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| Title: ITU logo | INTERNATIONAL TELECOMMUNICATION UNION  **TELECOMMUNICATION STANDARDIZATION SECTOR**  STUDY PERIOD 2022-2024 | | | TSAG-TD029 |
| TSAG |
| **Original: English** |
| **Question(s):** | | N/A | | Geneva, 12-16 December 2022 |
| **TD (Ref.:** [SG2-LS29](http://handle.itu.int/11.1002/ls/sp17-sg2-oLS-00029.docx)**)** | | | | |
| **Source:** | | ITU-T Study Group 2 | | |
| **Title:** | | LS/i on ITU-T SG2 Lead Study Group Report [from ITU-T SG2] | | |
| **LIAISON STATEMENT** | | | | |
| **For action to:** | | | - | |
| **For information to:** | | | TSAG | |
| **Approval:** | | | ITU-T Study Group 2 management (5 December 2022, by correspondence) | |
| **Deadline:** | | | N/A | |
| **Contact:** | | | Phil Rushton UK | Tel: +44 1206 729738 E-mail: [philrushton@rcc-uk.uk](mailto:philrushton@rcc-uk.uk) |

A new liaison statement has been received from SG2.

This liaison statement follows and the original file can be downloaded from the ITU ftp server at <http://handle.itu.int/11.1002/ls/sp17-sg2-oLS-00029.docx>.

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|  | INTERNATIONAL TELECOMMUNICATION UNION  **TELECOMMUNICATION STANDARDIZATION SECTOR**  STUDY PERIOD 2022-2024 | | | | **SG2-LS29** |
| **STUDY GROUP 2** |
| **Original: English** |
| **Question(s):** | | All/2 | | |  |
| **(Ref.: SG2-TD162/GEN)** | | | | | |
| **Source:** | | ITU-T Study Group 2 | | | |
| **Title:** | | LS on ITU-T SG2 lead study group activities (November 2021 to May 2022) | | | |
| **LIAISON STATEMENT** | | | | | |
| **For action to:** | | | - | | |
| **For information to:** | | | TSAG | | |
| **Approval:** | | | ITU-T Study Group 2 management (5 December 2022, by correspondence) | | |
| **Deadline:** | | | N/A | | |
| **Contact:** | | | Phil Rushton UK | Tel: +44 1206 729738 E-mail: [philrushton@rcc-uk.uk](mailto:philrushton@rcc-uk.uk) | |

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| --- | --- |
| **Keywords:** | Numbering, Naming, Identifiers, Services, Routeing, Telecommunications Management, Fraud Management. |
| **Abstract:** | This liaison contains the report of the ITU-T SG2 on lead study group activities from May to November 2022. |

# Background

According to WTSA Resolution 2 (Rev. Geneva, 2022), ITU-T SG2 is the lead study group on:

– Lead study group on numbering, naming, addressing and identification (NNAI).

– Lead study group on administration of global NNAI resources.

– Lead study group on routing and interworking.

– Lead study group on number portability and carrier switching.

– Lead study group on telecommunication/ICT capabilities and applications.

– Lead study group on telecommunication/ICT service definition.

– Lead study group on telecommunications for disaster relief/early warning, network resilience and recovery.

– Lead study group on telecommunication management​.

# Report of ITU-T SG2 on lead study group activities (May to November 2022)

## 2.1 Allocation of Global Resources

These resources are assigned by the Director of the TSB in accordance with the criteria detailed in the relevant ITU-T Recommendations that are under the responsibility of ITU-T SG2. These criteria are both service based and network based.

