REPORT

Workshop on AI Standards for increasing the efficiency of telecommunications/ICTs: Shaping the Future Responsibly
Location: National Communications Academy - Finance, NCA-F, Delhi
Dates: 5 to 8 May, 2025

Prepared by: ITU Regional Office for Asia and the Pacific

1. Executive summary

The Workshop on AI Standards for increasing the efficiency of telecommunications/ICTs: Shaping the Future Responsibly for South Asia was held from 5–8 May 2025 at the National Communications Academy – Finance (NCA-F) in Delhi. Organized by the ITU Regional Office for Asia and the Pacific under the project "Artificial Intelligence Technology and Standards Capacity Building in Asia Pacific," supported by the Ministry of Internal Affairs and Communication (MIC) Japan, the event brought together 76 participants from six South Asian countries— India, Nepal, Bhutan, Bangladesh, Maldives, and Sri Lanka. The workshop focused on capacity building for AI integration in national ICT strategies, promoting engagement in AI-related ICT standards, and fostering knowledge exchange on ethical, and regulatory issues of AI for application in telecommunications & ICT's.

The four-day programme featured a range of expert-led sessions, interactive exercises, innovation cafés, and a field visit to the Centre for Development of Telematics (C-DOT). Key sessions included topics building trustworthy AI for telecom, contribution writing for ITU-T Study Groups, simulation exercises, and use cases from both public and private sectors. Experts from organizations such as TSDSI, DoT, Wadhwani AI, IIT Delhi, and IIIT Delhi shared practical insights into the development, application, and standardization of AI technologies.

Country-specific presentations showcased the diverse stages of AI ecosystem development across the region. Bhutan highlighted its AI skills assessment initiative and AI Lab Program aligned with Gross National Happiness (GNH). Bangladesh shared its draft AI strategy and future plans to lead in AI standards in the Global South. Nepal presented its evolving policy framework and innovative local AI applications, while Sri Lanka discussed its early-stage AI strategy and smart city initiatives. Maldives emphasized the importance of digital infrastructure and expressed interest in aligning with international AI standards.

The workshop emphasized the importance of ethical and responsible AI for efficient telecommunications & ICT through various expert led sessions. Practical exercises such as contribution drafting and role-play simulations helped participants engage directly with ITU processes. A field visit to the Centre for Development of Telematics (C-DOT) showcased how India is leveraging AI for applications in 4G/5G solutions, quantum communications, cybersecurity, and disaster communication systems.

Overall, the workshop was highly appreciated for its depth, relevance, and interactive format. Participants emphasized the need for regular training on AI and standards development, greater regional collaboration, and sustained engagement with ITU platforms. The event not only built regional capacity but also strengthened South-South cooperation on AI standards, ensuring that emerging technologies are harnessed inclusively and responsibly for sustainable development.

2. Introduction

The Workshop on AI Standards for increasing the efficiency of telecommunications/ICTs: Shaping the Future Responsibly for South Asia, held from 5-8 May 2025 in New Delhi, India, was organized by the International Telecommunication Union under the project "Artificial Intelligence Technology and Standards Capacity Building in Asia Pacific" funded by the Ministry of Internal Affairs & Communications of Japan. The workshop was hosted by the National Communications Academy, Finance (NCA-F), with support from several organizations including the Department of Telecommunications, Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC), Telecommunications Standards Development Society (TSDSI), Wadhwani AI, Indraprastha Institute of Information Technology (IIIT, Delhi), Centre for Development of Telematics (CDOT), Indian Institute of Technology (IIT, Delhi) and the National Pharmaceutical Pricing Authority.

Drawing upon the expertise from both the Telecommunication Standardization Bureau (TSB) and the Telecommunication Development Bureau (BDT), the workshop aimed to support countries from the South Asia sub-region including India, Nepal, Bhutan, Bangladesh, Maldives and Sri Lanka with capacity building and information sharing both on AI technology and the development and implementation of related ICT standards through the Bridging the Standardization Gap (BSG) programme.

A total of 56 participants from 6 countries were trained over the course of four days through a blend of theory, practical exercises such as case study, simulations and contributions, and field visit to the Centre of Development of Telematics in Delhi. The workshop was also attended by the UN agencies in India including UNICEF, IOM, UNHCR, and ESCAP.

The training was developed for high-level stakeholders responsible for AI technologies and standards development i.e., government officials, bureaucrats and regulators and digital government project managers and techno-functional specialists, as well as execution level stakeholders, including public service officials from various departments in the country, mainly in telecom and ICT to:

- Incorporate artificial intelligence (AI) technologies within their national ICT strategies, for the improvement of telecommunications/ICT.
- Actively engage in ICT standards development, particularly with regard to AI topic areas, and identify and apply relevant ITU-T standards in national frameworks and enabling ecosystems.
- Evaluate and assess the value of AI-related initiatives as the basis for national engagement in ITU activities.

3. Workshop Summary

The workshop commenced at 09:30 am India time at NCA-F with Ms. Madhavi Das, Director General welcoming all participants. She thanked MIC Japan for their generous support as well as the BIMSTEC

Secretary General for helping with the outreach. Emphasizing the importance of "Bridging the Standardisation Gap (BSG)" in the region, she highlighted how this workshop builds on the success of the BSG events conducted last year in collaboration with ITU and the need for harnessing AI to its full potential. NCA-F released its "Guide to Writing ITU Contributions", that offers practical guidance as well as best practices in writing high-quality contributions, in alignment with ITU-T's working methods to lower the barriers and encourage people to participate in the standards development process.

Expressing gratitude towards MIC Japan, the host NCA-F and BIMSTEC, Ms. Atsuko Okuda, ITU Regional Director for the Asia & Pacific acknowledged all dignitaries, member states, partners and participants of the workshop and welcomed them to the workshop. She highlighted the importance of international standards in advancing trustworthy and impactful AI systems, and the need for workshops such as these that bring together the knowledge from Telecommunication Development Bureau (BDT) and Telecommunication Standardization Bureau (TSB) of ITU. BIMSTEC Secretary General, Mr. Indra Mani Pandey, who joined virtually expressed keenness to collaborate with the UN and other international organisations such as ITU for the advancement of BIMSTEC countries. Mr. Manish Sinha, Member (Finance) from the Department of Telecommunications (DoT) stressed the importance of knowledge sharing and credited NCA-F for taking up joint programmes in collaboration with ITU Area Office in Delhi to build capacity in the region.

Over the course of the first three days, the workshop comprised engaging sessions and wide-ranging presentations conducted by experts from ITU and other partners that delved into various aspects of AI technology and standards. On Day 4, during the visit to the Centre for Development of Telematics, the participants witnessed how AI is being leveraged for increasing the efficiency of telecommunications sector in India through applications in network management, cyber security, and cell broadcasting among others.

All details related to the training including course outline, materials from the training - pictures, presentation slides from the speakers, and zoom recordings are available on the ITU Academy Page that all trainees have access to.

Over the course of three days, the following sessions took place:

1. Introducing ITU and ITU-T.
2. Standardization in ITU-T.
3. Building Trustworthy AI: presentation on TEC standard followed by case study.
4. Innovation Café: Implementation of AI & Standards for digital transformation.
5. Member Contributions – the Fuel for ITU-T's Work: Training and interactive session on preparing, submitting and presenting Contributions, handling questions, and building consensus.
6. Standards Leadership in ITU-T: Deep dive into leadership principles and practice, fostering collaboration, breaking deadlock.
7. Innovation Cafe on Future of AI in ICT & Telecom.

8. Country Presentations *(Nepal, Bhutan, Bangladesh, Sri Lanka & Maldives).*
9. Use cases of AI in Telecom and ICT.
10. AI ethics, data, privacy and IPR for efficient telecommunications/ICT's
11. Discussion on AI Assessment Conducted by ITU.
12. Submitting Contributions.
13. Simulation exercise: Simulations, making interventions in ITU-T Study Group meetings, feedback on negotiations through Role Play.
14. Feedback session followed by distribution of certificates.
15. Day 4 – Visit to the Centre for Development of Telematics (CDOT).

The detailed agenda and the list of attendees is attached as annexure at the end of this document.

4. Sessions

a. Introducing ITU & ITU-T and Standardization in ITU-T

The session was led by **Mr. Robert Clark**, who is the **BSG Programme Coordinator** at ITU-T in Geneva, who started with providing an overview of BSG content to be covered over the three days of the workshop. All participants were then invited to briefly introduce themselves and talk about what they would like to get out of their participation in this workshop.

The participants constituted of civil servants working in ICT ministries, regulatory bodies, technical institutions, mid-career professionals from UN agencies, private sector and academic institutions who were interested in learning about the technological aspects of AI including fundamentals of AI, governance & policy, ethical and security related aspects of AI, AI standards for national development and learn from the best practices followed by India. Some of the participants further expressed the need to be more involved in ITU-T's standards development and go beyond submitting contributions.

During this session, an overview was provided about the ITU-T sector, how it serves as a platform for governments and the private sector to coordinate development of the telecommunication networks & services; and how ITU-T complements the other Sectors including the Radiocommunication, Development and General Secretariat to achieve ITU's strategic goals. The presentation further delved into ITU-T's vision, the membership structure and the coordination & cooperation activities. An overview of various study groups and ongoing activities was also provided to all participants.

