



Radiocommunication Bureau (BR)

Administrative Circular
CACE/908

28 June 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 4 revised ITU-R Questions**
- **Suppression of 2 ITU-R Questions**

By Administrative Circular CACE/895 of 24 April 2019, 1 draft new ITU-R Question and 4 draft revised ITU-R Questions were submitted for approval by correspondence in accordance with Resolution ITU-R 1-7 (§ A2.5.2.3). In addition, the Study Group proposed the suppression of 2 ITU-R Questions.

The conditions governing this procedure were met on 24 June 2019.

The texts of the approved Questions are attached for your reference in Annexes 1 to 5 and will be published by the ITU. The suppressed ITU-R Questions are indicated in Annex 6.

Mario Maniewicz
Director

Annexes: 6

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 145/6¹

Systems for enabling access to broadcast and cooperative media for persons with disabilities

(2019)

The ITU Radiocommunication Assembly,

considering

- a)* that the Convention on the Rights of Persons with Disabilities (UNCRPD) calls upon all signatory nations to endeavour to provide such services as will allow persons with disabilities to enjoy access to the media equivalent to those without disabilities;
- b)* that a significant proportion of the public, including the aged, have hearing or sight impairment, and their participation in, and enjoyment of, the broadcast media can be increased by measures such as subtitling/closed captioning, audio/video descriptions, closed/open signing, and other services;
- c)* that there are a range of complimentary delivery technologies that can ‘cooperate’ with broadcast media such as Internet, IPTV, integrated broadcast-broadband (IBB), and others, which may be used to provide, or assist the provision of access services;
- d)* that if there were commonly accepted technical systems for providing such services it would encourage their wider use, and lower the costs of providing such services;
- e)* that dialogue with ITU-T, ITU-D, facilitated by the IRG-AVA, and other standards bodies who are examining and developing systems to aid access to the media may encourage common standards across delivery platforms to the benefit of the disabled;
- f)* that the design and use of such access systems must always involve and take due account of the views and experiences of individuals and bodies associated with the disabilities,

decides that the following questions should be studied

- 1 What systems can be used for delivering sub-titling/closed captioning, and systems to deliver audio into text, appropriate to the delivery of broadcast media and related services.
- 2 What systems can be used for delivering signing/closed signing appropriate to the delivery of broadcast media and related services?
- 3 What systems can be used for delivering audio description/described video for video content appropriate to the delivery of broadcast media and related services?

¹ This Question should be brought to the attention of ISO/IEC JTC1/SC35, IRG-AVA, ITU-T SG9 and ITU-T SG 16.

4 What systems can be used for delivering ‘clean audio’ (facility to improve the clarity of foreground sound) for the delivery of audio for broadcast media, and related services?

5 What systems can be used for delivering haptic information appropriate to the delivery of broadcast media, and related services?

6 What use of intelligent agents and related technologies could assist in the development and application of access systems and services?

7 What technologies could be used to enhance the understanding of broadcast media content for persons of differing abilities?

8 What are the preferred ways that can allow a person with different ranges of ability (vision, hearing, motor impairment) to take part in interactive programme content?

further decides

1 that the results of the above studies should be included in one or more Recommendations and Reports;

2 that the above studies should be completed by 2023.

Category: S2

Annex 2

QUESTION ITU-R 130-3/6

Digital interfaces for production, post-production and international exchange of sound and television programmes for broadcasting

(2009-2012-2013-2019)