The activity in support of allocations for service based allocations, for the period between SG2 meetings (21 October 2021 – 30 April 2022), is as follows:

**Number of processed requests for UIFN = 669 [505]**

(A) - Number of Assigned and implemented UIFN = 172 [88]

(C) - Number of Cancelled UIFN = 11 [7]

(D) - Number of Disconnected UIFN = 149 [112]

(M) - Number of Modified UIFN’s Details = 41 [45]

(O) - Number of UIFN Operated by a secondary operator = 46 [63]

(X) - Number of UIFN Disconnected by a secondary operator = 8 [12]

(R) - Number of Reserved UIFN = 189 [94]

(S) - Number of Temporary Reserved UIFN = 40 [28]

(Y) + (Z) - Number of Transferred UIFN to another ROA = 13 [56]

**Number of processed requests for UIPRN 0 [0]**

**Number of processed requests for UISCN 0 [0]**

**Number of processed requests for ITU IND ASEA 0 [0]**

In addition, the following applications for global NNAI resources were received and their status is given below:

Applications for E.164 and E.212 shared codes – Assigned

The TSB Director has made the following assignments, following advice provided by the Numbering Co-ordination team (NCT):

|  |  |  |  |
| --- | --- | --- | --- |
| **Applicant** | **Request/Application** | **Assigned/extended code** | **Assignment date** |
| World Mobile Group Limited | Request for an E.212 shared MCC and MNC for World Mobile Group Limited | E.212 shared MCC and MNC 901 91 | 1 April 2022 |
| Truphone Ltd | Request for an E.164 shared CC and IC and an E.212 shared MCC and MNC for Truphone Ltd | E.164 shared CC and IC 883 440 and E.212 shared MCC and MNC 901 90 | 1 April 2022 |
| DIDWW Ireland Limited | Request for an E.212 shared MCC and MNC for DIDWW Ireland Limited | E.212 shared MCC and MNC 901 89 | 1 April 2022 |
| Cisco Systems, Inc. | Request for an E.212 shared MCC and MNC for Cisco Systems, Inc. | E.212 shared MCC and MNC 901 87 | 18 February 2022 |
| BJT Partners SAS | Request for an E.164 shared CC and IC and an E.212 shared MCC and MNC for BJT Partners SAS | E.164 shared CC and IC 883 430 and E.212 shared MCC and MNC 901 86 | 18 February 2022 |
| MTC KSCP | Request for an E.164 shared CC and IC for Mobile Telecommunications Company KSCP | E.164 shared CC and IC 883 420 | 19 January 2022 |
| Athalos Global Services BV | Request for an E.164 shared CC and IC for Athalos Global Services BV | E.164 shared CC and IC 882 51 | 19 January 2022 |
| Telefónica Germany GmbH & Co. OHG | Request for an E.164 shared CC and IC and an E.212 shared MCC and MNC for Telefónica Germany GmbH & Co. OHG | E.164 shared CC and IC 883 410 and E.212 shared MCC and MNC 901 85 | 10 December 2021 |
| Telefonica Moviles España, S.A. Unipersonal (TME) | Request for an E.164 shared CC and IC and an E.212 shared MCC and MNC for Telefonica Moviles España, S.A. Unipersonal (TME) | E.164 shared CC and IC 883 400 and E.212 shared MCC and MNC 901 84 | 10 December 2021 |

Applications for E.164 and E.212 shared codes – in process

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Applicant** | | **Request/Application** | **Date of request** | **Status** |
| Intelsat US LLC | Request for an E.212 shared MCC and MNC for Intelsat | | 4 May 2022 | Under SG2 Numbering Applications mailing list and NCT review. |
| SkyFive AG | Request for an E.212 shared MCC and MNC for SkyFive AG | | 8 February 2022 | Request has been approved. Assignment letter is being prepared |
| Phonegroup SA | Request for an E.212 shared MCC and MNC Phonegroup SA | | 17 January 2022 | Request has been approved. Assignment letter is being prepared |
| Banktel Kommunikációs Zrt. | Request for an E.164 shared CC and IC and an E.212 shared MCC and MNC for Banktel Kommunikációs Zrt. | | 10 January 2022 | Further clarification is required. |
| HMD Global Oy | Request for an E.164 shared CC and IC and an E.212 shared MCC and MNC for HMD Global Oy | | 1 November 2021 | Further clarification is required. |
| Monty UK Global Ltd | Request for an E.164 shared CC and IC and an E.212 shared MCC and MNC for Monty UK Global Ltd | | 13 September 2021 | Further clarification is required. |

