

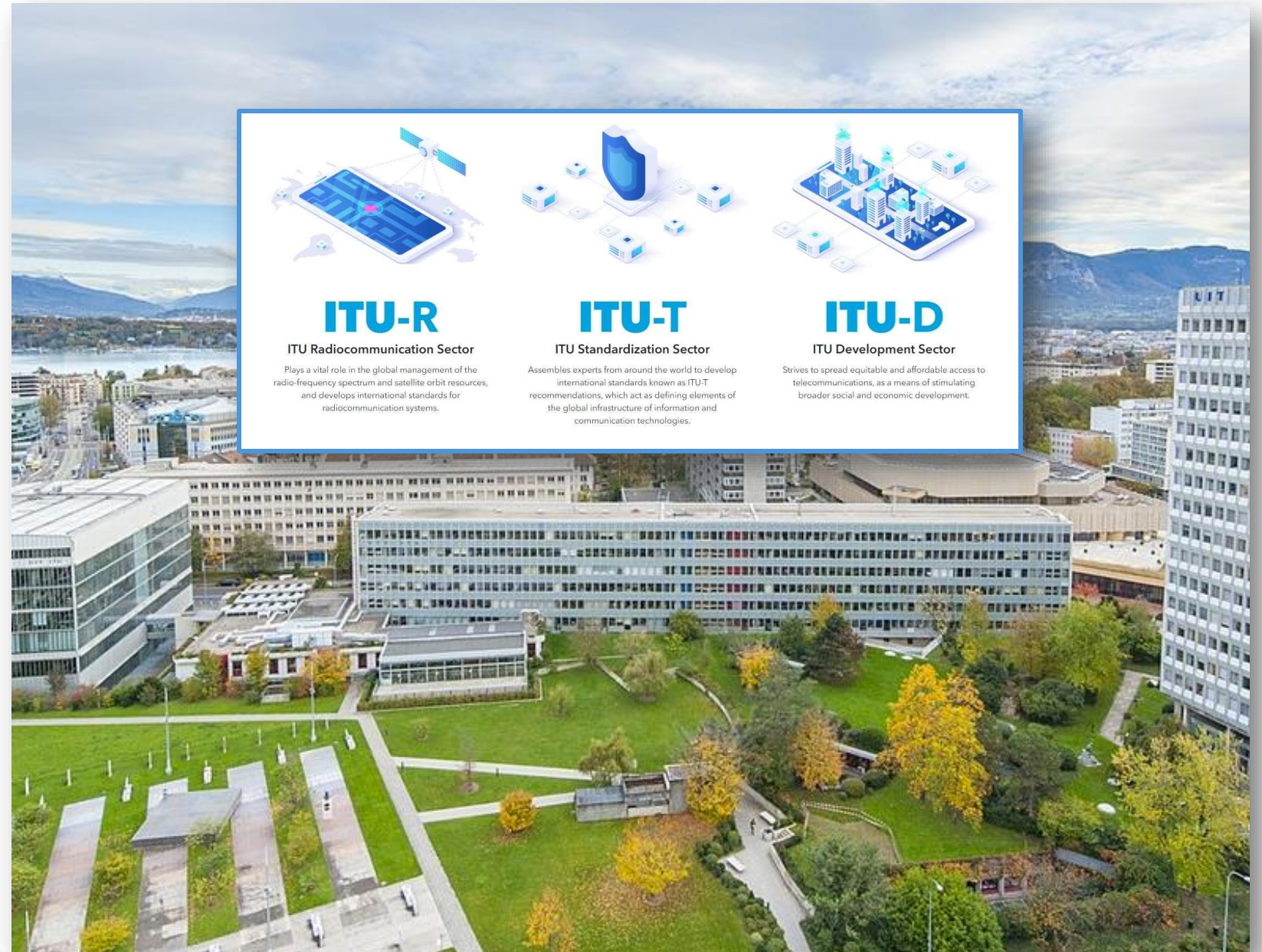
EU Support to Africa's National Broadband Mapping Systems

(Africa-BB-Maps)



