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| --- | --- | --- | --- | --- |
| Title: ITU logo | INTERNATIONAL TELECOMMUNICATION UNION  **TELECOMMUNICATION STANDARDIZATION SECTOR**  STUDY PERIOD 2022-2024 | | | TSAG-TD199 |
| TSAG |
| **Original: English** |
| **Question(s):** | | N/A | | Geneva, 30 May - 2 June 2023 |
| **TD (Ref.:** [SG2-LS63](http://handle.itu.int/11.1002/ls/sp17-sg2-oLS-00063.docx)**)** | | | | |
| **Source:** | | ITU-T Study Group 2 | | |
| **Title:** | | LS/i on ITU-T SG2 lead study group activities (June 2022 to March 2023) [from ITU-T SG2] | | |
| **LIAISON STATEMENT** | | | | |
| **For action to:** | | | - | |
| **For information to:** | | | TSAG | |
| **Approval:** | | | ITU-T Study Group 2 management (28 April 2023, 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-00063.docx>.

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| --- | --- | --- | --- | --- | --- |
|  | INTERNATIONAL TELECOMMUNICATION UNION  **TELECOMMUNICATION STANDARDIZATION SECTOR**  STUDY PERIOD 2022-2024 | | | | **SG2-LS63** |
| **STUDY GROUP 2** |
| **Original: English** |
| **Question(s):** | | All/2 | | |  |
| **(Ref.:** [**SG2-TD232/GEN**](https://www.itu.int/md/T22-SG02-231106-TD-GEN-0232/en)**)** | | | | | |
| **Source:** | | ITU-T Study Group 2 | | | |
| **Title:** | | LS on ITU-T SG2 lead study group activities (June 2022 to March 2023) | | | |
| **LIAISON STATEMENT** | | | | | |
| **For action to:** | | | - | | |
| **For information to:** | | | TSAG | | |
| **Approval:** | | | ITU-T Study Group 2 management (28 April 2023, by correspondence) | | |
| **Deadline:** | | | N/A | | |
| **Contact:** | | | Phil Rushton UK | Tel: +44 1206 729738 E-mail: [philrushton@rcc-uk.uk](mailto:philrushton@rcc-uk.uk) | |

|  |  |
| --- | --- |
| **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 1 May 2022 – 10 March 2023, is split as follows:

**Number of processed requests for UIFN = 901 [669]**

(A) - Number of Assigned and implemented UIFN = 165 [172]

(C) - Number of Cancelled UIFN = 5 [11]

(D) - Number of Disconnected UIFN = 229 [149]

(M) - Number of Modified UIFN’s Details = 197 [41]

(O) - Number of UIFN Operated by a secondary operator = 50 [46]

(X) - Number of UIFN Disconnected by a secondary operator = 9 [8]

(R) - Number of Reserved UIFN = 171 [189]

(S) - Number of Temporary Reserved UIFN = 55 [40]

(Y) + (Z) - Number of Transferred UIFN to another ROA = 20 [13]

**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** |
| Satelio IoT Services, S.L. | Request for an E.212 shared MCC and MNC for Satelio IoT Services, S.L. | **E.212 shared MCC and MNC 901 97** | 3 February 2023 |
| KORE Wireless | Request for an E.164 shared CC and IC and an E.212 shared MCC and MNC for KORE Wireless | **E.164 shared CC and IC 883 460** and **E.212 shared MCC and MNC 901 96** | 16 December 2022 |
| HMD Global Oy | Request for an E.164 shared CC and IC and an E.212 shared MCC and MNC for HMD Global Oy | **E.164 shared CC and IC 883 450** and **E.212 shared MCC and MNC 901 95** | 21 November 2022 |
| Intelsat US LLC | Request for an E.212 shared MCC and MNC for Intelsat | **E.212 shared MCC and MNC 901 94** | 21 November 2022 |
| SkyFive AG | Request for an E.212 shared MCC and MNC for SkyFive AG | **E.212 shared MCC and MNC 901 93** | 19 May 2022 |
| Phonegroup SA | Request for an E.212 shared MCC and MNC Phonegroup SA | **E.212 shared MCC and MNC 901 92** | 19 May 2022 |

Eight new ITU-T SG2 Associates joined during the current reporting period, bringing the total number of ITU-T SG2 Associates to 79.