Guided by Resolutions 78/265 and 78/311 of the UN General Assembly, PP Resolution 214 (Bucharest, 2022), and WTSA Resolution 101 (New Delhi, 2024), ITU has a clear and ambitious mandate for AI related activities and standards. Moreover, Artificial Intelligence and Machine Learning are increasingly embedded in ITU standardization work, with over 300 standards already published and in

development, and close collaboration with International Organization for Standardization (ISO), and International Electrotechnical Commission (IEC). The presentation further covered the work carried by ITU-T under the AI4GOOD banner and the newly launched AI Skills Coalition that aims to bridge the AI skills gap and promote inclusive and accessible AI capacity building and upskilling.

Upon request from the member states, an overview of AI related work within the Radiocommunication Bureau was also provided, mainly the work carried out by Study Groups 1, 3, 5 and 6 on topics such as Next generation spectrum monitoring, Use of machine learning methods for radio-wave propagation studies, "Framework and overall objectives of the future development of IMT for 2030 and beyond" - expects that IMT 2030 will integrate AI-related capabilities, Artificial intelligence systems for programme production and exchange and AI for broadcasting.


Ms. Vinod Kotwal, Member Secretary at National Pharmaceutical Pricing Authority shared her extensive experience of working with ITU-T Study Group 3. She advised all participants to get started with the user account and get familiar with the ITU website and learn about the organisation and study groups. With limited manpower and resources, it is often difficult to participate in all study groups and therefore, important to prioritise. While writing a contribution, she advised to select the study group carefully followed by questions and work items under it. Economic and policy aspects, including those related to AI, are covered under Study Group 3, which could be useful for the participants of the workshop, since this was an area of interest for several attendees. The level of participation depends upon the interest level of the delegates, her advice was to be thorough and have a clear thought process while writing contributions because one needs to defend them well during the study group meetings.

The session ended with a quiz on the content covered so far under the training. Prizes were distributed to the top 3 winners.

b. Building Trustworthy AI: presentation on TEC standard for Fairness Assessment and Rating of Artificial Intelligence Systems followed by case study

This session was led by **Mr. Avinash Agarwal, DDG, International Relations at the Department of Telecommunications** who has worked intensively on AI and standardisation in his past role at the Telecommunication Engineering Centre (TEC) in India.

Mr. Agarwal's presentation began with some illustrations of how AI is being implemented in the telecom sector including examples of Recommendation systems that provide personalized content recommendations in broadcasting and media streaming services, Manage and control of IoT devices in telecom networks, Detect anomalies in network traffic, identify and respond to network security threats, to enhance cybersecurity in telecom and smart city environments, enable dynamic network slicing and orchestration in 5G and future networks, to optimize network performance and to manage bandwidth allocation.
He further covered the following Principles of Responsible AI and delved into the concepts of biases and fairness –

- inclusive growth, sustainable development and well-being
- human-centred values and fairness
- transparency and explainability
- robustness, security and safety
- accountability

Mr. Agarwal presented the TEC standard on AI Fairness which is designed to provide a framework for the fairness assessment and rating of artificial intelligence (AI) systems. Developed by the Telecommunication Engineering, a Centre under Department of Telecommunications, it aims to address the growing concerns related to bias and fairness (inequality) in AI applications. An exhaustive consultation process was followed to publish the national TEC standard.

He further spoke about AI robustness and why it is important to build robust AI systems that ensure reliability, safety, and trustworthiness of AI applications in real-world scenarios. It encompasses resilience to variations in input data, environmental changes, and potential adversarial attacks. He discussed TEC's proposed Standard on AI robustness assessment which is currently undergoing review from dedicated working group of domain experts.

Mr. Agarwal also covered AI incident reporting and presented an analysis of AI incident repositories from across the globe. He highlighted the gaps in AI incident reporting mechanisms globally. Based on the gaps analysed, DoT has proposed a "Standardized AI incident database schema" to ITU citing reference to similar mechanisms that exist for cyber security.

After the presentation, participating countries were invited to share examples of AI-related incidents in telecommunication networks or services in their country (even if informally reported). The participants from Bangladesh shared that they have a new ordinance as Computer Emergency Response Team (CERT); while CERT works on cyber threats, it includes AI incident reporting too. However, there have not been any recent incidents from Bangladesh that have been reported. The participants from Bhutan shared that they have no existing standards for AI incident reporting. For cyber security, there is a mechanism in place, but it doesn't include AI component. Bhutan didn't have any incidents to report either. Nepal mentioned that the national AI policy has been drafted recently, and it is currently open for public consultation. In Nepal, AI incident reporting does not fall under any particular ministry although the CERT exists. Nepal asked if AI incidents should be reported under CERT. India shared its own example where AI incidents are covered under data protection laws or cyber security laws depending upon the nature of the case.

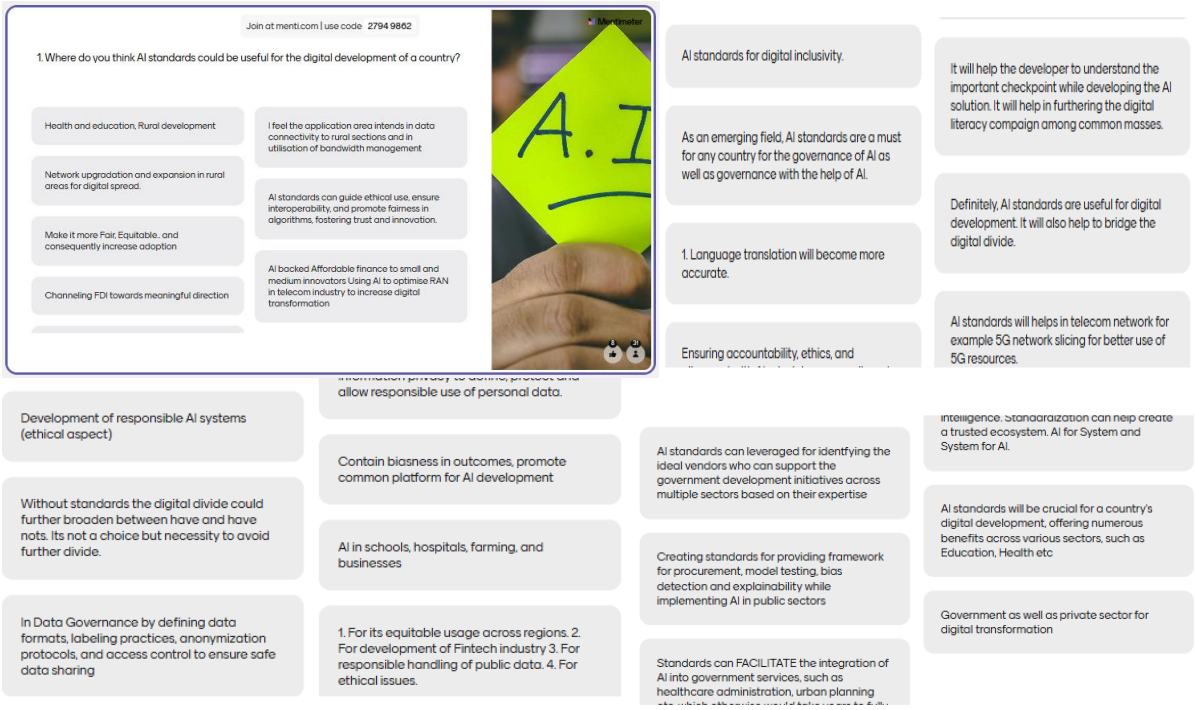
c. Innovation Café on Implementation of AI & Standards for digital transformation

ITU Regional Office, in collaboration with the Digital Innovation Alliance, launched the Innovation Café in Feb 2025, as a tool to turn abstract innovative ideas into accessible and actionable outcomes through guided discussions that take place in an informal setting. An innovative café on AI and standards for digital transformation was organized during the workshop by **Ms. Akanksha Sharma**,

Programme Officer at ITU Area Office & Innovation Centre in Delhi, to better understand the needs of the member states on existing gaps in AI standardization.
The following questions guided the discussions:

1. Where do you think AI standards could be useful for the digital development of a country?
2. What steps are being taken at the country/organisational level to use AI standards?

In response to the first question, most member states and other stakeholders highlighted the importance of AI standards for inclusive sustainable development so that the technology can be harnessed to its full potential. The countries expressed the need for sector specific expertise and training in the field of AI to be able to apply the technology across different applications for national development. All member states unanimously agreed that standardization will help them with faster adoption of AI tools as well as applications. The need for standards for data formats, labelling practices, anonymization protocols and access controls for data sharing was also expressed by some participants. Lastly, the member states stressed that mapping of existing resources is crucial and an intersectoral dialogue between ICT and other ministries is important to leverage AI for digital development.



In response to the second question, Telecommunications Standards Development Society, India (TSDSI) discussed about how they are working towards leveraging AI through standards in India. They further highlighted the importance of pre-standardization work conducted by the organization so that information exchange can take place based on guiding principles and frameworks. UNHCR spoke about the existing use cases of AI for humanitarian applications, and guiding principles used to track country of origin of asylum seekers. The representatives from Bhutan mentioned that they are working towards adoption of AI standards. Sri Lanka spoke about an existing taskforce committee on AI strategy that recently undertook public consultation on the draft document which will serve as a guide for the country. Maldives does not have an existing AI strategy currently in place and they refer to international best practices in this domain.

