



Radiocommunication Bureau (BR)

Administrative Circular
CACE/884

17 January 2019

To Administrations of Member States of the ITU, Radiocommunication Sector Members, ITU-R Associates participating in the work of the Radiocommunication Study Group 6 and ITU Academia

Subject: Radiocommunication Study Group 6 (Broadcasting Service)
– Approval of 1 new ITU-R Question and 1 revised ITU-R Question

By Administrative Circular CACE/874 of 9 November 2018, 1 draft new ITU-R Question and 1 draft revised ITU-R Question were submitted for approval by correspondence in accordance with Resolution ITU-R 1-7 (§ A2.5.2.3).

The conditions governing this procedure were met on 9 January 2019.

The texts of the approved Questions are attached for your reference in the Annexes 1 and 2 to this letter and will be published by the ITU.

A handwritten signature in blue ink, appearing to read 'Mario Maniewicz'.

Mario Maniewicz
Director

Annexes: 2

Distribution:

- Administrations of Member States of the ITU and Radiocommunication Sector Members participating in the work of Radiocommunication Study Group 6
- ITU-R Associates participating in the work of Radiocommunication Study Group 6
- ITU Academia
- Chairmen and Vice-Chairmen of Radiocommunication Study Groups
- 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 1

QUESTION ITU-R 144/6

Use of Artificial Intelligence (AI) for broadcasting

(2019)

The ITU Radiocommunication Assembly,

considering

- a) that Artificial Intelligence (AI) technologies are increasingly used in many industrial areas in society;
- b) that there are a number of potential applications in broadcasting (see Annex) for which AI can be effectively used to increase productivity, reliability, and improve innovative creation;
- c) that some broadcasters have introduced AI technologies for programme production and others in the operation of broadcasting;
- d) that it is desirable for broadcasters to receive guidance to help realize benefits from the adoption of AI in broadcasting;
- e) that introduction of AI technologies into the programme production pathway and operation of broadcasting would benefit from guidance to facilitate integration of interoperable systems,

recognizing

- a) that ITU-T has established a Focus Group, FG-ML5G, on Machine Learning for Future Networks including 5G;
- b) that ISO/IEC JTC1 has established a Subcommittee, SC 42, on Artificial intelligence,

decides that the following Questions should be studied

- 1 What are the applications, requirements, and impacts of AI technologies for programme production and how can the effectiveness be increased?
- 2 What are the applications, requirements, and impacts of AI technologies for quality evaluation and how can the effectiveness be increased?
- 3 What are the applications, requirements, and impacts of AI technologies for programme assembling and access and how can the effectiveness be increased?
- 4 What are the applications, requirements, and impacts of AI technologies for broadcast emission and how can the effectiveness be increased?

further decides

- 1 that the results of the above studies should be included in Recommendation(s) and Reports;
- 2 that the above studies should be completed by 2023.

Category: S2

ANNEX

Examples of potential applications of AI in broadcasting

The following is a non-exhaustive list:

1 Programme production

Topical areas of benefit may include, but are not limited to:

- Workflow optimization
- Bandwidth optimization
- Automated content creation
- Content creation from legacy archives
- Content selection for targeting audience demographics
- Optimization of asset selection – metadata creation
- Dynamic product placement and advertising for broadcast
- Content personalization

Example areas of research and development:

- Data mining, big data analysis
- Language translation
- Text-voice/voice-text translation
- Visual/speech recognition
- Metadata creation and extraction
- Assisted editing
- Autonomous, robotic image capture
- Virtual video angle capture and automation
- Object tracking
- Format conversion for video and sound
- Semantic annotation of content
- Automated summarization
- System monitoring and diagnosis
- Version specific object and surface placement

2 Audio and visual quality evaluation

- Subjective evaluation
- Quality of Experience metrics

3 Programme assembling and access

- Audio and video data compression
- Early warning of emergencies, disaster prevention and relief
- Recommendation to audience
- Access service for people with disabilities
- System monitoring and diagnosis

4 Broadcast emission

- Network planning
- System monitoring and diagnosis

Annex 2

QUESTION ITU-R 45-6/6¹

Broadcasting of multimedia and data applications

(2003-2005-2009-2010-2012-2014-2019)

The ITU Radiocommunication Assembly,

considering

- a) that digital television and sound broadcasting systems have been implemented in many countries;
- b) that multimedia and data broadcasting services have been introduced in many countries;
- c) that mobile radiocommunication systems with advanced information technologies have been implemented in many countries;
- d) that reception of digital broadcasting services is possible both inside and outside the home with fixed receivers such as TV sets in the living room, as well as handheld/portable/vehicular receivers;
- e) that the characteristics of mobile reception and stationary reception are quite different;
- f) that the display sizes and receiver capabilities may be different between handheld/portable/vehicular receivers and fixed receivers;
- g) that optical head-mounted displays (e.g. "video glasses")² have been implemented, for the reception of TV broadcasting programmes and multimedia information;
- h) that the multiscreen/multi-image technology is used in the broadcasting and multimedia information applications providing simultaneous presentation of different applications and/or images;
- i) that the format of the transmitted information should be such that the content can be displayed intelligibly on as many types of screens and terminals as possible;
- j) the need for interoperability between the telecommunication services and interactive digital broadcasting services;
- k) the need to harmonize technical methods used to implement content protection and conditional access;

¹ This Question should be brought to the attention of ITU-R Study Group 5 and ITU-T Study Group 16.

² The personal displays utilizing optical glasses can be used with the PCs, smartphones and other devices. They can be used for the reception of TV broadcasting programmes and personal multimedia information at any time, at any place and in motion.

l) that digital multimedia video information systems for presentation of various kinds of multimedia information applicable to programmes such as dramas, plays, sporting events, concerts, cultural events, etc. are widespread, and those systems are being installed for collective viewing,

decides that the following Questions should be studied

1 What are the user requirements for broadcasting of multimedia and data applications taking into account of various types of displays:

- for mobile/portable reception;
- for stationary reception?

2 What are the user requirements for digital multimedia video information systems with respect to the actual format of the video signal (for example, SDTV, HDTV, UHDTV, HDR-TV, VR/360°, etc.)?

3 What characteristics are required for service assembly and access for broadcasting of multimedia and data applications for mobile reception and for stationary reception?

4 What characteristics are required for service assembly and access for the digital multimedia video information systems for collective indoor and outdoor viewing?

5 What data transport protocol(s) is (are) most suited to deliver broadcast multimedia and data contents to handheld, portable and vehicular receivers and to fixed receivers?

6 What solutions can be adopted to ensure the interoperability between the telecommunication services and interactive digital broadcasting services?

further decides

1 that the results of the above studies should be included in (a) Report(s) and/or Recommendation(s);

2 that the above studies should be completed by 2023.

Category: S2
