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| **Focus Group on Environmental Efficiency for AI and other Emerging Technologies** |
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| **Abstract:** | This document contains the report of the fifth meeting of Focus Group on Environmental Efficiency for AI and other Emerging Technologies (FG-AI4EE) held on 4 May 2022, in Vienna, Austria. |

Please see below.

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**Meeting report**

# 1 Organization of the meetings

The fifth meeting of FG-AI4EE was held on 4 May 2022 in Vienna, Austria, with remote participation provided via [ITU virtual events portal](https://www.itu.int/en/events/Pages/virtual-events.aspx).

The meeting was chaired by Mr Paolo Gemma (Huawei Technologies Co., Ltd, China), Co-Chairmen of FG-AI4EE, with the support of Dr Barbara Kolm (Austrian Economics Center, Austria), Vice-Chairman of FG-AI4EE, and assisted by Ms Charlyne Restivo (TSB, FG-AI4EE Advisor).

The Focus Group meeting was attended by a total number of **149 participants**, including **18 in-persons**, representing a total of **52 countries**. The list of participants is available in document [[FG-AI4EE-O-020](https://extranet.itu.int/sites/itu-t/focusgroups/ai4ee/output/FG-AI4EE-O-020.zip)].

The meeting was preceded by a full-day [ITU Workshop on Advancing Environmental Efficiency of Emerging Technologies](https://www.itu.int/en/ITU-T/Workshops-and-Seminars/2022/0503/Pages/default.aspx). The Workshop was attended by **173 participants**, including **26 in-persons**, representing a total number of **56 countries**.

The full recording of the workshop is available for public viewing [online](https://itu.zoom.us/rec/play/JnKmkrTOBmhHFjsKrl2Sm7po07RcEU-7eSxGNBBe105XWlXAy-AjesHPwfYeBy820RMUlUMbbjK0LyHY.bPnBEYb4HavLqxRk?continueMode=true) with 75min except also available on the AI4Good [Neural Network](https://aiforgood.itu.int/event/fg-ai4ee-workshop-on-advancing-environmental-efficiency-of-emerging-technologies/). Workshop Presentations available on the Event’s [programme page](https://www.itu.int/en/ITU-T/Workshops-and-Seminars/2022/0503/Pages/programme.aspx). An ITU news article about the Workshop has been published: <https://www.itu.int/hub/2022/06/environmental-efficiency-sustainable-smes> A [Photo album​](https://www.flickr.com/photos/itupictures/albums/72177720298850513) of the meetings is available online.

FG-AI4EE events were the first meetings of ITU abroad since the COVID-19 pandemic.

## 1.1 Meeting agenda

The agenda was published in document [[FG-AI4EE-I-083-R1](https://extranet.itu.int/sites/itu-t/focusgroups/ai4ee/input/FG-AI4EE-I-083-R1.docx)], and was approved as presented.

## 1.2 Meeting documents

Documents considered at this meeting are listed as part of the agenda. All documents are available on the [SharePoint site](https://extranet.itu.int/sites/itu-t/focusgroups/ai4ee/SitePages/Home.aspx?InitialTabId=Ribbon%2ERead&VisibilityContext=WSSTabPersistence) accessible from the FG-AI4EE [homepage](https://www.itu.int/en/ITU-T/focusgroups/ai4ee/Pages/default.aspx).