Reclamation of assigned codes for failure to follow the provisions of clause 7.1.1 of Recommendation ITU-T E.164.1 and Annex A.4.1 to Recommendation ITU-T E.212

|  |  |  |
| --- | --- | --- |
| **Assignee** | **Assigned codes** | **Date of reclamation** |
| Clementvale Baltic OÜ | E.164 shared CC and IC 883 310 and E.212 shared MCC and MNC 901 70 | 18 February 2022 |
| SAP | E.164 shared CC and IC 883 230 and E.212 shared MCC and MNC 901 57 | 18 February 2022 |
| Oration Technologies, Inc. | E.164 shared CC and IC 882 33 | 18 February 2022 |
| Ooredoo Qatar | E.164 shared CC and IC 883 180 and E.212 shared MCC and MNC 901 47 | 18 February 2022 |
| GloTell B.V. | E.164 shared CC and IC 883 270 and E.212 shared MCC and MNC 901 63 | 15 January 2022 |

NOTES:

Clause 7.1.1 of ITU-T E.164.1: "The applicant must be a Member State or Sector Member of the ITU or an Associate of the appropriate ITU-T study group and must maintain its membership as long as it has reserved or is assigned the requested resource."

Clause A.4.1 of ITU-T E.212: "The applicant must be a Member State or a Sector Member of the ITU or an Associate Member of the relevant ITU-T Study Group and must maintain its membership as long as it has reserved or is assigned the requested resource."

SG2 amended the criteria for reclamation of assigned global NNAI resources to sector and associate members to reflect non-payment of fees rather than membership. This decision was taken to reflect that invoices for payment of membership fees are sent at least 6 months in advance, and denouncement of membership takes some 2 years from non-payment. In that period of 2 years non paying sector and associate members can still utilise the global NNAI resources to generate income whilst not paying the Union. SG2 has now closed this loophole.

## 2.2 Reports of misuse

No reports of alleged misuse of numbering resources were received via the official submission channels between November 2021 and May 2022. Existing reports can be accessed by ITU-T SG2 experts at <https://www.itu.int/net/ITU-T/misuse/table.aspx>.

The report on activities related to misuse of numbering resources (period November 2021 - May 2022) can be found in [SG2-TD036/P](https://www.itu.int/md/T22-SG02-220516-TD-PLEN-0036/en). An update on follow-up on implementation of E.156 can be found in [SG2-TD065/P](https://www.itu.int/md/T22-SG02-220516-TD-PLEN-0065/en).

## 2.3 Recommendations

At its last meeting (Geneva, 16-20 May 2022), SG2 took the following decisions with respect to:

Recommendations Approved

|  |  |  |
| --- | --- | --- |
| Rec. # | Title | Documents |
| None. |  |  |

Recommendations Determined under TAP

|  |  |  |
| --- | --- | --- |
| Rec. # | Title | Documents |
| E.118 1 (E.gain) | ITU-T management of the allocation of globally assigned Issuer Identifier Numbers (IINs) | [SG2-TD085R1/PLEN](https://www.itu.int/md/T22-SG02-220516-TD-PLEN-0085/en) |
| Recommendation ITU-T E.118 1 specifies the criteria by which the ITU-TSB shall allocate and manage the globally assigned IIN, as well as the specific resources that will be managed. | | |

Recommendations Consented under AAP

|  |  |  |
| --- | --- | --- |
| Rec. # | Title | Documents |
| M.3382 (M.rwop-AI) | Requirements for work orders processing in telecom management with AI | [SG2-TD79R2/PLEN](https://www.itu.int/md/T22-SG02-220516-TD-PLEN-0079/en) |
| Recommendation ITU-T M.3382 provides requirements for work order processing in telecom management with AI. Based on AI models and features extraction, work orders will be collected, analysed, forwarded and archived.  This Recommendation describes the framework and functional requirements for work orders processing in telecom management with AI, and requirements of work orders. It also describes the process of text and image feature extraction. | | |