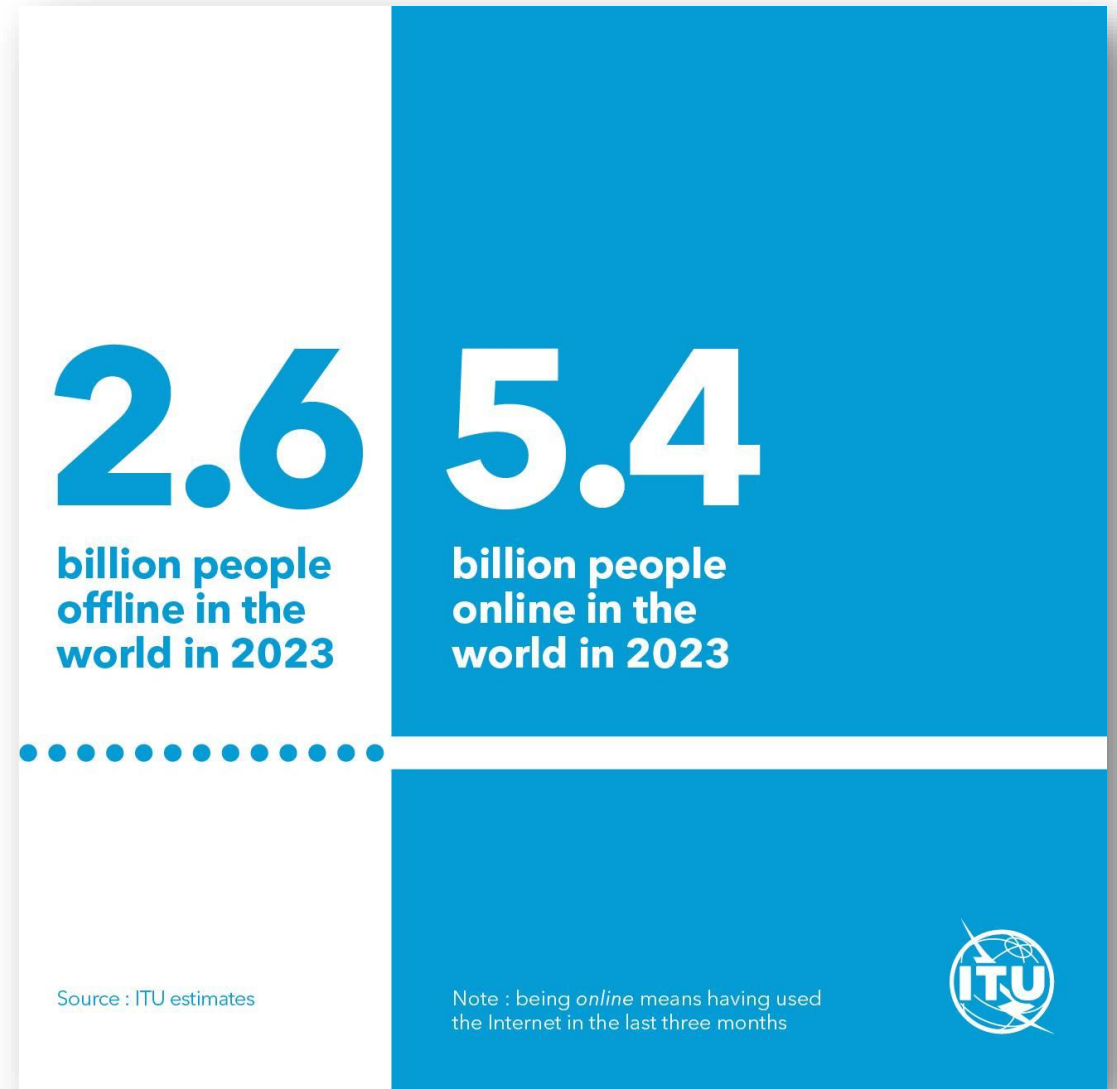
About

1. The International Telecommunication Union (ITU) is a specialized agency of the United Nations responsible for information and communication technologies.
2. Established in 1865 and is the oldest UN agency.
3. Structured around **three sectors** and the General Secretariat



Background

- **Universal Connectivity:** Importance in a globalized and digitalized world.
- Latest **#ITUdata** estimates 2.6 billion people remain offline in 2023. The number of unconnected people continues to decline, but progress needs to accelerate.
- **Current Statistics:** Broadband penetration in SSA penetration rate of fixed-broadband subscriptions per 100 inhabitants is only 1%
- **Challenges:** Lack of broadband mapping systems, regulatory frameworks, and technical capacity.



Definitions

Connectivity Infrastructure Mapping

Connectivity infrastructure mapping refers to technics and tools using geospatial data to overlay different layers (ICT and others, such as school connectivity, electricity, cost, etc.) to support the identification of connectivity gaps and evidence-based decision-making.

The ITU broadband mapping app is an example (<https://bbmaps.itu.int/>)

Connectivity Analysis

Connectivity analysis refers to bringing together data from different sources, considering specific data structures, the relationship between data points and a collection of ICT-related geospatial layers (e.g., mobile coverage, towers, fibers, satellites, etc.) at a specific point in time for informed decisions making.

National Mapping System

National mapping systems can be broadly defined as “any digitized information system that gathers, structures and represents georeferenced national data about the reach or quality of telecommunication/ICT networks in a given geographical area. It may include an infrastructure, service or investment layer, or a combination of those”. Publicly sharing some of this data is an aspiration.

Overall Objective:

Establish national broadband mapping systems in 11 beneficiary countries, capable of producing public available validated data.