The ITU Radiocommunication Assembly,

considering

- a) that the practical implementation of television and sound production requires definition of the details of various studio interfaces and the data streams traversing them;
- b) that the ITU-R has established Recommendations on various types of television image and sound formats;
- c) that ITU-R has established Recommendations on digital interfaces for various types of television image formats, in parallel and serial forms, for coaxial and optical cables for production, post production and international exchange of programmes;
- d) that ITU-R has also established Recommendations on digital audio interfaces for production, post production and international exchange of programmes;
- e) that ITU-R has been studying image and sound formats for advanced immersive audio-visual systems, which may require higher data rate interfaces;
- f) that programme content and related data can be transferred either as a continuous stream or in the form of packets;
- g) that networked production and post-production systems should be constructed from interoperable pieces of equipment having standardized common interfaces and control protocols;
- h) that the transport mechanism should operate independently of the type of payload;
- i) that specifications should cover the possibility of conveying sound or any other ancillary signals through the interface, taking into account the original source timing;
- j) that for operational and economic reasons it is desirable to investigate whether the specification should also cover the possibility to use the same interface to transport the various image formats given in ITU-R Recommendations,

decides that the following questions should be studied

- 1 What parameters are necessary to define specified digital interfaces for the image and/or sound formats covered by ITU-R Recommendations?
- 2 What parameters are necessary to define compatible optical fibre digital interfaces?
- 3 What transport and control protocols are necessary to define interfaces for networked production and post-production systems?
- 4 What ancillary signals including payload identification¹ and metadata are required to be carried across the interfaces with the video and audio signals, and what are the parameters necessary to define specifications for these signals?
- 5 What technical requirements should be specified for the associated digital sound channels?
- 6 What are the parameters that should be specified to use the same interface to also transport the various payloads given in ITU-R Recommendations?

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

¹ Identification of video, audio and ancillary data carried on a digital interface or individual links.

Annex 3

QUESTION ITU-R 131-1/6*

Common core data format for multimedia broadcasting

(2009-2019)

The ITU Radiocommunication Assembly,

considering

- a) that all digital broadcasting delivery systems, as well as other digital two-way systems, will need a software interface such as Application Programming Interfaces (APIs) and that there could be substantial benefits to commonality and interoperability;
- b) that work on interactive services including those offered by the integrated broadcast-broadband (IBB) systems has been conducted in ITU-R as well as ITU-T;
- c) that various multimedia programmes are delivered via terrestrial, satellite, cable broadcasting and broadband networks;
- d) that multimedia applications comprising video, audio, still-pictures, text, XML-based data, graphics, etc. have been developed in the fields of Information and Communication Technologies;
- e) that it would be desirable to harmonize the application formats for content and environments between broadcasting and web-based services on an international basis,

noting

- a) that digital broadcasting for multimedia services has become widely available;
- b) that multiple data services are in use in many countries,

decides that the following questions should be studied

- 1 What data structure(s) is(are) most suited to conveying multimedia information to digital broadcast and/or IBB receivers?
- 2 What APIs should be specified for multimedia applications in broadcasting and/or IBB platforms?
- 3 How can compatibility be achieved between applications of various IBB systems?
- 4 What provisions should be made that will allow extending the common core of APIs to also encompass new multimedia delivery platforms that may emerge in the future?
- 5 Which common core of APIs should be used by broadcasters and content providers for production and exchange of multimedia content?

* Replaces Question ITU-R 13/6.

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

Annex 4

QUESTION ITU-R 137-1/6

Internet Protocol (IP) interfaces for programme production and exchange

(2012-2019)

The ITU Radiocommunication Assembly,

considering

- a) that a Serial Digital Interface (SDI) has constant but limited bandwidth and limited operational flexibility compared to IP over Ethernet;
- b) that high-speed IP transmission over wide area telecommunication networks including wireless networks has become available;
- c) that SDI signals including audio, video, and ancillary signals can be transported over IP networks;
- d) that IP interfaces can transport various signals, including real-time uncompressed audio/video signals, real-time compressed audio/video signals and associated metadata in addition to non-real-time data;
- e) that a precise synchronization mechanism between devices over IP has been developed and widely used;
- f) that information technologies including IP have rapidly progressed and are being introduced in programme production and exchange,

recognizing

that ITU-R has established Recommendation ITU-R BT.1720 which specifies quality of service ranking and measurement methods for digital video broadcasting services over broadband IP networks,