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

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Applicant** | | **Request/Application** | **Date of request** | **Status** |
| Globalmatix AG | Request for an E.212 shared MCC and MNC for Globalmatix AG | | 15 February 2023 | Under SG2 Numbering Applications mailing list and NCT review. |
| BBIX Singapore Pte. Ltd. | Request for an E.212 shared MCC and MNC for BBIX Singapore Pte. Ltd. | | 8 February 2023 | Under NCT review. |
| BBIX Singapore Pte. Ltd. | Request for an E.164 shared CC and IC for BBIX Singapore Pte. Ltd. | | 7 February 2023 | Under NCT review. |
| Athalos Global Services BV | Request for an E.212 shared MCC and MNC for Athalos Global Services BV | | 23 June 2022 | Request has been approved. Assignment letter is being prepared |
| Webbing | Request for an E.164 shared CC and IC and an E.212 shared MCC and MNC for Webbing | | 15 August 2022 | Further clarification is required. |
| Skylo Technologies, Inc. | Request for an E.212 shared MCC and MNC for Skylo Technologies, Inc. | | 10 August 2022 | Request has been approved. Assignment letter is being prepared |
| SpaceX | Request for an E.212 shared MCC and MNC for SpaceX | | 11 January 2023 | Further clarification is awaited. |
| NTT | Request for an E.212 shared MCC and MNC for NTT | | 10 January 2023 | Further clarification is awaited. |
| 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 awaited. |

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** |
| IMC Ísland ehf | E.164 shared CC and IC 883 160 and the E.212 shared MCC and MNC 901 42 | 16 December 2022 |
| BebbiCell AG | E.164 shared CC and IC 882 34 and the E.212 shared MCC and MNC 901 13 | 1 December 2022 |
| Plintron Mobility Solutions Private Limited | E.164 shared CC and IC 883 280 and the E.212 shared MCC and MNC 901 65 | 30 November 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."

TSB applies the criteria defined by ITU-T SG2 (Geneva, 16-20 May 2022) for reclamation of assigned global NNAI resources to sector members and SG2 Associates to reflect non-payment of fees rather than membership.

Reclamation of assigned codes for failure to follow the provisions of clause 7.2.2 of Recommendation ITU-T E.164.1 and Annex A.4.14 to Recommendation ITU-T E.212

|  |  |  |
| --- | --- | --- |
| **Assignee** | **Assigned codes** | **Date of reclamation** |
| Megafon | E.212 shared MCC and MNC 901 32 | 31 January 2023 |

NOTES:

Clause 7.2.2 of ITU-T E.164.1: "The applicant will annually certify that the resource which has been assigned to it continues to be in operation and has complied with the application criteria, and will also reaffirm its prime contact details through the submission of a status notification to the Director of TSB."

Clause A.4.14 of ITU-T E.212: "The applicant will annually certify that the resource which has been assigned to it continues to be in operation and will also reaffirm its prime contact details through the submission of a status notification to the Director of TSB."

TSB applies the criteria defined by ITU-T SG2 (Geneva, 16-20 May 2022) regarding harmonization of the date of annual certification by assignees of E.164 and E.212 International Numbering Resources (INRs), i.e., by 31 December each year.

Reclamation of assigned code no longer in operation or required

|  |  |  |
| --- | --- | --- |
| **Assignee** | **Assigned codes** | **Date of reclamation** |
| Beezz Communication Solutions Ltd | E.164 shared CC and IC 883 220 and the E.212 shared MCC and MNC 901 55 | 1 February 2023 |

Reclamation of assigned code after the deletion of all Recommendations related to Universal Personal Telecommunications (UPT) that were under the auspices of ITU T SG2

|  |  |  |
| --- | --- | --- |
| **Assignee** | **Assigned codes** | **Date of reclamation** |
| VisionNG | UPT Code 878 10 | 30 August 2022 |

## 2.2 Reports of misuse

No reports of alleged misuse of numbering resources were received via the official submission channels between May 2022 and March 2023. 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 May 2022 – March 2023) can be found in [SG2‑TD150/P](https://www.itu.int/md/T22-SG02-230313-TD-PLEN-0150)LEN.

During the reporting period May 2022 – March 2023, ITU-T Study Group 2 continued work on:

* [E.ACP](https://www.itu.int/itu-t/workprog/wp_item.aspx?isn=17415), “Alternative calling procedures”;
* [TR.MMWF](https://www.itu.int/itu-t/workprog/wp_item.aspx?isn=17424), “Methodologies to mitigate Wangiri fraud”; and
* [TR.OTTNum](https://www.itu.int/itu-t/workprog/wp_item.aspx?isn=17412) “Current use of E.164 numbers as identifiers for OTTs”.

