**Table 1: Mapping of ITU-D SG1 and SG2 Questions to ITU-R Working Parties**

In 2018, following a proposal from the membership, ITU-D study groups initiated a mapping between the work in ITU-D study Questions and ITU-R Working Parties. While the mapping between ITU-D and ITU-T work includes mapping from ITU-D study Questions to ITU-T study groups, study Questions and work items, the mapping of ITU-R and ITU-D work presented below focuses on mapping to the level of ITU-R working parties only. The current mapping which was updated during the ITU-D SG1 and SG2 meetings in March 2019 is considered stable.

**Matrix of ITU-D Questions and ITU-R Working Parties[[1]](#footnote-1)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **R\D** | [**WP 1A**](https://www.itu.int/go/ITU-R/wp1a) | [**WP 1B**](https://www.itu.int/go/ITU-R/wp1b) | [**WP 1C**](https://www.itu.int/go/ITU-R/wp1c) | [**WP 3J**](https://www.itu.int/go/ITU-R/wp3j) | [**WP 3K**](https://www.itu.int/go/ITU-R/wp3k) | [**WP 3L**](https://www.itu.int/go/ITU-R/wp3l) | [**WP 3M**](https://www.itu.int/go/ITU-R/wp3m) | [**WP 4A**](https://www.itu.int/go/ITU-R/wp4a) | [**WP 4B**](https://www.itu.int/go/ITU-R/wp4b) | [**WP 4C**](https://www.itu.int/go/ITU-R/wp4c) | [**WP 5A**](https://www.itu.int/go/ITU-R/wp5a) | [**WP 5B**](https://www.itu.int/go/ITU-R/wp5b) | [**WP 5C**](https://www.itu.int/go/ITU-R/wp5c) | [**WP 5D**](https://www.itu.int/go/ITU-R/wp5d) | [**WP 6A**](https://www.itu.int/go/ITU-R/wp6a) | [**WP 6B**](https://www.itu.int/go/ITU-R/wp6b) | [**WP 6C**](https://www.itu.int/go/ITU-R/wp6c) | [**WP 7A**](https://www.itu.int/go/ITU-R/wp7a) | [**WP 7B**](https://www.itu.int/go/ITU-R/wp7b) | [**WP 7C**](https://www.itu.int/go/ITU-R/wp7c) | [**WP 7D**](https://www.itu.int/go/ITU-R/wp7d) |
| [**Q1/1**](https://www.itu.int/net4/ITU-D/CDS/sg/rgqlist.asp?lg=1&sp=2018&rgq=D18-SG01-RGQ01.1&stg=1) | **X** | **X** | **X** |  | **X** |  | **X** | **X** | **X** | **X** | **X** |  | **X** | **X** | **X** |  |  |  |  |  |  |
| [**Q2/1**](https://www.itu.int/net4/ITU-D/CDS/sg/rgqlist.asp?lg=1&sp=2018&rgq=D18-SG01-RGQ02.1&stg=1) | **X** | **X** | **X** | **X** | **X** |  |  |  |  |  |  |  |  | **X** | **X** | **X** |  |  |  |  |  |
| [**Q3/1**](https://www.itu.int/net4/ITU-D/CDS/sg/rgqlist.asp?lg=1&sp=2018&rgq=D18-SG01-RGQ03.1&stg=1) |  |  |  |  |  |  |  |  | **X** |  | **X** |  |  | **X** |  |  |  |  |  |  |  |
| [**Q4/1**](https://www.itu.int/net4/ITU-D/CDS/sg/rgqlist.asp?lg=1&sp=2018&rgq=D18-SG01-RGQ04.1&stg=1) |  | **X** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| [**Q5/1**](https://www.itu.int/net4/ITU-D/CDS/sg/rgqlist.asp?lg=1&sp=2018&rgq=D18-SG01-RGQ05.1&stg=1) | **X** | **X** |  |  |  |  |  |  | **X** |  | **X** |  |  | **X** |  |  |  |  |  |  |  |
| [**Q6/1**](https://www.itu.int/net4/ITU-D/CDS/sg/rgqlist.asp?lg=1&sp=2018&rgq=D18-SG01-RGQ06.1&stg=1) |  | **X** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| [**Q7/1**](https://www.itu.int/net4/ITU-D/CDS/sg/rgqlist.asp?lg=1&sp=2018&rgq=D18-SG01-RGQ07.1&stg=1) | **X** | **X** |  |  | **X** |  |  |  |  |  | **X** | **X** |  |  | **X** | **X** |  |  |  |  |  |
| [**Q1/2**](https://www.itu.int/net4/ITU-D/CDS/sg/rgqlist.asp?lg=1&sp=2018&rgq=D18-SG02-RGQ01.2&stg=2) |  | **X** |  |  |  |  |  | **X** | **X** | **X** | **X** |  | **X** | **X** | **X** |  |  |  |  |  |  |
| [**Q2/2**](https://www.itu.int/net4/ITU-D/CDS/sg/rgqlist.asp?lg=1&sp=2018&rgq=D18-SG02-RGQ02.2&stg=2) |  | **X** |  |  |  |  |  | **X** | **X** | **X** | **X** |  | **X** | **X** | **X** |  |  |  |  |  |  |
| [**Q3/2**](https://www.itu.int/net4/ITU-D/CDS/sg/rgqlist.asp?lg=1&sp=2018&rgq=D18-SG02-RGQ03.2&stg=2) |  |  |  |  |  |  |  | **X** | **X** | **X** | **X** |  | **X** | **X** |  |  |  |  |  |  |  |
| [**Q4/2**](https://www.itu.int/net4/ITU-D/CDS/sg/rgqlist.asp?lg=1&sp=2018&rgq=D18-SG02-RGQ04.2&stg=2) | **X** |  |  |  |  |  |  |  | **X** |  | **X** |  |  | **X** |  |  |  |  |  |  |  |
| [**Q5/2**](https://www.itu.int/net4/ITU-D/CDS/sg/rgqlist.asp?lg=1&sp=2018&rgq=D18-SG02-RGQ05.2&stg=2) |  | **X** | **X** |  |  |  |  | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** |  |  | **X** |  |
| [**Q6/2**](https://www.itu.int/net4/ITU-D/CDS/sg/rgqlist.asp?lg=1&sp=2018&rgq=D18-SG02-RGQ06.2&stg=2) |  | **X** |  |  |  |  |  | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** |  |  |  |  | **X** | **X** |
| [**Q7/2**](https://www.itu.int/net4/ITU-D/CDS/sg/rgqlist.asp?lg=1&sp=2018&rgq=D18-SG02-RGQ07.2&stg=2) | **X** |  | **X** |  |  |  |  | **X** |  |  | **X** | **X** | **X** | **X** | **X** |  |  |  | **X** |  |  |

**Table 2: Revised mapping of ITU-D SG1 and SG2 Questions of interest to work items and Questions in ITU-T study groups**

TSAG document to March 2019 SG1 and SG2 meetings, Table 2 ([1/122](https://www.itu.int/md/D18-SG01-C-0122/en), [2/131](https://www.itu.int/md/D18-SG02-C-0131/en)) was used as basis for the mapping. Updates were subsequently made following incoming liaison statements and detailed review (see Appendix 1 ‒ ITU-D Questions vis-à-vis ITU-T work items). The current mapping which was updated during the ITU-D SG1 and SG2 meetings in March 2019 is considered stable.

**Matrix of ITU-D Questions and ITU-T Questions[[2]](#footnote-2)**

|  | **SG 1** | **SG 2** |
| --- | --- | --- |
| **Q1/1** | **Q2/1** | **Q3/1** | **Q4/1** | **Q5/1** | **Q6/1** | **Q7/1** | **Q1/2** | **Q2/2** | **Q3/2** | **Q4/2** | **Q5/2** | **Q6/2** | **Q7/2** |
| **ITU-T SG2** | [**Q1/2**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/02/Pages/q1.aspx) | X |  | X |  |  | X |  | X |  |  | X |  |  |  |
| [**Q2/2**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/02/Pages/q2.aspx) |  |  |  |  |  | X |  |  |  |  |  |  |  |  |
| [**Q3/2**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/02/Pages/q3.aspx) |  |  |  |  |  |  |  |  |  |  |  | X |  |  |
| [**Q5/2**](https://www.itu.int/en/ITU-T/studygroups/2017-2020/02/Pages/q5.aspx) | X |  | X |  |  | X |  |  |  |  |  |  |  |  |
| [**Q6/2**](https://www.itu.int/en/ITU-T/studygroups/2017-2020/02/Pages/q6.aspx) | X |  |  |  |  |  |  | X |  |  |  |  |  |  |
| [**Q7/2**](https://www.itu.int/en/ITU-T/studygroups/2017-2020/02/Pages/q7.aspx) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **ITU-T SG3** | [**Q1/3**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/03/Pages/q1.aspx) | X |  |  | X |  |  |  |  |  |  |  |  |  |  |
| [**Q2/3**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/03/Pages/q2.aspx) |  |  |  | X |  |  |  |  |  |  |  |  |  |  |
| [**Q3/3**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/03/Pages/q3.aspx) | X |  |  | X |  | X |  | X |  |  |  |  |  |  |
| [**Q4/3**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/03/Pages/q4.aspx) |  |  |  | X |  |  |  |  |  |  |  |  |  |  |
| [**Q5/3**](https://www.itu.int/en/ITU-T/studygroups/2017-2020/03/Pages/q5.aspx) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| [**Q6/3**](https://www.itu.int/en/ITU-T/studygroups/2017-2020/03/Pages/q6.aspx) | X |  |  | X |  |  |  |  |  |  |  |  |  |  |
| [**Q7/3**](https://www.itu.int/en/ITU-T/studygroups/2017-2020/03/Pages/q7.aspx) |  |  |  | X |  |  |  | X |  |  |  |  |  |  |
| [**Q8/3**](https://www.itu.int/en/ITU-T/studygroups/2017-2020/03/Pages/q8.aspx) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| [**Q9/3**](https://www.itu.int/en/ITU-T/studygroups/2017-2020/03/Pages/q9.aspx) |  |  | X | X |  | X |  |  |  |  |  |  |  |  |
| [**Q10/3**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/03/Pages/q10.aspx) | X |  |  | X |  | X |  |  |  |  |  |  |  |  |
| [**Q11/3**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/03/Pages/q11.aspx) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| [**Q12/3**](https://www.itu.int/en/ITU-T/studygroups/2017-2020/03/Pages/q12.aspx) |  |  | X | X |  | X |  |  |  |  | X |  |  |  |
| [**Q13/3**](https://www.itu.int/en/ITU-T/studygroups/2017-2020/03/Pages/q13.aspx) | X |  |  | X |  |  |  |  |  |  |  |  |  |  |
| **ITU-T SG5** | [**Q1/5**](https://www.itu.int/net4/ITU-T/lists/loqr.aspx?Group=5&Period=16) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| [**Q2/5**](https://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/q2.aspx) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| [**Q3/5**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/q3.aspx) |  |  |  |  |  |  |  |  |  |  |  |  |  | X |
| [**Q4/5**](https://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/q4.aspx) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| [**Q5/5**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/q5.aspx) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| [**Q6/5**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/q6.aspx) | X |  |  |  |  |  |  | X |  |  |  | X | X |  |
| [**Q7/5**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/q7.aspx) |  |  |  |  |  |  |  | X |  |  | X |  | X |  |
| [**Q8/5**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/q8.aspx) |  |  |  |  |  |  |  |  |  |  |  |  | X |  |
| [**Q9/5**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/q9.aspx) |  |  |  |  |  |  |  |  |  |  |  |  | X |  |
| [**Q10/5**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/q10.aspx) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **ITU-T SG9** | [**Q1/9**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/q1.aspx) | X | X |  |  |  |  |  |  |  |  |  |  |  |  |
| [**Q2/9**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/q2.aspx) |  | X |  |  |  |  |  |  |  | X |  |  |  |  |
| [**Q3/9**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/q3.aspx) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| [**Q4/9**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/q4.aspx) |  | X |  |  |  |  |  |  |  |  |  |  |  |  |
| [**Q5/9**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/q5.aspx) | X | X |  |  |  |  |  |  |  | X |  |  |  |  |
| [**Q6/9**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/q6.aspx) |  | X |  |  |  |  |  |  |  |  | X |  |  |  |
| [**Q7/9**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/q7.aspx) |  | X |  |  |  |  |  |  |  |  |  |  |  |  |
| [**Q8/9**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/q8.aspx) | X | X | X |  |  |  |  |  |  |  |  |  |  |  |
| [**Q9/9**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/q9.aspx) |  | X | X |  |  |  |  |  |  |  |  |  |  |  |
| [**Q10/9**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/q10.aspx) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **ITU-T SG11** | [**Q1/11**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/11/Pages/q1.aspx) | X |  |  |  |  |  |  |  |  |  |  |  |  |  |
| [**Q2/11**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/11/Pages/q2.aspx) | X |  |  |  |  |  |  |  |  | X |  |  |  |  |
| [**Q3/11**](https://www.itu.int/en/ITU-T/studygroups/2017-2020/11/Pages/q3.aspx) |  |  |  |  |  |  |  |  |  |  | X | X |  |  |
| [**Q4/11**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/11/Pages/q4.aspx) | X |  |  |  |  |  |  |  |  |  |  |  |  |  |
| [**Q5/11**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/11/Pages/q5.aspx) | X |  |  |  |  |  |  | X |  |  |  |  |  |  |
| [**Q6/11**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/11/Pages/q6.aspx) | X |  |  |  |  |  |  |  |  |  |  |  |  |  |
| [**Q7/11**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/11/Pages/q7.aspx) | X |  |  |  |  |  |  |  |  |  |  |  |  |  |
| [**Q8/11**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/11/Pages/q8.aspx) | X |  |  |  |  |  |  |  |  |  |  |  |  |  |
| [**Q9/11**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/11/Pages/q9.aspx) | X |  |  |  |  |  |  |  |  |  | X |  |  |  |
| [**Q10/11**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/11/Pages/q10.aspx) | X |  |  |  |  |  |  |  |  |  | X |  |  |  |
| [**Q11/11**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/11/Pages/q11.aspx) |  |  |  |  |  |  |  |  |  |  | X |  |  |  |
| [**Q12/11**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/11/Pages/q12.aspx) |  |  |  |  |  |  |  | X |  |  | X |  |  |  |
| [**Q13/11**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/11/Pages/q13.aspx) |  |  |  |  |  |  |  |  |  |  | X |  |  |  |
| [**Q14/11**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/11/Pages/q14.aspx) | X |  | X |  |  |  |  |  |  |  | X |  |  |  |
| [**Q15/11**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/11/Pages/q15.aspx) |  |  |  |  |  | X |  |  |  |  | X |  |  |  |
| **ITU-T SG12** | [**Q1/12**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q1.aspx) |  |  |  |  |  | X |  |  |  |  | X |  |  |  |
| [**Q2/12**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q2.aspx) | X | X |  |  |  | X |  |  |  |  |  |  |  |  |
| [**Q3/12**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q3.aspx) |  |  |  |  |  |  | X |  |  |  | X |  |  |  |
| [**Q4/12**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q4.aspx) |  |  |  |  |  |  |  |  |  |  |  | X |  |  |
| [**Q5/12**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q5.aspx) |  |  |  |  |  |  | X |  |  |  |  |  |  |  |
| [**Q6/12**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q6.aspx) |  |  |  |  |  |  | X |  |  |  |  |  |  |  |
| [**Q7/12**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q7.aspx) |  | X |  |  |  | X |  |  |  |  |  |  |  |  |
| [**Q8/12**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q8.aspx) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| [**Q9/12**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q9.aspx) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| [**Q10/12**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q10) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| [**Q11/12**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q11.aspx) | X |  |  |  |  |  |  |  |  |  |  |  |  |  |
| [**Q12/12**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q12.aspx) | X |  |  |  |  | X |  |  |  |  |  |  |  |  |
| [**Q13/12**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q13.aspx) | X | X | X |  |  | X |  |  |  |  |  |  |  |  |
| [**Q14/12**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q14.aspx) |  | X |  |  |  |  |  |  |  |  |  |  |  |  |
| [**Q15/12**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q15.aspx) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| [**Q16/12**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q16.aspx) | X |  |  |  |  |  |  |  |  |  |  |  |  |  |
| [**Q17/12**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q17.aspx) | X |  |  |  |  |  |  |  |  |  |  |  |  |  |
| [**Q18/12**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q18.aspx) |  | X |  |  |  |  |  |  |  |  |  |  |  |  |
| [**Q19/12**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q19.aspx) | X | X |  |  |  |  |  |  |  |  |  |  |  |  |
| **ITU-T SG13** | [**Q1/13**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/13/Pages/q1.aspx) | X |  |  |  |  |  |  | X |  |  |  |  |  |  |
| [**Q2/13**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/13/Pages/q2.aspx) | X |  |  |  |  |  |  |  |  |  |  |  |  |  |
| [**Q5/13**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/13/Pages/q5.aspx) | X |  |  |  |  |  |  |  |  |  |  |  |  |  |
| [**Q6/13**](https://www.itu.int/en/ITU-T/studygroups/2017-2020/13/Pages/q6.aspx) | X |  |  |  |  |  |  |  |  |  |  |  |  |  |
| [**Q7/13**](https://www.itu.int/en/ITU-T/studygroups/2017-2020/13/Pages/q7.aspx) | X |  |  |  |  |  |  |  |  |  |  |  |  |  |
| [**Q16/13**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/13/Pages/q16.aspx) |  |  |  |  |  |  |  | X |  | X |  |  |  |  |
| [**Q17/13**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/13/Pages/q17.aspx) |  |  | X |  |  |  |  |  |  |  |  |  |  |  |
| [**Q18/13**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/13/Pages/q18.aspx) |  |  | X |  |  |  |  |  |  |  |  |  |  |  |
| [**Q19/13**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/13/Pages/q19.aspx) |  |  | X |  |  |  |  |  |  |  |  |  |  |  |
| [**Q20/13**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/13/Pages/q20.aspx) | X |  |  |  |  |  |  |  |  |  |  |  |  |  |
| [**Q21/13**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/13/Pages/q21.aspx) | X |  |  |  |  |  |  |  |  |  |  |  |  |  |
| [**Q22/13**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/13/Pages/q22.aspx) | X |  |  |  |  |  |  |  |  |  |  |  |  |  |
| [**Q23/13**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/13/Pages/q23.aspx) | X |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **ITU-T SG15** | [**Q1/15**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/15/Pages/q1.aspx) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| [**Q2/15**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/15/Pages/q2.aspx) | X |  |  |  |  |  |  |  |  |  |  |  |  |  |
| [**Q3/15**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/15/Pages/q3.aspx) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| [**Q4/15**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/15/Pages/q4.aspx) | X |  |  |  |  |  |  |  |  |  |  |  |  |  |
| [**Q5/15**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/15/Pages/q5.aspx) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| [**Q6/15**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/15/Pages/q6.aspx) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| [**Q7/15**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/15/Pages/q7.aspx) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| [**Q8/15**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/15/Pages/q8.aspx) | X |  |  |  |  |  |  |  |  |  |  |  |  |  |
| [**Q9/15**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/15/Pages/q9.aspx) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| [**Q10/15**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/15/Pages/q10.aspx) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| [**Q11/15**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/15/Pages/q11.aspx) | X |  |  |  |  |  |  |  |  |  |  |  |  |  |
| [**Q12/15**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/15/Pages/q12.aspx) | X |  |  |  |  |  |  |  |  |  |  |  |  |  |
| [**Q13/15**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/15/Pages/q13.aspx) | X |  |  |  |  |  |  |  |  |  |  |  |  |  |
| [**Q14/15**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/15/Pages/q14.aspx) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| [**Q15/15**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/15/Pages/q15.aspx) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| [**Q16/15**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/15/Pages/q16.aspx) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| [**Q17/15**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/15/Pages/q17.aspx) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| [**Q18/15**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/15/Pages/q18.aspx) | X |  |  |  |  |  |  | X |  |  |  |  |  |  |
| [**Q19/15**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/15/Pages/q19.aspx) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **ITU-T SG16** | [**Q1/16**](http://itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q1.aspx) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| [**Q5/16**](http://itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q5.aspx) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| [**Q6/16**](http://itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q6.aspx) |  | X |  |  |  |  |  |  |  |  |  |  |  |  |
| [**Q7/16**](http://itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q7.aspx) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| [**Q8/16**](http://itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q8.aspx) |  | X |  |  |  |  |  |  |  |  |  | X |  |  |
| [**Q11/16**](http://itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q11.aspx) | X | X |  |  |  |  |  |  |  |  |  |  |  |  |
| [**Q13/16**](http://itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q13.aspx) | X | X |  |  |  |  |  |  |  |  | X |  |  |  |
| [**Q14/16**](http://itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q14.aspx) |  |  |  |  |  |  |  |  |  |  |  | X |  |  |
| [**Q21/16**](http://itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q21.aspx) | X | X | X |  | X |  |  | X |  |  |  |  |  |  |
| [**Q22/16**](http://itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q22.aspx) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| [**Q24/16**](http://itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q24.aspx) |  |  |  |  |  |  | X | X |  |  |  |  |  |  |
| [**Q26/16**](http://itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q26.aspx) |  | X |  |  |  |  | X |  |  |  | X | X |  |  |
| [**Q27/16**](http://itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q27.aspx) |  |  |  |  |  |  |  | X |  |  |  |  |  |  |
| [**Q28/16**](http://itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q28.aspx) |  |  |  |  |  |  |  |  | X |  | X |  |  |  |
| **ITU-T SG17** | [**Q1/17**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/17/Pages/q1.aspx) |  |  |  |  |  |  |  |  |  | X |  |  |  |  |
| [**Q2/17**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/17/Pages/q2.aspx) | X |  |  |  |  |  |  |  |  | X |  |  |  |  |
| [**Q3/17**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/17/Pages/q3.aspx) |  |  |  |  |  |  |  |  |  | X |  |  |  |  |
| [**Q4/17**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/17/Pages/q4.aspx) |  |  |  |  |  | X |  |  |  | X |  |  |  |  |
| [**Q5/17**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/17/Pages/q5.aspx) |  |  |  |  |  |  |  |  |  | X |  |  |  |  |
| [**Q6/17**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/17/Pages/q6.aspx) | X | X |  |  |  |  |  | X |  | X |  |  |  |  |
| [**Q7/17**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/17/Pages/q7.aspx) |  |  | X |  |  |  |  |  |  | X |  |  |  |  |
| [**Q8/17**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/17/Pages/q8.aspx) |  |  | X |  |  |  |  |  |  | X |  |  |  |  |
| [**Q9/17**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/17/Pages/q9.aspx) |  |  |  |  |  |  |  |  |  | X |  |  |  |  |
| [**Q10/17**](http://itu.int/en/ITU-T/studygroups/2017-2020/17/Pages/q10.aspx) |  |  |  |  |  |  |  |  |  | X |  |  |  |  |
| [**Q11/17**](http://itu.int/en/ITU-T/studygroups/2017-2020/17/Pages/q11.aspx) |  |  |  |  |  |  |  |  |  | X |  |  |  |  |
| [**Q12/17**](http://itu.int/en/ITU-T/studygroups/2017-2020/17/Pages/q12.aspx) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| [**Q13/17**](http://itu.int/en/ITU-T/studygroups/2017-2020/17/Pages/q13.aspx) |  |  | X |  |  |  |  | X |  | X |  |  |  |  |
| [**Q14/17**](http://itu.int/en/ITU-T/studygroups/2017-2020/17/Pages/q14.aspx) |  |  | X |  |  |  |  |  |  | X |  |  |  |  |
| **ITU-T SG20** | [**Q1/20**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/q1.aspx) |  |  |  |  |  |  |  | X |  |  |  |  |  |  |
| [**Q2/20**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/q2.aspx) | X |  |  |  | X |  |  | X |  |  |  |  | X |  |
| [**Q3/20**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/q3.aspx) | X |  |  |  |  |  |  | X |  | X |  | X |  |  |
| [**Q4/20**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/q4.aspx) |  |  |  |  | X |  |  | X |  |  |  | X | X |  |
| [**Q5/20**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/q5.aspx) |  |  |  |  |  |  |  | X |  |  |  |  |  |  |
| [**Q6/20**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/q6.aspx) |  |  |  |  |  |  |  | X |  | X | X |  |  |  |
| [**Q7/20**](http://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/q7.aspx) |  |  |  |  |  | X |  | X | X |  |  |  |  |  |