# 2 Key meeting results

## 2.1 Key results

1. **Deliverables review:**  The meeting reviewed seven (7) deliverables, collected feedback from participants, and took note of volunteer contributors.
2. **New deliverable:** The meeting agreed to start one (1) new item: Technical Report [D.WGq-04] on ‘’Effective Use Cases of AI for Smart Sustainable Cities’’ – under Working Group 2, based on the Contribution presented at the meeting by Dr Abdelnasser Abdelaal, King Faisal University, Saudi Arabia.
3. **Deliverable approval:** The meeting approved one Focus Group deliverable (see 2.2 below). FG-AI4EE subsequently shared this deliverable with its parent group, ITU-T Study Group 5, for information, and with ITU-T SG20 for consideration at SG20’s meeting in Geneva on 18-28 July 2022.
4. **Liaison Statement approval:** The meeting approved two outgoing Liaison Statement as follows
5. LS/o on one approved deliverable of ITU-T FG-AI4EE [to ITU-T Study Groups and Focus Groups] for action to ITU-T SG20
6. LS/o on draft FG-AI4EE Standardized Glossary of Terms for revision and alignment with ITU-T SG5 terminology, for action to ITU-T SG5 by 30 September 2022
7. **Workshop:** The Focus Group ran a successful Workshop was attended by **173 participants**, including **26 in-persons**, representing a total number of **56 countries**. The expected outcome to promote of FG-AI4EE’s activities and reach new audiences was achieved. FG-AI4EE will use speakers’ insights to progress work on its deliverables and capitalize on the energy and interests generated at the event to advance FG-AI4EE’s work.

**Timeline for finalization of FG-AI4EE deliverables:**

* September 2022: Leaders should aim to have *stable drafts* of their reports – closely aligned on [ITU-T publication guidelines](https://www.itu.int/dms_pub/itu-t/oth/0a/0f/T0A0F0000040004PDFE.pdf) - shared with ITU Secretariat for posting on SharePoint and circulated for comments.
* October 2022: Draft deliverables shall be *circulated for comments* to the relevant Working Group for a period of 4 weeks, to leave enough time for members to review.
* November 2022: Leaders to address comments received and produce a final draft – closely aligned on [ITU-T publication guidelines](https://www.itu.int/dms_pub/itu-t/oth/0a/0f/T0A0F0000040004PDFE.pdf).
	+ Final drafts shall be sent to ITU Secretariat by the deadline of 15 November 2022.
* December 2022: Leaders to present their final reports to FG-AI4EE final meeting, scheduled to take place early December 2022.

**Use of Focus Group mailing lists:**  As a general comment, the Co-Chairman encourages all Focus Group Members, and *especially deliverable leaders*, to make use of the Working Groups mailing lists to circulate documents, calls for contributions, meeting requests - for transparency purposes.

* Working Group 1 fgai4eewg1@lists.itu.int to be used for WG1 matters
* Working Group 2 fgai4eewg2@lists.itu.int to be used for WG2 matters
* Working Group 3 fgai4eewg3@lists.itu.int to be used for WG3 matters
* Main Focus Group mailing lists fgai4ee@lists.itu.int to be used for general communications

## 2.2 FG-AI4EE’s approved document

The document listed in the table below is the outcome of the fifth FG-AI4EE meeting.

Table 1: Deliverable approved at FG-AI4EE Fifth Meeting

| **Document** | **Type** | **Number** | **Title** | **Description** |
| --- | --- | --- | --- | --- |
| [D.WG1-10](https://www.itu.int/en/ITU-T/focusgroups/ai4ee/Documents/D.WG1-10_Guidelines_Digital%20Twins_Climate%20Change%20Mitigation%20Solutions_F.pdf) | Technical Report | D.WG1-10 | Guidelines on the Use of Digital Twin of Cities and Communities for Better Climate Mitigation Solutions | ​This document provides​ guidelines on how to use the United Nations ''United for Smart Sustainable Cities” (U4SSC) Key Performance Indicator (KPI) system [ITU-T Y.4903]​ in a digital twin city and community, to identify high impact climate mitigation solutions.  It includes a set of case studies showing examples of projects where emerging technology, such as ML, A​R & AI, has or could have been used to reduce the negative impact of climate change in cities and communities. It also contains a set of online video and testimonials to illustrate those examples. ​ |

# 3 Summary of discussions

## 3.1 Opening session

### 3.1.1 Welcome remarks and meeting objective

FG-AI4EE Co-Chairman, Mr Paolo Gemma, opened the meeting, followed by some welcome remarks by the host of the meeting, Vice-Chairman Dr Barbara Kolm.

