RESOLUTION 240 (WRC-19)

Spectrum harmonization for railway radiocommunication systems between train and trackside within the existing mobile-service allocations

The World Radiocommunication Conference (Sharm el-Sheikh, 2019),

considering

a)   that railway transportation contributes to global economic and social development, especially for developing countries;

b)   that the term "railway radiocommunication systems between train and trackside" (RSTT) refers to radiocommunication systems providing improved railway traffic control, passenger safety and improved security for train operations;

c)   that the main categories of RSTT applications are train radio, train positioning information, train remote and train surveillance;

d)   that spectrum harmonization of the train radio application of RSTT may have priority among the four categories of RSTT applications, because the train radio application provides for train dispatching, train control and other important railway services which are used to ensure the safety of passengers and train operations and require high reliability and high quality of services;

e)   that there may be a need to integrate different technologies across multiple bands in order to facilitate various functions, for instance dispatching commands, operating control and data transmission, into railway train and trackside systems to also meet the needs of a high-speed railway environment;

f)   that the technologies for RSTT are evolving, and international or regional organizations, such as the 3rd Generation Partnership Project (3GPP), the International Union of Railways (UIC), the European Telecommunications Standards Institute (ETSI), the European Union Agency for Railways (ERA), etc., are developing specifications for technologies and new functions to evolve RSTT;

g)   that the implementation of evolving RSTT needs to take account of the development of the railway industry;

h)   that some administrations wish to facilitate RSTT interoperability, in particular for cross-border operations, to ensure spectrum resources are used effectively and to minimize the risk of interference;

i)   that deployment of RSTT requires significant long-term investment and a stable radio regulatory environment;

j)   that international standards and harmonized spectrum could facilitate deployment of RSTT and provide economies of scale for the railway industry;

k)   that the harmonization of frequency bands for RSTT does not preclude the use of these frequency bands by any other application of services to which they are allocated,

recognizing

a)   that Report ITU-R M.2418 provides the generic architecture, main applications, current technologies and generic operating scenarios of RSTT;

b)   that Report ITU-R M.2442 provides detailed technical and operational characteristics of RSTT and also provides spectrum usage of current and planned RSTT in some countries;

c)   that devices used for the train positioning information application of RSTT may be based on short-range devices, using some frequency bands contained in the most recent version of Recommendation ITU-R SM.1896;

d)   that, as indicated in Report ITU-R M.2442, most of the current radiocommunication systems for train radio and train remote applications are widely deployed in the frequency bands below 1 GHz, and higher frequency bands such as millimetric bands are used for train radio and train surveillance applications of RSTT in some countries;

e)   that the ITU Radiocommunication Sector (ITU-R) is developing an ITU-R Recommendation to facilitate the spectrum harmonization of current and evolving RSTT within the existing mobile-service allocations,

noting

a)   that Report ITU-R M.2442 indicates that several particular frequency bands are in common use for train radio applications of RSTT by some administrations;

b)   that administrations have flexibility to determine how much spectrum to make available for RSTT as well as the conditions for usage at the national level in order to meet their particular national and/or regional requirements,

resolves

to encourage administrations, when planning for their RSTT, to consider the study results as per *invites the ITU Radiocommunication Sector* 1*,* as well as other relevant ITU-R Recommendations/Reports, with a view to facilitating spectrum harmonization for RSTT, in particular for train radio applications,

invites the ITU Radiocommunication Sector

1   to continue development of the ITU-R Recommendation referred in *recognizing e)* addressing spectrum harmonization for RSTT in a timely manner;

2   to further develop and update ITU-R Recommendations/Reports concerning the technical and operational implementation of RSTT, as appropriate,

instructs the Director of the Radiocommunication Bureau

to support administrations in their work towards the harmonization of spectrum for RSTT pursuant to *resolves* above,

invites administrations

to encourage railway agencies and organizations to utilize relevant ITU-R publications in implementing technologies and systems supporting RSTT,

invites Member States, Sector Members, Associates and Academia

to participate actively in the study by submitting contributions to ITU-R,

instructs the Secretary-General

to bring this Resolution to the attention of UIC, 3GPP and other relevant international and regional organizations.