**Supplements or other non-normative texts approved**

|  |  |  |
| --- | --- | --- |
| Supp.# | **Title** | **Documents** |
| None. |  |  |

**Recommendations to be deleted**

|  |  |  |
| --- | --- | --- |
| Supp.# | **Title** | **Documents** |
| [E.168](https://www.itu.int/rec/T-REC-E.168/en) | Application of E.164 numbering plan for UPT | [SG2-TD101R1/PLEN](https://www.itu.int/md/T22-SG02-220516-TD-PLEN-0101) |
| [E.168.1](https://www.itu.int/rec/T-REC-E.168.1/en) | Assignment procedures for universal personal telecommunications (UPT) numbers in the provisioning of the international UPT service | [SG2-TD101R1/PLEN](https://www.itu.int/md/T22-SG02-220516-TD-PLEN-0101) |
| [E.174](https://www.itu.int/rec/T-REC-E.174/en) | Routing principles and guidance for Universal Personal Telecommunications (UPT) | [SG2-TD101R1/PLEN](https://www.itu.int/md/T22-SG02-220516-TD-PLEN-0101) |
| [E.755](https://www.itu.int/rec/T-REC-E.755/en) | Reference connections for UPT traffic performance and GOS | [SG2-TD101R1/PLEN](https://www.itu.int/md/T22-SG02-220516-TD-PLEN-0101) |
| [E.775](https://www.itu.int/rec/T-REC-E.775/en) | UPT grade of service concept | [SG2-TD101R1/PLEN](https://www.itu.int/md/T22-SG02-220516-TD-PLEN-0101) |
| [E.776](https://www.itu.int/rec/T-REC-E.776/en) | Network grade of service parameters for UPT | [SG2-TD101R1/PLEN](https://www.itu.int/md/T22-SG02-220516-TD-PLEN-0101) |
| [F.850](https://www.itu.int/rec/T-REC-F.850-199303-I/en) | Principles of Universal Personal Telecommunication (UPT) | [SG2-TD101R1/PLEN](https://www.itu.int/md/T22-SG02-220516-TD-PLEN-0101) |
| [F.851](https://www.itu.int/rec/T-REC-F.851/en) | Universal Personal Telecommunication (UPT) – Service description (service set 1 | [SG2-TD101R1/PLEN](https://www.itu.int/md/T22-SG02-220516-TD-PLEN-0101) |
| [F.852](https://www.itu.int/rec/T-REC-F.852/en) | Universal Personal Telecommunication (UPT) – Service description (service set 2) | [SG2-TD101R1/PLEN](https://www.itu.int/md/T22-SG02-220516-TD-PLEN-0101) |
| [F.853](https://www.itu.int/rec/T-REC-F.853/en) | Supplementary services in the Universal Personal Telecommunication (UPT) environment | [SG2-TD101R1/PLEN](https://www.itu.int/md/T22-SG02-220516-TD-PLEN-0101) |

NOTE – The justification for suppression can be found in clause 3.11 of [SG2-TD023R1/PLEN](https://www.itu.int/md/T22-SG02-220516-TD-PLEN-0023):

At the time these Recommendations were approved, the concept of UPT utilized specific technology and service concepts. In the decades since then, the technology has evolved. The services specified in the Recommendations are no longer provided as specified, and in fact, there are no such services offered. The fundamental principles that underpinned the service concepts of UPT are no longer unique to UPT, and many similar types of services are now provided using the Internet Protocol (IP)- and IoT-based technologies that were not part of the UPT-related Recommendations. Other global numbering, naming, addressing, and identification resources remain available and have proven more appropriate for such services. As such, the suite of UPT-related Recommendations are no longer relevant. Given this rationale, SG2 has advised the TSB Director to initiate the deletion of all UPT Recommendations under the purview of SG2.