The main objective of this fifth meeting was to present one final deliverable for approval, progress on other draft work items, and collect inputs for the completion of remaining deliverables, before the Focus Group officially concludes in December 2022.

In his welcome remarks, Mr Gemma warmly thanked Dr Kolm for the second time hosting of FG-AI4EE meeting in Vienna. Mr Gemma commended FG-AI4EE experts’ efforts in drafting and in providing inputs and comments to these deliverables, and ITU staff for their coordination. It was noted that Co-Chairman, Mr Neil Sahota would not be able to join the meeting this time. All documents presented were made available on FG-AI4EE [SharePoint](https://extranet.itu.int/sites/itu-t/focusgroups/ai4ee/SitePages/Home.aspx?InitialTabId=Ribbon%2ERead&VisibilityContext=WSSTabPersistence) ahead of this meeting.

### 3.1.2 Agenda

The draft agenda was approved [[FG-AI4EE-I-068-R2](https://extranet.itu.int/sites/itu-t/focusgroups/ai4ee/_layouts/15/WopiFrame.aspx?sourcedoc=%7BC5CD8E14-B701-46F1-A9BA-D9328D17C155%7D&file=FG-AI4EE-I-068-R2.docx&action=default)].

### 3.1.3 RoundTable of Introduction

The Co-Chairman proceeded to a round of introductions for those in the room and online, starting with the other FG-AI4EE management team members present in Vienna, namely Vice-Chairmen Dr Kolm, and Mr Stefano Nativi.

### 3.1.4 IPR call

Mr Gemma presented the ITU Intellectual Property Rights (IPR) policy and read out the IPR call. There were no requests or objections from the floor in response to the IPR call contained in document [[FG-AI4EE-I-084](https://extranet.itu.int/sites/itu-t/focusgroups/ai4ee/input/FG-AI4EE-I-084.docx)].

### 3.1.5 Approval of previous meeting report (Virtual, 21 October 2021)

The report of the fourth Focus Group meeting (Virtual, 21 October 2021) was approved as contained in document [[](https://extranet.itu.int/sites/itu-t/focusgroups/ai4ee/_layouts/15/WopiFrame.aspx?sourcedoc=%7B111E60E9-0339-4D29-BC3D-157FA2F70ED1%7D&file=AI4EE-O-001.docx&action=default)[FG-AI4EE-O-019](https://extranet.itu.int/sites/itu-t/focusgroups/ai4ee/output/FG-AI4EE-O-019.docx)]

## 3.2 Working Group 1: Requirements of AI and other emerging technologies to ensure environmental efficiency

This session was chaired remotely by Working Group 1 Co-Chair, Mr Joel Alexander Mills, AugmentCity AS, Norway,

Working Group 1 presented the following deliverable for approval of the meeting:

### 3.2.1 Presentation of Technical Report D.WG1-10 for approval

*Presentation*

* [[D.WG1-10](https://www.itu.int/en/ITU-T/focusgroups/ai4ee/Documents/D.WG1-10_Guidelines_Digital%20Twins_Climate%20Change%20Mitigation%20Solutions_F.pdf)] Technical Report D.WG1-10 – “Guidelines on the Use of Digital Twin of Cities and Communities for Better Climate Mitigation Solutions​”
* On behalf of co-editor Mr Pierre Major, Mr Mills presented the final version of the Technical Report which is the outcome of WG1 discussions and had been reviewed by the same Group.
* This Technical Report offers a set of use cases and project testimonials which demonstrate the actual and potential benefits of digital twins for energy optimization and climate change mitigation solutions in an urban context.

*Discussions*

* Following presentation of the document, the Co-Chair opened the floor for comments and questions
* It was suggested to replace the word ‘’City’’ whenever appropriate by the relevant U4SSC terminology (i.e. “cities and communities”) to encompass human settlements/communities for inclusiveness.
* Mr. Kishor Narang, Narnix Technolabs Pvt. Ltd, India, recommended a deeper assessment by the Focus Group on the carbon footprint of AI. Mr Narang further suggested to establish a liaison with oceanists. FG-AI4EE Management team suggested a written contribution and added that the environmental impact of emerging technologies is addressed in the various reports of the three working groups.