**Table 3 ‒ ITU-D Questions vis-à-vis ITU-T work items**

|  |
| --- |
| **ITU-D SG1** [Question 1/1](https://www.itu.int/md/D14-WTDC17-C-0115/): Strategies and policies for the deployment of broadband in developing countries  |
| **ITU-T SG** | **ITU-T Question** | **Work items** |
| [SG2](https://www.itu.int/en/ITU-T/studygroups/2017-2020/02/Pages/default.aspx) | [Q1/2](http://www.itu.int/en/ITU-T/studygroups/2017-2020/02/Pages/q1.aspx): Application of numbering, naming, addressing and identification plans for fixed and mobile telecommunications services | [E.A-ENUM](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13948) Principles and procedures for the administration of E.164 country codes for registration into the Domain Name System; |
| [Q5/2](http://www.itu.int/en/ITU-T/studygroups/2017-2020/02/Pages/q5.aspx): Requirements, priorities and planning for telecommunication management and operation, administration and maintenance (OAM) Recommendations  | [M.rtsmf](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14848) Requirements for telecommunications smart maintenance management function;[M.rmacbe](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=15023) Requirements for management of applications over cloud and broadband ecosystems |
| [Q6/2](http://www.itu.int/en/ITU-T/studygroups/2017-2020/02/Pages/q6.aspx): Management architecture and security | [M.3040 (ex M.tsm)](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14471) Principles for on-site telecommunication smart maintenance;[M.somm (ex M.inomsa)](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14196) Functional architecture of smart operation, management and maintenance |
| [SG3](https://www.itu.int/en/ITU-T/studygroups/2017-2020/03/Pages/default.aspx) | [Q1/3](http://www.itu.int/en/ITU-T/studygroups/2017-2020/03/Pages/q1.aspx): Development of charging and accounting/settlement mechanisms for international telecommunications services using the next-generation networks (NGNs), future networks, and any possible future development, including adaptation of existing D-series Recommendations to the evolving user needs | [D.Framework](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13509) Framework for ICT service delivery with the guaranteed QoS and requested bitrate on fixed & mobile data networks, for development of efficient economic mechanisms and models of interaction in the "operator-provider-user" chain |
| [Q3/3](http://www.itu.int/en/ITU-T/studygroups/2017-2020/03/Pages/q3.aspx): Study of economic and policy factors relevant to the efficient provision of international telecommunication services | [D.Classification](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13520) Classification of telecommunications services in data networks;[D.GVR](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13505) Towards better governance of telecommunication regulation;[D.IoTpolicy](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14122) Guidelines on Tariff and regulatory aspects of Internet of Things (IoT);[D.Licensing](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13518) Mechanisms for pricing of licenses for mobile/broadband/fixed;[D.SpectrumShare](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13519) Shared use of spectrum and infrastructure;[Study\_EPQoS](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14611) Study of economic and policy factors relevant to the efficient provision of international telecommunication services |
| [Q6/3](http://www.itu.int/en/ITU-T/studygroups/2017-2020/03/Pages/q6.aspx) : International Internet connectivity including relevant aspects of Internet protocol (IP) peering, regional traffic exchange points, cost of provision of services and impact of transition from Internet protocol version 4 (IPv4) to Internet protocol version 6 (IPv6) | [D. BGPE](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14114) Proposed new recommendation on International Internet Connectivity;[D.CompIIC](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14115) Draft Recommendation ITU-T D.XX on Framework for the Competitive Provision of International Internet Connectivity (IIC);[STUDY\_IIC](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13499) International Internet Connectivity, including IP peering, Regional Traffic Exchange Points, and cost of provision of services;[STUDY\_IPV6](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13498) Economic impact of transition from IPv4 to IPv6 |
| [Q10/3](http://www.itu.int/en/ITU-T/studygroups/2017-2020/03/Pages/q10.aspx): Definition of relevant markets, competition policy and identification of operators with significant market power (SMP) as it relates to the economic aspects of the international telecommunication services and networks | [D.CrossBorderSMP](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13523) Quantifying cross-border market power |
| [Q13/3](http://www.itu.int/en/ITU-T/studygroups/2017-2020/03/Pages/q13.aspx) : Study of Tariff, Charging Issues of Settlements Agreement of Trans-multi-country Terrestrial Telecommunication Cables | [D. ModelTTC](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14609) Model of trans-multi-country terrestrial cable resource sharing |
| [SG5](https://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/default.aspx) | [Q6/5](https://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/q6.aspx): Achieving energy efficiency and smart energy | [L.5G\_powering](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14152) Sustainable power feeding solutions for 5G network;[L.EE\_5G](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13933) Energy efficiency Metrics and measurement methodology for 5G base station;[L.EE\_slicing](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14534) Energy efficiency and Slicing of IMT2020/5G;[L.ENV-KPI-5G-ARCH](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14533) Environmental KPIs/metrics for 5G architectures;[L.SE\_BS](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14154) Smart energy solution for telecom base stations;[LSTR.5GEE](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14151) Study on methods and metrics to evaluate energy efficiency for future 5G systems (Completed in 2017);[Suppl. RBSbest prac](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13916) Supplement to L.RBS Radio base station site best practices |
| [SG9](https://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/default.aspx) | [Q1/9](https://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/q1.aspx): Transmission and delivery control of television and sound programme signal for contribution, primary distribution and secondary distribution | [J.5GDOCSIS](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14918) Fifth-generation transmission systems for interactive cable television services - IP cable modems |
| [Q5/9](http://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/q5.aspx): Software components application programming interfaces (APIs), frameworks and overall software architecture for advanced content distribution services within the scope of Study Group 9 | [J.207rev](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14925) Specification for an integrated broadcast and broadband digital television application control framework;[J.acf-hrm](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13722) Harmonization of Integrated Broadcast-Broadband DTV application control framework  |
| [Q8/9](http://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/q8.aspx): The Internet protocol (IP) enabled multimedia applications and services for cable television networks enabled by converged platforms | [J.qamip-req](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14032) Requirements on QAM to IP Conversion for IP Multi-Room/House Services |
| [SG11](https://www.itu.int/en/ITU-T/studygroups/2017-2020/11/Pages/default.aspx) | [Q1/11](http://www.itu.int/en/ITU-T/studygroups/2017-2020/11/Pages/q1.aspx): Signalling and protocol architectures in emerging telecommunication environments and guidelines for implementations | [Q.DEN\_IMS](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14447): Signalling architecture of distributed ENUM networking for IMS;[Q.3054 (ex Q.VCNSA)](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14050) Signalling architecture for virtualization of control network entities;[Q.NGNe-O-SA](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14903) The signalling architecture of orchestration in NGNe |
| [Q2/11](http://www.itu.int/en/ITU-T/studygroups/2017-2020/11/Pages/q2.aspx): Signalling requirements and protocols for services and applications in emerging telecommunication environments | [Q.3642 (ex Q.Interop\_IMS\_Rel\_12)](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14728) IMS references to Release 12 for communication between IMS and NGN networks to support end-to-end service interoperability;[Q.Pro-DES](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=15045) Protocol at interface between two distributed ENUM servers for IMS;[Q.VoLTE-SAO-req](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14449) Requirements for signalling network analyses and optimization in VoLTE |
| [Q4/11](http://www.itu.int/en/ITU-T/studygroups/2017-2020/11/Pages/q4.aspx): Protocols for control, management and orchestration of network resources | [Q.SMO](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13823) Signalling requirements of Software-defined Metro Orchestration;[Q.SCC](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14273) Signalling requirements and information model of Cooperative Controller;[Q.SD-DCI](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14613) Signalling requirements and information model of SD-DCI service;[Q.SD-WAN](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14054) Signalling Requirement for SD-WAN service;[Q.telemetry-VBNS](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=15046) Signalling requirements for telemetry of virtual broadband network services |
| [Q5/11](http://www.itu.int/en/ITU-T/studygroups/2017-2020/11/Pages/q5.aspx): Protocols and procedures supporting services provided by broadband network gateways | [Q.BNG-CFS](https://www.itu.int/md/T17-SG11-180718-TD-GEN-0503) Signalling requirements for control and forwarding plane separation in vBNG;[Q.BNG-PAC](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14731) Procedures for vBNG acceleration with programmable acceleration card |
| [Q6/11](https://www.itu.int/en/ITU-T/studygroups/2017-2020/11/Pages/q6.aspx): Protocols supporting control and management technologies for IMT-2020 | [Q.CE-APIMP](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14462) Protocol for managing capability exposure APIs in IMT-2020 network;[Q.5020 (ex Q.NS-LCMP)](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14274) Protocol and procedures for network slice lifecycle management;[Q.D2D-EECP](https://www.itu.int/ITU-T/recommendations/rec.aspx?rec=2623https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14463) Energy efficient D2D communication protocol for IMT 2020 network;[Q.IMT2020-PFW](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14733) Protocol Framework for IMT-2020 |
| [Q7/11](https://www.itu.int/ITU-T/workprog/wp_block.aspx?isn=4142): Signalling requirements and protocols for network attachment including mobility and resource management for future networks and IMT-2020 | [Q.MEA-SRA](https://www.itu.int/ITU-T/recommendations/rec.aspx?rec=2623https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14275) Signalling requirement and architecture for media service entity attachment;[Q.QMP-TCA](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14464) QoS management protocol for time constraint applications over SDN |
| [Q8/11](https://www.itu.int/en/ITU-T/studygroups/2017-2020/11/Pages/q8.aspx): Protocols supporting distributed content networking and information centric network (ICN) for future networks and IMT-2020, including end-to-end multi-party communications | [X.mp2p-srds](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14901) Managed P2P communications: Content distribution signalling requirements;[X.mp2p-ldmp](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14902) Managed P2P communications: Content distribution peer protocol;[X.mp2p-ocmp](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14900) Managed P2P communications: Overlay content management protocol;[X.609.5 Amd.1](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14735) Managed peer-to-peer communications: Overlay management protocol for content distribution |
| [Q9/11](https://www.itu.int/en/ITU-T/studygroups/2017-2020/11/Pages/q9.aspx): Service and networks benchmark testing, remote testing including Internet performance measurements | [Q.3961 (ex Q.TM\_Int\_sp\_test)](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13819) Testing methodologies of Internet related performance measurements including e2e bit rate within the fixed and mobile operator's networks |
| [Q10/11](https://www.itu.int/en/ITU-T/studygroups/2017-2020/11/Pages/q10.aspx): Testing of emerging IMT-2020 technologies | [Guideline-TEST\_UE/MS](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14736) Guideline for general test procedure and specification for measurements of the LTE, 3G/2G user Equipment/mobile stations (UE/MS);[Q.4061 (ex Q.SDN-CT)](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14466) Framework of SDN controller testing;[Q.SDN-OFT](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14737) The compatibility testing of SDN-based equipment using OpenFlow protocol; |
| [Q14/11](https://www.itu.int/en/ITU-T/studygroups/2017-2020/11/Pages/q14.aspx): Cloud interoperability testing  | [Q.vbng-iop-reqts](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14739) Interoperability testing requirements of virtual Broadband Network Gateway |
| [SG12](https://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/default.aspx)[QSDG](https://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/QSDG.aspx) | [Q2/12](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q2.aspx): Definitions, guides and frameworks related to quality of service/quality of experience (QoS/QoE) | [G.IMT2020](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13799) QoS Framework for IMT 2020;[HB-Guireg](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14120) Handbook providing guidance to regulators;[HB-QoS](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14119) Handbook on Quality of Service (QoS);[TR-BAC](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14678) TR on Broadband Access Concept; |
| [Q11/12](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q11.aspx): Performance considerations for interconnected networks | [G.ACP](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14041) Guidelines regarding the minimum QoS and QoE threshold to be fulfilled during the use of alternative calling procedures;[G.1028](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14955) End-to-end QoS for Voice Telephony over 4G mobile networks |
| [Q12/12](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q12.aspx): Operational aspects of telecommunication network service quality | [E.MTSM](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14360) Measurement scenarios, advanced measurement systems and sampling methodologies to monitor the QoS in mobile networks;[E.QSIMBox](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14355) The effect of SIM-boxing on QoS and QoE;[E.RQUAL](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14043) Strategies to Establish Quality Measurement Frameworks;[G.CSFB](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14359) Assessment of the LTE circuit switched fall back - impact on QoE and QoS |
| [Q13/12](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q13.aspx): QoE, QoS and performance requirements and assessment methods for multimedia) | [G.NCP](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14361) QoE-based network capacity planning;[G.QoE-5G](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14680) QoE factors for new services in 5G networks |
| [Q16/12](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q16.aspx): Framework for diagnostic functions | [E.FINAD](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14037) Framework for Intelligent Network Analytics and Diagnostics |
| [Q17/12](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q17.aspxhttp%3A/www.itu.int/en/ITU-T/studygroups/2013-2016/12/Pages/q17.aspx): Performance of packet-based networks and other networking technologies | [Y.1540 Appendix & Annex A](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14397) IP Packet Transfer and Availability Performance Parameters |
| [Q19/12](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q19.aspx): Objective and subjective methods for evaluating perceptual audiovisual quality in multimedia services | [P.913-rev](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14938) Methods for the subjective assessment of video quality, audio quality and audiovisual quality of Internet video and distribution quality television in any environment |
| [SG13](https://www.itu.int/en/ITU-T/studygroups/2017-2020/13/Pages/default.aspx) | [Q1/13](http://www.itu.int/en/ITU-T/studygroups/2017-2020/13/Pages/q1.aspx): Innovative services scenarios, deployment models and migration issues based on Future Networks | [Handbook on IMT-2000 (2nd Edition)](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13599) The Handbook of evolving IMT-2000 Systems |
| [Q2/13](http://www.itu.int/en/ITU-T/studygroups/2017-2020/13/Pages/q2.aspx): Next-generation network (NGN) evolution with innovative technologies including software-defined networking (SDN) and network function virtualization (NFV) | [Technical Report on Network 2030](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14616) Network 2030 - beyond IMT-2020;[Y.NGNe-BC-reqts](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14282) Scenarios and capability requirements of blockchain in next generation network evolution;[Y.NGNe-O-arch](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14617) Functional architecture of orchestration in NGNe;[Y.NGN-PLA-reqts](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14475) Scenarios and Capability Requirements of Programmable Log Analysis in Next Generation Networks |
| [Q5/13](http://www.itu.int/en/ITU-T/studygroups/2017-2020/13/Pages/q5.aspx): Applying networks of future and innovation in developing countries | [Supp-Y.IMT2020-Awareness-UC&Migration](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14748) Trustworthy networking deployment architecture, mechanism, and procedure |
| [Q6/13](https://www.itu.int/ITU-T/workprog/wp_block.aspx?isn=4172): Quality of service (QoS) aspects including IMT-2020 networks | [Y.3106 (ex Y.IMT2020-qos-req)](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14740) QoS requirements for IMT-2020 network;[Y.IMT2020-qos-fa](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14618) QoS functional architecture for the IMT-2020 networks;[Y.IMT-2020.qos-mon](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14091) IMT-2020 network QoS monitoring architectural framework;[Y.qos-ml-arc](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=15013) Architecture of machine learning based QoS assurance for the IMT-2020 network |
| [Q7/13](https://www.itu.int/en/ITU-T/studygroups/2017-2020/13/Pages/q7.aspx): Big data driven networking (bDDN) and Deep packet inspection (DPI) | [Y.bDDN-FunArch](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14620) Functional architecture of big data driven networking;[Y.bDDN-req](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13637) Requirement of big data-driven networking[Y.2774 (ex Y.DpiReqFn)](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13625) Functional requirements of deep packet inspection for future networks;[Y.Dpi-ArchFN (ex Y.DpiArchFn)](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13624) Functional architecture of deep packet inspection for future networks |
| [Q20/13](http://www.itu.int/en/ITU-T/studygroups/2017-2020/13/Pages/q20.aspx): IMT-2020: Network requirements and functional architecture | [Y.IMT2020-ESDP](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14917) Enhanced SDN Data Plane for IMT-2020;[Y.IMT2020-CEF](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14065) Network Capability Exposure Function in the IMT-2020 networks |
| [Q21/13](http://www.itu.int/en/ITU-T/studygroups/2017-2020/13/Pages/q21.aspx): Network softwarization including software-defined networking, network slicing and orchestration | [Y.3152 (ex Y.IMT2020-ADPP)](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14476) Advanced Data Plane Programmability for IMT-2020;[Y.NetSoft-SSMO](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14914) Scalable service management and orchestration framework in IMT-2020;[Y.NSOM](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13639) Network slicing orchestration and management |
| [Q22/13](http://www.itu.int/en/ITU-T/studygroups/2017-2020/13/Pages/q22.aspx): Upcoming network technologies for IMT-2020 and Future Networks | [Y.3072 (ex Y.ICN-ReqN)](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14479) Requirements and Capabilities of Name Mapping and Resolution for Information Centric Networking in IMT-2020;[Y.ICN-TL](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14915) Requirements and Capabilities of Transport Layer for ICN in IMT-2020 |
| [Q23/13](http://www.itu.int/en/ITU-T/studygroups/2017-2020/13/Pages/q23.aspx): Fixed-Mobile Convergence including IMT-2020 | [Y.3130 (ex Y.FMC-REQ)](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13643) Requirements of IMT-2020 fixed mobile convergence;[Y.FMC-MM](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14284) Mobility management for fixed mobile convergence in IMT-2020 networks;[Y.FMC-ReqMO](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14285) IMT-2020 FMC functional requirements for management and orchestration;[Y.Suppl.MM-SDN (ex Y.Sup.MMsdn-usecase)](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13653) Supplement on use cases of mobility management over SDN;[Y.FMC-EC](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14742) Unified edge computing for supporting fixed mobile convergence in IMT-2020 networks; [Y.FMC-ARCH](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14090) Functional architecture for supporting fixed mobile convergence in IMT-2020 networks;[Y.FMC-SM](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14743) Session management for fixed mobile convergence in IMT-2020 networks |
| [SG15](https://www.itu.int/en/ITU-T/studygroups/2017-2020/15/Pages/default.aspx) | [Q2/15](https://www.itu.int/en/ITU-T/studygroups/2017-2020/15/Pages/q2.aspx): Optical systems for fibre access networks | [G.9806](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14546) Higher speed bidirectional single-fibre point to point optical access systems;[G.hsp.50Gpmd](https://www.itu.int/itu-t/workprog/wp_item.aspx?isn=14550) Higher Speed Passive Optical Networks: 50G PMD;[G.hsp.comTC](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14549) Higher Speed Passive Optical Networks: Common Transmission Convergence layer;[G.hsp.req](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14548) Higher Speed Passive Optical Networks: Requirements;[G.hsp.TWDMpmd](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14551) Higher Speed Passive Optical Networks: TWDM PMD; |
| [Q4/15](http://www.itu.int/en/ITU-T/studygroups/2017-2020/15/Pages/q4.aspx): Broadband access over metallic conductors | [G.mgfast-PHY (ex G.mgfast)](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14267) Multi-Gigabit fast access to subscriber terminals (MGfast) – PHY;[G.mgfast-PSD](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14552) Multi-Gigabit fast access to subscriber terminals (MGfast) - PSD |
| [Q8/15](http://www.itu.int/en/ITU-T/studygroups/2017-2020/15/Pages/q8.aspx): Characteristics of optical fibre submarine cable systems | [G.971](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14221) General features of optical submarine cable systems |
| [Q11/15](http://www.itu.int/en/ITU-T/studygroups/2017-2020/15/Pages/q11.aspx): Signal structures, interfaces, equipment functions, and interworking for optical transport networks | [G.ctn5g](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14633) Characteristics of transport networks to support IMT-2020/5G;[GSup.5gotn](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14632) Application of OTN to 5G Transport;[G.709.25-50](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14974) 25G and 50G OTN interfaces |
| [Q12/15](http://www.itu.int/en/ITU-T/studygroups/2017-2020/15/Pages/q12.aspx): Transport network architectures | [G.7702 Amd.1](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14998) Architecture for SDN control of transport networks |
| [Q13/15](http://www.itu.int/en/ITU-T/studygroups/2017-2020/15/Pages/q13.aspx): Network synchronization and time distribution performance | [G.8260 Amd.3](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=15053) Definitions and terminology for synchronization in packet networks: Amendment 2;[G.8261](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14414) Timing and synchronization aspects in packet networks |
| [Q18/15](https://www.itu.int/en/ITU-T/studygroups/2017-2020/15/Pages/q18.aspx): Broadband in-premises networking | [G.hn2](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14270) Evolution of unified high-speed wire-line based home networking transceivers |
| [SG16](https://www.itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/default.aspx) | [Q11/16](http://itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q11.aspx): Multimedia systems, terminals, gateways and data conferencing | [H.225.0 V8](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13259) Call signalling protocols and media stream packetization for packet-based multimedia communication systems;[H.235.10 (ex H.235.DTLS)](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13287) H.323 security: Support of DTLS for media streams; |
| [Q13/16](http://itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q13.aspx): Multimedia application platforms and end systems for IPTV | [H.721 (V3)](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13317) IPTV terminal devices: Basic model;[H.722 (V2)](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13328) IPTV terminal device: full-fledged model;[H.IPTV-AM.2](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13235) IPTV application event handling: Audience measurement for IPTV interactive services;[HSTP.IPTV-GUIDE.1](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13319) IPTV service deployment scenarios in high-speed broadband era |
| [Q21/16](http://itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q21.aspx): Multimedia framework, applications and services | [F.CDN-P2P](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14761) Requirements for the content delivery networks based on P2P technology |
| [SG17](https://www.itu.int/en/ITU-T/studygroups/2017-2020/17/Pages/default.aspx) | [Q2/17](http://www.itu.int/en/ITU-T/studygroups/2017-2020/17/Pages/q2.aspx): Security architecture and framework | [X.1043 (ex X.sdnsec-3)](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14110) Security framework and requirements for service function chaining based on software-defined networking;[X.SDSec](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14558) Guideline on Software-defined Security in SDN (Software-defined Networking)/NFV (Network Function Virtualization) Network;[X.srnv](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14379) Security Requirements of Network Virtualization; |
| [Q6/17](http://www.itu.int/en/ITU-T/studygroups/2017-2020/17/Pages/q6.aspx): Security aspects of telecommunication services, networks and Internet of Things | [X.5Gsec-t](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14786) Security framework based on trust relationship in 5G ecosystem;[X.5Gsec-ecs](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=15005) Security Framework for 5G Edge Computing Services;[X.5Gsec-guide](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=15006) Security guideline for 5G communication system based on ITU-T X.805 |
| [SG20](https://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/default.aspx) | [Q2/20](http://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/q2.aspx): Requirements, capabilities, and use cases across verticals | [Y.IoT-NCM-reqts](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14106) Requirements and capabilities of network connectivity management in the Internet of Things |
| [Q3/20](http://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/q3.aspx): Architectures, management, protocols and Quality of Service | [Y.Sup.IPv6-IoT](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13695) IPv6 Potential for the Internet of Things and Smart Cities;[Y.IPv6RefModel](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13693) Reference model of IPv6 subnet addressing plan for Internet of things deployment; |
| [Q6/20](http://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/q6.aspx): Security, privacy, trust and identification | [Y.FW.IC.MDSC](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14299) Framework of identification and connectivity of moving devices in smart city |
| **ITU-D SG1** [Question 2/1](https://www.itu.int/md/D14-WTDC17-C-0115/): Strategies, policies, regulations and methods of migration and adoption of digital broadcasting and implementation of new services |
| **ITU-T SG** | **ITU-T Question** | **Work items** |
| [SG9](https://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/default.aspx) | [Q1/9](http://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/q1.aspx): Transmission and delivery control of television and sound programme signal for contribution, primary distribution and secondary distribution | [J.5GDOCSIS](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14918) Fifth-generation transmission systems for interactive cable television services - IP cable modems;[J.MHAv2](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14919) Second-generation Modular Headend Architecture in systems for interactive cable television services - IP cable modems |
| [Q2/9](http://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/q2.aspx): Methods and practices for conditional access, protection against unauthorized copying and against unauthorized redistribution (‘redistribution control” for digital cable television distribution to the home) | [J.oneway-dcas-part1](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14507) Downloadable Conditional Access System for Unidirectional Network; Requirements;[J.oneway-dcas-part2](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14933) Downloadable Conditional Access System for Unidirectional Network; System Architecture;[J.oneway-dcas-part3](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14934) Downloadable Conditional Access System for Unidirectional Network; Terminal System |
| [Q4/9](http://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/q4.aspx): Guidelines for implementations and deployment of transmission of multichannel digital television signals over optical access networks | [J.dtc-distribution-req](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14182) Television Content Distribution Platforms: Requirements for Open Access and Signal Quality;[Sup-digTV](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13717) Installing a digital TV service for cable networks and relating Recommendations |
| [Q5/9](http://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/q5.aspx): Software components application programming interfaces (APIs), frameworks and overall software architecture for advanced content distribution services within the scope of Study Group 9 | [J.207rev](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14925) Specification for an integrated broadcast and broadband digital television application control framework;[J.acf-hrm](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13722) Harmonization of Integrated Broadcast-Broadband DTV application control framework;[J.stvos-hal](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14924) he HAL API of smart TV operating system;[J.stvos-spec-arch](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14508) The Architecture of Smart TV Operating System;[J.stvos-sec](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14923) The security of smart TV operating system |
| [Q6/9](http://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/q6.aspx): Functional requirements for residential gateway and set-top box for the reception of advanced content distribution services | [J.298 (ex J.stb-cts)](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14185) Requirements and technical specifications of cable TV hybrid set-top box that has the compatibility with terrestrial and satellite TV transport;[J.pcnp-smgw](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14926) Functional requirements for Smart Home Gateway |
| [Q7/9](http://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/q7.aspx): Cable television delivery of digital services and applications that use Internet protocol (IP) and/or packet-based data over cable networks | [J.ipvb-req](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14929) Requirements of IP Video Broadcast (IPVB) for CATV Networks;[TP.ipvb-acc](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14999) Analysis of the cost and complexity of IPVB technology |
| [Q8/9](http://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/q8.aspx): The Internet protocol (IP) enabled multimedia applications and services for cable television networks enabled by converged platforms | [J.qamip-req](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14032) Requirements on QAM to IP Conversion for IP Multi-Room/House Services |
| [Q9/9](http://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/q9.aspx): Requirements, methods, and interfaces of the advanced service platforms to enhance the delivery of sound, television, and other multimedia interactive services over cable television network | [J.cable-ott](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14931) System architecture and interfaces between a cable television operator and an OTT service provider;[TP.b-catv](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14932) Broadband CATV system using server-side reception and processing;[J.pcnp-fmw](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14930) Premium Cable network platform with embedded intelligent analyzer and controller for enabling advanced multimedia services |
| [SG12](https://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/default.aspx) | [Q2/12](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q2.aspx): Definitions, guides and frameworks related to QoS/QoE | [P.10/G.100](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14118) Vocabulary for performance, quality of service and quality of experience |
| [Q7/12](https://www.itu.int/ITU-T/workprog/wp_block.aspx?isn=4158): Methods, tools and test plans for the subjective assessment of speech, audio and audiovisual quality interactions | [P.VQD](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14952) Dimension-based Subjective Quality Evaluation for Video Content |
| [Q13/12](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q13.aspx): QoE, QoS and performance requirements and assessment methods for multimedia | [G.IPTV-MP](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13806) IPTV monitoring parameters;[P.360-VR (ex G.VR-360)](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14417) Subjective test methodologies for 360 degree video on HMD |
