Overview of Q5/13 Activities – Focus on Africa

By

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At

ITU-T Study Group 13 Regional Group for Africa Livingstone, Zambia

Presentation Overview

Question 5 (Title & Management)

History

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Key Takeaways & Recommendations for Africa

Question 5 (Title & Management)

- Title: Applying future networks and innovation in developing countries

Mr. Elliot N. Kabalo

Zambia ICT Authority

Q5/13 Rapporteur

SG13RG-AFR Vice Chair

SG13 Vice Chair

Mr. Mamadou Oury Sakho

Ministère des Postes, des Télécommunications et de l'Economie Numérique

Q5/13 Associate Rapporteur SG13

Dr. Mohammed Kyari Mustafa

Nigerian Communications Commission Nigeria

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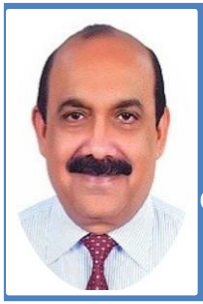
SG13RG-AFR Vice Chair

SG13 Vice Chair

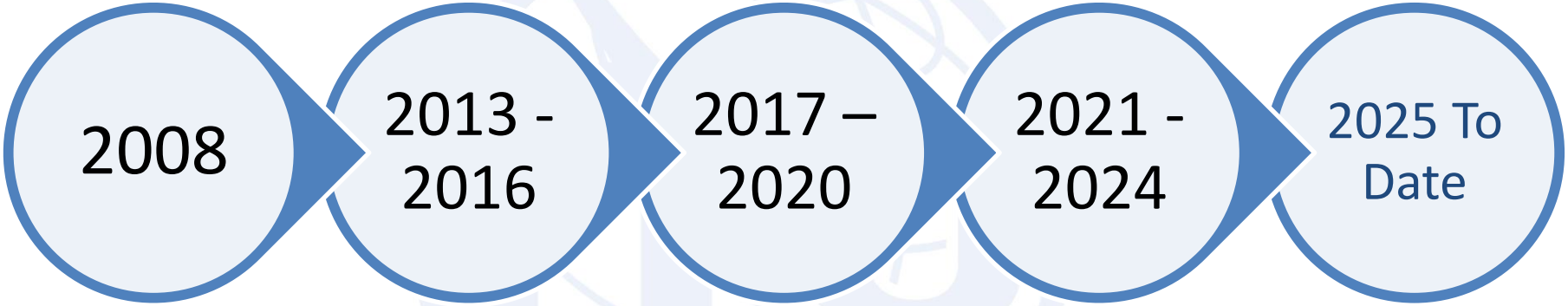


Mr. Abhay Shanker Verma

Telecom Regulatory Authority of India

Q5/13 Associate Rapporteur SG13

History



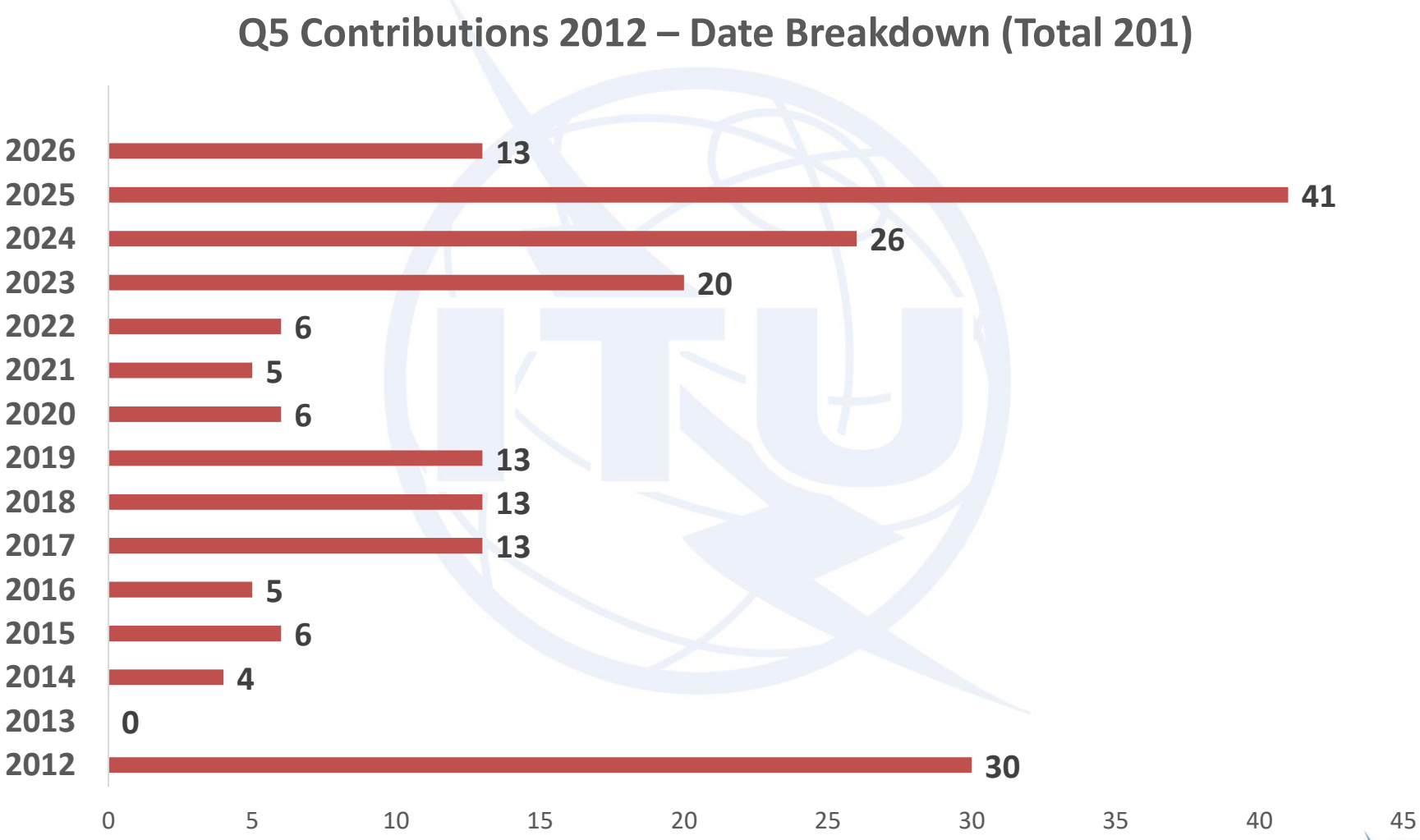
- WTSA Approves then Q15/13 drafted by Q19 and allocated to SG13
- Q15/13 revised and re-named Q5/13 (One Supplement Published)
- Three Supplements and one Technical Report Published
- Published one Supplement and the first Recommendation
- 14 Work Items Under Study