*Outcomes*

* Based on the discussion results, the meeting agreed by consensus to approve [[D.WG1-10](https://www.itu.int/en/ITU-T/focusgroups/ai4ee/Documents/D.WG1-10_Guidelines_Digital%20Twins_Climate%20Change%20Mitigation%20Solutions_F.pdf)] Technical Report D.WG1-10. with one request for modification: Replace the word ‘’City’’ whenever appropriate by the relevant U4SSC terminology (i.e. “cities and communities”) to encompass human settlements/communities for inclusiveness.

### 3.2.2 Presentation of draft deliverable D.WG1-01

*Presentation*

* [[FG-AI4EE-I-090](https://extranet.itu.int/sites/itu-t/focusgroups/ai4ee/input/FG-AI4EE-I-090.docx)] D.WG1-01 Technical Report “Standardized Glossary of Terms”
* Leader: Malcolm Mason, Sure International, presented draft Technical Report which is the outcome of WG1 discussions and e-meetings.
* This document contains a dictionary of common terms and phrases used in the Focus Group's deliverables that will help readers to have common definitions and frames​ of reference.

*Decisions*

* It was agreed to circulate the document for comments to all deliverable leaders
* It was agreed that this item would be approved last since it compiles all terms of deliverables published and currently in progress.
* It was agreed to share the draft with ITU-T SG5 to review and align the document with the terminology used in ITU-T SG5 to facilitate *in fine* its adoption in ITU-T SG5 standardization work. See Liaison Statement [FG-AI4EE-LS10](https://www.itu.int/net/ITU-T/ls/ls.aspx?isn=28388)
* It was agreed to share the draft with ITU-T editorial team with that same purpose.

### 3.2.3 Presentation of draft deliverable D.WG1-05

*Presentation*

* [[FG-AI4EE-I-095](https://extranet.itu.int/sites/itu-t/focusgroups/ai4ee/input/FG-AI4EE-I-095.docx)] D.WG1-05 Technical Specification “Reporting templates on AI, Augmented Reality and Machine Learning”
* WG1 Co-Chairman Joel Mills presented this item on behalf of leader: Annik Magerholm Fet, and with Pierre Major, NTNU who were absent from the meeting.
* ​This document will generate a set of standard reporting templates/dashboards to visualize data produced from technology solutions such as AI, Augmented Reality (AR) and ML, that employ defined eco-friendly practices. This document will aim to display the results gained from D.WG1-04 [List of KPIs-metrics](https://www.itu.int/en/ITU-T/focusgroups/ai4ee/Documents/T-FG-AI4EE-2021-D.WG1.04-PDF-E.pdf) in an instinctive way (see 6.1 of doc [FG-AI4EE-I-095](https://extranet.itu.int/sites/itu-t/focusgroups/ai4ee/input/FG-AI4EE-I-095.docx))
* Mr Mills indicated some delay on this item but the aim is to present the final item for approval in December 2022. In previous presentations to WG1, leader highlighted the need to reduce the scope of reporting. Mr Mills delineated a series of actions for the Group’s inputs, namely:
* Comment on the KPIs proposed in this document (see clause 6) [doc [FG-AI4EE-I-095](https://extranet.itu.int/sites/itu-t/focusgroups/ai4ee/input/FG-AI4EE-I-095.docx) ]
* Define whether a pure the report should focus on pure KPI reporting or report (representativeness of KPI, analysis, limitation of the method)
* Define the target audience: wide audience of stakeholders or particular ones, institutional, private?
* Mr Mills and called out for support in favour of the development of this work item.

*Discussions*

* Gabrielle Samuel volunteered to help with the ethical questions.