| [Q14/12](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q14.aspx): Development of models & tools for multimedia quality assessment of packet-based video | [P.NAMS-ph2](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14035) Parametric Non-intrusive Bitstream Assessment for High Efficiency Video Coding (HEVC) and 4K Media Streaming Quality over UDP |
| [Q18/12](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q18.aspx): Measurement and control of the end-to-end QoS for advanced TV technologies, from image acquisition to rendering, in contribution, primary distribution and secondary distribution networks | [J.q-uhd](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13719) Quality measurement methods for UHD services;[J.vqm-hevc](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13718) Objective perceptual video quality measurement methods for H.265 |
| [Q19/12](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q19.aspx): Objective and subjective methods for evaluating perceptual audiovisual quality in multimedia services | [J.op-tr](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13720) Methods for Optimizing Bitrates and Transmission Resolution by Considering Display Characteristics and Available Bandwidth;[P.911rev](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13721) Subjective audiovisual quality assessment methods for multimedia applications;[J.343-rev](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13724) Hybrid perceptual/bitstream models for objective video quality measurements;[P.913-rev](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14938) Methods for the subjective assessment of video quality, audio quality and audiovisual quality of Internet video and distribution quality television in any environment |
| [SG16](https://www.itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/default.aspx) | [Q8/16](http://itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q8.aspx): Immersive live experience systems and services | [H.ILE-MMT](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14190) Service configuration, media transport protocols, signalling information of MMT for Immersive Live Experience systems |
| [Q13/16](http://itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q13.aspx): Multimedia application platforms and end systems for IPTV | [H.IPTV-AM.2](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13235) IPTV application event handling: Audience measurement for IPTV interactive services;[H.IPTV-PS](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14755) Application event handling: Overall aspects of personalized IPTV service;[HSTP.IPTV-GUIDE.2](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14423) IPTV service parameters for new IPTV service providers;[H.721 (V3)](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13317) IPTV terminal devices: Basic model;[H.722 (V2)](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13328) IPTV terminal devices: full-fledged model;[H.IPTV-MDS](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13257) IPTV Multiple Devices Service;[H.761 (V4)](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14049) Nested context language (NCL) and Ginga-NCL;[HSTP.IPTV-HRM.2](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13238) Harmonization of MAFR series with multiple content sources. |
| [Q21/16](https://www.itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q21.aspx): Multimedia framework, applications and services | [F.CDN-Reqs](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14069) Use-cases and requirements for multimedia CDN;[H.MCDN](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14764) Functional architecture of multimedia content delivery network[H.OIMSArch](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14699) Architecture for on-demand service based on interactive multimedia streaming |
| [Q26/16](https://www.itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q26.aspx): Accessibility to multimedia systems and services | [H.702](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14772) Accessibility Profiles for IPTV Systems;[F.703](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13300) Multimedia conversational services;[HSTP-ACC-UC](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13269) Multimedia accessible system use cases |
| [SG17](https://www.itu.int/en/ITU-T/studygroups/2017-2020/17) | [Q6/17](http://www.itu.int/en/ITU-T/studygroups/2017-2020/17/Pages/q6.aspx): Security aspects of telecommunication services, networks and Internet of Things | [X.1197Amd.1](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=15016) Amendment 1 to Recommendation X.1197, Revised guidelines on criteria for selecting cryptographic algorithms for IPTV service and content protection |
| **ITU-D SG1**[Question 3/1](https://www.itu.int/md/D14-WTDC17-C-0115/): Emerging technologies, including cloud computing: m-services, and OTTs: Challenges and opportunities, economic and policy impact for developing countries |
| **ITU-T SG** | **ITU-T Question** | **Work items** |
| [SG2](https://www.itu.int/en/ITU-T/studygroups/2017-2020/02/Pages/default.aspx) | [Q1/2](http://www.itu.int/en/ITU-T/studygroups/2017-2020/02/Pages/q1.aspx): Application of numbering, naming, addressing and identification plans for fixed and mobile telecommunications services | [TR.OTTnum](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=15041) Current use of E.164 numbers as identifiers for OTTs |
| [Q5/2](https://www.itu.int/en/ITU-T/studygroups/2017-2020/02/Pages/q5.aspx): Requirements, priorities and planning for telecommunication management and operation, administration and maintenance (OAM) Recommendations | [M.rcsnsm](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=15022) Requirements for synergy management of cloud and SDN-based network;[M.rmacbe](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=15023) Requirements for management of applications over cloud and broadband ecosystems; |
| [SG3](https://www.itu.int/en/ITU-T/studygroups/2017-2020/03/Pages/default.aspx)[FG DFS](https://www.itu.int/en/ITU-T/focusgroups/dfs/Pages/default.aspx) | [Q9/3](https://www.itu.int/en/ITU-T/studygroups/2017-2020/03/Pages/q9.aspx)**:** Economic and regulatory impact of the Internet, convergence (services or infrastructure) and new services, such as over the top (OTT), on international telecommunication services and networks | [D.50Supp\_OTT](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13500) OTTs in the context of IIC; [D.262 (ex D.OTT)](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13503) Collaborative Framework for OTTs;[D.OTTBypass](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13522) OTT Bypass;[D.OTTMNO](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13521) Guidelines on OTT-MNO Partnerships;[STUDY\_Convergence](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14124) Study on the economic impact of convergence of technology and services and the role of the Regulator |
| [Q12/3](http://www.itu.int/en/ITU-T/studygroups/2017-2020/03/Pages/q12.aspx): Tariffs, Economic and Policy Issues Pertaining to Mobile Financial Services (MFS) | [D.263 (ex D.MFS)](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14132) Competition in Mobile Financial Services;[D.AgentMFS](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14128) Guidelines for Mobile Financial Service Agents;[D.EMoneyMFS](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14130) Guidelines for e-money issuers;[D.MFSCM](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14133) Mobile Financial Services Transaction Cost Model;[D.MFScoop](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14606) Guidelines for MOU between telecommunications regulators and central banks taking into account the Zambian experience and existing MOU |
| [SG9](https://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/default.aspx) | [Q8/9](http://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/q8.aspx): The Internet protocol (IP) enabled multimedia applications and services for cable television networks enabled by converged platforms | [J.qamip-req](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14032) Requirements on QAM to IP Conversion for IP Multi-Room/House Services |
| [Q9/9](https://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/q9.aspx): Requirements, methods, and interfaces of the advanced service platforms to enhance the delivery of sound, television, and other multimedia interactive services over cable television network | [J.cable-ott](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14931) System architecture and interfaces between a cable television operator and an OTT service provide |
| [SG11](https://www.itu.int/en/ITU-T/studygroups/2017-2020/11/Pages/default.aspx) | [Q14/11](http://www.itu.int/en/ITU-T/studygroups/2017-2020/14/Pages/q11.aspx): Cloud interoperability testing | [Q.vs-iop-reqts](https://www.itu.int/itu-t/workprog/wp_item.aspx?isn=14605): Interoperability testing requirements of virtual switch;[Q.wa-iop](https://www.itu.int/itu-t/workprog/wp_item.aspx?isn=13839): Cloud Interoperability testing about Web Application |
| [SG12](https://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/default.aspx) | [Q13/12](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q13.aspx): QoE, QoS and performance requirements and assessment methods for multimedia | [G.DFS](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14364) QoS and QoE Aspects of Digital Financial Services |
| [SG13](https://www.itu.int/en/ITU-T/studygroups/2017-2020/13/Pages/default.aspx) | [Q17/13](http://www.itu.int/en/ITU-T/studygroups/2017-2020/13/Pages/q17.aspx): Requirements, ecosystem, and general capabilities for cloud computing and big data | [Y.BaaS-reqts](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14485) Cloud computing - Functional requirements for blockchain as a service;[Y.bdi-reqts](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14074) Big Data - Overview and functional requirements for data integration;[Y.bdm-sch](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14075) Big data - Metadata framework and conceptual model;[Y.cccm-reqts](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13641) Cloud Computing - Requirements for Containers and Micro-services;[Y.ccdc-reqts](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13649) Distributed cloud overview and high-level requirements;[Y.ccpm-reqts](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13652) Cloud computing - Functional requirements of physical machine;[Y.MLaaS-reqts](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14484) Cloud computing - Functional requirements for machine learning as a service; |
| [Q18/13](http://www.itu.int/en/ITU-T/studygroups/2017-2020/13/Pages/q18.aspx): Functional architecture for cloud computing and big data | [Y.dsf-arch](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14623) Cloud computing - Functional architecture for data storage federation |
| [Q19/13](http://www.itu.int/en/ITU-T/studygroups/2017-2020/13/Pages/q19.aspx): End-to-end Cloud computing management, cloud security and big data governance | [Y.ccm-reqts](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14486) Cloud computing maturity requirements and framework;[Y.cccsdaom-reqts](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14746) Cloud computing - Requirements for cloud service development and operation management;[Y.cslm-metadata](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14077) Metadata framework for cloud service lifecycle management;[Y.e2efapm](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14745) Cloud Computing - End-to-end fault and performance management framework of virtual network services in inter-cloud |
| [SG16](https://www.itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/default.aspx) | [Q6/16](http://itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q6.aspx): Visual coding | [H.264 (V13)](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14870) Advanced video coding for generic audiovisual services;[H.265 (V6)](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14871) High efficiency video coding |
| [Q11/16](http://itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q11.aspx): Multimedia systems, terminals, gateways and data conferencing | [H.225.0 V8](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13259) Call signalling protocols and media stream packetization for packet-based multimedia communication systems; [H.235.10 (ex H.235.DTLS)](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13287) H.323 security: Support of DTLS for media streams; |
| [Q21/16](http://itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q21.aspx): Multimedia framework, applications and services | [F.CCVSReqs](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14413) Requirements for cloud computing in visual surveillance;[F.VSBD](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14073) Requirements for big data application in visual surveillance system;[H.626.2 (ex H.CSVS-Arch)](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13306) Architecture for cloud storage in visual surveillance;[H.VSCC](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14070) Architecture for cloud computing in visual surveillance |
| [SG17](https://www.itu.int/en/ITU-T/studygroups/2017-2020/17/Pages/default.aspx) | [Q7/17](http://www.itu.int/en/ITU-T/studygroups/2017-2020/17/Pages/q7.aspx): Secure application services | [X.sfop](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14389) Security framework of open platform for FinTech services |
| [Q8/17](http://www.itu.int/en/ITU-T/studygroups/2017-2020/17/Pages/q8.aspx): Cloud computing security | [X.GSBDaaS](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13591) Guidelines on security of Big Data as a Service;[X.sgBDIP](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14567) Security Guidelines for Big Data infrastructure and platform;[X.sgcc](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14788) Security guidelines for container in cloud computing environment;[X.sgdc](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=15008) Security guidelines for distributed cloud;[X.sgtBD](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14390) Security guidelines of lifecycle management for telecom Big Data;[X.SRIaaS](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13578) Security requirements of public infrastructure as a service (IaaS) in cloud computing;[X.sr-cphr](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=15009) Security requirements of cloud-based platform under low latency and high reliability application scenarios;[X.SRNaaS](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13590) Security requirements of Network as a Service (NaaS) in cloud computing |
| [Q13/17](http://www.itu.int/en/ITU-T/studygroups/2017-2020/17/Pages/q13.aspx): Security aspects for Intelligent Transport System | [X.edrsec](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14818) Security guidelines for cloud-based event data recorders in automotive environment |
| [Q14/17](http://www.itu.int/en/ITU-T/studygroups/2017-2020/17/Pages/q14.aspx): Security aspects for Distributed Ledger Technologies | [X.das-mgt](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14589) Security framework for data access and sharing management system based on distributed ledger technology;[X.dlt-sec](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14375) Security considerations for using distributed ledger technology data in identity management;[X.sa-dlt](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14376) Security assurance for distributed ledger technology;[X.sct-dlt](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14373) Security capabilities and threats of distributed ledger technology;[X.sra-dlt](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14371) Security framework for distributed ledger technology;[X.srip-dlt](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14821) Security requirements for intellectual property management based on distributed ledger technology;[X.ss-dlt](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14374) Security services based on distributed ledger technology;[X.stov](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14377) Security threats to online voting using distributed ledger technology;[X.str-dlt](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14372) Security threats and requirements for digital payment services based on distributed ledger technology;[X.tf-spd-dlt](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14590) Technical framework for secure software programme distribution mechanism based on distributed ledger technology |
| **ITU-D SG1**[Question 4/1](https://www.itu.int/md/D14-WTDC17-C-0115/): Economic policies and methods of determining the costs of services related to national telecommunication/ICT networks  |
| **ITU-T SG** | **ITU-T Question** | **Work items** |
| [SG3](https://www.itu.int/en/ITU-T/studygroups/2017-2020/03/Pages/default.aspx) | [Q1/3](http://www.itu.int/en/ITU-T/studygroups/2017-2020/03/Pages/q1.aspx): Development of charging and accounting/settlement mechanisms for international telecommunications services using the next-generation networks (NGNs), future networks, and any possible future development, including adaptation of existing D-series Recommendations to the evolving user needs | [D.Framework](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13509) Framework for ICT service delivery with the guaranteed QoS and requested bitrate on fixed & mobile data networks, for development of efficient economic mechanisms and models of interaction in the “operator-provider-user” chain |
| [Q2/3](http://www.itu.int/en/ITU-T/studygroups/2017-2020/03/Pages/q2.aspx): Development of charging and accounting/settlement mechanisms for international telecommunications services, other than those studied in Question 1/3, including adaptation of existing D-series Recommendations to the evolving user needs | [D.Colocation](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14121) Colocation and Access Charges;[STUDY\_COMMAG](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13495) Study of the use of commercial agreements for international telecommunications services arrangements;[STUDY\_DR](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13496) Dispute Resolution Processes (previously "Dispute Resolution Related to Charging and Invoicing") |
| [Q3/3](http://www.itu.int/en/ITU-T/studygroups/2017-2020/03/Pages/q3.aspx): Study of economic and policy factors relevant to the efficient provision of international telecommunication services | [D.datatariff](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14603) Principles for tariff regulation of Data Services;[D.IoTpolicy](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14122) Guidelines on Tariff and regulatory aspects of Internet of Things (IoT);[D.Licensing](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13518) Mechanisms for pricing of licenses for mobile/broadband/fixed;[D.SpectrumShare](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13519) Shared use of spectrum and infrastructure);[Study\_EPQoS](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14611) Study of economic and policy factors relevant to the efficient provision of international telecommunication services |
| [Q4/3](http://www.itu.int/en/ITU-T/studygroups/2017-2020/03/Pages/q4.aspx): Regional studies for the development of cost models together with related economic and policy issues | [STUDY\_ROAMREG](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14607) Regional Roaming Initiatives |
| [Q6/3](http://www.itu.int/en/ITU-T/studygroups/2017-2020/03/Pages/q6.aspx) : International Internet connectivity including relevant aspects of Internet protocol (IP) peering, regional traffic exchange points, cost of provision of services and impact of transition from Internet protocol version 4 (IPv4) to Internet protocol version 6 (IPv6) | [D.50 Supp.3](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14568) Reducing the cost of the international Internet connectivity of the Central African Backbone (CAB) project, Central African Republic component;[D.CostModelIIC](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13510) Cost model for international internet connectivity;[STUDY\_IIC](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13499) International Internet Connectivity, including IP peering, Regional Traffic Exchange Points, and cost of provision of services |
| [Q7/3](http://www.itu.int/en/ITU-T/studygroups/2017-2020/03/Pages/q7.aspx): International mobile roaming issues (including charging, accounting and settlement mechanisms and roaming at border areas | [D.IoTRoaming](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13516) Roaming for the Internet of Things (IoT);[D.M2MRoaming](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13517) Roaming for Machine to Machine Communications (M2M) |
| [Q9/3](https://www.itu.int/en/ITU-T/studygroups/2017-2020/03/Pages/q9.aspx)**:** Economic and regulatory impact of the Internet, convergence (services or infrastructure) and new services, such as over the top (OTT), on international telecommunication services and networks | [D.OTTMNO](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13521) Guidelines on OTT-MNO Partnerships |
| [Q10/3](http://www.itu.int/en/ITU-T/studygroups/2017-2020/03/Pages/q10.aspx): Definition of relevant markets, competition policy and identification of operators with significant market power (SMP) as it relates to the economic aspects of the international telecommunication services and networks  | [D.DynamicTariff](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13524) Impact of Dynamic Tariffing on Market Competitiveness |
| [Q12/3](http://www.itu.int/en/ITU-T/studygroups/2017-2020/03/Pages/q12.aspx): Tariffs, Economic and Policy Issues Pertaining to Mobile Financial Services (MFS) | [D.MFSCM](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14133) Mobile Financial Services Transaction Cost Model |
| [Q13/3](http://www.itu.int/en/ITU-T/studygroups/2017-2020/03/Pages/q13.aspx): Study of Tariff, Charging Issues of Settlements Agreement of Trans-multi-country Terrestrial Telecommunication Cables | [STUDY\_TCST](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14608) Charging and accounting settlements in Trans-multi-country terrestrial cable circuit |
| **ITU-D SG1** [Question 5/1](https://www.itu.int/md/D14-WTDC17-C-0115/): Telecommunications/ICTs for rural and remote areas  |
| **ITU-T SG** | **ITU-T Question** | **Work items** |
| [SG16](https://www.itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/default.aspx) | [Q21/16](http://itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q21.aspx): Multimedia framework, applications and services | [HSTP-DIS-UAV](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13303) Use cases and service scenarios of disaster information service using unmanned aerial vehicles |
| [SG20](https://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/default.aspx) | [Q2/20](http://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/q2.aspx): Requirements, capabilities, and use cases across verticals | [Y.SRC](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13704) Requirements for deployment of smart services in rural communities |
| [Q4/20](http://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/q4.aspx): e/Smart services, applications and supporting platforms | [Y.4556 (ex Y.SC-Residential)](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13669) Requirements and functional architecture of smart residential community;[Y.smart-evacuation](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14102) [Y.smart-evacuation](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14102) |
| **ITU-D SG1** [Question 6/1](https://www.itu.int/md/D14-WTDC17-C-0115/): Consumer information, protection and rights: Laws, regulation, economic bases, consumer networks  |
| **ITU-T SG** | **ITU-T Question** | **Work items** |
| [SG2](https://www.itu.int/en/ITU-T/studygroups/2017-2020/02/Pages/default.aspx) | [Q1/2](http://www.itu.int/en/ITU-T/studygroups/2017-2020/02/Pages/q1.aspx): Application of numbering, naming, addressing and identification plans for fixed and mobile telecommunications services | [E.156](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13954) Guidelines for ITU-T action on reported misuse of E.164 number resources[E.sup.spoofing to E.157](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=15044) Spoofing |
| [Q2/2](http://www.itu.int/en/ITU-T/studygroups/2017-2020/02/Pages/q2.aspx): Routing and interworking plan for fixed and mobile networks | [E.164 Supplement 2](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13965) Number Portability |
| [Q5/2](https://www.itu.int/en/ITU-T/studygroups/2017-2020/02/Pages/q5.aspx): Requirements, priorities and planning for telecommunication management and operation, administration and maintenance (OAM) Recommendations | [M.rtafm](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14195) Requirements for Telecom anti-Fraud Management in the TMN |
| [SG3](https://www.itu.int/en/ITU-T/studygroups/2017-2020/03/Pages/default.aspx) | [Q3/3](http://www.itu.int/en/ITU-T/studygroups/2017-2020/03/Pages/q3.aspx): Study of economic and policy factors relevant to the efficient provision of international telecommunication services  | [Study\_ EPQoS](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14611) Study of economic and policy factors relevant to the efficient provision of international telecommunication services |
| [Q9/3](https://www.itu.int/en/ITU-T/studygroups/2017-2020/03/Pages/q9.aspx): Economic and regulatory impact of the Internet, convergence (services or infrastructure) and new services, such as over the top (OTT), on international telecommunication services and networks | [D.ConsumerOTT](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14123) Customer redress mechanism and consumer protection |
| [Q10/3](https://www.itu.int/en/ITU-T/studygroups/2017-2020/03/Pages/q10.aspx): Definition of relevant markets, competition policy and identification of operators with significant market power (SMP) as it relates to the economic aspects of the international telecommunication services and networks | [D.NumberPort](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14125) Recommendation ITU-T "Methodological guide for determining the impact of numerical portability on competition" |
| [Q12/3](https://www.itu.int/en/ITU-T/studygroups/2017-2020/03/Pages/q12.aspx): Tariffs, Economic and Policy Issues Pertaining to Mobile Financial Services (MFS) | [D.ConsumerMFS](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14129) Consumer Protection in Mobile Financial Services |
| [SG11](https://www.itu.int/en/ITU-T/studygroups/2017-2020/11/Pages/default.aspx) | [Q15/11](http://www.itu.int/en/ITU-T/studygroups/2017-2020/11/Pages/q15.aspx): Combating counterfeit and stolen ICT equipment | [TR-CF-QoS](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=15051) Impact of Counterfeit Mobile devices on Quality of Service;[TR-RLB-IMEI](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=15050) Reliability of IMEI identifier |
| [SG12](https://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/default.aspx) and **QSDG** | [Q1/12](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q1.aspx): SG12 work programme and quality of service/quality of experience (QoS/QoE) coordination in ITU-T | [Reports on coordination activities](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13757) Coordination of QoS/performance studies |
| [Q2/12](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q2.aspx): Definitions, guides and frameworks related to QoS/QoE | [HB-Guireg](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14120) Handbook providing guidance to regulators;[G.1000](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13771) Communications Quality of Service: A framework and definitions; [Suppl.G.NRA](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14957" \o "See more details) NRA and other stakeholders in the QoS matrix;[TR-QoS](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14119) TR (Manual) on Quality of Service (QoS);[P.10/G.100](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14118) Vocabulary for performance, quality of service and quality of experience |
| [Q7/12](https://www.itu.int/ITU-T/workprog/wp_block.aspx?isn=4158): Methods, tools and test plans for the subjective assessment of speech, audio and audiovisual quality interactions | [P.CLN](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13727) Cultural/language/nationality dependence of subjective quality |
| [Q12/12](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q12.aspx): Operational aspects of telecommunication network service quality | [E.RQUAL](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14043) Strategies to Establish Quality Measurement Frameworks;[E.NetPerfRank](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14042) Statistical Framework for QoE Centric Benchmarking Scoring and Ranking;[E.QoSMgtMod](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14357) QoS Management Model for Bridging the Gaps between QoS and QoE |
| [Q13/12](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q13.aspx): QoE, QoS and performance requirements and assessment methods for multimedia | [G.1032 (ex G.QoE-gaming)](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13777) Influence Factors on Gaming Quality of Experience |
| [SG20](https://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/default.aspx) | [Q7/20](http://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/q7.aspx): Evaluation and assessment of Smart Sustainable Cities and Communities | [Y.Sup.digi-inc](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14950) Guidelines for digital inclusion in the development of digital urban technology and smart cities |
| **ITU-D SG1**[Question 7/1](https://www.itu.int/md/D14-WTDC17-C-0115/): Access to telecommunication/ICT services by persons with disabilities and other persons with specific needs  |
| **ITU-T SG** | **ITU-T Question** | **Work items** |
| [SG12](https://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/default.aspx) | [Q3/12](https://www.itu.int/ITU-T/workprog/wp_block.aspx?isn=4154) Speech transmission and audio characteristics of communication terminals for fixed circuit-switched, mobile and packet-switched Internet protocol (IP) networks | [P.311](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13741) Transmission characteristics for wideband digital handset and headset telephones - Inclusion of extended wideband terminals;[P.341](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13740) Transmission characteristics for wideband digital loudspeaking and hands-free telephony terminals - Inclusion of extended wideband terminals |
| [Q5/12](https://www.itu.int/ITU-T/workprog/wp_block.aspx?isn=4156): Telephonometric methodologies for handset and headset terminals | [P.57](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13744) Artificial ears |
| [Q6/12](https://www.itu.int/ITU-T/workprog/wp_block.aspx?isn=4157) Analysis methods using complex measurement signals including their application for speech and audio enhancement techniques | [P.50](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13752) Artificial voices;[P.340](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13753) Transmission characteristics and speech quality parameters of hands-free terminals |
| [SG16](https://www.itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/default.aspx) | [Q24/16](http://itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q24.aspx): Human factors related issues for improvement of the quality of life through international telecommunications | [E.OKID](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13961) On-screen keyboards for ICT devices;[E.FAST](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13962) User interface for face-to-face speech translation considering human factors;[F.BaaS.HC.req](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=15024) Requirements of blockchain as a service (BaaS) for human-care services; [F.UI-SH](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14769) User interface requirements and framework for e-services based on speech/NLP technology |
| [Q26/16](http://itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q26.aspx): Accessibility to multimedia systems and services | [F.790](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13301) Telecommunications accessibility guidelines for older persons and persons with disabilities;[F.ACC-AS](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=15036) Framework for audio sign for persons with vision impairment;[F.ACC-ISSVReq](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14771) Requirements of information service systems for visually impaired persons;[F.CVR-PWN](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14346) Framework of cyber-vulnerability reduction for persons with disabilities and specific needs;[F.WAAD](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14436) Safety requirements for audio augmenting devices;[FSTP-ACC-AI](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=15037) Guideline on the use of AI for ICT accessibility;[FSTP-ACC-ALD](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=15038) Overview of assistive listening systems;[FSTP.Intl-Relay](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14348) International Relay Services;[H.ACC-GAD](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14438) Guidance on audio descriptions (New) (twin text of ISO/IEC TS 20071-21:2015, Information technology - User interface component accessibility - Part 21);[H.ACC-GAP](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14440) Guidance on the audio presentation of text in videos, including captions, subtitles and other on-screen text (New) (twin text of ISO/IEC 20071-25:2017, Information Technology - User interface component accessibility Part 25);[H.ACC-GVP](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14439) Guidance on the Visual presentation of audio information, including captions and subtitles (twin text of ISO/IEC DIS 20071-23, Information technology - User Interface component accessibility Part 23);[H.ACC-RCAD](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13273) Requirements for captioning and audio description for accessibility;[H.MD-DiDRR](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13320) Profile metadata for persons with specific needs as part of disability-inclusive disaster risk reduction;[HSTP.ACC-SL](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13272) Production guidelines for sign language service;[HSTP-ACC-Interop](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13271) Interoperability of digital audiovisual media accessibility;[HSTP.ACC-AUD](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13270) Technical Paper on Methods for improving the intelligibility of audio (or speech);[HSTP-ACC-UC](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13269) Multimedia accessible system use cases;[HSTP-AEHH](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13331) Audio enhancement for the hard-of-hearing;[H.702](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14772) Accessibility Profiles for IPTV |
| [Q28/16](http://itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q28.aspx): Multimedia framework for e-health applications | [FTSP.EH-DEV](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14081) Issues list for enhancing accessibility to e-health services and applications in developing countries |
| [SG20](https://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/default.aspx) | [Q2/20](http://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/q2.aspx): Requirements, capabilities, and use cases across verticals | [Y.Accessibility-IoT](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13697) Accessibility requirements for the Internet of things applications and services |