➢ **Currently, Question 5 sits under Working Party 4 (WP4) of Study Group 13.**

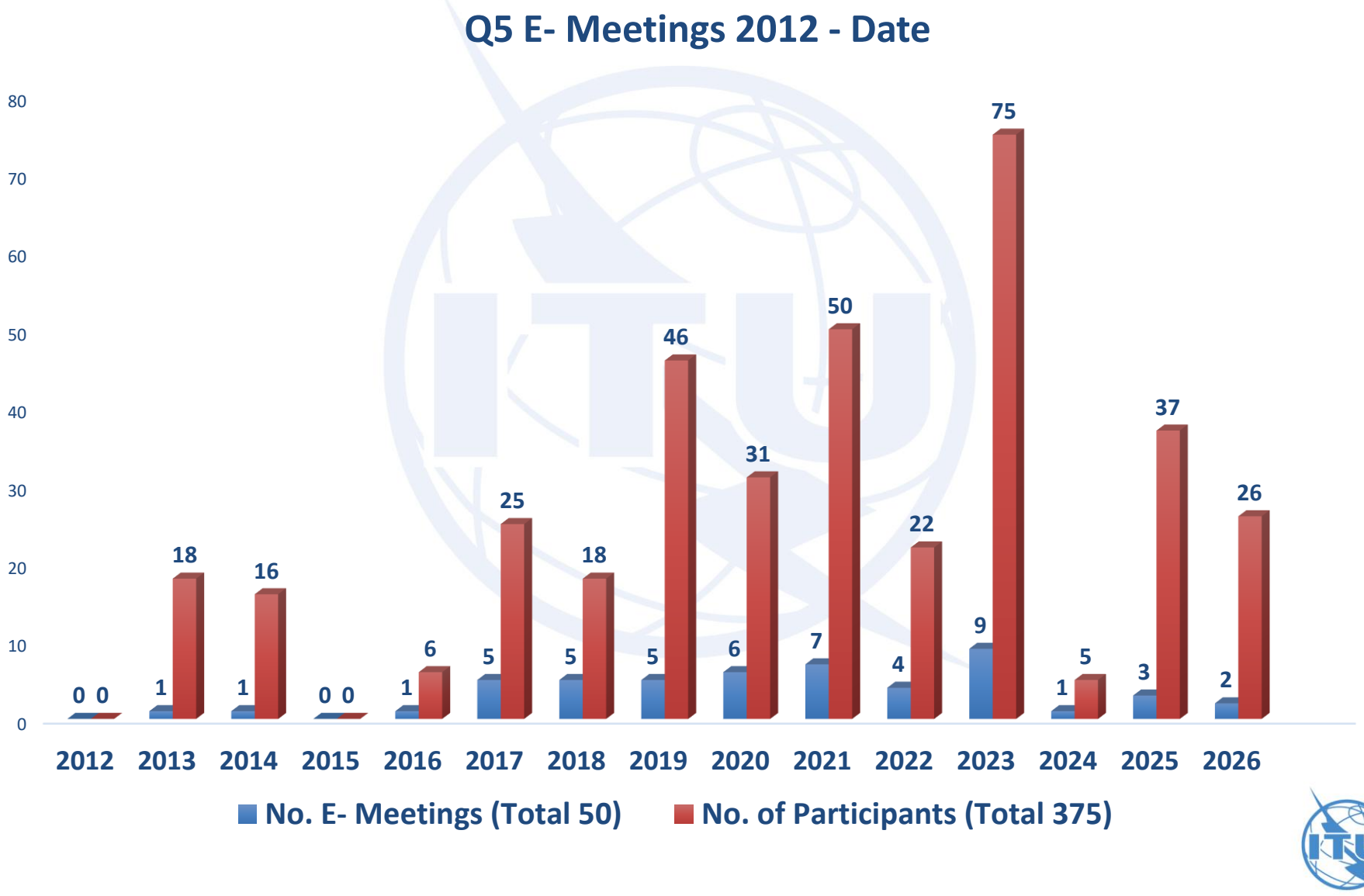
Question 5 Terms of Reference

- What scenarios and requirements in terms of services and deployments are needed for applying future networks and emerging network technologies in developing countries telecom networks?
- What are the standardization requirements of developing countries, in relation with SG13 hot topics and what challenges that could be addressed with standards?
- What enhancements to existing Recommendations are required to ensure energy savings directly or indirectly in Information and Communication Technologies (ICTs) and services or in other industries?