### 3.2.4 Presentation of draft deliverable

*Presentation*

* [Matrix doc [FG-AI4EE-I-093](https://extranet.itu.int/sites/itu-t/focusgroups/ai4ee/input/FG-AI4EE-I-093.zip)] D.WG1-06 Technical Specification “Neutral Navigational Matrix for AI-driven Technologies for Smart Sustainable Cities”
* Leader: Barbara Kolm, Austrian Economics Center & Austrian National Bank, Austria with the support of Prof. Rüdiger Stix & Vienna Team.
* Prof. Rüdiger Stix presented the matrix document noting that it had been presented multiple times in Working Group 1 meetings.
The high-level impact matrix presented is a complex excel document that aims to that supports policymakers, operators and other relevant stakeholders in assessing the implication of different AI and blockchain solutions.

*Discussions*

* It was agreed that to facilitate the understanding and use of this Matrix, it would be necessary for the editors to draft a two-pager guidance document.

### 3.2.5 Presentation of draft deliverable

* Leader: Daniela Tulone, ecoSurge, Italy, presented progress on [[FG-AI4EE-I-091](https://extranet.itu.int/sites/itu-t/focusgroups/ai4ee/input/FG-AI4EE-I-091.docx)] Technical Report “Connecting Environmental Efficiency of Digital Technologies to the Sustainable Development Goals (SDGs)”. This draft report starting from technical point but also focuses on ethics. It also addresses the rebound effect and other complex phenomenon and later sections focus on proposals.
* Comments from the audience pointed the need to consider the different filters of technology and focus on consumer.

### 3.2.6 Review of WG1 Workplan

Mr Mills provided an overview of WG1 activities. Please see the presentation contained in document [[FG-AI4EE-I-079](https://extranet.itu.int/sites/itu-t/focusgroups/ai4ee/input/FG-AI4EE-I-079.zip)]

WG1 was mandated to work on a total of 11 deliverables, the details of which details can be found [online](https://www.itu.int/en/ITU-T/focusgroups/ai4ee/Pages/WG1deliverables.aspx.).

The table below is updated based on FG-AI4EE 5th meeting discussions, and management team discussions held after the 4th meeting:

Table 2: Overview of remaining Working Group 1 Deliverables

| **#** | **Type** | **Deliverable title** | **Status** | **Leader** |
| --- | --- | --- | --- | --- |
| D.WG1-01 | TR | Standardized Glossary of Terms | In progress | Malcolm Mason, Sure Int. |
| D.WG1-02 | TR | Scorecard to identify enhanced eco-friendly business processes | Not started | Neil Sahota, IBM, University of California |
| D.WG1-03 | TR | Solution scorecard on environmental behavioral influencers | Not started | Neil Sahota, IBM, University of California |
| D.WG1-05 | TS | Reporting templates on AI, AR and ML | In progress | Annik Magerholm Fet, Norwegian University of Science and Technology |
| D.WG1-06 | TS | High-Level Qualitative Impact Matrix of AI and Blockchain on Sustainable Development Goals (SDGs) and on environmental efficiency*Merged with Visions of Best Practices on AI and Blockchain in 2025 [D.WG1-07]* | In progress  | Barbara Kolm, Austrian Economics Center |
| D.WG1-08 | TR | Connecting Environmental Efficiency of Digital Technologies to the UN SDGs | In progress | Daniela Tulone, ecoSurge |

## 3.3 Working Group 2: assessment and measurement of the environmental efficiency of AI and emerging technologies

### 3.3.1 Presentation of Contribution by Prof. Abdelnasser Abdelaal:

*Presentation*

* Prof. Abdelnasser Abdelaal, King Faisal University, Saudi Arabia, presented a Contribution on “Effective use cases of technologies of smart sustainable cities’’ see presentation [[FG-AI4EE-I-098](https://extranet.itu.int/sites/itu-t/focusgroups/ai4ee/input/FG-AI4EE-I-098.zip)] and document [[FG-AI4EE-I-096](https://extranet.itu.int/sites/itu-t/focusgroups/ai4ee/input/FG-AI4EE-I-096.docx)].
* The purpose of this document is to present effective use cases of technologies that contribute to sustainable smart cities.
* Prof. Abdelaal proposed that this document could serve as a base for a new work item. The document would contain three case studies: a) AI and Food Security b) Managing flood disasters c) Vehicle Platooning.