Since no objections to the suppressions were received before the consultation deadline, these Recommendations were deleted on 1 September 2022. In addition, in response to [SG2-LS003](https://www.itu.int/net/ITU-T/ls/ls.aspx?isn=28331), “LS on deletion of UPT Recommendations”, ITU-T SG3, SG11 and SG13 deleted the following UPT-related Recommendations: D.280, I.373, Q.1521, Q.1531, Q.1541, Q.1542 and Q.1551. Details of the deletions can be found in [TSB Circulars 35, 47 and 50](https://www.itu.int/md/T22-TSB-CIR/e).

**New work items**

Eighteen new work items were initiated:

| **Identifier** | **Question** | **Title** | **Document** |
| --- | --- | --- | --- |
| M.rsca | Q5/2 | Requirements for smart comprehensive analysis with AITOM | [SG2-TD080/PLEN](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=T22-SG02-220516-TD-PLEN-0080) |
| M.rsmca | Q5/2 | Requirements for smart maintenance of cell antenna | [SG2-TD081/PLEN](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=T22-SG02-220516-TD-PLEN-0081) |
| M.rcpnm | Q5/2 | Requirements for Computing Power Network Management | [SG2-TD082R1/PLEN](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=T22-SG02-220516-TD-PLEN-0082) |
| M.rODFos | Q5/2 | Requirements for Optical Distribution Frame (ODF) On-Site Smart Maintenance | [SG2-TD083/PLEN](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=T22-SG02-220516-TD-PLEN-0083) |
| M.ilef-AITOM | Q6/2 | Intelligence levels evaluation framework of AI enhanced Telecom Operation and Management | [SG2-TD091/PLEN](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=T22-SG02-220516-TD-PLEN-0091) |
| M.fcnhe\* | Q6/2 | Framework of communication network health evaluation | [SG2-TD092/PLEN](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=T22-SG02-220516-TD-PLEN-0092) |
| M.uiamr | Q6/2 | User Identity and Access Management Requirements for Telecommunications Management Network” | [SG2-TD093/PLEN](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=T22-SG02-220516-TD-PLEN-0093) |
| M.cefno | Q6/2 | Cost-effectiveness evaluation framework for network operation | [SG2-TD094/PLEN](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=T22-SG02-220516-TD-PLEN-0094) |
| M.fidtom | Q6/2 | Framework of intent driven telecom operation and management | [SG2-TD095/PLEN](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=T22-SG02-220516-TD-PLEN-0095) |
| M.smcsn-ia | Q7/2 | Protocol neutral interface analysis for synergy management of cloud and SDN-based networks | [SG2-TD097R1/PLEN](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=T22-SG02-220516-TD-PLEN-0097) |
| M.tsm-rest | Q7/2 | REST-based interface design for on-site generic telecommunication smart maintenance | [SG2-TD098R1/PLEN](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=T22-SG02-220516-TD-PLEN-0098) |
| M.nocm-SID | Q7/2 | Shared information and data model (SID) for network operation cost management | [SG2-TD099/PLEN](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=T22-SG02-220516-TD-PLEN-0099) |
| M.la-AI-ia | Q7/2 | Protocol neutral interface analysis for log analysis in telecom management with AI | [SG2-TD100/PLEN](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=T22-SG02-220516-TD-PLEN-0100) |
| M.xrmsnr | Q7/2 | X-interface requirements for the management of shared network resources | [SG2-TD114/PLEN](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=T22-SG02-220516-TD-PLEN-0114) |
| TR.Carrier-Switching | Q2/2 | Technical report on the carrier switching of SIM and e-sims for enterprises in M2M/IoT | [SG2-TD112R1/PLEN](https://www.itu.int/md/T22-SG02-220516-TD-PLEN-0112) |

\* M.fcnhe, “Framework of communication network health evaluation”, was provisionally agreed in November 2021, pending consultation via Liaison Statement ([SG2‑TD1520R2/GEN](https://www.itu.int/md/T17-SG02-211108-TD-GEN-1520/en)). No objection was received.

# Progress

Since this was the first meeting of the new study period, the study group established its working party structure and assigned leadership positions as described in [SG2-TD066R1/PLEN](https://www.itu.int/md/T22-SG02-220516-TD-PLEN-0066/en).

