



Radiocommunication Bureau (BR)

Administrative Circular
CACE/690

3 October 2014

To Administrations of Member States of the ITU, Radiocommunication Sector Members and ITU-R Associates participating in the work of Radiocommunication Study Group 4

Subject: Radiocommunication Study Group 4 (Satellite services)

- Adoption of 1 new ITU-R Question and its simultaneous approval by correspondence in accordance with § 10.3 of Resolution ITU-R 1-6 (Procedure for the simultaneous adoption and approval by correspondence)**

By Administrative Circular CACE/683 dated 25 July 2014, 1 draft new ITU-R Question was submitted for simultaneous adoption and approval by correspondence (PSAA), following the procedure of Resolution ITU-R 1-6 (§ 10.3).

The conditions governing this procedure were met on 25 September 2014.

The text of the approved Question is attached for your reference in the Annex to this Circular and will be published in Revision 2 to [Document 4/1](#) which contains the ITU-R Questions approved by the 2012 Radiocommunication Assembly and assigned to Radiocommunication Study Group 4.

A handwritten signature in black ink, appearing to be 'FRANCIS RANCY'.

François Rancy
Director

Annex: 1

Distribution:

- Administrations of Member States of the ITU and Radiocommunication Sector Members participating in the work of Radiocommunication Study Group 4
- ITU-R Associates participating in the work of Radiocommunication Study Group 4
- Chairmen and Vice-Chairmen of Radiocommunication Study Groups and the Special Committee on Regulatory/Procedural Matters
- Chairman and Vice-Chairmen of the Conference Preparatory Meeting
- Members of the Radio Regulations Board
- Secretary-General of the ITU, Director of the Telecommunication Standardization Bureau, Director of the Telecommunication Development Bureau

Annex

QUESTION ITU-R 291/4

System architecture and performance aspects on integrated MSS systems

(2014)

The ITU Radiocommunication Assembly,

considering

- a) that integrated mobile-satellite service (MSS) systems would be efficient space/terrestrial infrastructures with high degree of spectrum utilization and have the ability to provide a variety of benefits that serve the public interest, including multimedia broadband service to handheld or portable terminals and public protection and disaster relief solutions;
- b) that a few examples of integrated MSS systems have already been considered such as a satellite digital multimedia broadcasting system with terrestrial repeaters and a satellite mobile broadband communication system with complementary terrestrial base stations, and these examples of integrated MSS systems are expected to be further increased;
- c) that in the integrated MSS systems the ground component controlled by the satellite resource and network management system uses the same portions of MSS frequency bands as the associated operational mobile-satellite system;
- d) that the frequency reuse between satellite and complementary ground components (CGCs) will inevitably imply co-channel interferences that might cause performance degradation of the MSS system. This matter is dealt with as an intra-system interference to be overcome;
- e) that many advanced technologies to improve the performance and to enhance spectral efficiency were adopted or are considered to be adopted in many terrestrial system standards for future implementation;
- f) that, in order to ensure the efficient use of frequency spectrum and orbits, it may be desirable to determine the optimum system architecture and performance aspects;
- g) that recommendation of certain system characteristics may be desirable,

decides that the following Questions should be studied

- 1 What service scenarios and network architectures are preferable for the integrated MSS systems to support a wide range of applications as well as data transmission rates including machine-to-machine communications and future mobile broadband communications?
- 2 What service scenarios and network architectures are preferable from overall cost efficiency, taking § 1 into account?

- 3 What are the preferred requirements for performance and availability on the satellite and ground component links for the integrated MSS systems, e.g. satellite IMT-Advanced links with complementary terrestrial IMT-Advanced?
- 4 What are the factors which characterize alternative network topologies, system architectures and link control protocols?
- 5 What is the impact of the network requirements on the characteristics of the earth stations?
- 6 What are the standardized dedicated user/network digital interfaces to be recommended?
- 7 What are the enabling technologies which improve the performance and enhance spectral efficiency for the integrated MSS systems?

further decides

- 1 that the results of the above studies should be included in appropriate Recommendations and/or Reports;
- 2 that the above studies should be completed by 2016.

Category: S2