|  |
| --- |
| **ITU-D SG2** [Question 1/2](https://www.itu.int/md/D14-WTDC17-C-0115/): Creating the smart cities and society: Employing ICTs for sustainable social and economic development  |
| **ITU-T SG** | **ITU-T Question** | **Work items** |
| [SG2](https://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/default.aspx) | [Q1/2](http://www.itu.int/en/ITU-T/studygroups/2017-2020/02/Pages/q1.aspx): Application of numbering, naming, addressing and identification plans for fixed and mobile telecommunications services | [E.IoT-NNAI](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13968) Internet of Things Naming Numbering Addressing and Identifiers;[TR.IoTid](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14543) Technical report on overview of IoT schemes |
| [Q6/2](https://www.itu.int/en/ITU-T/studygroups/2017-2020/02/Pages/q6.aspx): Management architecture and security | [M.somm (ex M.inomsa)](https://www.itu.int/itu-t/workprog/wp_item.aspx?isn=14196): Framework of smart operation, management and maintenance |
| [SG3](https://www.itu.int/en/ITU-T/studygroups/2017-2020/03/Pages/default.aspx) | [Q3/3](http://www.itu.int/en/ITU-T/studygroups/2017-2020/03/Pages/q3.aspx): Study of economic and policy factors relevant to the efficient provision of international telecommunication services | [D.IoTpolicy](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14122) Guidelines on Tariff and regulatory aspects of Internet of Things (IoT) |
| [Q7/3](http://www.itu.int/en/ITU-T/studygroups/2017-2020/03/Pages/q7.aspx): International mobile roaming issues (including charging, accounting and settlement mechanisms and roaming at border areas | [D.IoTRoaming](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13516) Roaming for the Internet of Things (IoT) |
| [SG5](https://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/default.aspx) | [Q6/5](http://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/q6.aspx): Achieving energy efficiency and smart energy | [L.SM\_EN](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14535) Smart energy for cities and home applications;[L.SP\_OB](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14869) A methodology for improving, assessing and scoring the sustainability performance of office buildings;[L.SE\_BS](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14154) Smart energy solution for telecom base stations;[Suppl. EE for Smart Grid](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13879) Analysis of the energy efficiency of telecommunication services used for the needs of smart grid applications |
| [Q7/5](https://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/q7.aspx): Circular economy including e-waste | [L.CE\_Concepts](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13927) Circular Economy; Definitions and concepts for material efficiency for ICT;[L.CE\_Industry 4.0](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14878) Circular Economy and Industry 4.0; |
| [SG11](https://www.itu.int/en/ITU-T/studygroups/2017-2020/11/Pages/default.aspx) | [Q12/11](http://www.itu.int/en/ITU-T/studygroups/2017-2020/11/Pages/q12.aspx): Testing of Internet of things, its applications and identification systems | [Q.39\_FW\_Test\_ID\_IoT](https://www.itu.int/itu-t/workprog/wp_item.aspx?isn=13837) The framework of testing of identification systems used in IoT;[Q.FW\_IoT/Test](https://www.itu.int/itu-t/workprog/wp_item.aspx?isn=13818) Framework for IoT Testing; |
| [Q5/11](http://www.itu.int/en/ITU-T/studygroups/2017-2020/11/Pages/q5.aspx): Protocols and procedures supporting services provided by broadband network gateways | [Q.HET-GW](https://www.itu.int/itu-t/workprog/wp_item.aspx?isn=14732) Signalling protocol for Heterogeneous IoT gateways |
| [SG13](https://www.itu.int/en/ITU-T/studygroups/2017-2020/13/Pages/default.aspx) | [Q1/13](http://www.itu.int/en/ITU-T/studygroups/2017-2020/13/Pages/q1.aspx): Innovative services scenarios, deployment models and migration issues based on Future Networks | [Y.farms](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13635) Framework and application model for risk mitigation service based on networks;[Y.sfes](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14288) Smart Farming Education Service based on u-learning environment;[Y.smpp](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14287) Service model for the pre-production stage on Smart Farming;[Y.saic](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14747) Service model of the Agriculture Information based Convergence Service |
| [Q16/13](http://www.itu.int/en/ITU-T/studygroups/2017-2020/13/Pages/q16.aspx): Knowledge-centric trustworthy networking and services | [Y.STR](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14622) Socio-technical recommendations for contributing to socio-economic awareness |
| [SG15](https://www.itu.int/en/ITU-T/studygroups/2017-2020/15/Pages/default.aspx) | [Q18/15](http://www.itu.int/en/ITU-T/studygroups/2017-2020/15/Pages/q18.aspx): Broadband in-premises networking | [GSTP-SGTP](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14971) Smart Grid technical paper;[G.9992 (ex G.occ)](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14269) Indoor optical camera communication transceivers - System architecture, physical layer and data link layer specification |
| [SG16](https://www.itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/default.aspx) | [Q21/16](http://itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q21.aspx): Multimedia framework, applications and services | [F.745 Amd.1](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14495) Functional requirements for network-based speech-to-speech translation services: Support of automatic sign language generation;[F.746.4 (ex F.DICN-Reqs)](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13304) Requirements for deployment of information centric networks;[F.746.5 (ex H.LLS-FW)](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13302) Framework for language learning system based on speech/NLP technology;[F.747.9 (ex F.EMS-Arch)](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13276) Requirements and architecture for energy management services;[F.CCNMMS](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13262) Requirements and architecture for CCN-based mobile multimedia services;[F.NG-CDN](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14433) Service Requirements for the next generation content delivery networks |
| [Q24/16](http://itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q24.aspx): Human factors related issues for improvement of the quality of life through international telecommunications | [E.FAST](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13962) User interface for face-to-face speech translation considering human factors;[F.BaaS.HC.req](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=15024) Requirements of blockchain as a service (BaaS) for human-care services;[F.UI-SH](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14769) User interface requirements and framework for e-services based on speech/NLP technology |
| [Q27/16](http://itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q27.aspx): Vehicle gateway platform for telecommunication/ITS services and applications | [F.AUTO-TAX](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13294) Taxonomy for ICT-enabled motor vehicle automated driving systems;[HSTP-VG-Gap](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14079) Technical Paper: Gap Analysis of Vehicle Gateways defined by SDOs |
| [SG17](https://www.itu.int/en/ITU-T/studygroups/2017-2020/17/Pages/default.aspx) | [Q6/17](http://www.itu.int/en/ITU-T/studygroups/2017-2020/17/Pages/q6.aspx): Security aspects of telecommunication services, networks and Internet of Things | [X.amas-iot](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14783) Aggregate message authentication scheme with group authentication capability for IoT environment;[X.elf-iot](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14782) Standard format of IoT error logs for security incident operations;[X.ibc-iot](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14387) Security Framework for Use of Identity-Based Cryptography in Support of IoT Services over Telecom Networks;[X.iotsec-3](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14112) Technical framework of PII (Personally Identifiable Information) handling system in IoT environment;[X.iotsec-4](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14785) Security requirements for IoT devices and gateway;[X.nb-iot](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14386) Security Requirements and Framework for Narrow Band Internet of Things;[X.sc-iot](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14784) Security Controls for Internet of Things (IoT) systems;[X.secup-iot](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14385) Secure Software Update for IoT devices;[X.sgsec-3](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13586) Security guidelines for smart metering service in smart grids;[X.ssp-iot](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14599) Security Requirements and Framework for IoT Service Platform;[X.strvms](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14601) Security threats and requirements for video management system |
| [Q13/17](http://itu.int/en/ITU-T/studygroups/2017-2020/17/Pages/q13.aspx): Security aspects for Intelligent Transport System | [X.itssec-2](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13549) Security guidelines for V2X communication systems;[X.itssec-3](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14394) Security requirements for vehicle accessible external devices;[X.itssec-4](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14395) Methodologies for intrusion detection system on in-vehicle systems;[X.itssec-5](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14396) Security guidelines for vehicular edge computing;[X.mdcv](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14586) Security-related misbehaviour detection mechanism based on big data analysis for connected vehicles;[X.stcv](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14587) Security threats in connected vehicles |
| [SG20](https://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/default.aspx) | [Q1/20](http://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/q1.aspx): End to end connectivity, networks, interoperability, infrastructures and Big Data aspects related to IoT and SC&C | [Y.infra](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13673) Overview of city infrastructure;[Y.isms (ex Y.ism-ssc)](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13674) Technical framework for integrated sensing and management system; [Y.nmm-isms (ex Y.isw-ssc)](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13675" \o "See more details) The node metadata model for integrated sensing and management system; [Y.SC-OpenData](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13670) Framework of Open Data in Smart Cities |
| [Q2/20](http://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/q2.aspx): Requirements, capabilities, and use cases across verticals | [Supp.-Y.IoT Scenarios for Developing Countries](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13662) Scenarios of Implementing Internet of Things in networks of developing countries;[Y.Sup-IoT-Eco-Plan](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14647) Framework for Internet of things ecosystem master plan[Y.IoT-BPM-reqts-caps](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14497) Specific Requirements and Capabilities of the Internet of Things for Business Process Management;[Y.IoT-EC-reqts](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14499) IoT requirements for edge computing;[Y.IoT-ITS-framework](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13688) Framework of Cooperative Intelligent Transport Systems based on the Internet of Things;[Y.IoT-UAS-Reqts](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14303) Use cases, requirements and capabilities of unmanned aircraft systems for Internet of Things;[Y.SCC-Use-Cases](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14498) Use Cases of Smart Cities and Communities;[Y.SRC](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13704) Requirements for deployment of smart services in rural communities |
| [Q3/20](http://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/q3.aspx): Architectures, management, protocols and Quality of Service | [Supp-Y.IPv6-IoT](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13695) IPv6 Potential for the Internet of Things and Smart Cities;[Y.IoT-rmc](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14126) Reference architecture of accessing IoT resources for management and control;[Y.SSC-AISE-arc](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14503) Reference architecture of artificial intelligence service exposure for smart sustainable cities |
| [Q4/20](http://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/q4.aspx): e/Smart services, applications and supporting platforms | [Y.4456 (ex Y.SPL)](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13705) Requirements and Functional Architecture for Smart Parking Lot in Smart City;[Y.del-fw](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13676) Framework of delegation service for the IoT devices;[Y.energy-mMG](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14107) Application model for energy services on multiple microgrids;[Y.IoT-LISF](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14332) Lightweight intelligent software framework for IoT devices;[Y.ISG-fr](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13678) Framework of Smart Greenhouse Service;[Y.smart-evacuation](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14102) Framework of Smart Evacuation during emergencies in Smart Cities and Communities;[Y.social-device](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13655) Framework of the social device networking;[Y.STD](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13707) Functional Architecture for Management to Smart Tourist Destinations; |
| [Q5/20](http://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/q5.aspx): Research and emerging technologies, terminology and definitions | [Y.Sup.AI4IoT (ex TR.AI4IoT; Y.AI4SC)](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14103) Unlocking Internet of things with artificial intelligence: Where we are and where we could be;[Y.HEP](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13691) Framework for Home Environment Profiles and Levels of IoT Systems; |
| [Q6/20](http://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/q6.aspx): Security, privacy, trust and identification | [Y.API4IOT](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14297) Open data application programming interface (API) for IoT data in smart cities and communities |
| [Q7/20](http://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/q7.aspx): Evaluation and assessment of Smart Sustainable Cities and Communities | [Y.AFDTS](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14302) Assessment Framework for Digital Transformation of Sectors in Smart Cities;[Y.4904 (ex Y.SSC-MM)](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14301) Smart Sustainable Cities Maturity Model[Y.4903rev](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14951) Key performance indicators for smart sustainable cities to assess the achievement of sustainable development goals;[Y.Stra-SSC](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14948) Standards mapping assessment for smart sustainable city (SSC) strategy" |
| [JCA-IoT and SC&C](http://www.itu.int/en/ITU-T/jca/iot/Pages/default.aspx) | Joint Coordination Activity on Internet of Things and Smart Cities and Communities (JCA-IoT and SC&C) | [D.2r16](https://www.itu.int/ifa/t/sftp/jcaiot/DELIVERABLES/JCAIoTSSC-D-2r16_IoTandSCC%20roadmap-20170316.doc)- [IoT and SC&C standards roadmap](https://www.itu.int/net4/itu-t/roadmap%22%20%5Cl%20%22?topic=0.78&workgroup=1&searchValue=&page=1&sort=Revelance" \t "_blank) |
| **ITU-D SG2**[Question 2/2](https://www.itu.int/md/D14-WTDC17-C-0115/): Telecommunications/ICTs for eHealth  |
| **ITU-T SG** | **ITU-T Question** | **Work items** |
| [SG16](https://www.itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/default.aspx) | [Q28/16](http://itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q28.aspx): Multimedia framework for e-health applications | [F.MCDC (ex H.OPVQ)](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13295) Framework for in-flight and post-flight precautionary continuous monitoring for communicable disease control;[F.Med-UHD (ex HSTP.IPTV-MEH)](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13241) Framework for telemedicine systems using ultra-high definition imaging;[F.Med-VHN](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14349) Framework of Telemedicine Service based on Virtual Hospital Network;[F.Test-SLD](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=15039) Guidelines for safe listening devices/systems;[FSTP.UHD-Colour](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14907) Requirements on colorimetry for telemedicine systems using ultra-high definition imaging;[FTSP.EH-DEV](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14081) Issues list for enhancing accessibility to e-health services and applications in developing countries[FTSP.EH-DEV](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14081) Issues list for enhancing accessibility to e-health services and applications in developing countries;[H.HL-SM](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13313) Structure model for data exchange between heterogeneous health lifelog services;[HSTP.MBI-UC](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13321) Use-cases of e-health applications and services using brain data |
| [SG17](https://www.itu.int/en/ITU-T/studygroups/2017-2020/17/Pages/default.aspx) | [Q7/20](http://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/q7.aspx): Evaluation and assessment of Smart Sustainable Cities and Communities | [Y.IoT-EH-PFE](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13679) Performance evaluation frameworks of e-health systems in the IoT; |
| **ITU-D SG2** [Question 3/2](https://www.itu.int/md/D14-WTDC17-C-0115/): Securing information and communication networks: Best practices for developing a culture of cybersecurity  |
| **ITU-T SG** | **ITU-T Question** | **Work items** |
| [SG9](https://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/default.aspx) | [Q2/9](http://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/q2.aspx): Methods and practices for conditional access, protection against unauthorized copying and against unauthorized redistribution ("redistribution control" for digital cable television distribution to the home) | [J.oneway-dcas-part1](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14507) Downloadable Conditional Access System for Unidirectional Network; Requirements;[J.oneway-dcas-part2](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14933) Downloadable Conditional Access System for Unidirectional Network; System Architecture;[J.oneway-dcas-part3](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14934) Downloadable Conditional Access System for Unidirectional Network; Terminal System |
| [Q5/9](http://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/q5.aspx): Software components application programming interfaces (APIs), frameworks and overall software architecture for advanced content distribution services within the scope of Study Group 9 | [J.stvos-sec](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14923) The security of smart TV operating system |
| [SG11](https://www.itu.int/en/ITU-T/studygroups/2017-2020/11/Pages/default.aspx) | [Q2/11](https://www.itu.int/en/ITU-T/studygroups/2017-2020/11/Pages/q2.aspx): Signalling requirements and protocols for services and applications in emerging telecommunication environments | [Q.SR-Trust](https://www.itu.int/itu-t/workprog/wp_item.aspx?isn=14448) Signalling requirements and architecture for interconnection between trustable network entities |
| [SG13](https://www.itu.int/en/ITU-T/studygroups/2017-2020/13/Pages/default.aspx) | [Q16/13](http://www.itu.int/en/ITU-T/studygroups/2017-2020/13/Pages/q16.aspx): Knowledge-centric trustworthy networking and services | [Y.trust-index](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14279) Trust index for ICT infrastructures and services;[Y.SNS-trust](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14751) Framework for Evaluation of Trust and Quality of Media in Social Networking Services;[Y.trust-arch](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14749) Functional architecture for trust enabled service provisioning;[Y.trust-pdm](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14752) Framework for Trust based Personal Data Management Platform |
| [SG16](https://www.itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/default.aspx) | [Q26/16](http://itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q26.aspx): Accessibility to multimedia systems and services | [F.CVR-PWN](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14346) Framework of cyber-vulnerability reduction for persons with disabilities and specific needs |
| [SG17](https://www.itu.int/en/ITU-T/studygroups/2017-2020/17/Pages/default.aspx) | [Q1/17](http://www.itu.int/en/ITU-T/studygroups/2017-2020/17/Pages/q1.aspx): Telecommunication/ICT security coordination | [Security Roadmap](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14368) ICT security standards roadmap;[Security Compendium](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14369) Security compendium;[Security Manual](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14367) Security in Telecommunications and Information Technology, 7th edition;[XSTR-SUSS (ex X.TRsuss-rev)](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14370) Technical Report on Successful use of security standards |
| [Q2/17](http://www.itu.int/en/ITU-T/studygroups/2017-2020/17/Pages/q2.aspx): Security architecture and framework | [X.1043 (ex X.sdnsec-3)](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14110) Security guideline of Service Function Chain based on software defined network;[X.SDSec](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14558) Guideline on Software-defined Security in SDN (Software-defined Networking)/NFV (Network Fuction Virtualization) Network;[X.srnv](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14379) Security Requirements of Network Virtualization;[X.ssc](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14378) Security Service Chain Architecture; |
| [Q3/17](http://www.itu.int/en/ITU-T/studygroups/2017-2020/17/Pages/q3.aspx): Telecommunication information security management | [X.1052-rev](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14380) Organization information security management guideline;[X.1054-rev](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14381) Information technology - Security techniques - Governance of information security;[X.framcdc](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14559) Framework for the creation and operation of a Cyber Defence Center;[X.ciag](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=15000) Cyber insurance acquisition guideline for Information and Communication Technologies (ICT) services provider; |
| [Q4/17](http://www.itu.int/en/ITU-T/studygroups/2017-2020/17/Pages/q4.aspx): Cybersecurity | [X.fgati](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14561) Framework and Guidelines for Applying Threat Intelligence in Telecom Network Operation;[X.gcpie](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14560) Guidelines for Collection and Preservation of Cyber Security Incident Evidence;[X.ucstix](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14109) Use Cases for Structured Threat Information Expression (STIX™);[X.rdmase](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=15003) Requirements and Guidelines for Dynamic Malware Analysis in a Sandbox Environment |
| [Q5/17](http://www.itu.int/en/ITU-T/studygroups/2017-2020/17/Pages/q5.aspx): Countering spam by technical means | [X.gcims](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14384) Guidelines for countering instant messaging spam;[X.tecwes](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14563) Technologies in countering website spoofing for telecommunication organizations;[X.tfcas](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14111) Technical framework for countering advertising spam in user generated information;[X.tfcmms](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14781) Technical framework for countering Multimedia Messaging Service spam;[X.tsfpp](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14565) Technical security framework for the protection of users' personal information while countering mobile messaging spam |
| [Q6/17](http://www.itu.int/en/ITU-T/studygroups/2017-2020/17/Pages/q6.aspx): Security aspects of telecommunication services, networks and Internet of Things | [X.5Gsec-q](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14600) Security guidelines for applying quantum-safe algorithms in 5G systems;[X.5Gsec-t](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14786) Security framework based on trust relationship in 5G ecosystem;[X.ibc-iot](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14387) Security Framework for Use of Identity-Based Cryptography in Support of IoT Services over Telecom Networks;[X.iotsec-3](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14112) Technical framework of PII (Personally Identifiable Information) handling system in IoT environment;[X.nb-iot](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14386) Security Requirements and Framework for Narrow Band Internet of Things;[X.secup-iot](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14385) Secure Software Update for IoT devices;[X.sgsec-3](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13586) Security guidelines for smart metering service in smart grids;[X.ssp-iot](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14599) Security Requirements and Framework for IoT Service Platform;[X.amas-iot](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14783) Aggregate message authentication scheme with group authentication capability for IoT environment;[X.elf-iot](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14782) Standard format of IoT error logs for security incident operations;[X.iotsec-4](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14785) Security requirements for IoT devices and gateway;[X.sc-iot](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14784) Security Controls for Internet of Things (IoT) systems;[X.strvms](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14601) Security threats and requirements for video management system |