In March 2023, ITU-SG2 sent a Liaison Statement to ITU-D informing them of progress of TR.MMWF, which is expected to be Approved by Agreement at the SG2 meeting in November 2023. In January 2023, the ITU-T Study Group 2 Regional Group for Africa (SG2RG-AFR) addressed a range of issues related to [call spoofing](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=T22-SG02RG.AFR-C-0003), [fraudulent international call back](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=T22-SG02RG.AFR-C-0002), [Misuse and ACPs](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=T22-SG02RG.AFR-230117-TD-PLEN-0007), and [anti-fraud solutions](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=T22-SG02RG.AFR-230117-TD-PLEN-0006).

In addition, in March 2023 TSB completed its implementation of an enhanced [misuse reporting web application](https://www.itu.int/en/ITU-T/inr/misuse/Pages/default.aspx), which is aligned with the latest version of [ITU-T E.156](https://www.itu.int/rec/T-REC-E.156) (2020), “Guidelines for ITU-T action on reported misuse of ITU-T E.164 number resources”. The availability of the web application and a call for action by Member States was issued in [TSB Circular 81](https://www.itu.int/md/T22-TSB-CIR-0081/en), “Implementation of Recommendation ITU-T E.156 on Guidelines for ITU-T action on reported misuse of ITU-T E.164 number resources”.

As part of this implementation, TSB has created a new mailing list that is open only to ITU members (subscription [here](https://www.itu.int/net4/iwm?p0=0&p11=ITU&p12=ITU-SEP-ITU-T-SEP-Other%20Groups-SEP-misusereports&p21=ITU&p22=ITU), archive [here](https://www.itu.int/ml/lists/arc/misusereports)). All reports of misuse of indirectly assigned international numbering resources that are reported to TSB will be posted to that mailing list. In addition, TSB is requesting that Administrations and OAs that are members of ITU, and assignees, notify to TSB the Numbering focal point for their organization.

## 2.3 Recommendations

At its last meeting (virtual, 13-22 March 2023), SG2 took the following decisions with respect to:

Recommendations Approved

|  |  |  |
| --- | --- | --- |
| Rec. # | Title | Documents |
| E.118.1 (ex E.gain) | Allocation, assignment and management of global Issuer Identifier Numbers (IINs) | [SG2-TD243R1/PLEN](https://www.itu.int/md/T22-SG02-230313-TD-PLEN-0243) |

Recommendations Determined under TAP

|  |  |  |
| --- | --- | --- |
| Rec. # | Title | Documents |
| E.1120 (ex. E.gap) | Global ITU-T Naming, Numbering, Addressing and Identification assignment processes | [SG2-TD202R1/PLEN](https://www.itu.int/md/T22-SG02-230313-TD-PLEN-0202/en) |

Recommendations Consented under AAP

|  |  |  |
| --- | --- | --- |
| Rec. # | Title | Documents |
| M.3020 (Rev.) | Management interface specification methodology | [SG2-TD201R2/PLEN](https://www.itu.int/md/T22-SG02-230313-TD-PLEN-0201/en) |
| M.3384 (ex M.il-AITOM) | Intelligence Levels of AI enhanced Telecom Operation and Management (IL-AITOM) | [SG2-TD206R2/PLEN](https://www.itu.int/md/T22-SG02-230313-TD-PLEN-0206/en) |
| M.3385 (ex M.ilef-AITOM) | Intelligence Levels Evaluation Framework of AI enhanced Telecom Operation and Management | [SG2-TD207R2/PLEN](https://www.itu.int/md/T22-SG02-230313-TD-PLEN-0207/en) |
| M.3383 (ex M.rla-AI) | Requirements for Log Analysis in telecom management with AI | [SG2-TD219/PLEN](https://www.itu.int/md/T22-SG02-230313-TD-PLEN-0219/en) |
| M.3367 (ex M.rrsp) | Requirements for robot-based on-site smart patrol of telecommunication network | [SG2-TD220/PLEN](https://www.itu.int/md/T22-SG02-230313-TD-PLEN-0220/en) |
| M.3366 (ex M.rmbs) | Requirements for management of blockchain system | [SG2-TD218/PLEN](https://www.itu.int/md/T22-SG02-230313-TD-PLEN-0218/en) |

