Report of the Africa Broadband Maps National Event in Abuja

Date: 5th – 7th August 2025

Venue: Envoy Hotel, Diplomatic Drive, Abuja

Background

The Africa-BB-Maps project (2025–2028) is a four-year initiative implemented by the International Telecommunication Union (ITU) and funded by the European Union (EU). It is designed to establish or strengthen harmonised national broadband mapping systems in 11 Sub-Saharan African countries: Benin, Botswana, Burundi, Côte d'Ivoire, Ethiopia, Kenya, Malawi, Nigeria, Uganda, Zambia, and Zimbabwe. These systems will enable national regulatory authorities (NRAs) to map broadband infrastructure and service coverage, identify connectivity gaps, and support data-driven policy and investment decisions.

Nigeria was chosen as the first country to commence implementation, underscoring its pivotal role in Africa's digital transformation. To this end, the Africa-BB-Maps National Event was convened in Abuja from 5th – 7th August 2025 at the Envoy Hotel, Diplomatic Drive. The event was jointly organised by the Nigerian Communications Commission (NCC), ITU, and the EU, and brought together a broad coalition of stakeholders.

About 100 participants (Online and in-person) attended, cutting across government ministries, departments, and agencies (MDAs); telecom operators; infrastructure providers; international organisations; and civil society. Key public-sector participants included the Nigerian Communications Commission (NCC), Office of the Surveyor-General of the Federation (OSGOF),

National Population Commission (NPopC), National Space Research and Development Agency (NASRDA), Rural Electrification Agency (REA), the National Geospatial Data Infrastructure (NGDI), Central Bank of Nigeria (CBN), Nigerian Postal Service (NIPOST), Galaxy backbone Plc (GBB), National Broadband Alliance for Nigeria (NBAN) and the Nigeria Governors' Forum (NGF).

Private-sector participation was equally strong, with leading telecom operators and infrastructure providers such as MTN, Airtel, Glo, 9Mobile, IPNX, MainOne, Phase 3 Telecoms, Tizeti, Cyberspace, ATC Nigeria, IHS Towers, Starlink, Phase 3 Telecom. These stakeholders contributed perspectives on infrastructure mapping, fibre deployment, rural connectivity, and service delivery.

International organisations and partners in attendance included the European Union Delegation to Nigeria, team from Poland and Croatia, the International Telecommunication Union (ITU), the West African Telecommunications Regulators Assembly (WATRA), the GSMA, Ookla LLC, the Internet Society (representing the Open Fibre Data Standard – OFDS), , and National Communication Authority of Ghana (NCA Ghana), among others. Development partners, academia, and civil society also participated, bringing a wide range of expertise and expectations.

Collectively, this diverse participation reflected the whole-of-government and multi-stakeholder approach necessary to achieve the objectives of Africa-BB-Maps in Nigeria and ensure that broadband mapping becomes a cornerstone of evidence-based regulation, transparent infrastructure planning, and inclusive digital growth.

Day 1: Policy Dialogue and Strategic Orientation

The first day set the strategic tone, framing broadband as a necessity for Nigeria's digital economy and a catalyst for GDP growth, inclusion, and governance transparency. There were welcome addresses from the EVC, ITU and the EU.

Welcome and Opening Addresses

Dr Aminu Maida (EVC, NCC) underscored that broadband is not a luxury but a national productivity driver. He noted a 10% increase in penetration could boost GDP by 1.38% and highlighted mapping's role in infrastructure visibility, planning transparency, and regulatory alignment. Stakeholders were urged to collaborate across public and private sectors to produce lasting coalitions beyond the workshop.

Gautier Minot (EU Ambassador) outlined an €820 million digital economy package, including the 90,000km Bridge Project fiber rollout and interoperability platform, plus a €250 million loan for digital ID. He stressed accurate mapping to close the digital divide and guide investments under the Africa BB Maps initiative supported by ITU.

Dr Cosmas Zavazava (ITU) and Dr Emmanuel Mannaseh (ITU Regional Director) framed the event as a human-centric platform to identify gaps via quality data, aiming for a policy focus document and technical roadmap. They highlighted the importance of maps in equitable infrastructure deployment, real-time decision-making, and social inclusion.