| [Q7/17](http://www.itu.int/en/ITU-T/studygroups/2017-2020/17/Pages/q7.aspx): Secure application services | [X.sfop](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14389) Security framework of open platform for FinTech services;[X.sgos](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14566) Security guidelines of Web-based online customer service;[X.tfss](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14388) Technical Framework for Security Services Provided by Operators |
| [Q8/17](http://www.itu.int/en/ITU-T/studygroups/2017-2020/17/Pages/q8.aspx): Cloud computing security | [X.GSBDaaS](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13591) Guidelines on security of Big Data as a Service;[X.sgBDIP](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14567) Security Guidelines for Big Data infrastructure and platform;[X.sgcc](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14788) Security guidelines for container in cloud computing environment;[X.sgdc](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=15008) Security guidelines for distributed cloud;[X.sgtBD](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14390) Security guidelines of lifecycle management for telecom Big Data;[X.SRIaaS](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13578) Security requirements of public infrastructure as a service (IaaS) in cloud computing;[X.sr-cphr](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=15009) Security requirements of cloud-based platform under low latency and high reliability application scenarios;[X.SRNaaS](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13590) Security requirements of Network as a Service (NaaS) in cloud computing |
| [Q9/17](http://www.itu.int/en/ITU-T/studygroups/2017-2020/17/Pages/q9.aspx): Telebiometrics | [X.tab](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13592) Telebiometric authentication using bio-signals;[X.tas](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14602) Telebiometric authentication using speaker recognition |
| [Q10/17](http://www.itu.int/en/ITU-T/studygroups/2017-2020/17/Pages/q10): Identity management architecture and mechanisms | [X.eaasd](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13593) Framework of enhanced authentication in telebiometric environments using anti-spoofing detection mechanisms |
| [Q11/17](http://www.itu.int/en/ITU-T/studygroups/2017-2020/17/Pages/q11.aspx): Generic technologies (Directory, public key infrastructure (PKI), privilege management infrastructure (PMI), Abstract Syntax Notation One (ASN.1), object identifiers (OIDs)) to support secure applications | [X.500-series-rev](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14272) Edition 9 of the X.500 Series; |
| [Q13/17](http://www.itu.int/en/ITU-T/studygroups/2017-2020/17/Pages/q13.aspx): Security aspects for Intelligent Transport System | [X.itssec-2](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13549) Security guidelines for V2X communication systems;[X.itssec-3](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14394) Security requirements for vehicle accessible external devices;[X.itssec-4](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14395) Methodologies for intrusion detection system on in-vehicle systems;[X.itssec-5](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14396) Security guidelines for vehicular edge computing;[X.mdcv](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14586) Security-related misbehaviour detection mechanism based on big data analysis for connected vehicles;[X.stcv](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14587) Security threats in connected vehicles |
| [Q14/17](http://www.itu.int/en/ITU-T/studygroups/2017-2020/17/Pages/q14.aspx): Security aspects for Distributed Ledger Technologies | [X.das-mgt](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14589) Security framework for data access and sharing management system based on distributed ledger technology;[X.dlt-sec](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14375) Security considerations for using distributed ledger technology data in identity management;[X.sa-dlt](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14376) Security assurance for distributed ledger technology;[X.sct-dlt](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14373) Security capabilities and threats of distributed ledger technology;[X.sra-dlt](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14371) Security framework for distributed ledger technology;[X.srip-dlt](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14821) Security requirements for intellectual property management based on distributed ledger technology;[X.ss-dlt](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14374) Security services based on distributed ledger technology;[X.stov](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14377) Security threats to online voting using distributed ledger technology;[X.str-dlt](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14372) Security threats and requirements for digital payment services based on distributed ledger technology;[X.tf-spd-dlt](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14590) Technical framework for secure software programme distribution mechanism based on distributed ledger technology |
| [SG20](https://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/default.aspx) | [Q3/20](http://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/q3.aspx): Architectures, management, protocols and Quality of Service | [Y.oneM2M.SEC.SOL](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14318) oneM2M Security Solutions |
| [Q6/20](http://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/q6.aspx): Security, privacy, trust and identification | [Y.IoT-IoD-PT](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13690) Identity of IoT devices, which is based on secure procedures and ensures privacy and trust of the used IoT systems;[Y.LPWA](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14298) Security, interoperability and identification aspects for Low Power Wide Area (LPWA) systems; |
| **ITU-D SG2**[Question 4/2](https://www.itu.int/md/D14-WTDC17-C-0115/): Assistance to developing countries for implementing conformance and interoperability (C&I) programmes and combating counterfeit ICT equipment and theft of mobile devices |
| **ITU-T SG** | **ITU-T Question** | **Work items** |
| [SG2](https://www.itu.int/en/ITU-T/studygroups/2017-2020/02/Pages/default.aspx) | [Q1/2](http://www.itu.int/en/ITU-T/studygroups/2017-2020/02/Pages/q1.aspx): Application of numbering, naming, addressing and identification plans for fixed and mobile telecommunications services | [E.A-N/GoC](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13949) Administrative procedures for ENUM for E.164 country codes and associated ICs for networks and GICs for groups of countries;[E.156](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13954) Guidelines for ITU-T action on reported misuse of E.164 number resources |
| [SG3](https://www.itu.int/en/ITU-T/studygroups/2017-2020/03/Pages/default.aspx) | [Q12/3](https://www.itu.int/en/ITU-T/studygroups/2017-2020/03/Pages/q12.aspx): Tariffs, Economic and Policy Issues Pertaining to Mobile Financial Services (MFS) | [D.InteropCompetition](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14131) Interoperability for Competition in Mobile Financial Services |
| [SG5](https://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/default.aspx) | [Q7/5](http://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/q7.aspx): Circular economy including e-waste | [L.Counterfeit](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14877) Adequate Assessment and Sensitisation on Counterfeit ICT Products and their Environmental Impact |
| [SG9](https://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/default.aspx) | [Q6/9](http://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/q6.aspx): Functional requirements for residential gateway and set-top box for the reception of advanced content distribution services | [J.acs-stb](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14927) Functional Requirements for interface between Auto Configuration Server (ACS) and STB |
| [SG11](https://www.itu.int/en/ITU-T/studygroups/2017-2020/11/Pages/default.aspx) | [Q9/11](http://www.itu.int/en/ITU-T/studygroups/2017-2020/11/Pages/q9.aspx): Service and networks benchmark testing, remote testing including Internet related performance measurements | [Q.3961 (ex Q.TM\_Int\_sp\_test)](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13819) Testing methodologies of Internet related performance measurements including e2e bit rate within the fixed and mobile operator's networks;[Q.SP-RT-NP](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14465) Signalling procedures for controlling probes used for remote testing of network parameters |
| [Q10/11](http://www.itu.int/en/ITU-T/studygroups/2017-2020/11/Pages/q10.aspx): Testing of emerging IMT-2020 technologies | [Q.4061 (ex Q.SDN-CT)](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14466) Framework of SDN controller testing;[Q.SDN-OFT](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14737) The compatibility testing of SDN-based equipment using OpenFlow protocol;[Guideline-TEST\_UE/MS](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14736) Guideline for general test procedure and specification for measurements of the LTE, 3G/2G user Equipment/mobile stations (UE/MS) for over-the-air performance testing;[Q.TP\_AR](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14738) Testing procedures of Augmented Reality applications |
| [Q11/11](http://www.itu.int/en/ITU-T/studygroups/2017-2020/11/Pages/q11.aspx): Protocols and networks test specifications; frameworks and methodologies | [Q.4013.1 v.1\_SI\_IBCF\_TS\_Part1](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13849) Testing of the IBCF requirements; (3GPP Release 12); Part 1: Protocol Implementation Conformance Statement (PICS);[Q.4013.2 v.1\_SI\_IBCF\_TS\_Part2](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13850) Core Network and Interoperability Testing (INT); Testing of the IBCF requirements; (3GPP Release 10); Part 2: Test Suite Structure and Test Purposes (TSS&TP);[Q.4014.1](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=15031) PSTN/ISDN terminal equipment using IP Multimedia core network subsystem; Conformance testing; Part 1: PICS;[Q.4014.2 v.1\_SI\_IAD\_TS\_Part2 (ex Q.39\_SI\_IAD\_TS\_Part2 v.1 [3GPP Release 10])](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13831) PSTN/ISDN terminal equipment using IP Multimedia core network subsystem; Conformance testing; Part 2: TSS&TP;[Q.TI-TEST](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14467) Framework of model network for Tactile Internet testing |
| [Q12/11](http://www.itu.int/en/ITU-T/studygroups/2017-2020/11/Pages/q12.aspx): Testing of Internet of things, its applications and identification systems | [Q.39\_FW\_Test\_ID\_IoT](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13837) The framework of testing of identification systems used in IoT;[Q.FW\_IoT/Test](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13818) Framework for IoT Testing; |
| [Q13/11](http://www.itu.int/en/ITU-T/studygroups/2017-2020/11/Pages/q13.aspx): Monitoring parameters for protocols used in emerging networks, including cloud computing and software-defined networking/network function virtualization (SDN/NFV) | [Q.SQM](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14468) Signalling requirements and architecture for the Internet service quality monitoring system;[Q.BNGP](https://www.itu.int/itu-t/workprog/wp_item.aspx?isn=14469) Set of parameters of vBNG for monitoring;[Q.PWS](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=15049) Parameters for evaluating bottleneck of web- browsing service |
| [Q14/11](http://www.itu.int/en/ITU-T/studygroups/2017-2020/11/Pages/q14.aspx): Cloud interoperability testing | [Q.wa-iop](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13839) Cloud Interoperability testing about Web Application;[Q.vs-iop-reqts](https://www.itu.int/itu-t/workprog/wp_item.aspx?isn=14605) Interoperability testing requirements of virtual switch  |
| [Q15/11:](http://www.itu.int/en/ITU-T/studygroups/2017-2020/11/Pages/q15.aspx) Combating counterfeit and stolen ICT equipment | [Q.FW\_CSM](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14058) Framework for Combating the use of Stolen Mobile ICT Devices;[TR-BP\_CF](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13827) Technical Report - Guidelines on Best Practice and Solutions for Combating Counterfeit ICT Devices;[TR-CF-QoS](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=15051) Impact of Counterfeit Mobile devices on Quality of Service |
| [SG12](https://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/default.aspx) | [Q1/12](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q1.aspx): SG12 work programme and quality of service/quality of experience (QoS/QoE) coordination in ITU-T | [Reports on coordination activities](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13757) Coordination of QoS/performance studies |
| [Q3/12](https://www.itu.int/ITU-T/workprog/wp_block.aspx?isn=4154) Speech transmission and audio characteristics of communication terminals for fixed circuit-switched, mobile and packet-switched Internet protocol (IP) networks | [P.DHIP](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13789) Technical requirements and test methods for the digital wired or wireless headset interface of mobile terminals |
| [SG16](https://www.itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/default.aspx) | [Q13/16](http://itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q13.aspx): Multimedia application platforms and end systems for IPTV | [HSTP.CONF-H764](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13250) Conformance testing specification for H.764 |
| [Q26/16](http://itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q26.aspx): Accessibility to multimedia systems and services | [HSTP.CONF-H702](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13322) Conformance testing specification for ITU-T H.702;[HSTP-ACC-Interop](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13271) Interoperability of digital audiovisual media accessibility |
| [Q28/16](http://itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q28.aspx): Multimedia framework for e-health applications | [H.812.5](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14441) Interoperability design guidelines for personal connected health systems: Services interface: FHIR observation upload;[HSTP-CONF-H870](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14906) Testing of personal audio systems for compliance with ITU-T H.870;[HSTP-H810-CAS](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14711) Conformance of ITU-T H.810 personal health system: Conformity Assessment Scheme |
| [SG20](https://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/default.aspx) | [Q6/20](http://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/q6.aspx): Security, privacy, trust and identification | [Y.IoT-DA-Counterfeit](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13702) Information Management Digital Architecture to combat counterfeiting in IoT;[Y.4459 (ex Y.IoT-Interop)](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13703) An architecture for IoT interoperability;[Y.IoT-IoD-PT](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13690) Identity of IoT devices based on secure procedures to enhance trust of IoT systems |
| **ITU-D SG2**[Question 5/2](https://www.itu.int/md/D14-WTDC17-C-0115/): Utilizing telecommunications/ICTs for disaster risk reduction and management  |
| **ITU-T SG** | **ITU-T Question** | **Work items** |
| [SG2](https://www.itu.int/en/ITU-T/studygroups/2017-2020/02/Pages/default.aspx) | [Q3/2](http://www.itu.int/en/ITU-T/studygroups/2017-2020/02/Pages/q3.aspx): Service and operational aspects of telecommunications, including service definition | [E.102 (ex E.TD-DR)](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13959) Terms and definitions for disaster relief systems, network resilience and recovery;[TR.CLE](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=15021) Identify call location for emergency service |
| [SG5](https://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/default.aspx) | [Q6/5](http://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/q6.aspx): Achieving energy efficiency and smart energy | [L.SES](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13931) Use of ICT sites to support environmental sensing |
| [SG11](https://www.itu.int/en/ITU-T/studygroups/2017-2020/11/Pages/default.aspx) | [Q3/11](https://www.itu.int/en/ITU-T/studygroups/2017-2020/11/Pages/q3.aspx): Signalling requirements and protocols for emergency telecommunications | [Q.ETN-DS](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14450) Signalling architecture of the fast deployment emergency telecommunication network to be used in a natural disaster;[Q.suppl.Multi\_Device\_ETS](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14451) Signalling requirements for VoLTE-based network and GSM/UMTS network supporting Multi-device emergency telecommunications service;[Q.Suppl.NGN\_pri\_interconnection](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14053) Signalling requirements for interconnection between NGN and GSM/UMTS networks supporting priority calls |
| [SG12](https://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/default.aspx) | [Q4/12](https://www.itu.int/ITU-T/workprog/wp_block.aspx?isn=4155) Objective methods for speech and audio evaluation in vehicles | [P.1140](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14344) Speech Quality Requirements for Emergency Calls |
| [SG16](https://www.itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/default.aspx) | [Q8/16](http://itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q8.aspx): Immersive live experience systems and services | [H.ILE-MMT](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14190) Service configuration, media transport protocols, signalling information of MMT for Immersive Live Experience systems |
| [Q14/16](http://itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q14.aspx): Digital signage systems and services | [H.DS-CASF](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13266) Digital signage: Common alerting service framework;[H.785.0](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13311) Digital signage: Requirements for disaster information services |
| [Q26/16](http://itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q26.aspx): Accessibility to multimedia systems and services | [H.MD-DiDRR](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13320) Profile metadata for persons with specific needs as part of disability-inclusive disaster risk reduction |
| [SG20](https://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/default.aspx) | [Q3/20](http://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/q3.aspx): Architectures, management, protocols and Quality of Service | [Y.AERS-msd](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14502) Minimum set of data structure for automotive emergency response system;[Y.AERS-mtp](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14501) Minimum set of data transfer protocol for automotive emergency response system; |
| [Q4/20](http://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/q4.aspx): e/Smart services, applications and supporting platforms | [Y.disaster\_notification](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14331) Framework of the disaster notification of the population in Smart Cities and Communities;[Y.smart-evacuation](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14102) Framework of Smart Evacuation during emergencies in Smart Cities and Communities; |
| **ITU-D SG2** [Question 6/2](https://www.itu.int/md/D14-WTDC17-C-0115/): ICTs and the environment |
| **ITU-T SG** | **ITU-T Question** | **Work items** |
| [SG5](https://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/default.aspx) | [Q6/5](http://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/q6.aspx): Achieving energy efficiency and smart energy | [L.SES](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13931) Use of ICT sites to support environmental sensing;[Suppl. Green ICT SLQ](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13914) Green ICT standards landscape questionnaires;[Suppl.BP\_EF](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14155) A Guideline on best practices and environment friendly policies for effective ICT deployment methods |
| [Q7/5](http://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/q7.aspx): Circular economy including e-waste | [L.ARCH\_EoL\_CE](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14540) Environmental Impact of architecture solutions with regards to End of Life and Circular Economy (CE);[L.AUVE](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14537) Effects of ICT enabled autonomy on vehicles longevity and waste creation; [L.CE\_Concepts (ex L.CE)](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13927" \o "See more details) Circular Economy; Definitions and concepts for material efficiency for ICT;[L.CE\_Industry 4.0](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14878) Circular Economy and Industry 4.0;[L.1015 (ex L.CEM)](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14160) Criteria for evaluation of the environmental impact of mobile phones;[L.Counterfeit](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14877) Adequate Assessment and Sensitisation on Counterfeit ICT Products and their Environmental Impact[L.ER](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14459) Guidelines and Accreditation for e- Waste Recyclers;[L.methodology\_arch](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14539) Methodology to assess the environmental impact of the different proposed architectures;[L.SEEQ](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14538) Effect for global ICT of the potential of selling Services instead of Equipment on the waste creation and environmental impacts;[L.SM\_B](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14875) Sustainable management of batteries resulting from ICT equipment |
| [Q8/5](https://www.itu.int/ITU-T/workprog/wp_block.aspx?isn=4123): Guides and terminology on environment and climate change | [Terminology Handbook](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13864) Extension of the Terminology Handbook to cover relevant L-series terminologies;[Terminology Handbook - web version](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13862) Web version of the Terminology Handbook;[Mitigation Handbook - Additional case studies](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13853) Additional case studies to be added |
| [Q9/5](http://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/q9.aspx): Climate change and assessment of information and communication technology (ICT) in the framework of the Sustainable Development Goals (SDGs) | [L.AI-Env\_effects](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14879) AI environmental effect on Networks goods and services;[L.Carbon-Neutrality](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14883) Carbon neutrality for organizations in the ICT sector;[L.Criticality-index](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14882) Rare metals criticality index;[L.MAAP](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14163) Methodology for assessing the aggregated positive sector-level impacts of ICT in other sectors;[L.microgrid\_assesement](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14161) Impact assessment of energy services on multiple microgrids;[L.TCFD](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14880) Application of the activities of the Task Force on Climate-related Financial Disclosures in the ICT sector |
| [SG11](https://www.itu.int/en/ITU-T/studygroups/2017-2020/11/Pages/default.aspx) | [Q3/11](https://www.itu.int/en/ITU-T/studygroups/2017-2020/11/Pages/q3.aspx): Signalling requirements and protocols for emergency telecommunications | [Q.suppl.ETS\_Multi\_Access](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14904) Signalling requirements for IMS emergency telecommunications service in support of multiple accesses;[Q.ETN-DS](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14450) Signalling architecture of the fast deployment emergency telecommunication network to be used in a natural disaster;[Q.suppl.Multi\_Device\_ETS](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14451) Signalling requirements for VoLTE-based network and GSM/UMTS network supporting Multi-device emergency telecommunications service |
| [SG20](https://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/default.aspx) | [Q2/20](http://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/q2.aspx): Requirements, capabilities, and use cases across verticals | [Y.SEM](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13706) Requirements and capability framework of Smart Environmental Monitoring |
| [Q4/20](http://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/q4.aspx): e/Smart services, applications and supporting platforms | [Y.ISG-fr](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13678) [Y.ISG-fr](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=13678) Framework of Smart Greenhouse Service |
| **ITU-D SG2** [Question 7/2](https://www.itu.int/md/D14-WTDC17-C-0115/): Strategies and policies concerning human exposure to electromagnetic fields  |
| **ITU-T SG** | **ITU-T Question** | **Work items** |
| [SG5](https://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/default.aspx) | [Q3/5](http://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/q3.aspx): Human exposure to electromagnetic fields (EMFs) from information and communication technologies (ICTs) | [K.peak](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14666) Comparison between peak and real exposure in the long term considerations;[K.reflection](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14667) Impact of the metallic structures for the EMF exposure level;[K.Small](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14668) Small base stations - impact on the overall exposure level;[K.workers (ex K.dosimeter)](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14665) Assessment and management of compliance with RF EMF exposure limits for workers at radiocommunication sites;[KSTR.EMF\_assess](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=14862) Case studies of RF-EMF assessments |