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

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

**Recommendations to be deleted**

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

**New work items**

Eighteen new work items were initiated:

| **Identifier** | **Question** | **Title** | **Document** |
| --- | --- | --- | --- |
| E.audit | Q1/2 | Mechanisms and processes for audits of the assignment of global naming, numbering, addressing and identification processes | [SG2-TD209/PLEN](https://www.itu.int/md/T22-SG02-230313-TD-PLEN-0209) |
| M.rsmti-uav | Q5/2 | Requirements for smart maintenance of telecommunications infrastructure based on unmanned aerial vehicles | [SG2-TD208R1/PLEN](https://www.itu.int/md/T22-SG02-230313-TD-PLEN-0208) |
| M.rcm-AI | Q5/2 | Requirements for AI capability management within AITOM | [SG2-TD212/PLEN](https://www.itu.int/md/T22-SG02-230313-TD-PLEN-0212) |
| M.rsds | Q5/2 | Requirement for service design within SOMM | [SG2-TD214R1/PLEN](https://www.itu.int/md/T22-SG02-230313-TD-PLEN-0214) |
| M.tpmto | Q5/2 | Telecommunication preventive maintenance task – Overview | [SG2-TD215R1/PLEN](https://www.itu.int/md/T22-SG02-230313-TD-PLEN-0215) |
| M.xr-tosiep | Q5/2 | X interface requirement for telecom operation system and internet e-commerce platform | [SG2-TD217R1/PLEN](https://www.itu.int/md/T22-SG02-230313-TD-PLEN-0217) |
| M.rcem-AI | Q5/2 | Requirements for AI-based customer experience management of telecom services | [SG2-TD213R1/PLEN](https://www.itu.int/md/T22-SG02-230313-TD-PLEN-0213) |
| TR-M.omr-fmls | Q5/2 | TR on Operational Management Requirements for Federated Machine Learning based Services | [SG2-TD211R1/PLEN](https://www.itu.int/md/T22-SG02-230313-TD-PLEN-0211) |
| TR-M.mriin | Q5/2 | TR on Management Requirements for industrial Internet network | [SG2-TD216R2/PLEN](https://www.itu.int/md/T22-SG02-230313-TD-PLEN-0216) |
| M.eiil-AITOM | Q6/2 | Effectiveness indicators of intelligence level for AI enhanced telecom operation and management | [SG2-TD236R3/PLEN](https://www.itu.int/md/T22-SG02-230313-TD-PLEN-0236) |
| M.fkmtom | Q6/2 | Framework of knowledge management for telecom operation and management | [SG2-TD237R2/PLEN](https://www.itu.int/md/T22-SG02-230313-TD-PLEN-0237) |
| M.fmlsm-ir | Q7/2 | Federated Machine Learning Systems Management Interface - Protocol Neutral Requirements | [SG2-TD241/PLEN](https://www.itu.int/md/T22-SG02-230313-TD-PLEN-0241) |

# Progress

The meeting agreed a schedule of meetings for the remainder of the study period ([SG2‑TD118/PLEN](https://www.itu.int/md/T22-SG02-230313-TD-PLEN-0188)) in an effort to avoid overlap with the meetings of other study groups, as follows:

– Third ITU-T SG2 meeting, Geneva, 6-15 November 2023.

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

– One-day ITU-T SG2 e-plenary, September 2024 (if required)

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 May 2022-March 2023, the Numbering Coordination Team (NCT) has held six meetings. In addition, further consultations were carried out through email correspondence. The NCT has worked on 15 new or pending application and the reclamation of 10 assigned international numbering codes. Details can be found in [SG2-TD148/PLEN](https://www.itu.int/md/T22-SG02-230313-TD-PLEN-0148). 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-R5](https://www.itu.int/md/T22-SG02-R-0005/en)).

## Outcomes of Working Party 1/2 (virtual meeting, 13-22 March 2023)

**Q1/2** :

– Discussions took place on: Global number resource reports, 88x eCall number routing, E.164 country code for the State of Palestine, UPT Recommendations, E.164.1, Audit of global resources, E.118, TR.OTTNum, TR.MMWF (Methodologies to Mitigate Wangiri Fraud), Numbering misuse and spoofing, E.156, E.gap, ENUM, review of the TAP consultation in Circular 24 (E.118.1), and E.164 CC/range +77.

– E.118.1 (ex E.gain) was sent to WP1/2 as amended for approval in [SG2‑TD243R1/PLEN](https://www.itu.int/md/T22-SG02-230313-TD-PLEN-0243).