The innovation café brought everyone to the closing of Day 1 of the workshop.

Only recommendations are there,

As of now, In India the use of AI is restricted due to fairness, robustness and trustworthiness of the AI application.

Standards are getting deployed by respective ministery. At industry level we have AI for Spam detection.

At the pace AI is evolving now, do you think this should/can be regulated like telecom services in future?

We have not implemented any strategy in respect of AI standard. However, we were doing a research project of evaluating AI objectively.

Drafting a road map to implement AI strategies in sri lanka in 2024. Not yet finished. Get consultation from AI expertise in the industry

d. Member Contributions – the fuel for ITU-T's work

On Day 2, the session commenced with an overview of ITU-T study group mandates to work in AI including the work conducted under the Study Groups 2, 5, 11, 13, 20 and 21, the AI standards database, which is currently under development, the pre-standardization work conducted by the Focus Groups such as the Artificial Intelligence Native for Telecommunication Networks (FG-AINN) and Focus Group on cost models for affordable data services (FG-CD).

Mr. Rob Clark, ITU, outline the role of the Bridging the Standardization Gap programme and its implementation through four action areas: Strengthening standards-making capabilities, Assisting developing countries on the application/implementation of standards, Human resources capacity building, and fundraising for BSG activities. He described the range of training modules tailored for newcomers to standardization, experienced experts, and potential/actual leaders of standards work; these resources would be made available via the ITU website and eventually in the form of self-paced online study. The session described specific activities and resources supporting the BSG programme,

including electronic working methods, language support, fellowships, and regional groups, and highlighted the overlaps and intersections with other initiatives, such as gender mainstreaming.

Building on earlier sessions, the session explored practical aspects of international standardization efforts, including the work item life-cycle and the central roles of written member Contributions and consensus-based decision making. The group explored the significance of Standards Essential Patents (SEPs), and the joint ITU/ISO/IEC framework for incorporating Intellectual Property Rights in ITU-T Recommendations on reasonable and non-discriminatory (RAND) terms. The session then discussed the processes associated with drafting, submitting and presenting Contribution, as well as concepts related to addressing questions, negotiating and consensus building. These concepts would form the basis for the interactive role-playing sessions later in the workshop.

This session also included external speakers – Mr. Kumar and Ms. Rathore. The presentation by **Mr. M. C. Sathish Kumar, Deputy Administrator at Digital Bharat Nidhi**, **Department of Telecommunications** (formerly USOF), focused on India's active contributions to international AI and telecom/ICT standardization through the ITU-T, particularly in Study Group 3 (SG3). This group is responsible for exploring international telecom policy, economic issues, and tariff regulations. The presentation detailed India's leadership in shaping global policy frameworks and technical Recommendations, including tariff regulation, data protection, dispute resolution between telecom operators and OTT providers, and emerging technologies like 5G and IoT. A major highlight was India's role in the development and approval of Recommendations ITU-T D.1140 and ITU-T D.1141, which outline policy frameworks for digital identity infrastructure and data protection in the context of big data. These Recommendations represented significant milestones, showcasing India's capacity to initiate, lead, and bring to conclusion globally recognized standards that address pressing issues in the digital ecosystem. The process required extensive consensus-building, coordination with multiple study groups, and handling challenges such as terminology precision and overlap with related work.

The presentation also showcased India's initiative in developing technical reports, such as on accounting and billing in the IoT ecosystem, which proposed the use of Distributed Ledger Technology (DLT) to streamline operations. Further, India contributed to shaping policy-oriented work items on cost-based tariff assessment and satellite internet provisioning, reflecting a proactive stance in addressing the economic dimensions of digital connectivity. Sathish Kumar emphasized the importance of Focus Groups like the one on Costing Models for Affordable Data Services (FG-CD), where India played a key role in analyzing the supply chain, pricing strategies, and economic models across telecom/ICT services. These efforts aimed at enabling better regulatory and policy frameworks that support affordability, transparency, and inclusiveness in the global digital landscape. In conclusion, the presentation highlighted how India's strategic participation and leadership in ITU-T SG3 and its contributions to policy Recommendations and technical reports positioned it as a critical stakeholder in shaping the future of global telecom standards. It underscored the role of persistent engagement, technical expertise, and collaborative diplomacy in driving meaningful and impactful international standardization efforts.

Mr. Kumar's talk was followed by **Ms. Chandrakanta Rathore from TSDSI** who provided a detailed case study of India's technical contribution to the ITU-T SG13, focused on semi-autonomous collaborative telerobotics. The study addressed the increasing demand for intelligent, remote-controlled robotic operations in critical sectors such as disaster response, healthcare, mining, and defence. It emphasized the need for low-latency, high-reliability, and context-aware networks—capabilities that align with the potential of private 5G and beyond networks. The technical report, finalized as TSDSI TR 6035, explored use cases including multi-operator control, AR-based navigation, voice command execution, and network-aware routing.

The contribution progressed from national study to the international standardization process, with submissions to ITU-T SG13 initially targeting network-layer QoS provisioning. Based on feedback, the focus was refined to service-layer improvement mechanisms, leading to a revised proposal submitted to Question 5/13 in March 2025. This shift demonstrated the adaptability of the Indian team to ITU's procedural and technical expectations. The contribution, now recognized as a “Document in View,” is under active discussion for potential inclusion in future ITU standards. Rathore highlighted this journey as a testament to India’s growing role in shaping global telecom and robotics standards through technical rigor, collaborative alignment, and strategic engagement.

Both the speakers spoke from experience, and it helped the audience relate from country as well as organisational point of view. They also shared their own personal journey with the participants, encouraging them to be persistent when it comes to work of Study Groups.

e. Standards Leadership

Mr. Rob Clark, ITU, introduced key concepts relating to standards leadership in ITU-T as well as the structures and rules that govern such roles. The session described the hierarchy of leadership roles, and the corresponding expectations, as well as the logistical and practical aspects of reaching consensus and making formal decisions.

For this session, **Ms. Bindoo Srivastava, Director, Telecommunications Standards Development Society (TSDSI)** joined Mr. Clark. She focused on standards leadership in the context of AI and its role in enhancing the efficiency of the telecom and ICT sectors. The session emphasized the importance of structured and participatory engagement in standards development. Ms. Srivastava highlighted that the motivation behind a standard stemmed from the "voice of the customer," integration of intellectual property solutions, and alignment with relevant policy processes. She explained that effective leadership in standards required more than technical expertise—it demanded presence, persistence, and patience, alongside the discipline of thorough documentation and adherence to timelines. Ms. Srivastava underscored the need for collaboration through building a strong support base, seeking continuous feedback, and leveraging platforms like workshops, outreach efforts, and publications. The ability to build consensus around a standard, she noted, depended on maintaining flexibility and articulating a strong value proposition.

She further elaborated on a phased approach to standards development, where individuals and organizations could gradually evolve from participating to leading efforts and emphasized the importance of creating a robust internal capability to support this progression and insisted that strong sponsorship from top leadership within organizations was crucial to sustain engagement and ensure influence in international standards bodies like the ITU-T. Throughout the presentation, the strategic value of AI standards was reinforced, particularly in shaping the future of telecom and ICT infrastructures. Ms. Srivastava indicated that standards not only facilitated interoperability and efficiency but also promoted innovation and global harmonization. The workshop itself served as a collaborative platform for stakeholders to align on priorities and identify pathways for the integration of AI into existing telecom ecosystems.

In closing, Ms. Srivastava advocated for a proactive and leadership-driven approach to standards, stressing that timely involvement, consistent contribution, and a commitment to consensus-building would be key to ensuring that India and other developing countries had a significant voice in the evolving global AI standards landscape.