**Table 4 – List of ITU-T Questions which could be related to ITU-D Questions even in the absence of relevant ITU-T working items**

| **ITU-D SG1**[**Question 1/1**](https://www.itu.int/net4/ITU-D/CDS/sg/rgqlist.asp?lg=1&sp=2018&rgq=D18-SG01-RGQ01.1&stg=1)**: Strategies and policies for the deployment of broadband in developing countries** |
| --- |
| **ITU-T SG** | **ITU-T Question** |
| [SG2](https://www.itu.int/en/ITU-T/studygroups/2017-2020/02/Pages/default.aspx) | [Q2/2](https://www.itu.int/en/ITU-T/studygroups/2017-2020/02/Pages/q2.aspx): Routing and interworking plan for fixed and mobile networks |
| [Q3/2](https://www.itu.int/en/ITU-T/studygroups/2017-2020/02/Pages/q3.aspx): Service and operational aspects of telecommunications, including service definition |
| [Q5/2](https://www.itu.int/en/ITU-T/studygroups/2017-2020/02/Pages/q5.aspx): Requirements, priorities and planning for telecommunication management and operation, administration and maintenance (OAM) Recommendations |
| [Q6/2](https://www.itu.int/en/ITU-T/studygroups/2017-2020/02/Pages/q6.aspx): Management architecture and security |
| [SG3](https://www.itu.int/en/ITU-T/studygroups/2017-2020/03/Pages/default.aspx) | [Q2/3](http://www.itu.int/en/ITU-T/studygroups/2017-2020/03/Pages/q2.aspx): Development of charging and accounting/settlement mechanisms for international telecommunications services, other than those studied in Question 1/3, including adaptation of existing D-series Recommendations to the evolving user needs |
| [Q4/3](http://www.itu.int/en/ITU-T/studygroups/2017-2020/03/Pages/q4.aspx): Regional studies for the development of cost models together with related economic and policy issues |
| [Q10/3](https://www.itu.int/en/ITU-T/studygroups/2017-2020/03/Pages/q10.aspx): Definition of relevant markets, competition policy and identification of operators with significant market power (SMP) as it relates to the economic aspects of the international telecommunication |
| [Q11/3](http://www.itu.int/en/ITU-T/studygroups/2017-2020/03/Pages/q11.aspx): Economic and policy aspects of big data and digital identity in international telecommunications services and networks |
| [SG5](https://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/default.aspx) | [Q9/5](https://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/q9.aspx): Climate change and assessment of information and communication technology (ICT) in the framework of the Sustainable Development Goals (SDGs) |
| [SG9](https://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/default.aspx) | [Q4/9](http://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/q4.aspx): Guidelines for implementations and deployment of transmission of multichannel digital television signals over optical access networks |
| [Q5/9](http://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/q5.aspx): Software components application programming interfaces (APIs), frameworks and overall software architecture for advanced content distribution services within the scope of Study Group 9 |
| [Q8/9](http://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/q8.aspx): The Internet protocol (IP) enabled multimedia applications and services for cable television networks enabled by converged platforms |
| [Q9/9](http://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/q9.aspx): Requirements, methods, and interfaces of the advanced service platforms to enhance the delivery of sound, television, and other multimedia interactive services over cable television network |
| [SG11](https://www.itu.int/en/ITU-T/studygroups/2017-2020/11/Pages/default.aspx) | Q4/11: Protocols for control, management and orchestration of network resources |
| Q5/11: Protocols and procedures supporting services provided by broadband network gateways |
| Q10/11: Testing of emerging IMT-2020 technologies |
| Q11/11: Protocols and networks test specifications; frameworks and methodologies |
| Q13/11: Monitoring parameters for protocols used in emerging networks, including cloud computing and software-defined networking/network function virtualization (SDN/NFV) |
| [Q14/11](http://www.itu.int/en/ITU-T/studygroups/2017-2020/11/Pages/q14.aspx): Cloud interoperability testing |
| [Q15/11](http://www.itu.int/en/ITU-T/studygroups/2017-2020/11/Pages/q15.aspx): Combating counterfeit and stolen ICT equipment |
| [SG12](https://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/default.aspx)[QSDG](https://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/QSDG.aspx) | [Q1/12](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q1.aspx): SG12 work programme and quality of service/quality of experience (QoS/QoE) coordination in ITU-T |
| [Q9/12](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q9.aspx): Perceptual-based objective methods for voice, audio and visual quality measurements in telecommunication services |
| [Q14/12](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q14.aspx): Development of models & tools for multimedia quality assessment of packet-based video |
| [Q17/12](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q17.aspxhttp%3A/www.itu.int/en/ITU-T/studygroups/2013-2016/12/Pages/q17.aspx): Performance of packet-based networks and other networking technologies |
| [SG13](https://www.itu.int/en/ITU-T/studygroups/2017-2020/13/Pages/default.aspx) | [Q5/13](http://www.itu.int/en/ITU-T/studygroups/2017-2020/13/Pages/q5.aspx): Applying networks of future and innovation in developing countries |
| [Q7/13](http://www.itu.int/en/ITU-T/studygroups/2017-2020/13/Pages/q7.aspx): Big data driven networking (bDDN) and Deep packet inspection (DPI) |
| [SG15](https://www.itu.int/en/ITU-T/studygroups/2017-2020/15/Pages/default.aspx) | [Q1/15](http://www.itu.int/en/ITU-T/studygroups/2017-2020/15/Pages/q1.aspx): Coordination of access and home network transport standards |
| [Q2/15](http://www.itu.int/en/ITU-T/studygroups/2017-2020/15/Pages/q2.aspx): Optical systems for fibre access networks |
| [Q4/15](http://www.itu.int/en/ITU-T/studygroups/2017-2020/15/Pages/q4.aspx): Broadband access over metallic conductors |
| [Q16/15](http://www.itu.int/en/ITU-T/studygroups/2017-2020/15/Pages/q16.aspx): Optical physical infrastructures |
| [Q18/15](http://www.itu.int/en/ITU-T/studygroups/2017-2020/15/Pages/q18.aspx): Broadband in-premises networking |
| [SG16](https://www.itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/default.aspx) | [Q1/16](http://itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q1.aspx): Multimedia coordination |
| [Q11/16](http://itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q11.aspx): Multimedia systems, terminals, gateways and data conferencing |
| [SG20](https://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/default.aspx) | [Q1/20](http://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/q1.aspx): End to end connectivity, networks, interoperability, infrastructures and Big Data aspects related to IoT and SC&C |
| [Q4/20](http://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/q4.aspx): e/Smart services, applications and supporting platforms |
| [Q5/20](http://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/q5.aspx): Research and emerging technologies, terminology and definitions |
| [Q6/20](http://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/q6.aspx): Security, privacy, trust and identification |
| [Q7/20](http://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/q7.aspx): Evaluation and assessment of Smart Sustainable Cities and Communities |
|  |
| **ITU-D SG1**[**Question 2/1**](https://www.itu.int/net4/ITU-D/CDS/sg/rgqlist.asp?lg=1&sp=2018&rgq=D18-SG01-RGQ02.1&stg=1)**: Strategies, policies, regulations and methods of migration and adoption of digital broadcasting and implementation of new services** |
| [SG2](https://www.itu.int/en/ITU-T/studygroups/2017-2020/02/Pages/default.aspx) | [Q3/2](https://www.itu.int/en/ITU-T/studygroups/2017-2020/02/Pages/q3.aspx): Service and operational aspects of telecommunications, including service definition |
| SG11 | Q12/11: Testing of Internet of things, its applications and identification systems |
| Q14:/11: Cloud interoperability testing |
| [SG12](https://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/default.aspx) | [Q1/12](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q1.aspx): SG12 work programme and quality of service/quality of experience (QoS/QoE) coordination in ITU-T |
| [Q9/12](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q9.aspx): Operational aspects of telecommunication network service quality |
| [Q14/12](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q14.aspx): Development of models and tools for multimedia quality assessment of packet-based video services |
| [SG16](https://www.itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/default.aspx) | [Q1/16](http://itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q1.aspx): Multimedia coordination |
|  |
| **ITU-D SG1**[**Question 3/1**](https://www.itu.int/net4/ITU-D/CDS/sg/rgqlist.asp?lg=1&sp=2018&rgq=D18-SG01-RGQ03.1&stg=1)**: Emerging technologies, including cloud computing: m-services, and OTTs: Challenges and opportunities, economic and policy impact for developing countries** |
| [SG2](https://www.itu.int/en/ITU-T/studygroups/2017-2020/02/Pages/default.aspx) | [Q1/2](http://www.itu.int/en/ITU-T/studygroups/2017-2020/02/Pages/q1.aspx): Application of numbering, naming, addressing and identification plans for fixed and mobile telecommunications services |
| [Q3/2](https://www.itu.int/en/ITU-T/studygroups/2017-2020/02/Pages/q3.aspx): Service and operational aspects of telecommunications, including service definition |
| [Q5/2](https://www.itu.int/en/ITU-T/studygroups/2017-2020/02/Pages/q5.aspx): Requirements, priorities and planning for telecommunication management and operation, administration and maintenance (OAM) Recommendations |
| [Q7/2](https://www.itu.int/en/ITU-T/studygroups/2017-2020/02/Pages/q7.aspx): Interface specifications and specification methodology |
| [SG5](https://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/default.aspx) | [Q6/5](http://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/q6.aspx): Achieving energy efficiency and smart energy |
| [Q9/5](https://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/q9.aspx): Climate change and assessment of information and communication technology (ICT) in the framework of the Sustainable Development Goals (SDGs) |
|  |  |
| [SG12](https://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/default.aspx) | [Q1/12](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q1.aspx): SG12 work programme and quality of service/quality of experience (QoS/QoE) coordination in ITU-T |
| [SG13](https://www.itu.int/en/ITU-T/studygroups/2017-2020/13/Pages/default.aspx) | [Q1/13](https://www.itu.int/en/ITU-T/studygroups/2017-2020/13/Pages/q1.aspx): Innovative services scenarios, deployment models and migration issues based on Future Networks |
| [SG15](https://www.itu.int/en/ITU-T/studygroups/2017-2020/15/Pages/default.aspx) | [Q1/15](http://www.itu.int/en/ITU-T/studygroups/2017-2020/15/Pages/q1.aspx): Coordination of access and home network transport standards |
| [SG20](https://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/default.aspx) | [Q1/20](http://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/q1.aspx): End to end connectivity, networks, interoperability, infrastructures and Big Data aspects related to IoT and SC&C |
| [Q7/20](http://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/q7.aspx): Evaluation and assessment of Smart Sustainable Cities and Communities |
|  |
| **ITU-D SG1**[**Question 4/1**](https://www.itu.int/net4/ITU-D/CDS/sg/rgqlist.asp?lg=1&sp=2018&rgq=D18-SG01-RGQ04.1&stg=1https://www.itu.int/md/D14-WTDC17-C-0115/)**: Economic policies and methods of determining the costs of services related to national telecommunication/ICT networks** |
| [SG3](https://www.itu.int/en/ITU-T/studygroups/2017-2020/03/Pages/default.aspx) | [Q11/3](http://www.itu.int/en/ITU-T/studygroups/2017-2020/03/Pages/q11.aspx): Economic and policy aspects of big data and digital identity in international telecommunications services and networks |
|  |
| **ITU-D SG1**[**Question 5/1**](https://www.itu.int/net4/ITU-D/CDS/sg/rgqlist.asp?lg=1&sp=2018&rgq=D18-SG01-RGQ05.1&stg=1)**: Telecommunications/ICTs for rural and remote areas** |
| [SG3](https://www.itu.int/en/ITU-T/studygroups/2017-2020/03/Pages/default.aspx) | [Q1/3](http://www.itu.int/en/ITU-T/studygroups/2017-2020/03/Pages/q1.aspx): Development of charging and accounting/settlement mechanisms for international telecommunications services using the next-generation networks (NGNs), future networks, and any possible future development, including adaptation of existing D-series Recommendations to the evolving user needs |
| [SG5](https://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/default.aspx) | [Q2/5](https://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/q2.aspx): Equipment resistibility and protective components |
| [Q4/5](https://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/q4.aspx): Electromagnetic compatibility (EMC) issues arising in the telecommunication environment |
| [Q6/5](http://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/q6.aspx): Achieving energy efficiency and smart energy |
| [Q7/5](https://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/q7.aspx): Circular economy including e-waste |
| [Q9/5](https://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/q9.aspx) Climate change and assessment of information and communication technology (ICT) in the framework of the Sustainable Development Goals (SDGs) |
| SG11 | Q9/11: Service and networks benchmark testing, remote testing including Internet related performance measurements |
| Q12/11: Testing of Internet of things, its applications and identification systems |
| Q13/11: Monitoring parameters for protocols used in emerging networks, including cloud computing and software-defined networking/network function virtualization (SDN/NFV) |
| Q14:/11: Cloud interoperability testing |
| [SG12](https://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/default.aspx) | [Q1/12](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q1.aspx): SG12 work programme and quality of service/quality of experience (QoS/QoE) coordination in ITU-T |
| [Q2/12](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q2.aspx): Definitions, guides and frameworks related to QoS/QoE |
| [SG15](https://www.itu.int/en/ITU-T/studygroups/2017-2020/15/Pages/default.aspx) | [Q1/15](http://www.itu.int/en/ITU-T/studygroups/2017-2020/15/Pages/q1.aspx): Coordination of access and home network transport standards |
| [Q16/15](http://www.itu.int/en/ITU-T/studygroups/2017-2020/15/Pages/q16.aspx): Optical physical infrastructures |
| [SG16](https://www.itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/default.aspx) | [Q1/16](http://itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q1.aspx): Multimedia coordination |
| [Q13/16](http://itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q13.aspx): Multimedia application platforms and end systems for IPTV |
| [Q26/16](http://itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q26.aspx): Accessibility to multimedia systems and services |
| [Q28/16](http://itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q28.aspx): Multimedia framework for e-health applications |
| [SG20](https://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/default.aspx) | [Q1/20](http://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/q1.aspx): End to end connectivity, networks, interoperability, infrastructures and Big Data aspects related to IoT and SC&C |
| [Q3/20](http://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/q3.aspx): Architectures, management, protocols and Quality of Service |
| [Q4/20](http://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/q4.aspx): e/Smart services, applications and supporting platforms |
| [Q5/20](http://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/q5.aspx): Research and emerging technologies, terminology and definitions |
| [Q6/20](http://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/q6.aspx): Security, privacy, trust and identification |
| [Q7/20](http://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/q7.aspx): Evaluation and assessment of Smart Sustainable Cities and Communities |
|  |
| **ITU-D SG1**[**Question 6/1**](https://www.itu.int/net4/ITU-D/CDS/sg/rgqlist.asp?lg=1&sp=2018&rgq=D18-SG01-RGQ06.1&stg=1)**: Consumer information, protection and rights: Laws, regulation, economic bases, consumer networks** |
| [SG3](https://www.itu.int/en/ITU-T/studygroups/2017-2020/03/Pages/default.aspx) | [Q7/3](https://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/q3.aspx): International mobile roaming issues (including charging, accounting and settlement mechanisms and roaming at border areas |
| [Q8/3](https://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/q8.aspx): Alternative calling procedures and misappropriation and misuse of facilities and services including calling line identification (CLI), calling party number delivery (CPND) and origin identification (OI) |
| [Q11/3](https://www.itu.int/en/ITU-T/studygroups/2017-2020/03/Pages/q11.aspx): Economic and policy aspects of big data and digital identity in international telecommunications services and networks |
| [SG5](https://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/default.aspx) | [Q7/5](//www.itu.int/net4/ITU-T/lists/loqr.aspx?Group=5&Period=16): Circular economy including e-waste |
| [SG11](https://www.itu.int/en/ITU-T/studygroups/2017-2020/11/Pages/default.aspx) | [Q15/11](http://www.itu.int/en/ITU-T/studygroups/2017-2020/11/Pages/q15.aspx): Combating counterfeit and stolen ICT equipment |
| [SG12](https://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/default.aspx) and QSDG | [Q1/12](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q1.aspx): SG12 work programme and quality of service/quality of experience (QoS/QoE) coordination in ITU-T |
| [SG16](https://www.itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/default.aspx) | [Q1/16](http://itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q1.aspx): Multimedia coordination |
| [Q24/16](http://itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q24.aspx): Human factors related issues for improvement of the quality of life through international telecommunications |
| [Q26/16](http://itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q26.aspx): Accessibility to multimedia systems and services |
| [SG20](https://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/default.aspx) | [Q1/20](http://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/q1.aspx): End to end connectivity, networks, interoperability, infrastructures and Big Data aspects related to IoT and SC&C |
| [Q4/20](http://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/q4.aspx): e/Smart services, applications and supporting platforms |
| [Q5/20](http://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/q5.aspx): Research and emerging technologies, terminology and definitions |
| [Q6/20](http://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/q6.aspx): Security, privacy, trust and identification |
|  |
| **ITU-D SG1**[**Question 7/1**](https://www.itu.int/net4/ITU-D/CDS/sg/rgqlist.asp?lg=1&sp=2018&rgq=D18-SG01-RGQ07.1&stg=1)**: Access to telecommunication/ICT services by persons with disabilities and other persons with specific needs** |
| [SG5](https://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/default.aspx) | [Q2/5](https://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/q2.aspx): Equipment resistibility and protective components |
| [Q6/5](http://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/q6.aspx): Achieving energy efficiency and smart energy |
| [Q7/5](https://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/q7.aspx): Circular economy including e-waste |
| [Q9/5](https://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/q9.aspx) Climate change and assessment of information and communication technology (ICT) in the framework of the Sustainable Development Goals (SDGs) |
| [SG9](https://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/default.aspx) | [Q6/9](http://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/q6.aspx): Functional requirements for residential gateway and set-top box for the reception of advanced content distribution services |
| [SG12](https://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/default.aspx) | [Q1/12](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q1.aspx): SG12 work programme and quality of service/quality of experience (QoS/QoE) coordination in ITU-T |
| [Q2/12](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q2.aspx): Definitions, guides and frameworks related to QoS/QoE |
| [SG16](https://www.itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/default.aspx) | [Q1/16](http://itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q1.aspx): Multimedia coordination |
| [SG20](https://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/default.aspx) | [Q1/20](http://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/q1.aspx): End to end connectivity, networks, interoperability, infrastructures and Big Data aspects related to IoT and SC&C |
| [Q4/20](http://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/q4.aspx): e/Smart services, applications and supporting platforms |
|  |
| **ITU-D SG2**[**Question 1/2**](https://www.itu.int/net4/ITU-D/CDS/sg/rgqlist.asp?lg=1&sp=2018&rgq=D18-SG02-RGQ01.2&stg=2)**: Creating the smart cities and society: Employing ICTs for sustainable social and economic development** |
| [SG2](https://www.itu.int/en/ITU-T/studygroups/2017-2020/02/) | [Q6/2](http://www.itu.int/en/ITU-T/studygroups/2017-2020/02/Pages/q6.aspx): Management architecture and security |
| [SG5](https://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/default.aspx) | [Q9/5](http://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/q9.aspx): Climate change and assessment of information and communication technology (ICT) in the framework of the Sustainable Development Goals (SDGs) |
| SG11 | Q5/11: Protocols and procedures supporting services provided by broadband network gateways |
| Q9/11: Service and networks benchmark testing, remote testing including Internet related performance measurements |
| Q10/11: Testing of emerging IMT-2020 technologies |
| Q11/11: Protocols and networks test specifications; frameworks and methodologies |
| Q13/11: Monitoring parameters for protocols used in emerging networks, including cloud computing and software-defined networking/network function virtualization (SDN/NFV) |
| Q14/11: Cloud interoperability testing |
| Q15/11: Combating counterfeit and stolen ICT equipment |
| [SG12](https://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/default.aspx) | [Q1/12](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q1.aspx): SG12 work programme and quality of service/quality of experience (QoS/QoE) coordination in ITU-T |
| [Q2/12](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q2.aspx): Definitions, guides and frameworks related to QoS/QoE |
| [SG15](https://www.itu.int/en/ITU-T/studygroups/2017-2020/15/Pages/default.aspx) | [Q1/15](http://www.itu.int/en/ITU-T/studygroups/2017-2020/15/Pages/q1.aspx): Coordination of access and home network transport standards |
| [SG16](https://www.itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/default.aspx) | [Q1/16](http://itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q1.aspx): Multimedia coordination |
| [Q13/16](http://itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q13.aspx): Multimedia application platforms and end systems for IPTV |
| [Q26/16](http://itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q26.aspx): Accessibility to multimedia systems and services |
| [Q28/16](http://itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q28.aspx): Multimedia framework for e-health applications |
|  |
| **ITU-D SG2**[**Question 2/2**](https://www.itu.int/md/D14-WTDC17-C-0115/)**: Telecommunications/ICTs for eHealth** |
| [SG11](https://www.itu.int/en/ITU-T/studygroups/2017-2020/11/Pages/default.aspx) | [Q1/11](http://www.itu.int/en/ITU-T/studygroups/2017-2020/11/Pages/q1.aspx): Signalling and protocol architectures in emerging telecommunication environments and guidelines for implementations |
| [SG12](https://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/default.aspx) | [Q1/12](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q1.aspx): SG12 work programme and quality of service/quality of experience (QoS/QoE) coordination in ITU-T |
| [Q2/12](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q2.aspx): Definitions, guides and frameworks related to QoS/QoE |
| [SG13](https://www.itu.int/en/ITU-T/studygroups/2017-2020/13/Pages/default.aspx) | [Q2/13](http://www.itu.int/en/ITU-T/studygroups/2017-2020/13/Pages/q2.aspx): Next-generation network (NGN) evolution with innovative technologies including software-defined networking (SDN) and network function virtualization (NFV) |
| [SG15](https://www.itu.int/en/ITU-T/studygroups/2017-2020/15/Pages/default.aspx) | [Q1/15](http://www.itu.int/en/ITU-T/studygroups/2017-2020/15/Pages/q1.aspx): Coordination of access and home network transport standards |
| [SG16](https://www.itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/default.aspx) | [Q1/16](http://itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q1.aspx): Multimedia coordination |
| [SG20](https://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/default.aspx) | [Q5/20](http://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/q5.aspx): Research and emerging technologies, terminology and definitions |
|  |
| **ITU-D SG2**[**Question 3/2**](https://www.itu.int/md/D14-WTDC17-C-0115/)**: Securing information and communication networks: Best practices for developing a culture of cybersecurity** |
| [SG2](https://www.itu.int/en/ITU-T/studygroups/2017-2020/02/Pages/default.aspx) | [Q6/2](https://www.itu.int/en/ITU-T/studygroups/2017-2020/02/Pages/q6.aspx): Management architecture and security |
| [SG5](https://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/default.aspx) | [Q5/5](https://www.itu.int/net4/ITU-T/lists/loqr.aspx?Group=5&Period=16): Security and reliability of information and communication technology (ICT) systems from electromagnetic and particle radiations |
| [SG11](https://www.itu.int/en/ITU-T/studygroups/2017-2020/11/Pages/default.aspx) | [Q2/11](https://www.itu.int/en/ITU-T/studygroups/2017-2020/11/Pages/q2.aspx): Signalling requirements and protocols for services and applications in emerging telecommunication environments |
| [SG15](https://www.itu.int/en/ITU-T/studygroups/2017-2020/15/Pages/default.aspx) | [Q1/15](http://www.itu.int/en/ITU-T/studygroups/2017-2020/15/Pages/q1.aspx): Coordination of access and home network transport standards |
|  |
| **ITU-D SG2**[**Question 4/2**](https://www.itu.int/net4/ITU-D/CDS/sg/rgqlist.asp?lg=1&sp=2018&rgq=D18-SG02-RGQ04.2&stg=2)**: Assistance to developing countries for implementing conformance and interoperability (C&I) programmes and combating counterfeit ICT equipment and theft of mobile devices** |
| [SG2](https://www.itu.int/en/ITU-T/studygroups/2017-2020/02/Pages/default.aspx) | [Q3/2](https://www.itu.int/en/ITU-T/studygroups/2017-2020/02/Pages/q3.aspx): Service and operational aspects of telecommunications, including service definition |
| [Q7/2](https://www.itu.int/en/ITU-T/studygroups/2017-2020/02/Pages/q7.aspx): Interface specifications and specification methodology |
| [SG5](https://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/default.aspx) | [Q2/5](https://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/q2.aspx): Equipment resistibility and protective components |
| [Q3/5](http://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/q3.aspx): Human exposure to electromagnetic fields (EMFs) from information and communication technologies (ICTs) |
| [Q4/5](https://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/q4.aspx): Electromagnetic compatibility (EMC) issues arising in the telecommunication environment |
| [Q6/5](http://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/q6.aspx): Achieving energy efficiency and smart energy |
| [Q9/5](http://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/q9.aspx): Climate change and assessment of information and communication technology (ICT) in the framework of the Sustainable Development Goals (SDGs) |
|  |
| **ITU-D SG2**[**Question 5/2**](https://www.itu.int/md/D14-WTDC17-C-0115/)**: Utilizing telecommunications/ICTs for disaster risk reduction and management** |
| [SG5](https://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/default.aspx) | [Q9/5](https://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/q9.aspx): Climate change and assessment of information and communication technology (ICT) in the framework of the Sustainable Development Goals (SDGs) |
| [SG9](https://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/default.aspx) | [Q8/9](http://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/q8.aspx): The Internet protocol (IP) enabled multimedia applications and services for cable television networks enabled by converged platforms |
| [SG12](https://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/default.aspx) | [Q1/12](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q1.aspx): SG12 work programme and quality of service/quality of experience (QoS/QoE) coordination in ITU-T |
| [Q2/12](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q2.aspx): Definitions, guides and frameworks related to QoS/QoE |
| [SG13](https://www.itu.int/en/ITU-T/studygroups/2017-2020/13/Pages/default.aspx) | [Q2/13](http://www.itu.int/en/ITU-T/studygroups/2017-2020/13/Pages/q2.aspx): Next-generation network (NGN) evolution with innovative technologies including software-defined networking (SDN) and network function virtualization (NFV) |
| [SG15](https://www.itu.int/en/ITU-T/studygroups/2017-2020/15/Pages/default.aspx) | [Q1/15](http://www.itu.int/en/ITU-T/studygroups/2017-2020/15/Pages/q1.aspx): Coordination of access and home network transport standards |
| [Q16/15](http://www.itu.int/en/ITU-T/studygroups/2017-2020/15/Pages/q16.aspx): Optical physical infrastructures |
| [SG16](https://www.itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/default.aspx) | [Q1/16](http://itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q1.aspx): Multimedia coordination |
| [Q11/16](http://itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q11.aspx): Multimedia systems, terminals, gateways and data conferencing |
| [SG17](https://www.itu.int/en/ITU-T/studygroups/2017-2020/17/Pages/default.aspx) | [Q4/17](http://www.itu.int/en/ITU-T/studygroups/2017-2020/17/Pages/q4.aspx): Cybersecurity |
|  |
| **ITU-D SG2**[**Question 6/2**](https://www.itu.int/net4/ITU-D/CDS/sg/rgqlist.asp?lg=1&sp=2018&rgq=D18-SG02-RGQ06.2&stg=2)**: ICTs and the environment** |
| [SG20](https://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/default.aspx) | [Q5/20](http://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/q5.aspx): Research and emerging technologies, terminology and definitions |
|  |
| **ITU-D SG2**[**Question 7/2**](https://www.itu.int/net4/ITU-D/CDS/sg/rgqlist.asp?lg=1&sp=2018&rgq=D18-SG02-RGQ07.2&stg=2)**: Strategies and policies concerning human exposure to electromagnetic fields** |
| [SG20](https://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/default.aspx) | [Q2/20](http://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/q2.aspx): Requirements, capabilities, and use cases across verticals |