Session 1: Context and Current State Interventions

NCC Intervention

NCC experts showcased GIS-driven monitoring for the National Profile Plan 2020–2025 and mobile expansion. They presented the Commission's achievements in GIS-driven broadband mapping, such as ArcGIS tools for static/interactive maps on 2G, 3G, 4G and 5G coverage, fibre networks and microwave links. They outlined where NCC intends to go — including a dedicated Broadband GIS Strategy, integration with national digital platforms, and workforce enhancement. Challenges were openly acknowledged: data quality and reliability, coordination across MDAs, and the need for stakeholder buy-in. NCC invited partners to collaborate to tackle these challenges together.

Public Sector

Panel discussions from relevant public organizations (Office of the Surveyor General of the Federation (OSGOF), National Geospatial Data Infrastructure (NGDI), National Population Commission (NPC), Rural Electrification Agency (REA), Geo-Referenced Infrastructure and Demographic Data for Development Project (GRID^3) and Nigeria Governors' Forum (NGF) highlighted the diverse datasets available: cadastral and topographic maps, socio-economic statistics, demographic/boundary data, electrification and renewable energy maps, and policy reforms on Right of Way. Each agency confirmed the project's relevance to their mandates and discussed opportunities to contribute data streams, while also identifying barriers such as inter-agency coordination and data protection concerns. OSGOF reaffirmed its role as national mapping authority, providing topographic, cadastral, and boundary data, plus crowd-sourced right-of-way surveys. NGDI outlined a federated geospatial framework integrating metadata, standards, and technology. NPC offered demographic, boundary, and mast location data via digital censuses. REA,

GRID³, and NGF highlighted renewable energy mapping, night-lighting data, integrated electricity planning, and streamlined right-of-way reforms.

Private Sector

IPNX, MTN, IHS Towers, MainOne, and Galaxy Backbone emphasized FTTH planning, in-building coverage, rural telephony, and fiber-infrastructure management. They advocated for a one-stop research data hub to aggregate and share datasets, spotlighting the value of private-public collaboration for capacity building and innovation.

This session featured contributions from private sector players - IPNX, MTN, IHS Towers and MainOne. Each highlighted how their assets and datasets could support broadband mapping while identifying key challenges.

IPNX emphasised fibre-to-the-home (FTTH) as a driver of inclusive broadband and called for harmonised data standards to reduce duplication in fibre deployment. MTN underlined its extensive coverage footprint, including rural telephony, and committed to providing anonymised datasets, while noting the importance of protecting commercially sensitive information. IHS Towers stressed their role as a neutral host and advocated for a “dig once, share always” principle, urging tower datasets to be integrated into the map. MainOne drew attention to its fibre backbone and subsea cables, emphasising the value of mapping fibre routes and cross-border links for resilience and regional data sovereignty.

Collectively, the private sector reinforced that broadband mapping must capture not only infrastructure footprints but also service realities. Their interventions underscored the need for coordination, transparency, and

trust to ensure that investments translate into wider coverage, efficiency, and affordability.

International Partners

WATRA emphasized the importance of regional harmonization, advocating for standardized broadband data practices across West Africa to enable regional benchmarking, attract cross-border investments, and advance ECOWAS digital integration goals. GSMA highlighted the value of mobile operator datasets for coverage mapping and stressed the need for regulatory frameworks that strike the right balance between transparency and data confidentiality while also emphasizing the need for overlaps between energy and telecoms for impact to millions of communities in the country. The Internet Society, representing OFDS, underscored the benefits of open fibre data models for interoperability and encouraged Nigeria to adopt standards that would allow seamless integration with other African and global datasets.

Africa-BB-Maps Project Overview

This session, moderated by Mr. Dana Jon Kamason (Project Manager, Africa-BB-Maps, ITU), formally introduced the Nigeria deployment strategy. The session featured a short Africa-BB-Maps video, followed by presentations on project objectives, technical specifications, and the policy analysis framework.