Highlights of WTSA-20 relevant to ITU-T Study Group 2 can be found in [SG2-TD048/PLEN](https://www.itu.int/md/T22-SG02-220516-TD-PLEN-0048). New SG2 Vice‑Chairman, In Seop LEE, was been appointed as the Chairman of the Ad-Hoc Group on Preparations for WTSA-24 (see [SG2-TD066/PLEN](https://www.itu.int/md/T22-SG02-220516-TD-PLEN-0066)). Regular meetings of the ad-hoc group will be held from the second meeting of the study group. Initial work has been started to ensure alignment between Appendix IV of ITU-T E.156 with revisions to WTSA Resolution 61 (Rev. Geneva, 2022) (see [SG2‑TD113/PLEN](https://www.itu.int/md/T22-SG02-220516-TD-PLEN-0113)).

The meeting also established an initial schedule of meetings for the remainder of this two-year study period ([SG2-TD059R1/PLEN](https://www.itu.int/md/T22-SG02-220516-TD-PLEN-0059/en)), in an effort to avoid overlap with the meetings of other study groups. The schedule was subsequently refined as follows:

– Second ITU-T SG2 meeting, virtual, 13-22 March 2023.

– Third ITU-T SG2 meeting, virtual, 9-18 October 2023.

– Fourth ITU-T SG2 meeting, August 2024 (dates/venue TBC).

– One-day ITU-T SG2 e-plenary, October 2024 (if required prior to the last TSAG meeting of the study period)

A review of all work items was carried out, and stale work items were discontinued. Such work items could be reinitiated on receipt of written Contributions.

During the period November 2021 to May 2022, the Numbering Coordination Team (NCT) held four meetings. In addition, further consultations were carried out through email correspondence. As of May 2022, the NCT worked on 16 new or pending applications and the reclamation of 10 assigned international numbering codes. Details can be found in [SG2-TD034/PLEN](https://www.itu.int/md/T22-SG02-220516-TD-PLEN-0034/en). Advice was given to the TSB Director, this can be found in clause 2.1 of the meeting report of ITU-T SG2 (virtual, 13-22 March 2023, [SG2-R01](https://www.itu.int/md/T22-SG02-R-0001/en)).

Report on numbering issues, including NCT can be found in [SG2-TD034/PLEN](https://www.itu.int/md/T22-SG02-220516-TD-PLEN-0034), in summary:

– NCT work continued as usual, with ten INR assignments since the previous meeting, and six more in progress.

– There were six reclamations of assigned resources due to non-payment of membership fees, non-certification or due to the code no longer being required. In addition, the suppression of the UPT ITU-T Recommendations led to the reclamation of 878 10.

– Outreach efforts with regard to ensuring assignees provide annual certification continue to yield improvements. SG2 agreed to set a certification deadline of 31 December each year, rather than the anniversary of the assignment (see [SG2-TD068/PLEN](https://www.itu.int/md/T22-SG02-220516-TD-PLEN-0068)). The amendment of the deadline is intended to make the work of the TSB simpler.

– SG2 and its experts have also provided advice to the TSB Director on an issue with respect to geographic country codes: Palestine sought to have the status of their country code changed from reserved to assigned. SG2 could find no technical or operational reason why that could not occur, and provided this advice to the Director TSB.

## Working Party 1/2

**Q1/2** Determined new Recommendation ITU-T E.118.1 (ex E.gain), "ITU-T management of the allocation of globally assigned Issuer Identifier Numbers (IINs)", and made progress on numbering reports and databases, NCT issues, number portability, CPN spoofing & calling party certification/identity management, TR.OTTnum, TR.MMWF, E.156 follow-up activities, E.190, ENUM, E.IoT-NNAI, E.gap, UPT/878 10, WTSA Resolution 100, and a request from the State of Palestine for a CC and MCC.