decides that the following questions should be studied

- 1 What protocols and parameters over IP interfaces should be chosen for programme production and exchange?
- 2 What are the performance requirements (e.g. network latency and transmission errors) for the IP network used in programme production and exchange to ensure both real-time and non-real-time transfers of programme material?
- 3 What device capabilities are required to utilize IP interfaces for programme production and exchange?
- 4 What system monitoring and network control should be employed?
- 5 What provisions should be taken to monitor the Quality of Service (QoS) to ensure required quality of transmitted signals?
- 6 What provisions should be taken to ensure security in the transport of broadcast programme signals and devices connected with IP interfaces?
- 7 What conversion latencies can be permitted at broadcast signal reconstruction points such as mixers and switchers?

further decides

- 1 that the results of the above studies should be included in (a) Report(s) and/or Recommendation(s);
- 2 that the Question should be brought to the attention of ITU-T Study Groups 9, 12 and 17;
- 3 that the above studies should be completed by 2023.

Category: S3

Annex 5

QUESTION ITU-R 142-3/6

High dynamic range television for broadcasting

(2015-2016-2017-2019)

The ITU Radiocommunication Assembly,

considering

- a) that high dynamic range television (HDR-TV) image formats are specified in Recommendation ITU-R BT.2100;
- b) that digital television image formats for SDTV, HDTV and UHD TV with standard dynamic range (SDR) have been specified by the ITU-R in Recommendations ITU-R BT.601, BT.709 and BT.2020;
- c) that Recommendation ITU-R BT.2022 provides general viewing conditions for subjective assessment of quality of SDTV and HDTV television pictures on flat panel displays;
- d) that modern television displays are capable of reproducing images at a higher luminance, and with a greater contrast ratio and wider colour gamut (WCG) than is employed in conventional programme production;
- e) that HDR-TV is capable of reproducing images at a significantly higher luminance and greater contrast ratio;
- f) that many television programmes will continue to be produced and exchanged in the standard image dynamic range of SDTV, HDTV and UHD TV, and that SDR and HDR content will be inter-mixed in programme production and in broadcast playout;
- g) that for a number of years, many television programmes broadcast in HDR-TV will be viewed on a large number of legacy consumer television displays which are only capable of displaying SDR pictures;
- h) that it is desirable that HDR-TV should have, where appropriate, a degree of compatibility with existing workflows and broadcaster infrastructure as well as SDR displays;
- i) that creative practices in HDR-TV production should be arranged to lead to no adverse effects such as visual fatigue or discomfort when viewed for a significant period of time,

decides that the following questions should be studied

- 1 Which methods for production and formatting for delivery to consumers, including any requirements for metadata, would enable degrees of compatibility with viewing on most television sets currently used in the homes of television audiences?
- 2 Which tone mapping¹ methods should be recommended to derive SDR versions from programmes produced in HDR-TV and to insert SDR programme material into HDR programmes?
- 3 What guidance for operational practices and workflows should be provided to help ensure optimum and consistent use of high dynamic range?
- 4 What signals for measurement, and methods of testing, should be recommended to help maintain the quality of high dynamic range content in television production?
- 5 Which practices should be recommended in order that the television home audience does not perceive annoying jumps in the television image appearance at transitions between HDR-TV programmes and standard dynamic range television programmes?

further decides

- 1 that the results of the above studies should be included in one or more Recommendations or Reports;
- 2 that the above studies should be completed by 2023².

Category: S2

¹ Tone mapping is an image processing technique used to map one set of image parameters to another set, e.g.: when versioning a high-dynamic-range television program for distribution in a standard-dynamic-range medium.

² Relevant results of the studies should in due course be brought to the attention of the IEC as appropriate.

Annex 6

Suppressed ITU-R Questions

Question ITU-R	Title
40-3/6	Extremely high-resolution imagery
128-2/6	Digital 3DTV systems for broadcasting