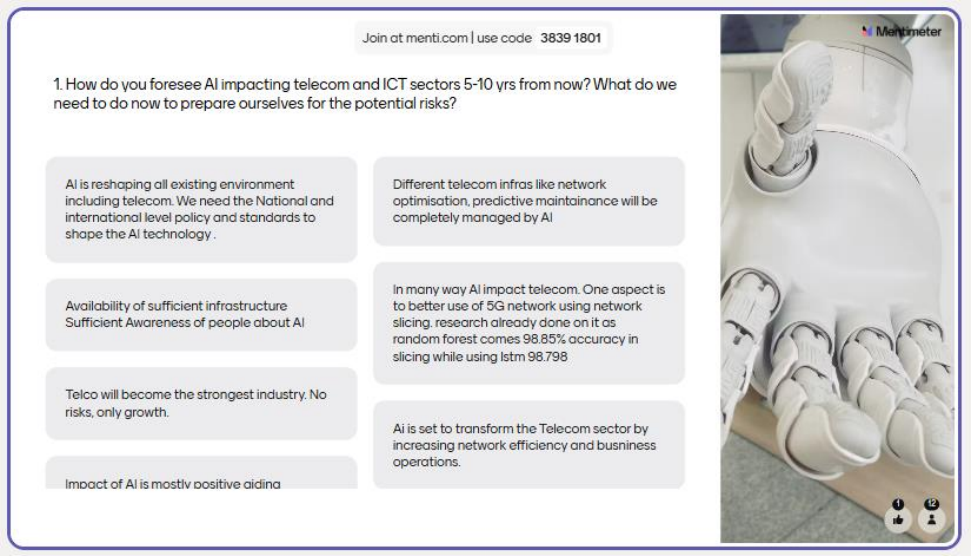
f. Innovation Café

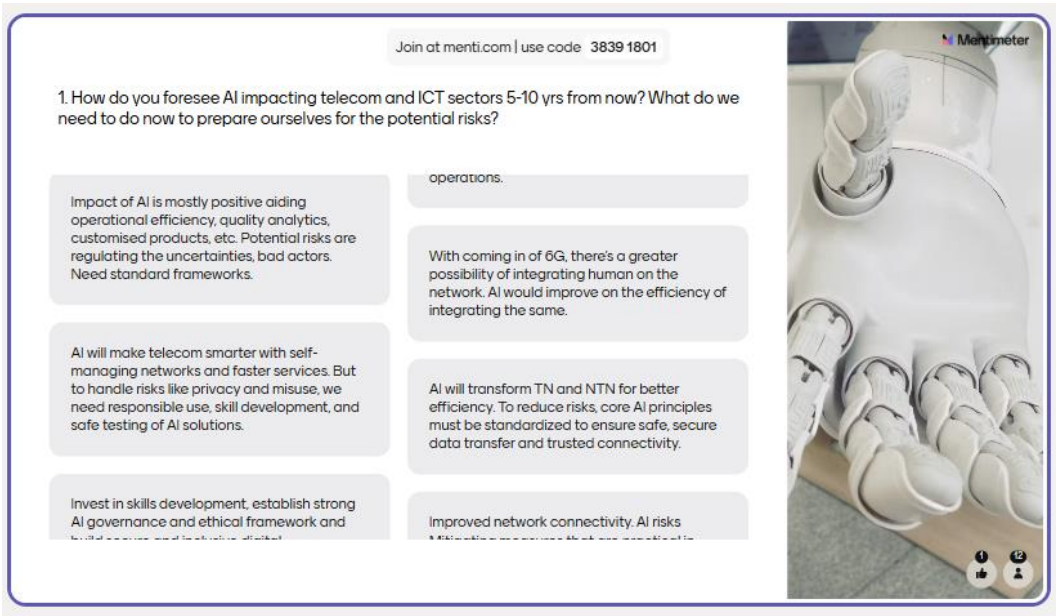
The second innovation café during the workshop focused on the "Future of AI", for which **Prof. Kaushik Saha, Professor of Practice at Electrical Engineering at Indian Institute of Technology, Delhi (IIT-Delhi)** joined the workshop.

Prof. Saha set the context for this innovation café through his brief talk on IIT-D's role in National Quantum Mission of India where the institute is specifically looking at application aspects of quantum communications in critical applications. He further spoke about the role of AI in improving network efficiency and traffic optimization for large gatherings such as Kumbh. However, the adoption is still relatively low. IIT-D also partnered with the Department of Telecommunications for the development of KYC tool called "Sanchaar Saathi" where AI is heavily deployed to detect cyber frauds. He also highlighted the partnership with the Indian government on Digital Twins for application areas such as Industry 4.0 and education.

With this background, the Innovation Café was conducted by Ms. Sharma from ITU using the following two guiding questions:

1. How do you foresee AI impacting telecom and ICT sectors 5-10 years from now? What do we need to do now to prepare ourselves for the potential risks?
2. Can you share examples of any futuristic initiatives that your country/organization is working on in the field of AI?





Most of the participants shared how AI will be utilized for improved network connectivity through optimization and predictive maintenance. The participants also shared how skilling is crucial for the countries to keep abreast of potential risks, privacy issues and misuse that the application of AI would bring. The member states highlighted the need for establishing AI governance and ethical frameworks to mitigate the risks involved and build secure and inclusive digital infrastructure.

In response to the second question, India shared about the Digital Twins initiative through which the government aims to leverage digital twin technology for transformative infrastructure planning and design. India's National Quantum Mission was also mentioned through which the country is investing in quantum science and technology by fostering advancements in areas like secure quantum communication, quantum computing, and precision sensing. The rest of the member states shared that AI initiatives are still in the inception stage, in their respective countries and most of the current initiatives focus on policy and skilling.

g. Country Presentations

In this session, the countries were asked to present about the current state of AI ecosystem in their respective countries along with the national capacity building initiatives and future needs.

i) Bhutan

Bhutan made two presentations. The first one was from **Mr. Ugyen Dorji**, from the GovTech Agency in collaboration with Royal Civil Service Commission (RCSC) titled **"AI Skills Assessment of Civil Servants in the Royal Government of Bhutan"**. The presentation covered several key initiatives of the Royal Government of Bhutan:

The Royal Government of Bhutan, through its GovTech Agency and RCSC, has initiated an AI skills assessment among civil servants to promote responsible and effective adoption of Generative AI (GenAI). Following a formal notification in December 2024, civil servants are now expected to understand and use GenAI tools to enhance productivity and governance while respecting ethics, privacy, and national interest. A GenAI guideline was created outlining risk-based AI categorization, data usage norms, best practices, and legal considerations. The initiative aims to evaluate AI awareness, identify skill gaps, and facilitate adoption across all levels of public service. The assessment also supports the development of a structured AI training framework and provides recommendations for AI-related governance policies. The process is being carried out in five phases—planning, survey distribution, data analysis, reporting, and implementation. Each phase is designed to build a clear understanding of current AI capabilities and to inform future training and policy direction.

A detailed survey form was developed and distributed to all civil servants under the Position Management Categories (PMC). The survey covers AI awareness, current usage, training needs, and ethical considerations. As of the reporting date, 2,697 responses had been received. Data is being analyzed using tools like Google Forms, Google Sheets, and Tableau to visualize insights and guide decision-making. The project anticipates several challenges, including low response rates, resistance to AI adoption, limited training resources, and data privacy concerns. To address these, strategies such as stakeholder engagement, public awareness, partnerships with academic institutions, and strict data security protocols are being employed. The initiative marks a significant step toward building an AI-competent public sector in Bhutan.

The second presentation **"AI Development in Bhutan"** was also made by the **GovTech Agency** (**Ms. Tenzin Deki**) and it covered following initiatives:

The GovTech Agency of Bhutan has undertaken strategic initiatives to foster ethical, inclusive, and Gross National Happiness (GNH)-aligned AI development in the country. Bhutan is currently in the early stages of its AI journey, with a focused effort on building a foundational ecosystem for growth. The United Nations Development Programme (UNDP)'s AI Readiness Tool was used to assess the nation's AI maturity, resulting in a score of 2.6 out of 5—placing Bhutan in a "systematic phase." This assessment is shaping the foundation of a National AI Strategy (NAIS), which is currently in the drafting phase, with particular emphasis on the government's dual role as both an enabler and user of AI technologies.

To support this transition, Bhutan has prioritized capacity building and awareness through international training, forums, workshops, and hackathons. These initiatives target a wide range of stakeholders including youth, civil servants, and professionals, aiming to foster AI literacy and

encourage the development of local AI solutions. In parallel, Bhutan is investing in education and talent development to build a sustainable AI workforce. AI-related academic modules have been introduced in select colleges under the Royal University of Bhutan (RUB), and scholarships in AI and Data Science are being offered to nurture future specialists.

Another cornerstone initiative is the AI Lab Program, which aims to incubate ethical and GNH-aligned AI innovations. Under a 5-year ecosystem development plan, the country is deploying over 10 AI tools for national use, supporting five AI communities through Omdena chapters, and training over 1,000 individuals. The program also includes a startup incubator targeting the launch of 2–5 global AI startups from Bhutan, fostering innovation and entrepreneurship in the AI space. Looking ahead, Bhutan's future AI development plans prioritize transparency, fairness, and accountability. A national ethical AI guideline is in the works to ensure responsible AI use across all sectors. The focus remains on embedding ethical considerations into AI systems and aligning development efforts with Bhutan's core values of GNH, sustainability, and inclusive growth.

ii) Bangladesh

Bangladesh Telecom Regulatory Commission (BTRC) representatives made a presentation on **"AI Ecosystem of Bangladesh – Standards and Capacity Building: Current Status and Future Roadmap"**, which covered the following key initiatives from country:

Bangladesh is in the formative phase of developing a comprehensive national AI ecosystem, with a clear focus on standardization and capacity building. Government-led initiatives such as the draft AI National Strategy (2023), the Digital Transformation Strategy, and recent regulatory frameworks like the Cyber Safety Ordinance 2025 and the Personal Data Protection Ordinance (Draft) aim to establish a foundational policy environment. Pilot applications of AI in areas such as traffic monitoring, public service chatbots, and banking fraud detection highlight emerging use cases, while challenges such as the lack of local AI standards, skill shortages, and limited cross-sector coordination remain pressing issues.

The global AI standards landscape offers valuable references for Bangladesh. Institutions like ITU-T, ISO/IEC JTC 1/SC 42, and high-level frameworks such as OECD AI Principles and UNESCO AI Ethics Guidelines provide structured models on algorithm transparency, risk management, and ethical AI governance. Bangladesh has engaged with these bodies, particularly through BTRC and the Ministry of Posts and Telecommunications in ITU-T Study Groups and AI forums focused on health and disaster response. However, the country has yet to become a significant contributor to international standards and sees an opportunity to become more active in key groups such as ITU-T's work on AI for Health (FG-AI4H; Global Initiative on AI for Health) and ISO SC 42.

