Radiocommunication Bureau (BR)

Administrative Circular
CACE/874

9 November 2018

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

Subject: **Radiocommunication Study Group 6 (Broadcasting Service)**

— **Proposed approval of 1 draft new ITU-R Question and 1 draft revised ITU-R Question**

At the meeting of Radiocommunication Study Group 6 held on 26 October 2018, 1 draft new ITU-R Question and 1 draft revised ITU-R Question were adopted according to Resolution ITU-R 1-7 (§A2.5.2.2) and it was agreed to apply the procedure of Resolution ITU-R 1-7 (see § A2.5.2.3) for approval of Questions in the interval between Radiocommunication Assemblies. The texts of the draft ITU-R Questions are attached for your reference in Annexes 1 and 2. Any Member State who objects to the approval of a draft Question is requested to inform the Director and the Chairman of the Study Group of the reasons for the objection.

Having regard to the provisions of § A2.5.2.3 of Resolution ITU-R 1-7, Member States are requested to inform the Secretariat (brsgd@itu.int) by 9 January 2019, whether they approve or do not approve the proposals above.

After the above-mentioned deadline, the results of this consultation will be announced in an Administrative Circular and the approved Questions will be published as soon as practicable (see: http://www.itu.int/ITU-R/go/que-rsg6/en).

François Rancy
Director

Annexes: 2

—   1 draft new ITU-R Question and 1 draft revised ITU-R Question

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

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DRAFT NEW QUESTION ITU-R [AI4BC]/6

Use of Artificial Intelligence (AI) for Broadcasting

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

(Document 6/275)

DRAFT REVISION OF QUESTION ITU-R 45-5/6[1]

Broadcasting of multimedia and data applications

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

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;

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[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