– E.gap was sent to WP1/2 to be Determined as contained in [SG2‑TD202R1/PLEN](https://www.itu.int/md/T22-SG02-230313-TD-PLEN-0202).

– TR.MMWF was amended with a view to Agreement at the November SG2 meeting, [SG2-TD229R1/PLEN](https://www.itu.int/md/T22-SG02-230313-TD-PLEN-0229).

– A new work item was created, E.audit, “Mechanisms and processes for audits of the assignment of global naming, numbering, addressing and identification processes” with the baseline text in [SG2-TD209/PLEN](https://www.itu.int/md/T22-SG02-230313-TD-PLEN-0209). The purpose of this Recommendation is to provide the means and mechanism by which audits are performed, by which role, and for what reason. The audit process defined in the Recommendation will ensure that the consequences of non-compliance by a global identifier assignee are identified in order for appropriate action to be taken by the TSB Director and others in accordance with existing and future Recommendations.

– The meeting agreed to reproduce the outcomes regarding the request for Country Code +77 from Kazakhstan from the November 2022 Q1/2 meeting, as contained in [SG2‑TD171/PLEN](https://www.itu.int/md/T22-SG02-230313-TD-PLEN-0171/en). This again re-iterates the advice to the Director TSB not to assign +77, and to encourage discussion between Kazakhstan and Russia. The Russian Federation informed the meeting about continuation of negotiation with Republic of Kazakhstan on the integrated zone +7.

– Regarding the country code for the State of Palestine, the Q1/2 meeting advised TSB to raise awareness of the transition from +972 to +970 via appropriate announcement(s) in the Operational Bulletin, emphasizing the need to determine and publicize a date for the transition in so doing.

– The Q1/2 meeting requested TSB to prepare a draft letter to Administrations asking whether ENUM is operational, with a concrete response date after which point non-operational delegations would be withdrawn. TSB plans to provide the draft letter for Q1/2 review at the next RGM.

**Q2/2** did not meet due to lack of Contributions.

**Q3/2** :

– Discussions took place on: E.dit, E.ACP, E.370, and Natural Disaster Management and the deliverables received from FG-AI4NDM ().

– A reply LS was produced to send to ITU-D Q3/1 to inform them of work on Natural Disaster Management and the three deliverables received from the FG‑AI4NDM ([SG2-TD191/PLEN](https://www.itu.int/md/T22-SG02-230313-TD-PLEN-0191), [SG2-TD192/PLEN](https://www.itu.int/md/T22-SG02-230313-TD-PLEN-0192), [SG2-TD193/PLEN](https://www.itu.int/md/T22-SG02-230313-TD-PLEN-0193)).

Details can be found in the meeting reports of: [WP1/2](https://www.itu.int/md/T22-SG02-230313-TD-PLEN-0135), [Q1/2](https://www.itu.int/md/T22-SG02-230313-TD-PLEN-0137) and [Q3/2](https://www.itu.int/md/T22-SG02-230313-TD-PLEN-0141).

## Outcomes of Working Party 2/2 (virtual meeting, 13-22 March 2023)

**Q5/2**:

– M.3366 (ex M.rmbs): Requirements for management of blockchain system.

– M.3367 (ex M.rrsp): Requirements for robot-based on-site smart patrol of telecommunication network.

– M.3383 (ex M.rla-AI): Requirements for Log Analysis in telecom management with AI.

– 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.

– M.rsca: Requirements for smart comprehensive analysis with AITOM.

– M.rsmca: Requirements for smart maintenance of cell antenna.

– M.rcpnm: Requirements for Computing Power Network Management.

– M.rODFos: Requirements for Optical Distribution Frame (ODF) On-Site Smart Maintenance.

– M.rsmti-uav: Requirements for smart maintenance of telecommunications infrastructure based on unmanned aerial vehicles.

– M.rcm-AI: Requirements for AI capability management within AITOM.

– M.rsds: Requirement for service design within SOMM.

– M.tpmto: Telecommunication preventive maintenance task – Overview.

– M.xr-tosiep: X interface requirement for telecom operation system and internet e-commerce platform.

– M.rcem-AI: Requirements for AI-based customer experience smart management of telecom services.

– TR-M.omr-fmls: Technical Report on Operational Management Requirements for Federated Machine Learning based Services.

– TR-M.mriin: Technical Report on Management Requirements for industrial Internet network.

**Q6/2**:

– M.3384 (ex M.il-AITOM): Intelligence Levels of AI enhanced Telecom Operation and Management.