In the short term (1–3 years), Bangladesh plans to finalize and publish national AI standards adapted from international frameworks. A dedicated AI standards committee will be formed, involving BTRC, BSTI, the ICT Division, and academic institutions. Conformance testing labs in universities and AI training for regulators and policymakers will be introduced. The University Grants Commission (UGC) will lead the development of AI curriculum standards for public universities, supported by partnerships with ITU and UNESCO for broader knowledge sharing.
Over the long term (3–10 years), Bangladesh aims to contribute directly to international AI standardization efforts and develop sector-specific standards, especially in health, telecom, and agriculture. Ethical AI guidelines will be mandated for public procurement. A National AI Centre of Excellence is envisioned to drive research, innovation, and oversight, alongside initiatives like creating a pool of AI auditors and launching certification programs, including for ethical AI practices.

Ultimately, Bangladesh sees the strategic potential to emerge as a leader in AI standards within the Global South. Piloting ITU-compliant AI solutions in sectors like disaster response and agriculture and aligning AI development with the Sustainable Development Goals (SDGs), could significantly boost national capacity and international relevance.

iii) Nepal

"Nepal's AI Roadmap: Policies, Progress and Innovation", was presented by **Mr. Manish Bhattarai and Mr. Rajesh Thapa**:

Nepal has made steady progress in shaping its digital future through a series of national policies, starting with the Telecommunications Act in 1997 and evolving through major milestones such as the 2000 Information Technology Policy, the 2019 Digital Nepal Framework, and the 2023 National Cyber Security Policy. Building on this foundation, Nepal hosted its first National Summit on AI in June 2024, gathering over 200 experts and stakeholders to explore AI's potential in public service delivery and discuss necessary regulatory frameworks.

In July 2024, the government published an AI Concept Paper aiming to guide the development of a comprehensive national AI policy. This was followed by the release of the draft National AI Policy 2025 in February 2024 for public consultation. The policy envisions AI as a transformative tool for digital development and economic growth. It focuses on building a secure and ethical AI ecosystem, strengthening human capital, and encouraging research, innovation, and international cooperation. Key concerns addressed include data privacy, algorithmic transparency, and safeguards around international data exchange. Nepal's proposed AI ecosystem includes a multi-tier structure featuring an AI Regulatory Council, a National AI Centre, research hubs at federal and provincial levels, AI excellence centres in universities, and collaboration with sectoral ministries and the private sector. The integration of national and international organizations is also emphasized to ensure cross-sector coordination.
On the innovation front, Nepal has already developed impactful AI-related applications. The Nagarik App provides over 65 digital government services and is being enhanced to serve as a comprehensive government super app. Another example, the Luna GPS system, is a homegrown vehicle tracking technology with disaster management features, already in use by national organizations like the Nepal Electricity Authority and the Red Cross. While the policy vision is shaping up, Nepal faces challenges such as the lack of comprehensive AI legislation, technical infrastructure, and an actionable implementation roadmap. Addressing these gaps—while ensuring accessibility for marginalized communities—will be crucial. Significant opportunities lie in promoting AI research through academic institutions and driving public-private partnerships to scale AI innovation and adoption across the country.

iv) Maldives

The presentation on **"Developing Fundamental Network Planning Skills in Regional Community to Bridge the Digital Divide – Maldives Country Report"**, was delivered by **Mr. Hassan Ziyad Ibrahim** from the **Communications Authority of Maldives (CAM)** which covered:

The Maldives, an island nation of 1,192 coral islands in the Indian Ocean, has made remarkable progress in building a modern communications infrastructure despite its geographic dispersion. The country relies heavily on tourism and fishing as the backbone of its economy, with a literacy rate of 98% and a relatively high per capita GDP. CAM serves as the communications regulator and development agency, playing a central role in advancing telecommunications and digital services nationwide.

The telecommunications sector in the Maldives has achieved full geographical and population coverage for mobile and telephone services. By the end of 2024, the nation recorded nearly 782,000 mobile subscribers, with fixed broadband and mobile internet users growing steadily. The Maldives has successfully transitioned through all major telecom generations, from analogue to 5G, with 5G now available in about 45% of the country. The major internet service providers—Dhiraagu, Ooredoo, and Focus Infocom—offer a range of technologies, including ADSL, FTTH, and hybrid fibre solutions, ensuring widespread access to high-speed internet. In terms of infrastructure, the Maldives is connected internationally via submarine cables to both India and Sri Lanka, enabling reliable international bandwidth and contributing to improved digital services across the islands. These connections support not just internet access, but also broader efforts to digitize governance, enhance economic productivity, and improve quality of life through connectivity.

On the AI front, the Maldives currently lacks dedicated national AI standards. However, the government is actively monitoring global developments and aligning with ITU standards. It has formed high-level steering committees and partnered with organizations like UNESCO to explore ethical AI usage. While still in an exploratory phase, the Maldives shows a clear interest in integrating AI responsibly into its development strategy. Overall, the Maldives presents a case of rapid digital advancement in a geographically challenging environment.

v) Sri Lanka

The presentation **"Country Report: Sri Lanka"** was delivered by **Ms. Ayesha Pathirana from the Telecommunications Regulatory Commission of Sri Lanka** which covered the following:

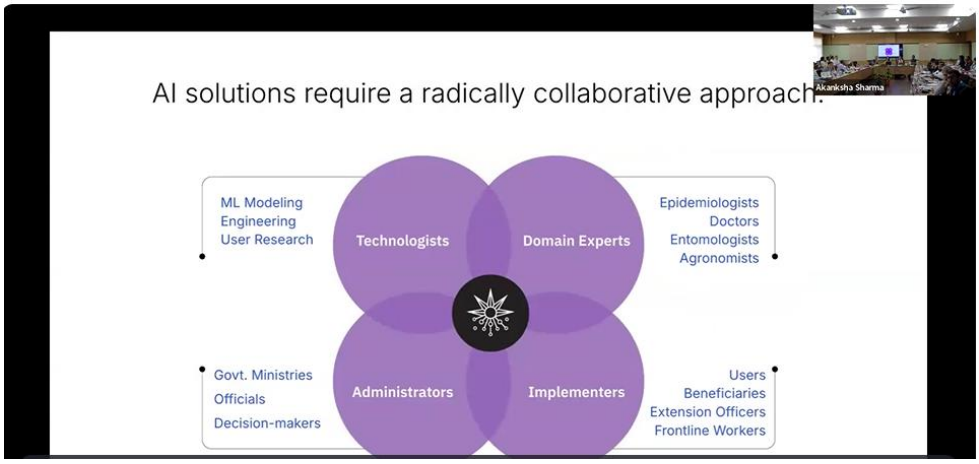
Sri Lanka, an island nation in South Asia, has a population of approximately 22 million, the majority of whom live in rural areas. With a nominal GDP of around USD 80 billion and a GDP per capita of USD 3,700, the country is working to modernize its digital and technological infrastructure. The geography includes coastal regions, central highlands, forests, and wetlands—making infrastructure planning both vital and complex. The government is making strategic investments to improve digital connectivity and ICT infrastructure nationwide.

A key part of Sri Lanka's modernization efforts is its Smart City initiatives, which include projects in traffic management, waste disposal, public safety, environmental monitoring, and citizen engagement. Technologies like smart traffic signals, waste bins with sensors, real-time surveillance, and public Wi-Fi are being deployed to improve service efficiency, urban sustainability, and public engagement. Mobile apps and digital feedback systems are empowering citizens to participate more actively in governance and service improvement. Sri Lanka's ICT infrastructure is steadily expanding, with numerous licenses granted under national telecommunications law and growing data usage across the country. The country is focusing on improving fixed and mobile internet access and expanding end-user connectivity to bridge the urban-rural digital divide. Enhancements in infrastructure support ongoing efforts to prepare for more advanced technologies, including AI adoption.

On the AI front, Sri Lanka is in the early phases of developing its national strategy. A white paper prepared by the Artificial Intelligence Task Force lays the groundwork for a national AI roadmap. In 2024, the government allocated LKR 1.5 billion to strengthen AI-related infrastructure and initiate early projects. A draft AI strategy is under public consultation, and the National AI Advisory Committee, to be established in 2025, will guide future standards and policies aligned with global best practices. Despite its proactive steps, Sri Lanka faces several challenges in fully implementing AI, including inadequate digital infrastructure, a shortage of skilled AI professionals, limited access to

high-quality data, financial constraints, and low public awareness. Ethical, legal, and regulatory frameworks are also in early development.

h. AI Use Cases



This session was led by experts from **Wadhwani AI, Ms. Shreya Thakur and Mr. Kanishk Pant**.

Wadhwani AI is a unique, philanthropy-backed organization solely focused on applying artificial intelligence for social good, particularly in the Global South. While mainstream AI ecosystems often prioritize high-revenue applications or niche academic research, Wadhwani AI addresses the critical need for low-cost, high-impact AI solutions that benefit underserved populations. The institute's mission involves working with governments and partners to design and deploy AI systems that directly benefit vulnerable communities—having already reached over 10 million people through more than 20 AI-based initiatives.

Their operational model emphasizes partnership and scalability, rooted in human-in-the-loop AI development. AI models are built and tested collaboratively, then deployed through digital public systems and government platforms. The institute follows a detailed AI product lifecycle—from problem definition and data collection to model building, evaluation, and real-world deployment. A recurring challenge in their work is framing vague or complex social issues into well-defined, machine-learning-compatible problems. Success in these areas requires stakeholder consensus, cost-benefit analysis, and clarity about the role AI should play.