*Discussions/Decisions*

* The meeting agreed to create a new item for Technical Report [D.WG2-4] led by Prof. Abdelaal, falling under the preview of Working Group 2.
* Prof. Abdelaal called out for contributors to help complete the use cases described above. Mr. Gemma encouraged Members to make use of WG2 mailing list.
* Vimal Wakhlu volunteered to help/collaborate on use cases.

### 3.3.2 Updated on Working Group 2 workplan

The table below is updated based on FG-AI4EE 5th meeting discussions:

Table 3: Overview of remaining Working Group 2 Deliverables

| **#** | **Type** | **Deliverable title** | **Status** | **Leader** |
| --- | --- | --- | --- | --- |
| D.WG2-1 | Technical Specification | ​Environmental Impact self-check assessment | Not started | Neil Sahota,University of California |
| D.WG2-4 | Technical Report | Effective use cases of emerging technologies for smart sustainable cities | In progress | Abdelnasser Abdelaal, King Faisal University,  |

## 3.4 Working Group 3: implementation guidelines of AI and emerging technologies for environmental efficiency

Working Group 3 Co-Chair, Mr Stefano Nativi, European Commission – JRC, chaired this session and Ms Shi Ying, WG3 Co-Chair, joined remotely. Mr Nativi updated the group on the status of WG3 deliverables see document [[FG-AI4EE-I-087](https://extranet.itu.int/sites/itu-t/focusgroups/ai4ee/input/FG-AI4EE-I-087.zip)].

### 3.4.1 Presentation of Technical Report D.WG3-01

*Presentation*

[[FG-AI4EE-I-097](https://extranet.itu.int/sites/itu-t/focusgroups/ai4ee/input/FG-AI4EE-I-097.zip)] Technical Report D.WG3-6​ ‘’Guidelines on the Environmental Efficiency of 5G Usage in Smart Water Management"

* Leader: Dr Ramy A. Fathy, deliverable leader, FG-AI4A Co-Chairman, presented the draft structure angle of focus relying on three main pillars/use cases: a) Smart Water Management Agricultural Use Cases b) Smart Water Management Industrial Use Cases c) Smart Water Management Urban Utilities Use Cases
* Dr Fathy called out to volunteers to help finalize the report and proposed to have 2-3 experts for each use case.

### 3.42. Presentation of Technical Report D.WG3-01

*Presentation*

* Leaders: Mattia Santoro & Enrico Boldrini, Consiglio Nazionale delle Ricerche (CNR)​ presented progress on D.WG3-01 Best Practice Catalogue on Environmentally Efficient AI & Blockchain Application, see presentation in doc [[FG-AI4EE-I-088](https://extranet.itu.int/sites/itu-t/focusgroups/ai4ee/input/FG-AI4EE-I-088.zip)]. Mr Santoro presented the draft structure of the report which includes use cases for blockchain and AI in healthcare, best practices for AI energy efficiency, blockchain energy efficiency and ends on a ‘’catalogue’’ of best practices for both of these technologies,

### 3.4.5 Review of Working Group 3 workplan

Please see the presentation contained in document [[FG-AI4EE-I-081](https://extranet.itu.int/sites/itu-t/focusgroups/ai4ee/input/FG-AI4EE-I-081.zip)].

Working Group 3 was mandated to produce 6 deliverables which details found [online](https://www.itu.int/en/ITU-T/focusgroups/ai4ee/Pages/WG3deliverables.aspx.)

Four of these deliverables were approved at the past meetings and were subsequently incorporated in to ITU-T’s Standardization work, and two deliverables remain to be completed before the Focus Group officially concludes its work in December 2022.