- **Mr. Dana Jon Kamason** elaborated on the maturity matrix developed by ITU, which benchmarks national readiness across infrastructure, data governance, policy, and stakeholder engagement. He outlined the expected outputs for Nigeria: a robust

broadband mapping platform, harmonised datasets, and a national outcome report that integrates into policy and investment planning.

- **Mr. Elind Sulmina (Project Officer, Africa-BB-Maps, ITU)** presented ITU's ongoing policy analysis work. He highlighted that legal, regulatory, and institutional frameworks are as critical as technology, and that Nigeria's experience would shape lessons for other African countries.
- The training plan was also introduced, designed to build lasting capacity in GIS, policy, and technical data management within NCC and partner institutions.

The Nigeria-specific objective is clear: to establish a national broadband mapping system at NCC that fosters evidence-based regulation, prevents duplication of efforts, and channels investment where it is most needed. This vision is anchored on three pillars:

- **Policy and Regulation** – strengthening the legal and regulatory environment for data sharing and transparency.
- **Technology Deployment** – establishing a secure, scalable, and interoperable broadband mapping platform.
- **Capacity Development** – equipping NCC and stakeholders with the skills and knowledge to manage and evolve the system.

The project will unfold in phases, aligned to a clear timeline:

- **2025**: Foundation-building and stakeholder consultations.
- **2026**: Platform deployment and in-country training.
- **2027**: Full operationalisation and policy alignment.
- **2028**: Sustainability measures and Nigeria's positioning as a regional leader.

Policy analysis will draw from EU experiences and ITU recommendations, while the training plan will strengthen GIS, data, and policy expertise across Nigerian institutions. Together, these steps place Nigeria on track to not only operationalise broadband mapping at home but also set a continental benchmark in Africa.

The day concluded with a recap session led by NCC rapporteurs and ITU officials, setting the objectives for Day 2: technical systems and data readiness.

Day 2: Technical Systems & Data Readiness

The second day began with a recap of Day 1, after which it delved into technical priorities, global case studies, architecture choices, and co-creation of detailed standards. These involved technical presentations to set the tone of the day followed by breakout sessions where technical thematic areas were used for the discussion of the respective groups. This was followed with the groups presenting the outcomes of their discussions.

Strategic Technical Priorities

Head of Cybersecurity and Internet Governance Department of the NCC, Engineer Babagana Digima (NCC) presented on Strategic Technical Priorities for Broadband Infrastructure Mapping in Nigeria. He outlined key priorities:

- Integrating GIS with telecom data for better planning.
- Ensuring data sovereignty while achieving scalability.
- Leveraging AI and advanced analytics for predictive modelling.
- Developing a “national digital twin” to support planning and monitoring.
- He also underscored the need for anonymisation protocols to build operator confidence in data sharing.

Case Studies from ITU

This session drew on the experiences of **Poland and Croatia**.

- **Poland's case** highlighted the power of a **single information point**, backed by EU directives. Operators are legally required to submit data, with penalties of up to 3% of revenue for non-compliance. Different tiers of data access are provided for regulators, investors, and the public.
- **Croatia's approach** involves dual platforms — one managed by the geodetic administration for physical infrastructure, another by the regulator for coverage and service quality. This model emphasises confidentiality, while still ensuring transparency for investors and citizens.

Lessons for Nigeria:

- Legislative backing is critical to enforce compliance.
- Multi-tiered data access balances transparency with confidentiality.
- Regional harmonisation with ECOWAS and WATRA should be pursued in the future.

Technical Deep Dive: Architecture, Standards, Tools & Ecosystem

This interactive session provided practical insights:

- **Engr. Maigana Gidado (NCC)** presented Nigeria's QoS standards and regulatory enforcement mechanisms. He showed how harmonised KPIs and templates for 4G/5G are shaping operator reporting, with plans to extend to crowdsourced validations.