Some of the key learnings shared with the group included the following:

- Assessing the need for AI: A critical question to ask at the outset is whether AI is truly necessary to solve the problem at hand. In many cases, alternative technologies or more cost-effective solutions may be available.
- Collaborative development is essential: Building and deploying effective AI solutions requires close collaboration among all stakeholders—technologists, domain experts, administrators, and implementers—to ensure alignment and success.
- Clarity in problem definition: A well-defined problem statement is fundamental to creating robust AI systems. Altering the problem definition after model development can be costly and time-consuming.
- Data quality over algorithms: The success of AI solutions relies more heavily on the availability and quality of data than on the complexity of algorithms or models.

AI models are designed to operate within the constraints of real-world, low-resource environments, and efforts are made to ensure they remain transparent, fair, and respectful of local norms. To ensure continuous improvement and fairness, Wadhwani AI also incorporates human-in-the-loop practices and passive model evaluation in live settings. This means real-time user feedback is gathered during pilot deployments to monitor usability, performance, and any unintended consequences. The models are fine-tuned to local conditions using diverse datasets and monitored for drift in data or usage behaviour, ensuring they stay aligned with users' needs over time.

Wadhwani AI exemplifies how responsible and inclusive AI can be developed and scaled in service of public welfare. Their work stands as a model for bridging the AI gap for the bottom 95% of the population—especially in countries across Asia, Africa, and Latin America—by combining ethical design, cross-sector collaboration, and cutting-edge technology.

The session was very well received by all member states and the overall engagement demonstrated that there is a clear need for such sessions and knowledge sharing on AI applications, where the learnings and experiences from India can be leveraged for the benefit of the countries from South Asia (and broader Global South).

i. AI ethics, data, privacy and IPR for efficient telecommunications/ICTs

The session was delivered by **Prof. Tavpritesh Sethi from Indraprastha Institute of Information Technology, Delhi (IIIT-D).** Dr. Tavpritesh Sethi's presentation explored the foundational principles of artificial intelligence (AI), and the need for international standards. He began by detailing the data life cycle and the inherent risks that can pose privacy concerns. The session then transitioned into an explanation of generative AI and its evolution from traditional, discriminative models. Core concepts such as vector space representation, attention mechanisms, and transformer-based architectures like GPT were discussed.

Dr. Sethi highlighted how these technologies allow models to "understand" context through embeddings and attention, thus enabling sophisticated tasks such as natural language generation and summarization. He introduced the encoder-decoder paradigm and reinforcement learning with human feedback (RLHF) to explain how generative AI systems continuously refine their outputs. Ethical and regulatory implications were a central concern. Dr. Sethi cautioned against biases in AI

outputs and the growing threat of misinformation. Citing recent studies, he warned how generative AI could inadvertently generate convincing but false content. He argued that model accuracy alone is not enough—there must be robust mechanisms to assess fairness, reliability, and compliance with ethical standards. Reinforcement learning and regulatory audits were presented as partial solutions to these challenges.

In discussing AI's broader role, Dr. Sethi advocated for AI-driven tools that support Sustainable Development Goals (SDGs), and tools that reduce data silos through common data models. He stressed that building such systems requires interdisciplinary collaboration and alignment with privacy-preserving architectures like federated data platforms.

In conclusion, Dr. Sethi underscored that AI's transformative power must be matched by a commitment to ethical standards, privacy protection, and inclusive capacity building.

The session concluded with an online quiz, conducted via Mentimeter.

j. Presentation on AI assessment conducted by ITU

Mr. Ramesha Krishnamurthy, a **Consultant** for the **ITU**, presented the ITU-commissioned AI feasibility study. The study evaluated the current AI infrastructure, capacities, and capabilities across 21 Asia-Pacific countries, which were categorized into three groups: Small Island Developing States (SIDS), Landlocked Developing Countries (LLDCs), and Least Developed Countries (LDCs). The main objectives were to identify the infrastructure, data, human resources, institutional capacities, and governance mechanisms crucial for leveraging emerging technologies to accelerate digital transformation; recognize key barriers to AI adoption; illustrate sector-specific AI use cases that can foster socio-economic development; and provide recommendations to support national AI strategies.

To support the AI feasibility analysis, an extensive online search was conducted using academic, governmental, and regional digital libraries and platforms. A standardized set of search terms was used to identify publicly available policy documents, strategies, regulatory guidelines, and development reports related to AI adoption. The document review was limited to publications from 2015 to 2025 to ensure relevance and manageability. The study revealed significant disparities in internet access among countries, with usage rates ranging from 18.4% in Afghanistan to 77.4% in Mongolia. Countries such as the Solomon Islands (24.6%) and Tuvalu (25.3%) exhibited low internet penetration. Similarly, mobile broadband subscriptions varied significantly, with the Maldives (128.7), Cambodia (122.2), and Mongolia (115.3) leading, while Kiribati (25.4), Micronesia (25.9), and Tuvalu (29.1) trailed behind. Internet speeds also showed stark differences, from 25.1 Mbps in Mongolia to just 3.2 Mbps in the Solomon Islands, revealing critical gaps in digital connectivity. Additionally, variations in submarine cable infrastructure further highlight uneven digital integration across island nations.

In terms of policy readiness, countries in the region displayed varied levels of progress. Some have developed AI-specific frameworks, while others rely on broader digital strategies to support AI development. Notably, Bangladesh, Myanmar, Mongolia, and Nepal have formalized or recently drafted national AI policies (2024–2025), reflecting growing political commitment and international collaboration. In contrast, countries such as Afghanistan, Kiribati, Solomon Islands, and Vanuatu lack publicly available AI-related frameworks, suggesting limitations in national capacity, resources, or political stability.

As part of the study, Mr. Krishnamurthy presented data from the Oxford Insights AI Readiness Index 2024, which further confirmed that most LDCs, LLDCs, and SIDS fall below the global median in governance, technological sector maturity, and data infrastructure. Capacity development emerges as a critical priority for fostering local AI talent and strengthening national ecosystems. The study also identified various sector-specific AI initiatives within the region, offering scalable examples that LDCs, LLDCs, and SIDS can adapt. It concludes with preliminary recommendations and actionable steps to accelerate AI adoption in support of national development agendas and the Sustainable Development Goals (SDGs).

The study will be circulated to all member states of the Asia Pacific for their comments and review after the workshop.

k. Submitting Contributions & Simulation Exercise

All participants were asked to prepare contributions and submit them to ITU for this role play exercise where **Mr. S K Mishra** played the role of Chairman, Mr. Rob Clark played the role of the Secretariat, different member states represented themselves, while Indian participants took on the roles of fictitious countries. A total of 5 contributions were received – 3 from India, 1 from Bhutan and 1 from Bangladesh, which were discussed in a mock set up. The exercise gave all participants a flavor of how ITU-T meetings are run, how to make a contribution, how to defend it and how to make interventions during a study group meeting.

The list of contributions is provided below:

1. Visionary Use Cases and Integration Framework of Digital Twins in Bhutan's Culture, Tourism, and Education Sectors, by Mr. Ugyen Dorji, GovTech Agency, Bhutan
2. Creation of Focus Group (FG) on costing models for affordable data service, by Mr. Sathish Kumar MC, India
3. IntelliCode AI Contribution for Financial Crime Resolution in Telecom – ITU SG3, Ms. Reena Mittal, Intellicode AI, India
4. Standardization of AI Embeddings for Interoperability Across GPT Models in Telecom Applications, Mr. Siddiqui Rahman, BTRC, Bangladesh
5. Accounting & Billing aspects in IoT ecosystem and integrated approach to IoT using Blockchain, by Mr. Sathish Kumar MC, India

l. Feedback Session

All participants found the workshop to be well-organized, engaging, informative, and rich in learning opportunities. The member states emphasized the need for more such workshops to build capacity not only around standards but also in the broader domains of artificial intelligence—including its technical, policy, governance, and application aspects. The workshop venue, the warm hospitality extended to all international guests, the professionalism of the hosts, and the quality of the facilities were deeply appreciated by all attendees.

The following aspects of the workshop were rated highly by participants:

- Quality of trainers and speakers, with a well-balanced representation from academia, industry, and government.
- Role-play and simulation exercises, were widely praised as effective and practical learning tools.
- The session conducted by Wadhwani AI, was found particularly useful and informative due to its focus on real-world AI use cases and applications.
- Motivation to engage further with ITU, with most participants expressing a renewed interest in contributing actively to ITU standards development processes.
- Cross-learning and networking opportunities, as participants valued the chance to exchange best practices and connect with peers beyond the formal sessions.
- The practical guidebook released by NCA-F, titled *"A Practical Guide to Writing ITU Contributions"*, received very positive feedback and was considered a valuable resource by all.