Table 4: Overview of remaining Working Group 3 Deliverables

| **#** | **Type** | **Deliverable title** | **Status** | **Leader** |
| --- | --- | --- | --- | --- |
| D.WG3-05​ | TS | Best Practice Catalogue on Environmentally Efficient AI & Blockchain Application | In progress | Mattia Santoro & Enrico Boldrini, Consiglio Nazionale delle Ricerche (CNR)​ |
| D.WG3-06 | TR | ​Guidelines on the Environmental Efficiency of 5G Usage in Smart Water Management | In progress | Ramy Ahmed Fathy, Co-Chairman, Focus Group on AI and IoT for Digital Agriculture (FG-AI4A) |

# 4 Incoming and Outgoing Liaison statements

Seven (7) liaison statements (LS), for information, were included in the meeting agenda as follows:

1. FG-AI4EE-I-LS-026 LS/i on the outcomes of the first meeting of the ITU-T Focus Group on Testbed Federations for IMT-2020 and beyond [from FG-TBFxG]
2. [FG-AI4EE-I-LS-025](https://extranet.itu.int/sites/itu-t/focusgroups/ai4ee/liaison/FG-AI4EE-I-LS-025.docx) LS/i/r on five deliverables of ITU-T FG-AI4EE and on a request for the extension of FG-AI4EE’s lifetime by one year (reply to FG-AI4EE-LS7 and FG-AI4EE-LS8)
3. [FG-AI4EE-I-LS-024](https://extranet.itu.int/sites/itu-t/focusgroups/ai4ee/liaison/FG-AI4EE-I-LS-024.docx) LS/i on the first deliverable on use cases for autonomous networks [from ITU FG-AN]
4. [FG-AI4EE-I-LS-023](https://extranet.itu.int/sites/itu-t/focusgroups/ai4ee/liaison/FG-AI4EE-I-LS-023.zip) LS/i on establishment of a new ITU-T Focus Group on Testbeds Federations for IMT-2020 and beyond (FG-TBFxG) and first meeting (virtual, 4-7 April 2022) [from ITU-T Study Group 11]
5. FG-AI4EE-I-LS-022 LS/i on invitation to review AI Standardization Roadmap and provide missing or updated information [ITU-T SG13]
6. [FG-AI4EE-I-LS-021](https://extranet.itu.int/sites/itu-t/focusgroups/ai4ee/liaison/FG-AI4EE-I-LS-021.zip) LS/i on final deliverables of ITU-T FG-QIT4N
7. [FG-AI4EE-I-LS-027](https://extranet.itu.int/sites/itu-t/focusgroups/ai4ee/liaison/FG-AI4EE-I-LS-027.docx) LS/i on first deliverable on use cases for autonomous networks from ITU FG-AN [from 3GPP SA5]

One outgoing LS were approved at the meeting:

1. LS/o on one approved deliverable of ITU-T FG-AI4EE [to ITU-T Study Groups and Focus Groups] for action to ITU-T SG20
2. LS/o on draft FG-AI4EE Standardized Glossary of Terms for revision and alignment with ITU-T SG5 terminology, for action to ITU-T SG5 by 30 September 2022

# 6 Future Meetings

FG-AI4EE plans of holding its final meeting at the **beginning of December 2022**, over a two-day period, the exact dates and location will be confirmed in due course.

The Working Groups will carry on with their work through regular e-meetings held on MyMeetings platform.

# 7 Closing & acknowledgements

FG-AI4EE Co-Chairman, Mr Paolo Gemma, provided some closing remarks and congratulated the group on the outcomes of this meeting which led to the approval of one Focus Group deliverable. Mr Gemma extended his warm appreciations to Dr. Kolm for hosting this fifth meeting in Vienna, and to FG-AI4EE Vice-Chairmen, Working Group Co-Chairmen, editors, ITU staff who helped organize the meeting, and thanked all participants for their active participation, contributions and commitment to advance the work of the Focus Group.

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