**Q2/2** continued discussions on discussion of IoT/M2M number portability, and initiated a new Technical Report on the carrier switching of SIM and e-SIMS for enterprises in M2M/IoT.

**Q3/2** discussed solutions to overcome impermissible traffic, and invited future Contributions on this matter; agreed to update the baseline text of revised ITU-T E.370.

Details can be found in the meeting reports of: [WP1/2](https://www.itu.int/md/T22-SG02-220516-TD-PLEN-0021), [Q1/2](https://www.itu.int/md/T22-SG02-220516-TD-PLEN-0023), [Q2/2](https://www.itu.int/md/T22-SG02-220516-TD-PLEN-0025) and [Q3/2](https://www.itu.int/md/T22-SG02-220516-TD-PLEN-0027).

## Working Party 2/2

Working Party 2/2 progressed the work on the framework of smart operation management and maintenance, data management, telecom anti-fraud management, smart maintenance requirements and information model, synergy management of cloud and networks, REST-based management framework, management of blockchain systems, AI enhance telecom operation/management and applications on 5G RAN energy saving.

**Q5/2** progressed work on: M.rmbs, Requirements for management of blockchain system; M.rrsp, Requirements for robot-based on-site smart patrol of telecommunication network; M.rla-AI, Requirements for Log Analysis in telecom management with AI; M.rmnoc-AI, Requirements for the management of network operation cost within AITOM in telecom operational aspects; M.rfmls, Management Requirements for Federated Machine Learning Systems, M.rmnoc-AI, Requirements for the management of network operation cost within AITOM in telecom operational aspects.

**Q6/2** progressed the work on M.il-AITOM, Intelligence Levels of AI enhanced Telecom Operation and Management.

**Q7/2** continued work on M.immbs, Information model for management of blockchain system.

The latest version of the TM&OAM Project Plan can be found in [SG2-LS005](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=28333), which has been liaised to TSAG and all ITU-T study groups ([SG2-TD081/GEN](https://www.itu.int/md/T17-SG02-211108-TD-GEN-1534)).

Details can be found in the meeting reports of: [WP2/2](https://www.itu.int/md/T22-SG02-220516-TD-PLEN-0029/en), [Q5/2](https://www.itu.int/md/T22-SG02-220516-TD-PLEN-0030/en), [Q6/2](https://www.itu.int/md/T22-SG02-220516-TD-PLEN-0032/en) and [Q7/2](https://www.itu.int/md/T22-SG02-220516-TD-PLEN-0033/en).

# Cooperation with other SGs

Cooperation with other study groups continues, including Liaison activities on new and under-study work items of common interest.

During discussions on Liaison Statements from SG11 on Q.Pro-Trust and Q.CIDA, the meeting was joined by the Editor of those texts (Assaf Klinger) and the Advisor of SG11 (Denis Andreev), who described the relationships between the two draft Recommendations and STIR/SHAKEN. The SG2 experts appreciated this opportunity to discuss these areas of common interest to the two study groups, and sent a response liaison ahead of SG11's next meeting ([SG2-LS027](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=28446)).

ITU-T SG2 exchanged Liaison Statements with ITU-T SG3 on work items D.OTTBypass, TR\_OTTbypass and the Approved regional Recommendation ITU-T D.608R ([SG2-LS001](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=28329), [SG3‑LS008](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=28353), [SG2-LS028](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=28468)). The two groups continue to cooperate and collaborate on OTT matters.

# SG2 regional groups

An ad-hoc meeting on issues related to developing countries was held on 18 May 2022 during the ITU-T Study Group 2 meeting, the report can be found in [SG2-TD039/PLEN](https://www.itu.int/md/T22-SG02-220516-TD-PLEN-0039/en).

No ITU SG2 regional group meetings were held between November 2021 to May 2022. A virtual meeting of the ITU-T SG2 Region Group for Africa (SG2RG-AFR) is planned to be held on 17 and 18 January 2022. Details can be found in [Collective letter 1/SG2RG-AFR](https://www.itu.int/md/T22-SG02RG.AFR-COL-0001/en).

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