|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | INTERNATIONAL TELECOMMUNICATION UNION  **TELECOMMUNICATION STANDARDIZATION SECTOR**  STUDY PERIOD 2022-2024 | | | TSAG-TD144R2 | |
| TSAG | |
| Original: English | |
| **Question(s):** | | N/A | | | Geneva, 12-16 December 2022 |
| **TD** | | | | | |
| **Source:** | | Convener, AHG-MV | | | |
| **Title:** | | FG-MV: Compilation of proposals for ToR text | | | |
| **Contact:** | | Gaëlle Martin-Cocher Interdigital, Canada | E-mail: [Gaelle.Martin-Cocher@InterDigital.com](mailto:Gaelle.Martin-Cocher@InterDigital.com) | | |

|  |  |
| --- | --- |
| **Abstract:** | This TD contains a consolidated version of the various proposals concerning the ToR for an ITU-T Focus Group on metaverse (FG-MV). Rev.1 corrects an oversight regarding the parent group, which was already decided at the opening TSAG plenary as TSAG. Revision 2 includes the changes and points agreed at the 1st session of the AHG-MV (13 Dec 18:00-20:00), plus some editorial updates/suggestions by TSB (blue highlight). |

The following TSAG input documents with specific proposals for the ToR were used to prepare the ToR text in the attachment: [C3](https://www.itu.int/md/T22-TSAG-C-0002) [ETRI, Korea (Rep. of), KT, SK Telecom, Soonchunhyang University], [C9](https://www.itu.int/md/T22-TSAG-C-0009) [Japan Industrial Imaging Association, KDDI, Keio University, Mitsubishi Electric, NICT (Japan), NEC, OKI, Rakuten Mobile, SoftBank, Waseda University], [C10](https://www.itu.int/md/T22-TSAG-C-0010) [Canada], [C13](https://www.itu.int/md/T22-TSAG-C-0013) [Germany, Netherlands, Romania, Sweden, UK], [TD094](https://www.itu.int/md/T22-TSAG-221212-TD-GEN-0094) [ITU-T SG17], [TD037](https://www.itu.int/md/T22-TSAG-221212-TD-GEN-0037) [ITU-T SG16], [TD106](https://www.itu.int/md/T22-TSAG-221212-TD-GEN-0106) [ITU-T SG16], [TD109](https://www.itu.int/md/T22-TSAG-221212-TD-GEN-0109) [ITU-T SG5], [TD129](https://www.itu.int/md/T22-TSAG-221212-TD-GEN-0129) [ITU-T SG13], [TD132](https://www.itu.int/md/T22-TSAG-221212-TD-GEN-0132) [SPCG Chair].

Attachment:  
Draft ToR of the Focus Group on metaverse (FG-MV)

1 Rationale and Scope

Recently, metaverse has become one disruptive area of innovation with great potential to change in a fundamental way our economy, way of living and communicating and society. In this nascent phase of the metaverse, the industry has not converged towards common terms and definitions. The metaverse concept has attracted considerable public attention. Bloomberg analysts[[1]](#footnote-2) have suggested the total market value of the metaverse as the world's "next big technology platform" could reach USD 800 billion by 2024, doubling its value seen in 2020.

This Focus Group provides a collaboration platform for dialogue, for identifying stakeholders with whom ITU-T could collaborate, and for enabling the inclusion of non-members to contribute to the technical pre-standardization work. This will enrich the Focus Group work with the relevant use cases.

Focus Group will consider the following aspects for pre-standardization work of the metaverse:

– Working definitions and terminology, concepts, vision, use cases and ecosystem

– Technical requirements

– Technical framework and characteristics, including identification of fundamental underlying technologies

– Security and personally identifiable information (PII) protection related aspects

– Networking infrastructure and connectivity

– Interoperability

– Application interfaces

– Accessibility including persons with disabilities

– Gap analysis of standardization activities in other standardization bodies, including terminology used in ISO and IEC

– Economic aspects and regulatory implications

– Environmental sustainability

2 Objectives of the Focus Group

The objective of the Focus Group is to support pre-standardisation activities for an open unified study of the metaverse ecosystem.

More precisely, the objectives include:

a) To build a community of experts and practitioners, working on concepts and implementation of metaverse, which is now fragmented. ITU can use its convening power to bring them together and unify the concepts, develop common understandings, so that it be benefiting not only the ITU standardization scene but also the global community. To establish liaisons and relationships and as well as other organisations which could contribute to the pre-standardisation activities for services and applications for metaverse;

b) To identify and study the enabling technologies and key tasks within metaverse systems for standardization purpose, including multimedia, security, protection of personally identifiable information, quality, digital assets (digital currencies), IoT, accessibility and digital twin;

c) To produce a gap analysis of standardisation, fill the gaps identified, and open studies for the metaverse to facilitate interoperability;

d) To study, gather information and develop a standards research plan related to metaverse;

e) To stimulate international collaboration, to share knowledge and best practices, and to explore the opportunities and challenges of interoperable metaverse platform;

f) To identify and study the role of multimedia in optimizing networks to be ready for metaverse types of networks in terms of bandwidth, interoperability, and latency.

g) To identify and study how to secure metaverse using security technologies and technical or organizational procedures.

h) To provide a platform to share findings and for dialogue on policy and regulatory implications of metaverse between enterprises working on metaverse applications and regulators from various industrial/economic sectors.

i) To identify stakeholders with whom ITU-T could collaborate further on and potential collective action and specific next steps.