**Matching of ITU-R WPs of interest to ITU-T study groups**

Amendments herein reflect:

* TSAG-ILS TD342 from ITU-R Study Group 1 (5 July 2018)
* TSAG-ILS TD350 from ITU-T SG11 (27 July 2018)
* TSAG-ILS TD352 from ITU-R WPs 3J, 3K, 3L and 3M (2 July 2018)
* TSAG-ILS TD353 from ITU-R WP 5A, 5B and 5C (31 May 2018)
* TSAG ILS TD367 from ITU-R Working Parties (WPs) 7A, 7B, 7C and 7D (25 September 2018)
* TSAG ILS TD372, TSAG ILS TD373, and TSAG ILS TD378 from ITU-T SG5 (21 September 2018)
* TSAG ILS TD386r1 from ITU-T SG15 (19 October 2018)
* TSAG ILS TD402 from ITU-T SG9 (28 November 2018)
* ITU-T CIR 112 (12 September 2018).

**Table 5 – ITU-R WPs vis-à-vis ITU-T Questions**

ITU-R SG 1 Working Parties 1A, 1B, and 1C vis-à-vis ITU-T Questions

| [WP 1A](https://www.itu.int/go/ITU-R/wp1a): Spectrum engineering techniques |
| --- |
| ITU-T SG | ITU-T SG Questions |
| [SG5](https://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/default.aspx) | [Q3/5](http://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/q3.aspx): Human exposure to electromagnetic fields (EMFs) from information and communication technologies (ICTs)Note: The exposure limits for EMF fields are developed by the [International Commission on Non-Ionizing Radiation Protection (ICNIRP)](http://www.icnirp.org/) - a non-governmental organization formally recognized by WHO.[Q4/5](http://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/q4.aspx): Electromagnetic compatibility (EMC) issues arising in the telecommunication environment[Q6/5](https://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/q6.aspx): Achieving energy efficiency and smart energy |
| [SG15](https://www.itu.int/en/ITU-T/studygroups/2017-2020/15/Pages/default.aspx) | [Q1/15](http://www.itu.int/en/ITU-T/studygroups/2017-2020/15/Pages/q1.aspx): Coordination of access and home network transport standards[Q4/15](http://www.itu.int/en/ITU-T/studygroups/2017-2020/15/Pages/q4.aspx): Broadband access over metallic conductors[Q15/15](http://www.itu.int/en/ITU-T/studygroups/2017-2020/15/Pages/q15.aspx): Communications for smart grid[Q18/15](http://www.itu.int/en/ITU-T/studygroups/2017-2020/15/Pages/q18.aspx): Broadband in-premises networking |

| [WP 1B](https://www.itu.int/go/ITU-R/wp1b): Spectrum management methodologies and economic strategies |
| --- |
| ITU-T SG | ITU-T SG Questions |
| [SG3](https://www.itu.int/en/ITU-T/studygroups/2017-2020/03/Pages/default.aspx) | [Q2/3](http://www.itu.int/en/ITU-T/studygroups/2017-2020/03/Pages/q2.aspx): Development of charging and accounting/settlement mechanisms for international telecommunications services, other than those studied in Question 1/3, including adaptation of existing D-series Recommendations to the evolving user needs[Q3/3](http://www.itu.int/en/ITU-T/studygroups/2017-2020/03/Pages/q3.aspx): Study of economic and policy factors relevant to the efficient provision of international telecommunication services[Q4/3](http://www.itu.int/en/ITU-T/studygroups/2017-2020/03/Pages/q4.aspx): Regional studies for the development of cost models together with related economic and policy issues |
| [SG5](https://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/default.aspx) | [Q6/5](https://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/q6.aspx): Achieving energy efficiency and smart energy[Q9/5](https://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/q9.aspx): Climate change and assessment of information and communication technology (ICT) in the framework of the Sustainable Development Goals (SDGs) |
| [SG13](https://www.itu.int/en/ITU-T/studygroups/2017-2020/13/Pages/default.aspx) | [Q2/13](https://www.itu.int/net4/ITU-T/lists/loqr.aspx?Group=13&Period=16): Next-generation network (NGN) evolution with innovative technologies including software-defined networking (SDN) and network function virtualization (NFV)[Q21/13](https://www.itu.int/net4/ITU-T/lists/loqr.aspx?Group=13&Period=21): Network softwarization including software-defined networking, network slicing and orchestration |
| [SG20](https://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/default.aspx) | [Q5/20](http://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/q5.aspx): Research and emerging technologies, terminology and definitions[Q7/20](https://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/q7.aspx): Evaluation and assessment of Smart Sustainable Cities and Communities |

| [WP 1C](https://www.itu.int/go/ITU-R/wp1c): Spectrum monitoring |
| --- |
| ITU-T SG | ITU-T SG Questions |
| [SG5](https://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/default.aspx) | [Q3/5](http://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/q3.aspx): Human exposure to electromagnetic fields (EMFs) from information and communication technologies (ICTs) |
| [SG9](https://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/default.aspx) | [Q1/9](http://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/q1.aspx): Transmission and delivery control of television and sound programme signal for contribution, primary distribution and secondary distribution |

ITU-R SG 3 Working Parties 3J, 3K, 3L, 3M vis-à-vis ITU-T Questions

| [WP 3J](https://www.itu.int/go/ITU-R/wp3j): Propagation fundamentals |
| --- |
| ITU-T SG | ITU-T SG Questions |
| [SG9](https://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/default.aspx) | [Q10/9](http://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/q10.aspx): Work programme, coordination and planning |

| [WP 3K](https://www.itu.int/go/ITU-R/wp3k): Point-to-area propagation |
| --- |
| ITU-T SG | ITU-T SG Questions |
| [SG9](https://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/default.aspx) | [Q10/9](http://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/q10.aspx): Work programme, coordination and planning |

| [WP 3L](https://www.itu.int/go/ITU-R/wp3l): Ionospheric propagation and radio noise |
| --- |
| ITU-T SG | ITU-T SG Questions |
| [SG9](https://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/default.aspx) | [Q10/9](http://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/q10.aspx): Work programme, coordination and planning |

| [WP 3M](https://www.itu.int/go/ITU-R/wp3m): Point-to-point and Earth-space propagation |
| --- |
| ITU-T SG | ITU-T SG Questions |
| [SG9](https://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/default.aspx) | [Q10/9](http://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/q10.aspx): Work programme, coordination and planning |

ITU-R SG 4 Working Parties 4A, 4B, 4C vis-à-vis ITU-T Questions

| [WP 4A](https://www.itu.int/go/ITU-R/wp4a): Efficient orbit/spectrum utilization for FSS and BSS |
| --- |
| ITU-T SG | ITU-T SG Questions |
| [SG5](https://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/default.aspx) | [Q3/5](http://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/q3.aspx): Human exposure to electromagnetic fields (EMFs) from information and communication technologies (ICTs) |
| [SG9](https://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/default.aspx) | [Q1/9](http://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/q1.aspx): Transmission and delivery control of television and sound programme signal for contribution, primary distribution and secondary distribution[Q7/9](http://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/q7.aspx): Cable television delivery of digital services and applications that use Internet protocol (IP) and/or packet-based data over cable networks |

| [WP 4B](https://www.itu.int/go/ITU-R/wp4b): Systems, air interfaces, performance and availability objectives for FSS, BSS and MSS, including IP-based applications and satellite news gathering |
| --- |
| ITU-T SG | ITU-T SG Questions |
| [SG12](https://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/default.aspx) | [Q1/12](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q1.aspx): SG12 work programme and quality of service/quality of experience (QoS/QoE) coordination in ITU-T[Q12/12](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q12.aspx): Operational aspects of telecommunication network service quality[Q17/12](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q17.aspx): Performance of packet-based networks and other networking technologies |
| [SG13](https://www.itu.int/en/ITU-T/studygroups/2017-2020/13/Pages/default.aspx) | [Q5/13](http://www.itu.int/en/ITU-T/studygroups/2017-2020/13/Pages/q5.aspx): Applying networks of future and innovation in developing countries[Q23/13](http://www.itu.int/en/ITU-T/studygroups/2017-2020/13/Pages/q23.aspx): Fixed-Mobile Convergence including IMT-2020 |
| [SG16](https://www.itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/default.aspx) | [Q1/16](http://itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q1.aspx): Multimedia coordination[Q13/16](http://itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q13.aspx): Multimedia application platforms and end systems for IPTV |
| [SG20](https://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/default.aspx) | [Q1/20](http://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/q1.aspx): End to end connectivity, networks, interoperability, infrastructures and Big Data aspects related to IoT and SC&C[Q2/20](http://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/q2.aspx): Requirements, capabilities, and use cases across verticals[Q3/20](http://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/q3.aspx): Architectures, management, protocols and Quality of Service[Q4/20](http://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/q4.aspx): e/Smart services, applications and supporting platforms[Q6/20](http://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/q6.aspx): Security, privacy, trust and identification |

| [WP 4C](https://www.itu.int/go/ITU-R/wp4c): Efficient orbit/spectrum utilization for MSS and RDSS \*\* WP 4C will also deal with the performance issues related to RDSS |
| --- |
| ITU-T SG | ITU-T SG Questions |
| [SG2](https://www.itu.int/en/ITU-T/studygroups/2017-2020/02/Pages/default.aspx) | [Q3/2](http://www.itu.int/en/ITU-T/studygroups/2017-2020/02/Pages/q3.aspx): Service and operational aspects of telecommunications, including service definition |
| [SG9](https://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/default.aspx) | [Q10/9](http://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/q10.aspx): Work programme, coordination and planning |
| [SG16](https://www.itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/default.aspx) | [Q1/16](http://itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q1.aspx): Multimedia coordination[Q24/16](http://itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q24.aspx): Human factors related issues for improvement of the quality of life through international telecommunications |

ITU-R SG 5 Working Parties 5A, 5B, 5C, 5D vis-à-vis ITU-T Questions

| [WP 5A](https://www.itu.int/go/ITU-R/wp5a): Land mobile service above 30 MHz\* (excluding IMT); wireless access in the fixed service; amateur and amateur-satellite services |
| --- |
| ITU-T SG | ITU-T SG Questions |
| [SG5](https://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/default.aspx) | [Q3/5](http://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/q3.aspx): Human exposure to electromagnetic fields (EMFs) from information and communication technologies (ICTs) |
| [SG2](https://www.itu.int/en/ITU-T/studygroups/2017-2020/02/Pages/default.aspx) | [Q1/2](http://www.itu.int/en/ITU-T/studygroups/2017-2020/02/Pages/q1.aspx): Application of numbering, naming, addressing and identification plans for fixed and mobile telecommunications services |
| [SG12](https://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/default.aspx) | [Q1/12](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q1.aspx): SG12 work programme and quality of service/quality of experience (QoS/QoE) coordination in ITU-T[Q12/12](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q12.aspx): Operational aspects of telecommunication network service quality[Q17/12](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q17.aspx): Performance of packet-based networks and other networking technologies |
| [SG13](https://www.itu.int/en/ITU-T/studygroups/2017-2020/13/Pages/default.aspx) | [Q5/13](http://www.itu.int/en/ITU-T/studygroups/2017-2020/13/Pages/q5.aspx): Applying networks of future and innovation in developing countries[Q16/13](http://www.itu.int/en/ITU-T/studygroups/2017-2020/13/Pages/q16.aspx): Knowledge-centric trustworthy networking and services[Q23/13](http://www.itu.int/en/ITU-T/studygroups/2017-2020/13/Pages/q23.aspx): Fixed-Mobile Convergence including IMT-2020 |
| [SG15](https://www.itu.int/en/ITU-T/studygroups/2017-2020/15/Pages/default.aspx) | [Q15/15](http://www.itu.int/en/ITU-T/studygroups/2017-2020/15/Pages/q15.aspx): Communications for smart grid |
| [SG16](https://www.itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/default.aspx) | [Q1/16](http://itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q1.aspx): Multimedia coordination[Q24/16](http://itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q24.aspx): Human factors related issues for improvement of the quality of life through international telecommunications[Q27/16](http://itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q27.aspx): Vehicle gateway platform for telecommunication/ITS services and applications |
| [SG17](https://www.itu.int/en/ITU-T/studygroups/2017-2020/17/Pages/default.aspx) | [Q6/17](http://www.itu.int/en/ITU-T/studygroups/2017-2020/17/Pages/q6.aspx): Security aspects of telecommunication services, networks, and Internet of Things[Q13/17](http://itu.int/en/ITU-T/studygroups/2017-2020/17/Pages/q13.aspx): Security aspects for Intelligent Transport System |
| [SG20](https://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/default.aspx) | [Q1/20](http://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/q1.aspx): End to end connectivity, networks, interoperability, infrastructures and Big Data aspects related to IoT and SC&C[Q2/20](http://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/q2.aspx): Requirements, capabilities, and use cases across verticals[Q3/20](http://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/q3.aspx): Architectures, management, protocols and Quality of Service[Q4/20](http://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/q4.aspx): e/Smart services, applications and supporting platforms[Q6/20](http://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/q6.aspx): Security, privacy, trust and identification |

| [WP 5B](https://www.itu.int/go/ITU-R/wp5b): Maritime mobile service including Global Maritime Distress and Safety System (GMDSS); aeronautical mobile service and radiodetermination service |
| --- |
| ITU-T SG | ITU-T SG Questions |
| [SG2](https://www.itu.int/en/ITU-T/studygroups/2017-2020/02/Pages/default.aspx) | [Q1/2](http://www.itu.int/en/ITU-T/studygroups/2017-2020/02/Pages/q1.aspx): Application of numbering, naming, addressing and identification plans for fixed and mobile telecommunications services |
| [SG5](https://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/default.aspx) | [Q3/5](http://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/q3.aspx): Human exposure to electromagnetic fields (EMFs) from information and communication technologies (ICTs)[Q9/5](https://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/q9.aspx): Climate change and assessment of information and communication technology (ICT) in the framework of the Sustainable Development Goals (SDGs) |

| [WP 5C](https://www.itu.int/go/ITU-R/wp5c): Fixed wireless systems; HF and other systems below 30 MHz in the fixed and land mobile services |
| --- |
| ITU-T SG | ITU-T SG Questions |
| [SG2](https://www.itu.int/en/ITU-T/studygroups/2017-2020/02/Pages/default.aspx) | [Q3/2](http://www.itu.int/en/ITU-T/studygroups/2017-2020/02/Pages/q3.aspx): Service and operational aspects of telecommunications, including service definition |
| [SG5](https://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/default.aspx) | [Q3/5](http://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/q3.aspx): Human exposure to electromagnetic fields (EMFs) from information and communication technologies (ICTs) |
| [SG9](https://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/default.aspx) | [Q10/9](http://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/q10.aspx): Work programme, coordination and planning |
| [SG12](https://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/default.aspx) | [Q1/12](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q1.aspx): SG12 work programme and quality of service/quality of experience (QoS/QoE) coordination in ITU-T[Q12/12](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q12.aspx): Operational aspects of telecommunication network service quality[Q17/12](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q17.aspx): Performance of packet-based networks and other networking technologies |
| [SG13](https://www.itu.int/en/ITU-T/studygroups/2017-2020/13/Pages/default.aspx) | [Q5/13](http://www.itu.int/en/ITU-T/studygroups/2017-2020/13/Pages/q5.aspx): Applying networks of future and innovation in developing countries[Q16/13](http://www.itu.int/en/ITU-T/studygroups/2017-2020/13/Pages/q16.aspx): Knowledge-centric trustworthy networking and services[Q20/13](http://www.itu.int/en/ITU-T/studygroups/2017-2020/13/Pages/q20.aspx): IMT-2020: Network requirements and functional architecture[Q23/13](http://www.itu.int/en/ITU-T/studygroups/2017-2020/13/Pages/q23.aspx): Fixed-Mobile Convergence including IMT-2020 |
| [SG15](https://www.itu.int/en/ITU-T/studygroups/2017-2020/15/Pages/default.aspx) | [Q1/15](http://www.itu.int/en/ITU-T/studygroups/2017-2020/15/Pages/q1.aspx): Coordination of access and home network transport standards[Q4/15](http://www.itu.int/en/ITU-T/studygroups/2017-2020/15/Pages/q4.aspx): Broadband access over metallic conductors |

| [WP 5D](https://www.itu.int/go/ITU-R/wp5d): IMT Systems |
| --- |
| ITU-T SG | ITU-T SG Questions |
| [SG5](https://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/default.aspx) | [Q2/5](https://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/q2.aspx): Equipment resistibility and protective components[Q3/5](https://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/q3.aspx): Human exposure to electromagnetic fields (EMFs) from information and communication technologies (ICTs)[Q4/5](https://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/q4.aspx): Electromagnetic compatibility (EMC) issues arising in the telecommunication environment[Q6/5](https://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/q6.aspx): Achieving energy efficiency and smart energy |
| [SG9](https://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/default.aspx) | [Q1/9](http://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/q1.aspx): Transmission and delivery control of television and sound programme signal for contribution, primary distribution and secondary distribution[Q7/9](http://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/q7.aspx): Cable television delivery of digital services and applications that use Internet protocol (IP) and/or packet-based data over cable networks[Q10/9](http://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/q10.aspx): Work programme, coordination and planning |
| [SG11](https://www.itu.int/en/ITU-T/studygroups/2017-2020/11/Pages/default.aspx) | [Q6/11](http://www.itu.int/en/ITU-T/studygroups/2017-2020/11/Pages/q6.aspx): Protocols supporting control and management technologies for IMT-2020[Q7/11:](https://www.itu.int/en/ITU-T/studygroups/2017-2020/11/Pages/q7.aspx) Signalling requirements and protocols for network attachment including mobility and resource management for future networks and IMT-2020[Q8/11](https://www.itu.int/en/ITU-T/studygroups/2017-2020/11/Pages/q8.aspx): Protocols supporting distributed content networking and information centric network (ICN) for future networks and IMT-2020, including end-to-end multi-party communications[Q10/11](http://www.itu.int/en/ITU-T/studygroups/2017-2020/11/Pages/q10.aspx): Testing of emerging IMT-2020 technologies |
| [SG12](https://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/default.aspx) | [Q7/12](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q7.aspx): Methods, tools and test plans for the subjective assessment of speech, audio and audiovisual quality interactions[Q9/12](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q9.aspx): Perceptual-based objective methods for voice, audio and visual quality measurements in telecommunication services[Q10/12](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q10.aspx): Conferencing and telemeeting assessment[Q13/12](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q13.aspx): Quality of experience (QoE), quality of service (QoS) and performance requirements and assessment methods for multimedia[Q14/12](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q14.aspx): Development of models and tools for multimedia quality assessment of packet-based video services[Q17/12](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q17.aspx): Performance of packet-based networks and other networking technologies |
| [SG13](https://www.itu.int/en/ITU-T/studygroups/2017-2020/13/Pages/default.aspx) | [Q5/13](http://www.itu.int/en/ITU-T/studygroups/2017-2020/13/Pages/q5.aspx): Applying networks of future and innovation in developing countries[Q16/13](http://www.itu.int/en/ITU-T/studygroups/2017-2020/13/Pages/q16.aspx): Knowledge-centric trustworthy networking and services[Q20/13](http://www.itu.int/en/ITU-T/studygroups/2017-2020/13/Pages/q20.aspx): IMT-2020: Network requirements and functional architecture[Q23/13](http://www.itu.int/en/ITU-T/studygroups/2017-2020/13/Pages/q23.aspx): Fixed-Mobile Convergence including IMT-2020 |
| [SG15](https://www.itu.int/en/ITU-T/studygroups/2017-2020/15/Pages/default.aspx) | [Q1/15](http://www.itu.int/en/ITU-T/studygroups/2017-2020/15/Pages/q1.aspx): Coordination of access and home network transport standards[Q4/15](http://www.itu.int/en/ITU-T/studygroups/2017-2020/15/Pages/q4.aspx): Broadband access over metallic conductors[Q12/15: Transport network architectures](https://www.itu.int/en/ITU-T/studygroups/2017-2020/15/Pages/q12.aspx) |
| [SG16](https://www.itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/default.aspx) | [Q1/16](http://itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q1.aspx): Multimedia coordination[Q13/16](http://itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q13.aspx): Multimedia application platforms and end systems for IPTV[Q21/16](http://itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q21.aspx): Multimedia framework, applications and services |
| [SG17](https://www.itu.int/en/ITU-T/studygroups/2017-2020/17/Pages/default.aspx) | [Q6/17](http://www.itu.int/en/ITU-T/studygroups/2017-2020/17/Pages/q6.aspx): Security aspects of telecommunication services, networks, and Internet of Things |
| [SG20](https://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/default.aspx) | [Q1/20](http://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/q1.aspx): End to end connectivity, networks, interoperability, infrastructures and Big Data aspects related to IoT and SC&C[Q2/20](http://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/q2.aspx): Requirements, capabilities, and use cases across verticals[Q3/20](http://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/q3.aspx): Architectures, management, protocols and Quality of Service[Q4/20](http://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/q4.aspx): e/Smart services, applications and supporting platforms[Q5/20](http://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/q5.aspx): Research and emerging technologies, terminology and definitions[Q6/20](http://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/q6.aspx): Security, privacy, trust and identification[Q7/20](http://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/q7.aspx): Evaluation and assessment of Smart Sustainable Cities and Communities |