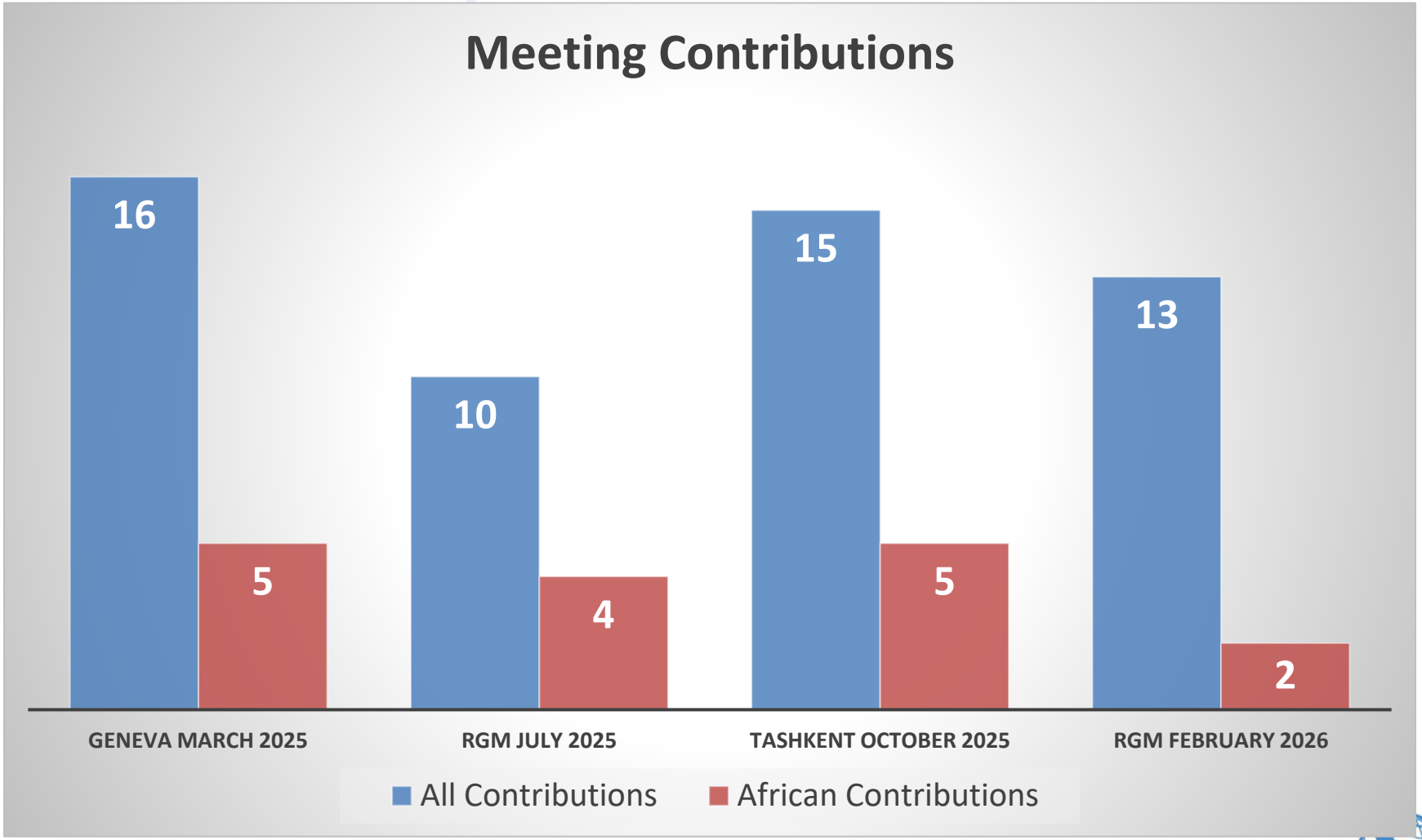
Question 5 Statistics



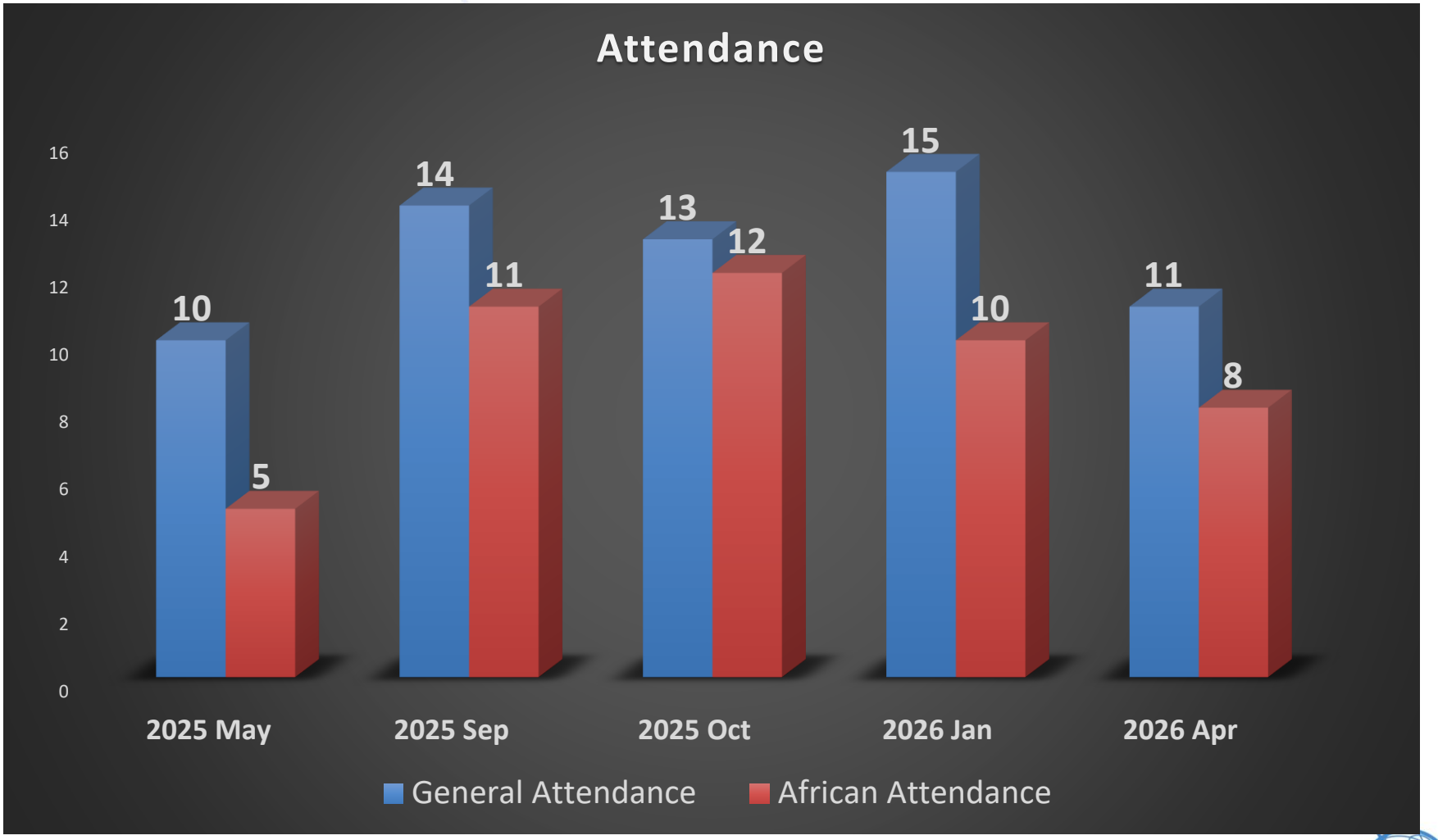
Question 5 Statistics



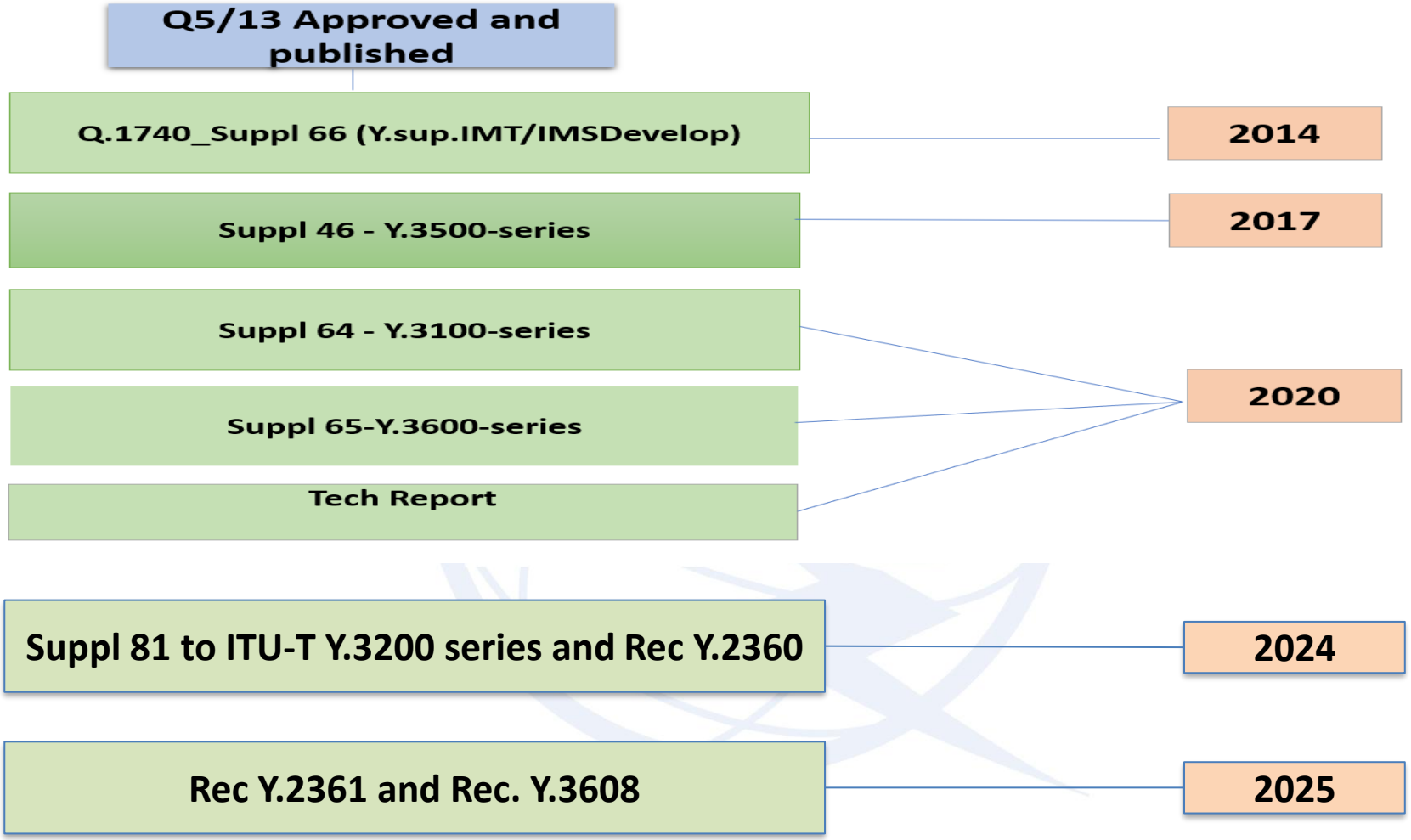
African Contribution Statistics 2025 - 2026



African E-Meeting Statistics 2025 - 2026



Outputs from Question 5



Publications

Impact & Applicability of Completed Outputs to Africa

Recommendation	Impact & Applicability to Africa
ITU-T Y.2360 *Requirements for Integrating Demographic Data for New and Emerging Technologies* Approved: Sept 2024	Provides a reference model for collecting, storing, and transforming demographic data into emerging technology systems (AI, ML). Africa's rapidly growing populations, often with limited census infrastructure, risk being underrepresented in AI models and network planning. Ensures technology deployments reflect actual population needs — age distribution, urbanization, and density — making networks and services more effective across the continent.
ITU-T Y.2361 *Requirements for Fostering ICT Services Universalization Using Open Networks and AI* Approved: April 2025	Aligned with the UN SDG target of universal ICT access by 2030, it defines requirements for open network architectures (SDN, NFV, open APIs) combined with AI for predictive maintenance and dynamic network slicing. Open principles lower barriers for vendors and operators, reducing CAPEX/OPEX — critical where infrastructure investment is constrained. Developed with Nigerian support, directly targeting the digital divide in underserved and rural communities.