- Engr. Maigana Gidado (Deputy Director, TSNI, NCC) presented Nigeria's Quality of Service (QoS) standards and enforcement mechanisms. He explained how harmonised KPIs and templates for 4G/5G guide operator reporting, supported by drive tests and crowdsourced solutions to independently validate submissions and enhance decision making.
- **ITU** presented the role of open-source GIS systems and open-data principles in building resilience and multi-stakeholder trust.
- **Ookla** showcased how crowdsourced data can strengthen official operator reports by providing an independent validation layer, track historical performance trends, and identify underserved communities. Using anonymised speed tests drawn from over 600 million app installations, they illustrated how real-world performance metrics — such as latency, page-load times, and video quality — complement operator-reported coverage. Their approach includes advanced techniques like ambient population layering and hexagonal analytics, which provide granular insights into service quality across diverse geographies. To address low-density areas, Ookla highlighted strategies such as zero-rating initiatives and community outreach to boost sample sizes.

Breakout Session and Group Discussions

Participants broke into four thematic groups to co-create recommendations in presentation style reports. s:

1. Systems Architecture (Group 1): Proposed a hybrid model of IaaS and On-prem solution, using dedicated servers hosted in trusted Tier-III/IV local data centres within Nigeria, ensuring sovereignty, while leveraging cloud-based scalability. This way, sensitive data remains within national borders, safeguarding digital sovereignty, while also providing the scalability and resilience of cloud-based infrastructure.
2. Data Governance & Collection (Group 2): Suggested harmonised schemas for fibre routes, towers, wireless broadband, and satellite coverage. Recommended API-driven data submission formats, field validation and partnerships (OSGOF, NPC, REA, ITU, NGOs).
3. Open Source & Open Data (Group 3): balanced cost-effective tools with security, identified shareable datasets, suggested layered API access, and noted 2G area constraints.
4. Validation & Assurance (Group 4): specified automated scripts, manual reviews, feedback loops to operators, industry working group coordination, and iterative rule refinement.

Day 3: Stakeholder Coordination & Roadmap Development

The final day focused on policy deep-dives, whole-of-government alignment, actor roles, and a forward-looking training roadmap. This day delved into key policy aspects of the work in a mirror image to day 2 activities but from a policy perspective. The participants worked within different groups during a number of breakout sessions to develop outcome document per the objective of each break out session.

Policy Deep-Dive

This session analysed Nigeria's broadband mapping legal and policy context.

Key issues discussed:

- The **Nigerian Communications Act (2003)** already mandates infrastructure mapping, but needs updated regulations for operator compliance.
- There are **gaps in data-sharing laws** that hinder coordination among MDAs.
- International speakers recommended formalising reporting obligations, creating data-sharing agreements, and harmonising with regional frameworks.

Panelists from Poland, Georgia, and Croatia shared twinning experiences, emphasizing legislative provisions for data sharing, stakeholder-specific access controls, and regional harmonization via WATRA and ECOWAS.

Group Discussions on Policy & Regulatory Work

First Breakout Session

The first breakout session divided participants into two groups namely public and private sector groups. The groups were given specific discussion points but were each expected to craft out policy concerns and issues to be addressed from the public and private perspectives respectively.

Key policy areas identified by each group:

1. Public Sector Group.
    a. Strengthen NCC's internal coordination.
    b. Data governance.
    c. Physical security.
    d. National legal mandates for data sharing.
2. Private Sector Group

a. Standardize annual reporting templates.
b. Define three confidentiality tiers (customer, operator, government)
c. Create a common data dictionary.

Second Breakout Session

A structured breakout session was held on **Day 2** to complement the technical and policy discussions from Day 1. Originally designed to include five groups, the framework was consolidated into four thematic groups after Group 3 was merged. Each group was tasked to adopt a name and prepare a poster summarizing their recommendations.

This session was highly interactive, encouraging participants to shift from presentations to co-creation and cross-sectoral problem-solving. The themes adopted by the groups directly reflected the overall goals of Africa-BB-Maps: strengthening data systems, aligning broadband with national development, and ensuring citizen benefit.

Group 1: *Unified Infrastructure Framework*

Focus: How to integrate broadband into Nigeria's wider infrastructure projects (roads, power, utilities).

Key Insights & Poster Outcomes:

- Broadband should be treated as a core utility, embedded in road construction, power grid expansion, and water systems.
- Recommended adoption of a "dig once" policy across states to minimise cost and duplication.
- Advocated for national guidelines mandating ducting and fibre routes in all infrastructure projects.