While the overall feedback was overwhelmingly positive, participants also identified a few areas for improvement in future workshops:

- Content density: Some attendees found the three-day agenda to be overly packed, suggesting the need for more time to absorb the information presented.
- Extended simulation sessions: Several participants recommended dedicating a full day to role-play and simulation exercises in future iterations. Since it was also acknowledged that extending the workshop beyond three days could be logistically challenging, it was proposed to provide some training via online sessions ahead of the next workshop, leaving more time for interactive sessions onsite.

m. Distribution of certificates

The workshop concluded with the distribution of certificates issued to all participants through ITU Academy. The participants were evaluated based on attendance, engagement, level of participation, and performance in quizzes conducted via Mentimeter.

n. Visit to the Centre for Development of Telematics

The visit to the Centre provided an in-depth overview of the Centre for Development of Telematics (C-DOT), the premier telecom R&D center under the Ministry of Communications, Government of India. Established in 1984, C-DOT had been instrumental in developing indigenous technologies across telecom security, wireless and optical networks, AI, and quantum secure communications. It had successfully delivered innovative solutions tailored to Indian needs with significant potential for global export due, in part, to conformance to ITU-T standards.

A major highlight of the presentation was India's emergence as the fifth nation to develop indigenous 4G/5G solutions. C-DOT had designed 4G core networks and RAN technologies for deployment in BSNL and Indian Railways. These solutions were not only cost-effective—delivered at a fraction of market prices—but also applicable across telecom, public safety, rural networks, and private networks. The modular, Open RAN-based 5G and evolving 6G capabilities reflected India’s growing self-reliance in next-generation telecom infrastructure.

The session also showcased C-DOT’s leadership in disaster management communications. It had operationalized the SACHET early warning system and the Cell Broadcast System (CBS) across India, delivering over 48 billion SMS alerts during more than 3,500 disaster events in 22 languages. This unified platform integrated multiple communication channels and agencies, helping to safeguard lives and property during emergencies. In the area of cybersecurity, C-DOT had developed end-to-end solutions like TRINETRA and TRINETRA 360. These platforms provided real-time cyber audits, incident investigations, vulnerability assessments, and monitoring across deep and dark web sources. Its systems also supported proactive perimeter and internal security across enterprise IT infrastructure, positioning C-DOT as a key player in national cyber defense.

C-DOT’s advancements in quantum communication technologies were also emphasized. It had become the first in India to receive TEC approval for its Quantum Key Distribution (QKD) solutions, deploying protocols like COW and DPS, and pioneering MDI-QKD. Additionally, it introduced both commercial- and military-grade Post-Quantum Cryptography (PQC) Network Encryptors, providing secure, tamper-proof communications with hybrid encryption modes suitable for both public and defense networks. On the applications front, C-DOT had developed tools like SAMVAD and Comet for secure messaging and video conferencing. These solutions, comparable to global platforms like WhatsApp and Google Meet, were being used by multiple Indian organizations and featured enhanced security functions, including secure file sharing, screen sharing, and biometric authentication.

Other technological advancements included unified network management platforms like UNMS, optical transport solutions like DWDM and OTN, and satellite-based Wi-Fi solutions for rural areas. C-DOT has also promoted standardized IoT/M2M platforms for sectors such as health, fire safety, and

smart cities. Public Wi-Fi initiatives under PM-WANI helped expand broadband access across India. Finally, the presentation highlighted C-DOT's technology transfer model, under which it provided ready-to-deploy solutions to external technology partners. Its innovation and excellence had been recognized through numerous awards, including the ITU Award 2024 and multiple honors at the Aegis Graham Bell and ELCINA Awards. The programme ended with a visit to various labs at CDOT – Quantum computing, Cyber Security and Early Warning Systems.

5. Key Takeaways

Given the strong engagement and commitment demonstrated by all participants throughout the three-day workshop and site visit, it is evident that the training was both timely and essential. This is particularly true in today's context, where many of the participating countries are either in the early stages of AI development and implementation or striving to keep pace with rapid technological advancements, while also preparing to address future risks.

Some of the key takeaways from the workshop are listed below:

- There is a need to organize workshops on AI standards and technology on a consistent basis to address the current needs of the member states.
- In future, it is necessary to complement face-to-face training with online training preceding the workshop to cover the theoretical aspects of the workshop. This will ensure that more elements can be covered on-site, allow participants to absorb the material at an easier pace, and offer learning opportunities that emerge from group interactions.
- The contribution drafting and role plays can be conducted through group exercises allowing participants to engage and network amongst themselves.

6. Annexures

a. List of Participants

Total Participants: 76
On-site: 74 (Male – 57, Female – 17)
Online: 2 (Male – 2, Female – 0)

Countries Participated: 6 (India, Nepal, Bhutan, Bangladesh, Sri Lanka & Maldives)

S. No.	Full Name	Represented Country	Represented Organization	Title	Category Type
1	Mr. Belayet Hossain	Member State (Bangladesh)	Bangladesh Telecommunication Regulatory Division, Bangladesh	Senior Assistant Director, Spectrum Division	Government
2	Mr. Md. Jahirul Islam	Member State (Bangladesh)	Bangladesh Telecommunication Regulatory Division, Bangladesh	Assistant Director, Engineering & Operations Division	Government
3	Mr. Migma Tshering	Member State (Bhutan)	GovTech Agency, Bhutan	Assistant ICT Officer, GovTech Agency	Government
4	Ms. Tenzin Deki	Member State (Bhutan)	GovTech Agency, Bhutan	Assistant Program Officer, Government Technology Agency	Government

5	Mr. Hassan Ziyad Ibrahim	Member State (Maldives)	Communications Authority of Maldives, Maldives	Computer Technician	Government
6	Mr. Rajesh Kumar Thapa	Member State (Nepal)	Ministry of Communication and Information Technology (MoCIT), Nepal	Under Secretary (Law)	Government
7	Mr. Manish Bhattarai	Member State (Nepal)	Ministry of Communication and Information Technology (MoCIT), Nepal	Head of Integrated Data Management	Government
8	Ms. Ayesha Pathiranage	Member State (Sri Lanka)	Telecommunications Regulatory Commission of Sri Lanka, Sri Lanka	Development Officer/Networks	Government
9	Mr. Md. Siddiqur Rahman	Member State (Bangladesh)	Bangladesh Computer Council, Bangladesh	Assistant Programmer	Government
10	Mr. Asif Shahriyar Sushmit	Member State (Bangladesh)	Aspire to Innovate (a2i) Programme, ICT Division, Bangladesh	Consultant (Envision)	Government
11	Mr. Ugyen Dorji	Member State (Bhutan)	GovTech agency, Bhutan	Asst. ICT Officer	Government
12	Mr. Nima Wangchuk	Member State (Bhutan)	GovTech agency, Bhutan	Asst. ICT Officer	Government
13	Ms. Madhavi Das	Member State (India)	NCA-F	Director General	Government
14	Dr. Kamal Kapoor	Member State (India)	NCA-F	DDG	Government
15	H.E. Indra Mani Pandey		BIMSTEC	Secretary General	Regional Organisation
16	Ms. Vinod Kotwal	Member State (India)	National Pharmaceutical Pricing Authority	Member Secretary	Government
17	Mr. Manish Sinha	Member State (India)	DoT	Member (Finance)	Government
18	Mr. Avinash Aggarwal	Member State (India)	DoT	DDG, International Relational Relations,	Government
19	Mr. S K Mishra	Member State (India)	DoT		Government
20	Mr. Amanullah Tak	Member State (India)	DoT	Jt. CCA, J&K	Government
21	Mr. Abhilash S.B.	Member State (India)	DoT	Jt. CCA, Karnataka	Government
22	Mr. Prem Prakash	Member State (India)	DoT	Jt. CCA, Chhattisgarh	Government
23	Mr. K. Sajal	Member State (India)	DoT	Jt. CCA, NE-ll	Government
24	Mr. Shashank Bhardwaj	Member State (India)	DoT	Jt. CCA, MH & Goa	Government
25	Mr. Tejas Ramakant Mahire	Member State (India)	DoT	Dy. CCA, MH & Goa	Government

26	Mr. Nikhil Srivas	Member State (India)	DoT	Jt. CCA, Delhi	Government
27	Mr. Gunjan Bharti Mishra	Member State (India)	DoT	Dy. CCA, Gujarat	Government
28	Mr. Devinder Yadav	Member State (India)	DoT	Director (Technology), Delhi LSA	Government
29	Mr. Khagendra Singh	Member State (India)	DoT	DWA, RLO-Guwahati	Government
30	Mr. G.K Reddy	Member State (India)	DoT	E-i-C, WMS, Hyderabad	Government
31	Mr. Prateek Srivastava	Member State (India)	DoT	AWA, RLO, Mumbai	Government
32	Mr. Shashank Shekhar Agarwal	Member State (India)	DoT	Dy. Director, NCA-F	Government
33	Ms. Taruni Pandey	Member State (India)	DoT	ACAO	Government
34	Mr. Sathish Kumar	Member State (India)	DoT	Deputy Administrator, Digital Bharat Nidhi	
35	Mr. Kunal Srivastava	Member State (India)	DoT	Director (Finance)	
36	Mr. Prakash Sonkamble	Member State (India)	DoT	Deputy Director, International Monitoring Station Mumbai, WMO	Government
37	Mr. Vinay	Member State (India)	C-DoT		Government
38	Mr. Arjun Sharma	Member State (India)	C-DoT		Government
39	Mr. G. Brahmaiah	Member State (India)	LSA	Director(R2), Karnataka LSA	Government
40	Ms. Bindoo Srivastava	Member State (India)	TSDSI	Director	Government
41	Mr. Chandra Kanta Rathore	Member State (India)	TSDSI	Program Executive	Government
42	Mr. Ashish Mathur	Member State (India)	Cellular Operators Association of India (COAI)	Assistant Director	Non-Governmental Society
43	Mr. Shiv Kumar Pandey	Member State (India)	Cellular Operators Association of India (COAI)	Senior Manager	Non-Governmental Society
44	Mr Suprateek Gulia	Member State (India)	Cellular Operators Association of India (COAI)	Senior Manager	Non-Governmental Society
45	Mr. Dibya Prakash Lahiri	Member State (India)	Cellular Operators Association of India (COAI)	Assistant Manager	Non-Governmental Society
46	Ms. Ashika V	Member State (India)	Cellular Operators Association of India (COAI)	Deputy Manager	Non-Governmental Society
47	Mr. Aviral Bartar		UNICEF	ICT Officer	UN organization

