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| itu-logo | **International telecommunication union****Telecommunication Standardization Bureau** |  |
|  | Geneva, 31 July 2018 |
| **Ref:** | **TSB Circular 104**FG NET-2030/TK | **To:**- Administrations of Member States ofthe Union;- ITU-T Sector Members;- ITU-T Associates;- ITU Academia |
| **Tel:** | +41 22 730 5126 |
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| **E-mail:** | tsbfgnet2030@itu.int | **Copy to:**- The Chairmen and Vice-Chairmen ofITU-T Study Groups;- The Director of the Telecommunication Development Bureau;- The Director of the Radiocommunication Bureau |
| **Subject:** | **Establishment of the new ITU-T Focus Group “Technologies for Network 2030” (FG NET-2030) and its inaugural meeting (New York, NY, United States, 3-4 October 2018)****First Workshop on Network 2030, New York, NY, United States, 2 October 2018**  |

Dear Sir/Madam,

1 I am pleased to announce that in response to growing interest in Future Networks around 2030 and beyond, the ITU-T Study Group 13, at its meeting in Geneva (16‑27 July 2018), agreed to establish [the ITU-T Focus Group “Technologies for Network 2030” (FG NET-2030)](https://www.itu.int/en/ITU-T/focusgroups/net2030/Pages/default.aspx).

2 Under the chairmanship of Mr Richard Li (Huawei), the FG NET-2030 will study the capabilities of future networks around the year 2030 and thereafter, when it is expected to support future-oriented new scenarios such as holographic type communications, industrial avatars, and extremely fast responses in critical situations. The study aims to answer specific questions on what kinds of network architecture and the enabling mechanisms are suitable for such novel scenarios.

“Network 2030 is a pointer to the new horizon for the future digital society in the year 2030 and thereafter” states Richard Li.

3 Participation in FG NET-2030 is free of charge and is open to ITU Member States, Sector Members, Associates, Academia and to any individual from a country which is a member of ITU and who is willing to contribute to the work; this includes individuals who are also members or representatives of interested standards development organizations. Anyone interested in updates and announcements related to this group is invited to subscribe to the FG NET-2030 mailing list. Details on how to subscribe can be found at: <https://www.itu.int/en/ITU-T/focusgroups/net2030>.

4 The group will operate under the procedures set out in [Recommendation ITU-T A.7](http://www.itu.int/rec/T-REC-A.7) and within the agreed Terms of Reference reproduced in **Annex 1**. ITU-T Study Group 13 appointed Mr Richard Li (Huawei, USA) as Chairman of the Focus Group. Mr Mehmet Toy (Verizon, USA),
Mr Alexey Borodin (Rostelecom, Russia), Ms Yuan Zhang (China Telecom), and Mr Yutaka Miyake (KDDI Japan) were appointed as Vice-chairmen.

5 **First meeting of FG NET-2030 and workshop**

The first meeting of FG NET-2030 will be held in New York and will be organized by New York University in Brooklyn from 3-4 October 2018 from 09:30 am - 5:00 pm. The objectives of the first meeting include:

* Discussion on future networks around 2030: definition, vision, requirements, expectations, challenges, research gaps and standardization needs for future networks;
* Agreement on the precise scope and objectives of the focus group;
* Agreement on the group’s structure, expected deliverables, responsibilities, timeline; and
* Review of written contributions and initial development of deliverables.

6 The **First Workshop on Network 2030** will be held the day before the first meeting of the FG NET-2030, on 2 October 2018, at the same location.

7 **Written contributions to the FG meeting** are invited and should be submitted by e-mail to the FG Secretariat (tsbfgnet2030@itu.int) by **23 September 2018** at the latest using the document template available on the [FG NET-2030 homepage](https://www.itu.int/en/ITU-T/focusgroups/net2030/Pages/default.aspx). Access to all documents will be provided from the [FG NET-2030 homepage](https://www.itu.int/en/ITU-T/focusgroups/net2030/Pages/default.aspx) (TIES or Guest account required).

8 The meeting will open at 0930 hours on the first day. The meeting agenda will be available from the [FG NET-2030 homepage](https://www.itu.int/en/ITU-T/focusgroups/net2030/Pages/default.aspx) in advance of the meeting. Further details about the venue and meeting logistics will be made available on the [FG NET-2030 homepage](https://www.itu.int/en/ITU-T/focusgroups/net2030/Pages/default.aspx).

9 This will be a paperless meeting. The hosting organization will ensure WiFi access to documentation of the meeting. The discussions will be held in English only.

10 To enable the hosting organization and ITU to make the necessary logistics arrangements, participants are invited **to register** online via the [FG NET-2030 homepage](https://www.itu.int/en/ITU-T/focusgroups/net2030/Pages/default.aspx) as soon as possible, and **no later than 25 September**.

**Key deadlines:**

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| 25 September 2018 | - Pre-registration (online via the [FG NET2030 homepage](https://www.itu.int/en/ITU-T/focusgroups/net2030/Pages/default.aspx)) |
| 23 September 2018 | - Submit written contributions (by e-mail to tsbfgnet2030@itu.int)  |

11 Citizens of some countries are required to obtain a visa in order to enter and spend any time in the United States. The visa must be obtained from the office (embassy or consulate) representing the United States in your country or, if there is no such office in your country, from the one that is closest to the country of departure. The hosting organization has kindly provided the following contact point to answer any questions concerning visas. A letter to support your visa application *to the event* may be requested from the contact point below:

Prof. Yong Liu
E-mail: yongliu@nyu.edu
Phone: +1–413-687-3675

I wish you a productive and enjoyable meeting.