Impact & Applicability of Completed Outputs to Africa

Recommendation / Supplement	Impact & Applicability to Africa
ITU-T Y.3608 *Requirements and Framework for the Exploitation of Big Data/AI Technologies* Approved: Dec 2025	Africa generates massive data through mobile money, agriculture, and health systems but lacks standardized frameworks to exploit it. This recommendation provides a full framework, reference architecture, and operating model — defining roles from data providers to governance to AI service delivery. It gives African governments and organizations a structured pathway to build big data/AI capabilities for data-driven policymaking, economic growth, and SDG progress. Cross-references Y.2360 for demographic data integration.
Supplement 81 to ITU-T Y.3200 Series *Use Cases of Satellite Communications in Developing Countries* Approved: March 2024	Critical for Africa's vast rural and remote areas where terrestrial infrastructure is economically unviable. Hybrid satellite-terrestrial architectures provide last-mile connectivity for education, healthcare, and emergency services. Incorporates network slicing, edge computing (MEC), and AI/ML for scalability. Fixed-mobile-satellite convergence enables seamless handoff as ground infrastructure expands.

Question 5 Work Program

Work Item	Applicability to Africa	Completion
Draft new Recommendation Y.telerob-req "Network configuration requirements for application-driven Multi-user telerobotics-based solutions for developing countries"	Enables remote surgery, telemedicine, and precision agriculture in rural Africa where specialist access is scarce. Africa can contribute use cases from its healthcare and agricultural sectors.	12-2026
Draft new Supplement Supp-Y.AIEE-GN "AI-based energy efficiency management practice for green network infrastructure in Developing Countries"	Directly addresses Africa's high energy costs and unreliable power supply. AI-driven network energy optimization can cut OPEX significantly for African operators and reduce reliance on diesel generators.	Q4-2026
Draft new Supplement Supp-Y.CNC-Use-Cases "Use cases for supporting coordination of networking and computing for Developing Countries"	Supports edge computing deployment where centralized cloud infrastructure is limited. Africa can leverage coordinated computing for local content delivery, e-government, and fintech services.	07-2026
Draft new Supplement Y.DLT-Use-Cases "Use cases of Distributed ledger technology in networks of Developing Countries"	Highly relevant to Africa's mobile money ecosystem, digital identity programs, land registry, and supply chain transparency. Africa leads globally in mobile money adoption and can shape DLT network standards.	Q3-2027
Draft new Supplement Y.IMT2020-EE "IMT-2020 network enhancements to improve energy efficiency in Developing Countries"	Critical for reducing the total cost of ownership of 5G networks in Africa. Energy-efficient IMT-2020 deployments support greener, more affordable network expansion across the continent.	07-2026

Question 5 Work Program

Work Item	Applicability to Africa	Completion
Draft new Supplement Y.MBIMT2020-Gen "Guidance for migrating existing mobile network technologies to IMT 2020 and beyond"	Essential migration roadmap for African operators still running 2G/3G/4G. Provides structured guidance for transitioning legacy networks to 5G while protecting existing investments.	07-2026
Draft new Supplement Y.NGNe-Use-Cases "Use cases of Next Generation Network evolution in Developing Countries"	Helps African nations maximize returns on existing NGN investments while evolving toward next-generation architectures. Supports gradual, cost-effective network modernization.	10-2026
Draft new Supplement Y.Supp.Dev.Open.AI.UC "Use Cases of services universalization in developing countries using open networks and AI models"	Directly targets Africa's digital divide. Open network architectures combined with AI can lower CAPEX/OPEX, enabling affordable connectivity in underserved and rural communities. Rec. Y.2361 already approved with Nigerian support.	07-2026
Draft new Supplement Y.Supp.IIS-Use-Cases "Use cases of Telecommunications/ICT Infrastructure Sharing in Developing Countries"	Infrastructure sharing is vital for Africa where deployment costs are high and coverage gaps persist. Shared towers, fiber, and spectrum can accelerate rural connectivity and reduce duplication of investment.	12-2027