48	Mr. Piyush Choudhary		UNICEF	ICT Officer	UN organization
49	Mr Naveen Gupta		UNICEF	ICT Officer	UN organization
50	Mr. Sandeep Singh Chowdhry		UNICEF	Sr. ICT Associate	UN organization
51	Mr. Vallari Agarwal		UNHCR	Protection Associate	UN organization
52	Ms Atsuko Okuda	N/A	ITU	Regional Director	UN organization
53	Mr Robert Clark	N/A	ITU	Study Group Advisor	UN organization
54	Ms Pranita Upadhyaya	N/A	ITU	Head, Area office and Innovation Centre	UN organization
55	Ms Akanksha Sharma	N/A	ITU	Programme Officer	UN organization
56	Mr. Ramesh Krishnamurthy	N/A	ITU	Consultant	UN organization
57	Mr Ashutosh Sharma		UNICEF	T4D Specialist	UN organization
58	Mr Rashim Bhagotra		UNICEF	ICT Associate	UN organization
59	Ms. Mikiko Tanaka		UNESCAP	Director, South and Southwest Asia Sub-regional Office	UN organization
60	Ms. Resham Sethi	India	PATH		International Organization
61	Mr Satish Menon	India	United States Agency for International Development (USAID)	Lead- Partnerships and innovative Finance	International Organization
62	Ms Uma Rayavarapu	India	United States Agency for International Development (USAID)	Remote Sensing and GIS Specialist	International Organization
63	Mr Roshan Nair	India	United States Agency for International Development (USAID)	Digital Development Advisor - IPO	International Organization
64	Ms Mitika Garg	India	Oracle	Solution Engineer	Industry
65	Mr Ashish Kumar Singal	India	Oracle	Solution Engineer	Industry
66	Mr Munish Gaur	India	Tata Communications Ltd	General Manager – Global Regulatory	Industry
67	Mr. Ronald van Kleunen	India	Globeron	Consultant	Industry
68	Ms. Reena	India	InteliCode Solution Private Limited	Co-Founder	Industry
69	Mr. Abhisekh Satapathy	India	Avasant	Principal Analyst	Industry
70	Mr. Ashutosh Agarwal	India	Scripthonix Solutions	Chief AI Officer	Industry
71	Ms. Manika Rana	India	Wadhwani AI		Industry
72	Mr. Kanishk Pant	India	Wadhwani AI		Industry

73	Ms. Shreya Thakur	India	Wadhwani AI		Industry
74	Prof. Tavpritesh Sethi	India	IIIT-D	Professor	Academia
75	Prof. Kaushik Saha	India	IIT, D	Professor, Electrical Engineering	Academia
76	Mr. Amarnath Ojha	India	NCA-F	Deputy Director	Government

b. Agenda

Time	Session Name	Session Description	Speaker
08:30 - 09:30	**Registration**		
09:30 - 10:30	Opening Session	Welcoming Dignitaries with planters	Ms. Madhavi Das, Director General, & Dr. Kamal Kapoor, DDG, NCA-F
		Lighting of the Lamp	All dignitaries
		Welcome address	Ms. Madhavi Das, DG, NCA-F
		Release of the "Guide to Writing ITU Contributions"	All dignitaries
		Opening Remarks by Host Government	Dr. Neeraj Mittal, Secretary, DoT
		Introduction to the workshop objectives	Ms. Atsuko Okuda, Regional Director for Asia Pacific, ITU
		Remarks from partner organisation	H.E. Indra Mani Pandey, Secretary General, BIMSTEC
		Keynote Address	Mr. Manish Sinha, Member (Finance), Department of Telecommunications
		Vote of Thanks	Dr. Kamal Kapoor, DDG, NCA-F
	Group Photo		
10:30 – 11:00	**Tea/Coffee Break**		
11:00 – 13:00	Introducing ITU and ITU-T	Introducing ITU, focusing on three key elements: ITU's AI-related activities, ITU-T's standardization and pre-standardization work, and bridging the standardization gap (BSG).	Mr. Robert Clark, Advisor, ITU Standardization Bureau, Geneva Ms. Vinod Kotwal, Member Secretary at

	Standardization in ITU-T	A detailed look at where and how standards are made in ITU-T – working methods, focusing on the work item lifecycle and Intellectual Property Rights.	National Pharmaceutical Pricing Authority
13:00 - 14:00	**Lunch**		
14:00 – 15:00	Building trustworthy AI	Brief presentation on TEC standard for Fairness Assessment and Rating of Artificial Intelligence Systems followed by a Case Study on AI Incident Reporting.	Mr. Avinash Aggarwal, DDG, International Relational Relations, DoT
15:00 – 15:15	**Tea/Coffee Break**		
15:15 – 16:00	Building trustworthy AI	Case Study to be shared with all participants	To be facilitated by DoT, and ITU
16:00 - 17:00	Innovation Café on AI	Implementation of AI & Standards for digital transformation *Objective: To share experiences, best practices and strategies for deploying AI standards to accelerate digital transformation.*	Ms. Akanksha Sharma, ITU Area Office & Innovation Centre, Delhi
	Closure of Day 1		

Day 2

Time	Session Name	Session Description	Speaker
09:30 - 09:45	Opening Session	Recap of Day 1	Facilitated by ITU
09:45 - 11:00	Member Contributions – the fuel for ITU-T's work	Training and interactive session on preparing, submitting and presenting Contributions, handling questions, and building consensus.	Mr. Robert Clark, Advisor, ITU Standardization Bureau, Geneva Mr. Sathish Kumar, Department of Communications Ms. Chandrakanta Rathore, Telecommunications Standards Development Society (TSDSI)

11:00 - 11:15	**Tea/Coffee Break**		
11:15 – 12:00	Standards leadership in ITU-T Assignment of Topic and Roles	Deep dive into leadership principles and practice, fostering collaboration, breaking deadlock. Reprise: presenting Contributions, handling questions, building consensus. Topic and roles to be assigned for contribution submission and Simulation Exercise planned on Day 3.	Mr. Robert Clark, Advisor, ITU Standardization Bureau, Geneva Ms. Bindoo Srivastava, Director, Telecommunications Standards Development Society (TSDSI) and NCA-F
12:00 – 13:30	Innovation Cafe on Future of AI in ICT & Telecom	Experts – NITI/Meity, DoT (Digital Twins), Industry (SAP/Oracle), CoAI, Startups	Ms. Akanksha Sharma, ITU Area Office & Innovation Centre, Delhi Prof. Kaushik Saha, IIT Delhi
13:30 - 14:30	**Lunch**		
14:00 – 15:30	Country Presentations	India, Nepal, Bhutan, Bangladesh, Sri Lanka, Maldives & Thailand	Member States
15:30 - 15:45	Tea/Coffee Break		
15:45 - 17:00	Use cases of AI in Telecom and ICT	This session will take the participants through examples of practical use cases of AI in telecom and ICT field to encourage sharing of best practices.	Ms. Shreya Thakur, Mr. Kanishk Pant, Wadhwani AI
	Closure of Day 2		

Day 3

Time	Session Name	Session Description	Speaker
09:30 - 09:45	Opening Session	Recap of Day 2	Facilitated by ITU
09:45 - 11:15	AI ethics, data, privacy and IPR	AI ethics, data, privacy and IPR for increasing the efficiency of telecommunications/ICTs	Session led by Prof. Tavpritesh Sethi, IIIT-D & Mr. Kunal

			Srivastava, Director (Finance), DoT
11:15 - 11:30	**Tea/Coffee Break**		
11:30 - 12:30	Discussion on AI assessment conducted by ITU within its mandate and core competencies	Session with the member states to validate data from the study and understand their requirements on AI	Mr. Ramesh Krishnamurthy, Consultant, ITU
12:30 – 13:30	**Lunch**		
13:30 – 14:30	Submitting Contributions	Participants submit contributions based on the learnings from Day 1. A few of these submissions will be discussed during the session	Mr. Robert Clark, Advisor, ITU Standardization Bureau, Geneva
14:30 - 15:00	**Tea/Coffee Break**		
15:00 – 16:00	Simulation Exercise	Simulations, making interventions in ITU-T Study Group meetings, feedback on negotiations through Role Play.	To be facilitated by ITU, TSDSI NCA-F & others
16:00 - 16:30	Invite feedback from participants		
	Closure of Day 3		

Day 4 – Site visit to the Centre for Development of Telematics

c. Attachments

All materials from the training including pictures, presentation slides from the speakers, and zoom recordings are available on the ITU Academy Page that all trainees have access to.