ITU-R SG 6 Working Parties 6A, 6B, 6C vis-à-vis ITU-T Questions

| [WP 6A](https://www.itu.int/go/ITU-R/wp6a): Terrestrial broadcasting delivery |
| --- |
| ITU-T SG | ITU-T SG Questions |
| [SG5](https://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/default.aspx) | [Q3/5](http://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/q3.aspx): Human exposure to electromagnetic fields (EMFs) from information and communication technologies (ICTs) |
| [SG9](https://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/default.aspx) | [Q1/9](http://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/q1.aspx): Transmission and delivery control of television and sound programme signal for contribution, primary distribution and secondary distribution[Q7/9](http://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/q7.aspx): Cable television delivery of digital services and applications that use Internet protocol (IP) and/or packet-based data over cable networks[Q10/9](http://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/q10.aspx): Work programme, coordination and planning |
| [SG15](https://www.itu.int/en/ITU-T/studygroups/2017-2020/15/Pages/default.aspx) | [Q1/15](http://www.itu.int/en/ITU-T/studygroups/2017-2020/15/Pages/q1.aspx): Coordination of access and home network transport standards[Q4/15](http://www.itu.int/en/ITU-T/studygroups/2017-2020/15/Pages/q4.aspx): Broadband access over metallic conductors[Q15/15](http://www.itu.int/en/ITU-T/studygroups/2017-2020/15/Pages/q15.aspx): Communications for Smart Grid[Q18/15](http://www.itu.int/en/ITU-T/studygroups/2017-2020/15/Pages/q18.aspx): Broadband in-premises networking |

| [WP 6B](https://www.itu.int/go/ITU-R/wp6b): Broadcast service assembly and access |
| --- |
| ITU-T SG | ITU-T SG Questions |
| [SG9](https://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/default.aspx) | [Q1/9](http://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/q1.aspx): Transmission and delivery control of television and sound programme signal for contribution, primary distribution and secondary distribution[Q2/9](http://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/q2.aspx): Methods and practices for conditional access, protection against unauthorized copying and against unauthorized redistribution ("redistribution control" for digital cable television distribution to the home)[Q5/9](http://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/q5.aspx): Software components application programming interfaces (APIs), frameworks and overall software architecture for advanced content distribution services within the scope of Study Group 9[Q7/9](http://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/q7.aspx): Cable television delivery of digital services and applications that use Internet protocol (IP) and/or packet-based data over cable networks[Q8/9](https://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/q8.aspx): The Internet protocol (IP) enabled multimedia applications and services for cable television networks enabled by converged platforms |
| [SG12](https://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/default.aspx) | [Q13/12](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q13.aspx): Quality of experience (QoE), quality of service (QoS) and performance requirements and assessment methods for multimedia[Q17/12](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q17.aspx): Performance of packet-based networks and other networking technologies |
| [SG13](https://www.itu.int/en/ITU-T/studygroups/2017-2020/13/Pages/default.aspx) | [Q2/13](http://www.itu.int/en/ITU-T/studygroups/2017-2020/13/Pages/q2.aspx): Next-generation network (NGN) evolution with innovative technologies including software-defined networking (SDN) and network function virtualization (NFV) |
| [SG15](https://www.itu.int/en/ITU-T/studygroups/2017-2020/15/Pages/default.aspx) | [Q1/15](https://www.itu.int/en/ITU-T/studygroups/2017-2020/15/Pages/q1.aspx): Coordination of Access and Home Network Transport Standards[Q4/15](https://www.itu.int/en/ITU-T/studygroups/2017-2020/15/Pages/q4.aspx): Broadband access over metallic conductors[Q12/15](https://www.itu.int/en/ITU-T/studygroups/2017-2020/15/Pages/q12.aspx): Transport network architectures[Q18/15](https://www.itu.int/en/ITU-T/studygroups/2017-2020/15/Pages/q18.aspx): Broadband in-premises networking |
| [SG16](https://www.itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/default.aspx) | [Q1/16](http://itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q1.aspx): Multimedia coordination[Q6/16](https://www.itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q6.aspx): Visual coding[Q8/16](http://itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q8.aspx): Immersive live experience systems and services[Q13/16](http://itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q13.aspx): Multimedia application platforms and end systems for IPTV |

| [WP 6C](https://www.itu.int/go/ITU-R/wp6c): Programme production and quality assessment |
| --- |
| ITU-T SG | ITU-T SG Questions |
| [SG12](https://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/default.aspx) | [Q7/12](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q7.aspx): Methods, tools and test plans for the subjective assessment of speech, audio and audiovisual quality interactions[Q9/12](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q9.aspx): Perceptual-based objective methods for voice, audio and visual quality measurements in telecommunication services[Q14/12](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q14.aspx): Development of models and tools for multimedia quality assessment of packet-based video services[Q18/12](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q18.aspx): Measurement and control of the end-to-end quality of service (QoS) for advanced television technologies, from image acquisition to rendering, in contribution, primary distribution and secondary distribution networks[Q19/12](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q19.aspx): Objective and subjective methods for evaluating perceptual audiovisual quality in multimedia services |
| [SG16](https://www.itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/default.aspx) | [Q1/16](http://itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q1.aspx): Multimedia coordination[Q8/16](https://www.itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q8.aspx): Immersive live experience systems and services[Q26/16](https://www.itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q26.aspx): Accessibility to multimedia systems and services |

| **Inter-Sector Rapporteur Groups** |
| --- |
| [SG9](https://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/default.aspx)[SG16](https://www.itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/default.aspx) | [IRG-AVA](https://www.itu.int/en/irg/ava/Pages/default.aspx): Intersector Rapporteur Group Audiovisual Media Accessibility[Q1/16](http://itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q1.aspx): Multimedia coordination |
| [SG9](https://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/default.aspx)[SG12](https://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/default.aspx) | [IRG-AVQA](http://www.itu.int/en/irg/avqa/Pages/default.aspx): Intersector Rapporteur Group Audiovisual Quality Assessment |
| [SG9](https://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/default.aspx)[SG16](https://www.itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/default.aspx) | [IRG-IBB](https://www.itu.int/en/irg/ibb/Pages/default.aspx): Integrated Broadcast-Broadband (IBB)[Q1/16](http://itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q1.aspx): Multimedia coordination |

ITU-R SG 7 Working Parties 7A, 7B, 7C, &d vis-à-vis ITU-T Questions

| [WP 7A](https://www.itu.int/go/ITU-R/wp7a): Time signals and frequency standard emissions: Systems and applications (terrestrial and satellite) for dissemination of standard time and frequency signals |
| --- |
| ITU-T SG | ITU-T SG Questions |
| [SG15](https://www.itu.int/en/ITU-T/studygroups/2017-2020/15/Pages/default.aspx) | [Q13/15](https://www.itu.int/en/ITU-T/studygroups/2017-2020/15/Pages/q13.aspx): Network synchronization and time distribution performance |

| [WP 7B](https://www.itu.int/go/ITU-R/wp7b): Space radiocommunication applications: Systems for transmission/reception of telecommand, tracking and telemetry data for space operation, space research, Earth exploration-satellite, and meteorological satellite services |
| --- |
| ITU-T SG | ITU-T SG Questions |

| [WP 7C](https://www.itu.int/go/ITU-R/wp7c): Remote sensing systems: active and passive remote sensing applications in the Earth exploration-satellite service and systems of the MetAids service, as well as space research sensors, including planetary sensors |
| --- |
| ITU-T SG | ITU-T SG Questions |

| [WP 7D](https://www.itu.int/go/ITU-R/wp7d): Radio astronomy: radio astronomy and radar astronomy sensors, both Earth-based and space-based, including space very long baseline interferometry (VLBI) |
| --- |
| ITU-T SG | ITU-T SG Questions |

**Table 6 – Matrix of ITU-R WPs and ITU-T Questions**

|  | **ITU-R SG1** | **ITU-R SG3** | **ITU-R SG4** | **ITU-R SG5** | **ITU-R SG6** | **ITU-R SG7** |
| --- | --- | --- | --- | --- | --- | --- |
| [WP 1A](https://www.itu.int/go/ITU-R/wp1a) | [WP 1B](https://www.itu.int/go/ITU-R/wp1b) | [WP 1C](https://www.itu.int/go/ITU-R/wp1c) | [WP 3J](https://www.itu.int/go/ITU-R/wp3j) | [WP 3K](https://www.itu.int/go/ITU-R/wp3k) | [WP 3L](https://www.itu.int/go/ITU-R/wp3l) | [WP 3M](https://www.itu.int/go/ITU-R/wp3m) | [WP 4A](https://www.itu.int/go/ITU-R/wp4a) | [WP 4B](https://www.itu.int/go/ITU-R/wp4b) | [WP 4C](https://www.itu.int/go/ITU-R/wp4c) | [WP 5A](https://www.itu.int/go/ITU-R/wp5a) | [WP 5B](https://www.itu.int/go/ITU-R/wp5b) | [WP 5C](https://www.itu.int/go/ITU-R/wp5c) | [WP 5D](https://www.itu.int/go/ITU-R/wp5d) | [WP 6A](https://www.itu.int/go/ITU-R/wp6a) | [WP 6B](https://www.itu.int/go/ITU-R/wp6b) | [WP 6C](https://www.itu.int/go/ITU-R/wp6c) | [WP 7A](https://www.itu.int/go/ITU-R/wp7a) | [WP 7B](https://www.itu.int/go/ITU-R/wp7b) | [WP 7C](https://www.itu.int/go/ITU-R/wp7c) | [WP 7D](https://www.itu.int/go/ITU-R/wp7d) |
| **ITU-T SG2** | [Q1/2](http://www.itu.int/en/ITU-T/studygroups/2017-2020/02/Pages/q1.aspx) |  |  |  |  |  |  |  |  |  |  | X | X |  |  |  |  |  |  |  |  |  |
| [Q3/2](http://www.itu.int/en/ITU-T/studygroups/2017-2020/02/Pages/q3.aspx) |  |  |  |  |  |  |  |  |  | X |  |  | X |  |  |  |  |  |  |  |  |
| **ITU-T SG3** | [Q2/3](http://www.itu.int/en/ITU-T/studygroups/2017-2020/03/Pages/q2.aspx) |  | X |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| [Q3/3](http://www.itu.int/en/ITU-T/studygroups/2017-2020/03/Pages/q3.aspx) |  | X |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| [Q4/3](https://www.itu.int/en/ITU-T/studygroups/2017-2020/03/Pages/q4.aspx) |  | X |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **ITU-T SG5** | [Q2/5](https://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/q2.aspx) |  |  |  |  |  |  |  |  |  |  |  |  |  | X |  |  |  |  |  |  |  |
| [Q3/5](http://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/q3.aspx) | X |  | X |  |  |  |  | X |  |  | X | X | X | X | X |  |  |  |  |  |  |
| [Q4/5](https://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/q4.aspx) | X |  |  |  |  |  |  |  |  |  |  |  |  | X |  |  |  |  |  |  |  |
| [Q6/5](https://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/q6.aspx) | X | X |  |  |  |  |  |  |  |  |  |  |  | X |  |  |  |  |  |  |  |
| [Q9/5](https://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/q9.aspx) |  | X |  |  |  |  |  |  |  |  |  | X |  |  |  |  |  |  |  |  |  |
| **ITU-T SG9** | [Q1/9](http://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/q1.aspx) |  |  | X |  |  |  |  | X |  |  |  |  |  | X | X | X |  |  |  |  |  |
| [Q2/9](http://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/q2.aspx) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | X |  |  |  |  |  |
| [Q5/9](http://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/q5.aspx) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | X |  |  |  |  |  |
| [Q7/9](http://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/q7.aspx) |  |  |  |  |  |  |  | X |  |  |  |  |  | X | X | X |  |  |  |  |  |
| [Q8/9](https://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/q8.aspx) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | X |  |  |  |  |  |
| [Q10/9](http://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/q10.aspx) |  |  |  | X | X | X | X |  |  | X |  |  | X | X | X |  |  |  |  |  |  |
| **ITU-T SG11** | [Q6/11](http://www.itu.int/en/ITU-T/studygroups/2017-2020/11/Pages/q6.aspx) |  |  |  |  |  |  |  |  |  |  |  |  |  | X |  |  |  |  |  |  |  |
| [Q7/11](https://www.itu.int/en/ITU-T/studygroups/2017-2020/11/Pages/q7.aspx) |  |  |  |  |  |  |  |  |  |  |  |  |  | X |  |  |  |  |  |  |  |
| [Q8/11](https://www.itu.int/en/ITU-T/studygroups/2017-2020/11/Pages/q8.aspx) |  |  |  |  |  |  |  |  |  |  |  |  |  | X |  |  |  |  |  |  |  |
| [Q10/11](http://www.itu.int/en/ITU-T/studygroups/2017-2020/11/Pages/q10.aspx) |  |  |  |  |  |  |  |  |  |  |  |  |  | X |  |  |  |  |  |  |  |
| **ITU-T SG12** | [Q1/12](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q1.aspx) |  |  |  |  |  |  |  |  | X |  | X |  | X |  |  |  |  |  |  |  |  |
| [Q7/12](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q7.aspx) |  |  |  |  |  |  |  |  |  |  |  |  |  | X |  |  | X |  |  |  |  |
| [Q9/12](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q9.aspx) |  |  |  |  |  |  |  |  |  |  |  |  |  | X |  |  | X |  |  |  |  |
| [Q10/12](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q10.aspx) |  |  |  |  |  |  |  |  |  |  |  |  |  | X |  |  |  |  |  |  |  |
| [Q12/12](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q12.aspx) |  |  |  |  |  |  |  |  | X |  | X |  | X |  |  |  |  |  |  |  |  |
| [Q13/12](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q13.aspx) |  |  |  |  |  |  |  |  |  |  |  |  |  | X |  | X |  |  |  |  |  |
| [Q14/12](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q14.aspx) |  |  |  |  |  |  |  |  |  |  |  |  |  | X |  |  | X |  |  |  |  |
| [Q17/12](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q17.aspx) |  |  |  |  |  |  |  |  | X |  | X |  | X | X |  | X |  |  |  |  |  |
| [Q18/12](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q18.aspx) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | X |  |  |  |  |
| [Q19/12](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q19.aspx) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | X |  |  |  |  |
| **ITU-T SG13** | [Q5/13](http://www.itu.int/en/ITU-T/studygroups/2017-2020/13/Pages/q5.aspx) |  |  |  |  |  |  |  |  | X |  | X |  | X | X |  |  |  |  |  |  |  |
| [Q2/13](http://www.itu.int/en/ITU-T/studygroups/2017-2020/13/Pages/q2.aspx) |  | X |  |  |  |  |  |  |  |  |  |  |  |  |  | X |  |  |  |  |  |
| [Q16/13](http://www.itu.int/en/ITU-T/studygroups/2017-2020/13/Pages/q16.aspx) |  |  |  |  |  |  |  |  |  |  | X |  | X | X |  |  |  |  |  |  |  |
| [Q20/13](http://www.itu.int/en/ITU-T/studygroups/2017-2020/13/Pages/q20.aspx) |  |  |  |  |  |  |  |  |  |  |  |  | X | X |  |  |  |  |  |  |  |
| [Q21/13](http://www.itu.int/en/ITU-T/studygroups/2017-2020/13/Pages/q21.aspx) |  | X |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| [Q22/13](http://www.itu.int/en/ITU-T/studygroups/2017-2020/13/Pages/q22.aspx) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| [Q23/13](http://www.itu.int/en/ITU-T/studygroups/2017-2020/13/Pages/q23.aspx) |  |  |  |  |  |  |  |  | X |  | X |  | X | X |  |  |  |  |  |  |  |
| **ITU-T SG15** | [Q1/15](http://www.itu.int/en/ITU-T/studygroups/2017-2020/15/Pages/q1.aspx) | X |  |  |  |  |  |  |  |  |  |  |  | X | X | X | X |  |  |  |  |  |
| [Q4/15](http://www.itu.int/en/ITU-T/studygroups/2017-2020/15/Pages/q4.aspx) | X |  |  |  |  |  |  |  |  |  |  |  | X | X | X | X |  |  |  |  |  |
| [Q12/15](https://www.itu.int/en/ITU-T/studygroups/2017-2020/15/Pages/q12.aspx) |  |  |  |  |  |  |  |  |  |  |  |  |  | X |  | X |  |  |  |  |  |
| [Q13/15](https://www.itu.int/en/ITU-T/studygroups/2017-2020/15/Pages/q13.aspx) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | X |  |  |  |
| [Q15/15](http://www.itu.int/en/ITU-T/studygroups/2017-2020/15/Pages/q15.aspx) | X |  |  |  |  |  |  |  |  |  | X |  |  |  | X |  |  |  |  |  |  |
| [Q18/15](http://www.itu.int/en/ITU-T/studygroups/2017-2020/15/Pages/q18.aspx) | X |  |  |  |  |  |  |  |  |  |  |  |  |  | X | X |  |  |  |  |  |
| **ITU-T SG16** | [Q1/16](https://www.itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q1.aspx) |  |  |  |  |  |  |  |  | X | X | X |  |  | X | ~~X~~ | X | X |  |  |  |  |
| [Q6/16](https://www.itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q6.aspx) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | X |  |  |  |  |  |
| [Q8/16](http://itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q8.aspx) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | X | X |  |  |  |  |
| [Q13/16](http://itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q13.aspx) |  |  |  |  |  |  |  |  | X |  |  |  |  | X |  | X |  |  |  |  |  |
| [Q21/16](http://itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q21.aspx) |  |  |  |  |  |  |  |  |  |  |  |  |  | X |  |  |  |  |  |  |  |
| [Q24/16](http://itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q24.aspx) |  |  |  |  |  |  |  |  |  | X | X |  |  |  |  |  |  |  |  |  |  |
| [Q26/16](https://www.itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q26.aspx) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | X |  |  |  |  |
| [Q27/16](http://itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/q27.aspx) |  |  |  |  |  |  |  |  |  |  | X |  |  |  |  |  |  |  |  |  |  |
| **ITU-T SG17** | [Q6/17](http://www.itu.int/en/ITU-T/studygroups/2017-2020/17/Pages/q6.aspx) |  |  |  |  |  |  |  |  |  |  | X |  |  | X |  |  |  |  |  |  |  |
| [Q13/17](http://itu.int/en/ITU-T/studygroups/2017-2020/17/Pages/q13.aspx) |  |  |  |  |  |  |  |  |  |  | X |  |  |  |  |  |  |  |  |  |  |
| **ITU-T SG20** | [Q1/20](http://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/q1.aspx) |  |  |  |  |  |  |  |  | X |  | X |  |  | X |  |  |  |  |  |  |  |
| [Q2/20](http://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/q2.aspx) |  |  |  |  |  |  |  |  | X |  | X |  |  | X |  |  |  |  |  |  |  |
| [Q3/20](http://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/q3.aspx) |  |  |  |  |  |  |  |  | X |  | X |  |  | X |  |  |  |  |  |  |  |
| [Q4/20](http://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/q4.aspx) |  |  |  |  |  |  |  |  | X |  | X |  |  | X |  |  |  |  |  |  |  |
| [Q5/20](http://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/q5.aspx) |  | X |  |  |  |  |  |  |  |  |  |  |  | X |  |  |  |  |  |  |  |
| [Q6/20](http://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/q6.aspx) |  |  |  |  |  |  |  |  | X |  | X |  |  | X |  |  |  |  |  |  |  |
| [Q7/20](http://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/q7.aspx) |  | X |  |  |  |  |  |  |  |  |  |  |  | X |  |  |  |  |  |  |  |

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. The purpose of the mapping work is to identify topics of mutual interest and the entities responsible for those topics across the three Sectors of the Union. The result of the mapping work will function as a guide to facilitate smoother information exchange within the Union in connection with the identified topics of mutual interest. As a result of the approved mapping, responsible entities in each Sector will know whom to contact regarding incoming and outgoing communications regarding the identified topics of mutual interest. [↑](#footnote-ref-1)
2. The purpose of the mapping work is to identify topics of mutual interest and the entities responsible for those topics across the three Sectors of the Union. The result of the mapping work will function as a guide to facilitate smoother information exchange within the Union in connection with the identified topics of mutual interest. As a result of the approved mapping, responsible entities in each Sector will know whom to contact regarding incoming and outgoing communications regarding the identified topics of mutual interest. [↑](#footnote-ref-2)