Question 5 Work Program

Work Item	Applicability to Africa	Completion
Draft new Technical Report YSTR.UC-CNB "Use cases of Converged IMT 2020 and beyond networks and broadcasting network for developing countries"	Broadcasting remains a primary information channel in Africa. Convergence of 5G and broadcast networks can extend reach for education, emergency alerts, and multimedia services to underserved populations.	07-2027
Draft new Technical Report TR.SME.FRAMEWORK "Framework for Future Network Technology Integration for Small and Medium Scale Enterprises in Developing Countries"	SMEs comprise over 80% of African businesses. This framework guides technology adoption (cloud, IoT, AI) for African SMEs, boosting digital transformation and economic competitiveness.	Q3-2027
Draft new Supplement Y.Sup.DS-Use-Cases Use cases and capabilities for supporting data services in IMT-2020 networks and beyond for Developing Countries	Enables data-driven services (e-health records, agricultural data platforms, digital payments) over 5G networks. Africa can contribute use cases reflecting its unique data service needs and mobile-first economy.	12-2027
Draft new Supplement Y.Supp.IMT2020-DN "Distributed network for IMT-2020 and beyond in Developing Countries"	Distributed 5G architectures suit Africa's geography – enabling localized, resilient network nodes for rural and peri-urban areas without dependence on centralized core infrastructure.	Q3-2027

Key Takeaways & Recommendations for Africa

Key Takeaways	Recommendations for Africa
Strong Foundation of Approved Standards Four approved outputs (Y.2360, Y.2361, Y.3608, Suppl. 81) directly address Africa's core challenges in demographic data, digital inclusion, big data/AI, and satellite connectivity. **Expansive Work Program** 14 active work items span 5G migration, energy efficiency, DLT, infrastructure sharing, SME frameworks, and converged broadcasting — all highly relevant to Africa's development priorities. **Africa as Contributor, Not Just Beneficiary** African participation has shaped Q5 outputs (e.g., Nigerian support for Y.2361). The continent's unique use cases in mobile money, agriculture, and healthcare strengthen global standards. **Cost Reduction Is Central** Open network architectures, infrastructure sharing, and energy efficiency standards directly target CAPEX/OPEX reduction — the primary barrier to network expansion in Africa.	**1. Increase African Participation** Scale up contributions to Q5 work items to ensure Africa-specific use cases shape final standards across DLT, energy efficiency, and 5G migration. **2. Adopt Approved Recommendations** Prioritize integrating Y.2360, Y.2361, and Y.3608 into national ICT policies and regulatory frameworks to accelerate digital transformation. **3. Leverage Infrastructure Sharing** Use the ICT infrastructure sharing standards to reduce deployment costs, close rural coverage gaps, and inform national broadband plans. **4. Engage Ecosystem Stakeholders** Involve African SMEs, mobile money operators, and agricultural/health sectors in DLT, data services, and AI standardization efforts. **5. Drive Energy-Efficient 5G Deployment** Adopt AI-based energy efficiency and IMT-2020 standards to lower total cost of ownership and reduce reliance on diesel generators for network infrastructure.


Thank
You
Vinaka
köszönöm
Kiitos
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감사합니다
Dankscheen
спасибо
Kam Sah Hammida
Matondo
Terima Kasih
Diolch i Chi
Dank Je
Mauruuru
Biyan
Taiku
Blagodaram
Tack
Chokrane
Ngiyabonga
Dziekuje
Grazie
Arigato
Juspaxar
Mochchakkeram
Gracias
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Dakujem
धन्यवाद
Tingki
Grazas
cảm ơn bạn
Paldies
Gratias Tibi
Ua Tsaug Rau Koj
Obrigado
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Kia Ora
Kop Khun Khap
ありがとう
Suksama
Nuwun
Hvala
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Di Ou Mèsi
Djiere Dieuf
Rahmat
谢谢
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Danke
Merci
Go Raibh Maith Agat
Eskerrik Asko
Misaotra
Matur
Salamat
Tuke
Najis

Thank you