3 Specific tasks and deliverables

a) to develop technical reports covering technical research and standardization analysis related to metaverse, which may lead to new work items for ITU-T Recommendations;

b) to develop deliverables related to definitions, use cases, requirements, guidelines, best practices related to the metaverse, also considering inclusive design principles to meet accessibility requirements;

c) to develop deliverables related to security (including identity management and strong authentication), PII protection and building confidence related to the metaverse, considering security by design principles to meet security requirements during the life cycle of services related to metaverse;

d) to organize and participate in workshops to share and collect knowledge and experience from a wide range of expert community and stakeholders in the incipient metaverse domain;

e) to provide a final report and report on the FG deliverables to the parent group.

4 Relationships

The Focus Group will work through co-located meetings with relevant ITU-T SGs when possible. It will establish and maintain task-appropriate collaboration arrangements with other partners as well.

The Focus Group will collaborate with:

* ITU-T SG3 – Economic & policy issues
* ITU-T SG5 – Environment, EMF & circular economy
* ITU-T SG9 – Broadband cable & TV
* ITU-T SG11 – Protocols, testing & combating counterfeiting
* ITU-T SG12 – Performance, QoS & QoE
* ITU-T SG13 – Future networks
* ITU-T SG16 – Multimedia & digital technologies
* ITU-T SG17 – Security
* ITU-T SG20 – IoT, smart cities & communities

Furthermore, the Focus Group will collaborate (as required) with other relevant groups and entities, in accordance with Recommendation ITU-T A.7. These include governments, non-governmental organizations (NGOs), policy makers, SDOs, industry forums and consortia, companies, academic institutions, research institutions and other relevant organizations, inter alia:

* ITU-R SG5 – Systems and networks for fixed, mobile, radiodetermination, amateur and amateur-satellite services
* IEC TC57 – Power systems management and associated information exchange
* IEC TC65 – Industrial process measurement, control and automation
* IEC TC79 – Alarm and electronic security systems
* IEC TC85 – Measuring equipment for electrical and electromagnetic quantities
* IEC TC93 – Design automation
* IEC TC100 – Audio, video and multimedia systems and equipment
* IEC TC110 – Electronics displays
* ISO/TC68/SC8 – Reference data for financial services
* ISO/TC69 – Applications of statistical methods
* ISO/TC133 – Clothing sizing systems – Size designation, size measurement methods and digital fittings
* ISO/TC184/SC4 – Industrial data
* ISO/TC307 – Blockchain and distributed ledger technologies
* ISO/IEC JTC1/SC24/WG6 – Computer graphics, image processing and environmental data representation
* ISO/IEC JTC1/SC27/WG2 – Information security, cybersecurity and privacy protection
* ISO/IEC JTC1/SC29 – Coding of audio, picture, multimedia and hypermedia information
* ISO/IEC JTC1/SC38 – Cloud computing and distributed platforms
* ISO/IEC JTC1/SC41 – Internet of things and digital twin
* ISO/IEC JTC1/SC42/WG5 – Artificial intelligence
* ISO/IEC JTC1/SC43 – Brain computer interfaces
* ISO and IEC Joint Standardization Evaluation Group (JSEG) on metaverse
* IEEE-SA Metaverse Standards Committee
* W3C (Open) Metaverse Interoperability (OMI) Community Group
* Metaverse Standardization Forum (MSF)

5 Structure

The Focus Group may establish sub-groups if needed.

6 Parent group

The parent group of the Focus Group is TSAG.

7 Leadership

See clause 2.3 of Recommendation ITU-T A.7.

8 Participation

See clause 3 of Recommendation ITU-T A.7. A list of participants will be maintained for reference purposes and reported to the parent group.

9 Administrative support

See clause 5 of Recommendation ITU-T A.7.

10 General financing

See clauses 4 and 10.2 of Recommendation ITU-T A.7.

11 Meetings

The Focus Group will conduct regular meetings. The frequency and locations of meetings will be determined by the Focus Group management. The overall meetings plan will be announced after the approval of the terms of reference. The Focus Group will use remote collaboration tools to the maximum extent.

The meeting dates will be announced by electronic means (e.g., e-mail and website, etc.) at least four weeks in advance.

12 Technical contributions

See clause 8 of Recommendation ITU-T A.7.

13 Working language

The working language is English.

14 Approval of deliverables

Approval of deliverables shall be taken by consensus.

15 Working guidelines

Working procedures shall follow the procedures of Rapporteur meetings. No additional working guidelines are defined.

16 Progress reports

See clause 11 of Recommendation ITU-T A.7.

17 Announcement of Focus Group formation

The formation of the Focus Group will be announced via TSB Circular to all ITU membership, via the ITU-T News log, press releases and other means, including communication with the other involved organizations.

18 Milestones and duration of the Focus Group

The Focus Group lifetime is set for one year from the first meeting with possibility of extension.

19 Patent policy

See clause 9 of Recommendation ITU-T A.7.

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

1. <https://www.bloomberg.com/professional/blog/metaverse-may-be-800-billion-market-next-tech-platform/>. [↑](#footnote-ref-2)