Yours faithfully,

*(signed)*

Chaesub Lee
Director of the Telecommunication
Standardization Bureau

**Annex:** 1

**ANNEX 1**

Terms of Reference:
ITU-T Focus Group on “Technologies for Network 2030”
(FG NET-2030)

**1. Rationale and Scope**

The coming decade will see swift changes in technologies pertaining to novel types of devices, systems and functions they perform. New applications with diverse requirements will also begin to emerge, such as holographic multimedia, instantaneous data delivery and movement, remote surgery, humanoid robots, intelligence-enabled tiny IoT terminals, fully autonomous transportation system, and so forth. Everything will either be connected or equipped with intelligence, often both, which provides an even tighter integration of communication and technology with human life.

The massive adoption of these new applications is contingent on how well the underlying communications are supported at a large scale over the hyper-connected networks. Therefore, a further evaluation of the relevant network architecture with the associated enabling technologies is highly demanded.

Network 2030 is a new network towards 2030 and beyond, addressing not only shorter latency and higher capacity, but also possibly support of multi-dimensional information delivery approaches, such as holographic type communications with haptic sensing, instantaneous multi-type information teleportation with determinacy, and the like.

In the study of network 2030 architecture, many new communication requirements are expected to emerge that are more sensitive to resource demands and must be satisfied, specifically:

* Astronomical amount of connections beyond the limitation of current and near future networks including 5G/IMT-2020;
* Very-high throughput to support explosive bandwidth-intensive future applications beyond the limitation of current and near future networks including 5G/IMT-2020;
* Super-ultra-low latency networking, with deterministic guarantee beyond the limitation of current and near future networks including 5G/IMT-2020;
* Trustable network infrastructure;
* Human safety and privacy centric reliable networking mechanism, and so forth.

The Focus Group, i.e., FG-NET-2030, intends to study the capabilities of future networks roughly in the period of 2025-2035, when it is expected to support future-oriented new scenarios, such as holographic telepresence, industrial avatars, extremely fast response in critical situations. The study aims to answer specific questions on what kinds of network architecture and the enabling mechanisms are suitable for such novel scenarios.

The future network towards 2030 and beyond, which is named as Network-2030, will be realized by the exploration of on-the-wire communication mechanisms from many broader perspectives not restricted by existing notions of network layers or to any particular technologies nowadays. Thus, it may be built upon a new network layer or new network architecture to carry information in a manner that may be an evolution and refinement of existing networks or quite different from. However, it should ensure that the future network systems and applications remain fully backward compatible.

The FG-NET-2030, as a platform to study and advance international networking technologies, will investigate the future network architecture, requirements, use cases, and capabilities of the networks for 2030 and beyond.

**2. Objectives of the FG-NET-2030**

The objective of the FG is to carry out a broad analysis for future networks towards 2030 and beyond. In order to formulate a right vision, this FG is expected to identify the gaps and challenges based on latest networking technologies, and derive fundamental requirements from novel use cases. In addition, the FG intends to formulate an overall framework of Network 2030, while innovative technical enablers are expected to be proposed. Furthermore, this FG also can serve as an open platform for experts representing ITU members and non-members to quickly move forward the standard develop of future networks at ITU-T, mainly targeting on future networks in the coming decade.

More precisely, the objectives include:

* To study, review and survey existing technologies, platforms, and standards for identifying the gaps and challenges towards Network 2030, which are not supported by the existing and near future networks like 5G/IMT-2020.
* To formulate all aspects of Network 2030, including vision, requirements, architecture, novel use cases, evaluation methodology, and so forth.
* To provide guidelines for standardization roadmap.
* To establish liaisons and relationships with other SDOs.

**3. Structure**The FG-NET-2030 may establish sub-groups if needed.

**4. Specific Tasks and Deliverables**The expected tasks with potential deliverables are listed below:

1. To identify the gaps and challenges which are not supported by existing and near future technologies like 5G/IMT-2020, including new network layer or new network architecture.
2. To identify performance targets of Network 2030 that is beyond the limitation of existing and near future networks including 5G/IMT-2020.
3. To make a report on the definitions, terminologies and taxonomy for Network 2030 and the relevant eco-system.
4. To describe the potential architecture and framework of Network 2030.
5. To analyse the backward compatibility and steps towards Network 2030, based on existing and near future networks including 5G/IMT-2020.
6. To study the future scenarios and use cases.
7. To draft a report on describing the standardization gaps for ITU-T study groups.
8. To organise thematic workshops and forums on Network 2030, which will bring together all stakeholders, and promote the FG activities and encourage both ITU members and non-ITU members to jointly contribute on this work.
9. To make liaison with other SDOs, such as ETSI specific ISGs, IETF, IRTF.

**5. Relationships**The FG will work closely with SG13 through co-located meetings when possible, and will also work in close coordination with other ITU-T Study Groups as appropriate whenever necessary.

This FG-NET-2030 will collaborate with other relevant groups and entities, in accordance with Recommendation ITU-T A.7, which may include municipalities, non-governmental organizations (NGOs), policy makers, SDOs, industry forums and consortia, companies, academic institutions, research institutions and other relevant organizations.

**6. Parent group**The parent group of the FG-NET-2030 is ITU-T Study Group 13 “Future networks, with focus on IMT-2020, cloud computing and trusted network infrastructures”.

**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. It is important to mention that the participation in this FG has to be based on contributions and active participations.

**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 FG will conduct regular meetings. The frequency and locations of meetings will be determined by the FG management. The overall meetings plan will be announced after the approval of the terms of reference. The FG will use remote collaboration tools to the maximum extent, and collocation with existing SG13 meetings is encouraged.

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

At least the last meeting of the FG should be held with the SG13 meeting.

**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 Newslog, 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 but extensible if necessary by decision of the parent group. (see ITU-T A7, clause 2.2).

**19. Patent policy**

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

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