- Emphasised need for cross-sector coordination with Ministries of Works, Power, and Housing to make broadband part of the planning process.

Group 2: *Map to Manage*

Focus: Leveraging socio-economic data to ensure broadband maps truly serve citizens.

Key Insights & Poster Outcomes:

- Broadband maps should not only show infrastructure but also overlay population density, poverty indices, schools, hospitals, and SMEs.
- Recommended creation of a "Broadband & People Index" to link infrastructure planning with service gaps.
- Proposed use of crowdsourcing tools and community reporting to validate coverage claims and map service experience.
- Emphasised that mapping must translate to service delivery — i.e., "map people to serve people."

Group 4: *Broadband Economists*

Focus: Positioning broadband as an economic asset for financial inclusion and smart cities.

Key Insights & Poster Outcomes:

- Broadband is not just connectivity; it is an economic enabler with measurable contributions to GDP, jobs, and innovation.
- Suggested integration of broadband mapping into state investment promotion strategies and national planning tools (NIIMP, NDP).

- Advocated for fiscal incentives to attract private investment in broadband infrastructure, especially in underserved areas.
- Proposed the use of broadband data to measure return on investment (ROI) for both government and private sector.

Group 5: *Trust and Coordination Through Policy*

Focus: Building trust across agencies, securing data, and strengthening regulatory coherence.

Key Insights & Poster Outcomes:

- Data protection and privacy are non-negotiable foundations of broadband mapping.
- Proposed establishment of cross-agency data-sharing protocols between NCC, OSGOF, NBS, NIMC, and state ICT agencies.
- Recommended alignment with NDPA 2023 and NCC's forthcoming cybersecurity framework.
- Emphasised that regulatory coherence is critical to avoid duplication and conflicting mandates.
- Suggested creation of a National Broadband Data Governance Committee to institutionalise coordination and trust.

Synthesis and Reflections

- The groups collectively highlighted that broadband mapping is not just technical, but socio-economic and institutional.
- Recommendations spanned infrastructure integration, citizen-centric mapping, economic framing, and policy trust.

- The posters provided strong visual anchors, reinforcing the need for whole-of-government and multi-stakeholder collaboration.
- Outcomes will feed directly into the national roadmap and policy framework being developed under Africa-BB-Maps Nigeria.

Stakeholder Mapping Session

Stakeholders agreed on roles:

S/N	Roles	Stakeholders
1.	Data providers	telecom, energy, finance, statistics (NGDI), WATRA
2.	Data custodian	NCC
3.	Stewards	NCC and Providers
4.	Policy overseers	NCC
5.	Capacity builders	ITU, academia, industry

Project Roadmap & Training

Launch ITU Academy–managed training (2026–2028) across GIS, policy, data streams using online, in-person, and hands-on formats. Other related issues and plan include:

- Hardware and Software Procurement will be provided as part of the project.
- NCC selects participants
- Invitations for local expert integration were extended.

Roadmap Finalization and Closing

Key next steps include early procurement for system commissioning in 2026, continuous stakeholder engagement, national events, and technical workshops.

A four-year capacity-building plan aims to institutionalize broadband mapping as a national asset, ensuring every Nigerian—from urban centers to remote villages—is included in the digital journey. The workshop concluded with collective appreciation and a commitment to sustained collaboration.

Conclusion

The Africa-BB-Maps Nigeria National Event successfully aligned stakeholders around a shared vision: broadband mapping as a national asset and enabler of digital inclusion, economic growth, and good governance.

- **Day 1** anchored the policy context and stakeholder commitments.
- **Day 2** delivered technical designs, standards, and group co-creation outcomes.
- **Day 3** mapped out roles, responsibilities, and next steps for national adoption.

A unifying message emerged: collaboration, trust, and shared responsibility are essential. Stakeholders called for NCC to lead firmly as custodian while ensuring inclusivity, transparency, and alignment with both national priorities and international standards.

The event closed with ITU and NCC reaffirming their commitment to deliver a broadband mapping system that will position Nigeria as a regional leader in digital infrastructure planning and governance.

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