– M.3385 (ex M.ilef-AITOM): Intelligence levels evaluation framework of AI enhanced Telecom Operation and Management.

– M.fcnhe: Framework of communication network health evaluation.

– M.uiamr: User Identity and Access Management Requirements for Telecommunications Management Network.

– M.cefno: Cost-effectiveness evaluation framework for network operation.

– M.fidtom: Framework of intent driven telecom operation and management.

– M.eiil-AITOM: Effectiveness indicators of intelligence level for AI enhanced telecom operation and management.

– M.fkmtom: Framework of knowledge management for telecom operation and management.

**Q7/2**:

– M.3020 (revision): Management interface specification methodology.

– M.immbs: Protocol neutral interface analysis for blockchain management system.

– M.nocm-SID: Shared information and data model (SID) for network operation cost management.

– M.smcsn-ia: Protocol neutral interface requirements and analysis for synergy management of cloud and SDN-based networks.

– M.tsm-rest: REST-based interface design for on-site generic telecommunication smart maintenance.

– M.xrmsnr: X-interface requirements for the management of shared network resources.

– M.fmlsm-ir: Federated Machine Learning Systems Management Interface - Protocol Neutral Requirements.

The latest version of the TM&OAM Project Plan can be found in [SG2-TD145R2/PLEN](https://www.itu.int/md/T22-SG02-230313-TD-PLEN-0145), which has been liaised to TSAG and all ITU-T study groups ([SG2-TD227R1/GEN](https://www.itu.int/md/T22-SG02-230313-TD-GEN-0227)).

Details can be found in the meeting reports of: [WP2/2](https://www.itu.int/md/T22-SG02-230313-TD-PLEN-0143/en), [Q5/2](https://www.itu.int/md/T22-SG02-230313-TD-PLEN-0144), [Q6/2](https://www.itu.int/md/T22-SG02-230313-TD-PLEN-0146) and [Q7/2](https://www.itu.int/md/T22-SG02-230313-TD-PLEN-0147).

# Cooperation with other SGs

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

# SG2 regional groups

An ad-hoc meeting on issues related to developing countries was held on 14 March 2023 during the ITU-T Study Group 2 meeting, the report can be found in [SG2-TD153/PLEN](https://www.itu.int/md/T22-SG02-230313-TD-PLEN-0153).

The ITU-T SG2 Regional Group for Africa (SG2RG-AFR) met virtually on 17-18 January 2023, the report can be found in [SG2RG-AFR-TD002](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=T22-SG02RG.AFR-230117-TD-PLEN-0002). During the meeting, training was provided on numbering resources management ([SG2RG-AFR-TD008](https://www.itu.int/md/T22-SG02RG.AFR-230117-TD-PLEN-0008)), and presentations were delivered on:

– Administration and Management of the National Numbering Plan – Online short codes application processing (Uganda, [SG2RG-AFR-TD004](https://www.itu.int/md/T22-SG02RG.AFR-230117-TD-PLEN-0004)).

– Administration and Management of the National Numbering Plan – Online Application and Database management (Tanzania, [SG2RG-AFR-TD005](https://www.itu.int/md/T22-SG02RG.AFR-230117-TD-PLEN-0005)).

– Fraud/Anti-Fraud Solutions (Nigeria, [SG2RG-AFR-TD006](https://www.itu.int/md/T22-SG02RG.AFR-230117-TD-PLEN-0006)).

– Misuse of numbering resources and Alternative Calling Procedure (Sudan, [SG2RG-AFR-TD007](https://www.itu.int/md/T22-SG02RG.AFR-230117-TD-PLEN-0007)).

The follow Contributions were discussed:

– Administration and Management of a Numbering Plan in relation to Alphanumeric Numbers (Uganda, [SG2RG-AFR-C001](https://www.itu.int/md/T22-SG02RG.AFR-C-0001)).

– Fraudulent International Call back Calls (Ghana, [SG2RG-AFR-C002](https://www.itu.int/md/T22-SG02RG.AFR-C-0002)).

– Call Spoofing via Applications (Sudan, [SG2RG-AFR-C003](https://www.itu.int/md/T22-SG02RG.AFR-C-0003)).

In addition, WTSA Resolution 100 (Geneva, 2022), “A common emergency number for Africa”, was discussed and a set of proposed follow up actions was prepared.

Another meeting of ITU-T SG2RG-AFR is planned to be held in September 2023, ahead of the next ITU-T SG2 meeting.

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