developing countries;
- c) that Resolution ITU-R 56 specifies the nomenclature for the future development of IMT-2000 and systems beyond IMT-2000 through names uniquely associated with the advancement and continuation of International Mobile Telecommunications (IMT);
- d) that the future development of IMT-2000 and IMT-Advanced is foreseen to address the need for higher data rates than those of currently deployed IMT-2000 systems;
- e) that, for global operation and economy of scale, which are key requirements for the success of mobile telecommunication systems, it is desirable to agree on a harmonized time-frame for developing common technical, operational and spectrum-related parameters of systems, taking account of relevant IMT-2000 and other experience;
- f) that maximizing the commonality between IMT-Advanced air interfaces may lead to reduced complexity and a lower incremental cost of multi-mode terminals;
- g) that consensus-building is used to facilitate agreements within ITU-R,

noting

- a) that pursuant to Article 44 of the ITU Constitution, Member States shall endeavour to apply the latest technical advances as soon as possible;
- b) that globally harmonized spectrum for IMT-Advanced is desirable;
- c) that the ITU process for IMT standardization has been essentially beneficial to the development of mobile telecommunications,

recognizing

- a) that ITU-R has policies regarding Intellectual Property Rights (IPR) as expressed in Resolution ITU-R 1 as well as in Administrative Circular CA/148 (dated 15 April 2005), in which “attention is drawn to the importance of early disclosure and declaration of patents in order to avoid potential problems in the approval and eventual application of ITU-R Recommendations”;
- b) that a consensus-building process should ensure the potential for wide industry support of the radio interfaces that are developed for IMT-Advanced and that there is an expectation that the development of candidate radio interface technologies will take into account the objectives recommended in Recommendation ITU-R M.1645;
- c) the importance of facilitating global circulation;

- d) that the IMT-Advanced standardization process should be streamlined to incorporate the latest technology innovations to address user needs;
- e) that the term “IMT-Advanced” be applied to those systems, system components, and related aspects that include new radio interface(s) that support the new capabilities of systems beyond IMT-2000¹;
- f) that ITU is the internationally recognized organization that has sole responsibility to define and to recommend the standards and frequency arrangements for IMT systems, with the collaboration of other relevant organizations such as standard development organizations, universities, industry organizations and with partnership projects, forums, consortia and research collaborations;
- g) that wireless access technologies that may address some of the capabilities of systems beyond IMT-2000 have been or are being developed for deployment within or prior to the time-frames expressed in Recommendation ITU-R M.1645;
- h) that adequate spectrum identification on a global basis is a prerequisite for the success of the future development of IMT-2000 and systems beyond IMT-2000, although new technologies might assist in this task;
- j) that the details related to IMT-2000, future development of IMT-2000 and systems beyond IMT-2000 will be specified in Recommendations and Reports to be developed taking into account the framework established in Recommendation ITU-R M.1645, “Framework and overall objectives of the future development of IMT-2000 and systems beyond IMT-2000”;
- k) that particular needs of developing countries must be considered with the aim of bridging the existing digital divide, with the objective of facilitating interoperability of different radio interfaces,

resolves

- 1 to develop the Recommendations and Reports for IMT-Advanced, including Recommendation(s) for radio interface specifications;
- 2 that the development of Recommendations and Reports for IMT-Advanced shall be an ongoing and timely process with defined outputs that take into account developments external to ITU-R;
- 3 that radio interface technologies that are proposed to be considered for IMT-Advanced shall be developed based on submissions from Member States, Sector Members and Associates of relevant ITU-R study groups, and may additionally be based on submissions invited from external organizations, in accordance with the principles set out in Resolution ITU-R 9;
- 4 that the process for developing Recommendations and Reports for IMT-Advanced shall give equal opportunity to all proposed technologies to be evaluated against the requirements for IMT-Advanced;
- 5 that new radio interfaces that are developed over time should be considered for inclusion in IMT-Advanced in a timely fashion, and, if appropriate, that the relevant Recommendations be revised;

¹ As described in Recommendation ITU-R M.1645, systems beyond IMT-2000 will encompass the capabilities of previous systems, and the enhancement and future developments of IMT-2000 that fulfil the criteria in *resolves* 2 of Resolution ITU-R 56 may also be part of IMT-Advanced.

- 6 that, in light of the above *resolves*, this process shall include:
- a) the definition of minimum technical requirements and evaluation criteria, based on the framework and overall objectives of IMT-Advanced, that support the new capabilities expressed in Recommendation ITU-R M.1645, taking into account end-user requirements and without unnecessary legacy requirements;
 - b) an invitation for Members of ITU-R, through a circular letter, to propose candidate radio interface technologies for IMT-Advanced;
 - c) additionally, an invitation to other organizations to propose candidate radio interface technologies for IMT-Advanced, under the scope of liaison and collaboration with such other organizations through Resolution ITU-R 9. In such invitations the attention of these organizations shall be drawn to the current ITU-R Intellectual Property Rights (IPR) policies;
 - d) an evaluation by ITU-R of the radio interface technologies proposed for IMT-Advanced 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;
 - e) consensus-building with the objective of achieving harmonization in response to the *considering* and *recognizing* paragraphs of this Resolution and which would have the potential for wide industry support of the radio interfaces that are developed for IMT-Advanced;
 - f) a standardization phase where ITU-R develops the IMT-Advanced 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;
 - g) reviews of the minimum technical requirements and evaluation criteria defined in 6 a), taking into account technology advances and end-user requirements changing with time. As the minimum technical requirements and evaluation criteria are changed, these will be designated as separately identifiable versions for IMT-Advanced. The process will include review of existing versions to determine whether they should remain in force;
 - h) 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,

instructs the Director of the Radiocommunication Bureau

1 to ensure that proponents of IMT-Advanced radio interface technologies and standards are aware of ITU-R IPR policy pursuant to Resolution ITU-R 1;

2 to provide the necessary support and to implement suitable procedures to meet the requirements of the *resolves* above, including the sending of a circular letter calling for radio interface technologies proposals.