Specific intervention:

1. Policy and regulatory support to create a conducive environment.
2. Promote open-source solutions and data practices.
3. Provide technical support for installation, use, and maintenance of systems.

11 countries

€ 15 million

48 months



List of Countries

West Africa Region
Cote d'Ivoire
Nigeria
Benin
East Africa Region
Ethiopia
Kenya
Uganda
Southern Africa Region
Botswana
Malawi
Zambia
Zimbabwe
Central Africa Region
Burundi

Criteria

1. Expressed needs for support in broadband mapping.
2. Level of maturity in implementing mapping systems.
3. Geographical and linguistic distribution across SSA.
4. Alignment with Global Gateway connectivity investment priorities.



Main Stakeholders

1. ITU

- **Role:** Implementing agency for the broadband mapping project.
- **Responsibility:** Provides technical expertise and oversees project coordination.

2. EC

- **Role:** Provides funding and strategic oversight for the projects.
- **Responsibility:** Ensures the projects align with broader regional development goals.

3. National Regulatory Authorities (NRAs)

- **Role:** Beneficiaries of the projects.
- **Responsibility:** Participate in capacity-building activities and implement regulatory changes.

4. EU Delegations:

- **Role:** participate in events, workshops, and communication efforts; consult with stakeholders and leverage DEL resources to support ITU
- **Responsibilities:** Facilitate the exchange of information to ensure projects complement ongoing initiatives; provide regular updates on activities at the country level.

Governance



NRAs of Beneficiary Countries

		Benin Autorité de Régulation des Communications Électroniques et de la Poste (ARCEP)			Malawi Malawi Communications Regulatory Authority (MACRA)
		Botswana Botswana Communication Regulatory Authority (BOCRA)			Nigeria Nigerian Communications Commission (NCC)
		Burundi Agence de Régulation et de Contrôle des Télécommunications (ARCT)			Uganda Uganda Communications Commission (UCC)
		Côte d'Ivoire Autorité de Régulation des Télécommunications/TIC de Côte d'Ivoire (ARTCI)			Zambia Zambia Information and Communications Technology Authority (ZICTA)
		Ethiopia Ethiopian Communications Authority (ECA)			Zimbabwe Postal and Telecommunications Regulatory Authority of Zimbabwe (POTRAZ)
		Kenya Communications Authority of Kenya (CA)			

Our Approach



Expected outputs and activities

Output 1: Policy and Regulatory Support

Baseline Assessment and Maturity Matrix: Conduct baseline assessments and develop a maturity matrix to measure progress.

Policy Assessments and Recommendations: Perform needs analysis and provide policy recommendations for regulatory improvements.

Policy Dialogue and Advocacy: Organize national and regional workshops to promote policy harmonization and best practices.

Output 2: Open-Source Solutions and Data Practices

Promotion of Open-Source Solutions: Advocate for the adoption of open-source solutions at national and regional levels.

Common Data Standards: Identify and promote common data standards and practices for broadband mapping.

Development of Modular Software Tools: Create open-source software tools tailored to the unique challenges of low maturity countries.

Output 3: Technical Support

Technical Specifications and Procurement: Develop technical specifications for hardware and software procurement.

Training and Capacity Building: Conduct specialized training programs and workshops for technical staff.

Post-Implementation Support: Provide ongoing support to ensure the sustainability of broadband mapping systems.

Procurement

Software

Category	Details
Strong authentication	Two-factor authentication (2FA), Single Sign-On (SSO).
RBAC (Role-Based Access Control)	Role-based access control.
Secure coding	Implement secure coding practices (protection against SQL injection, XSS, CSRF).
WAF (Web Application Firewall)	Application firewall to protect web applications.
Antivirus and Antimalware	Software that protects against viruses and malware.

Cloud solutions

Category	Details
Virtual Servers	Scalable virtual machines tailored to the system’s computing needs.
Data Storage	Secure, scalable, and high-performance data storage.
Virtual Networks	Configurable virtual networks, VPNs, and virtual firewalls for secure connections.
Data Encryption	Encryption of data in transit (TLS) and at rest.
Identity and Access Management (IAM)	Tools for managing users and their permissions.
Monitoring and Logging	Monitoring and log management services.

Hardware

Category	Details
Dedicated Servers	High-performance servers for storing and processing large amounts of geographic data.
Database Servers	Servers optimized for GIS databases.
Disk Arrays	Data storage systems with high capacity and reliability.
Network Equipment	Switches, routers, firewalls, ensuring secure and fast data transmission.
Environments Configuration	The tender will also cover the configuration of development, test, and production environments.
Safety Provisions	RAID Systems: Data protection at the hard drive level. TPMs (Trusted Platform Modules): Secure storage of cryptographic keys. Hardware Firewall: Dedicated firewall devices to protect against unauthorized access. Network Segmentation: Using VLANs to separate different network segments.

Implementation arrangements

Project Management:

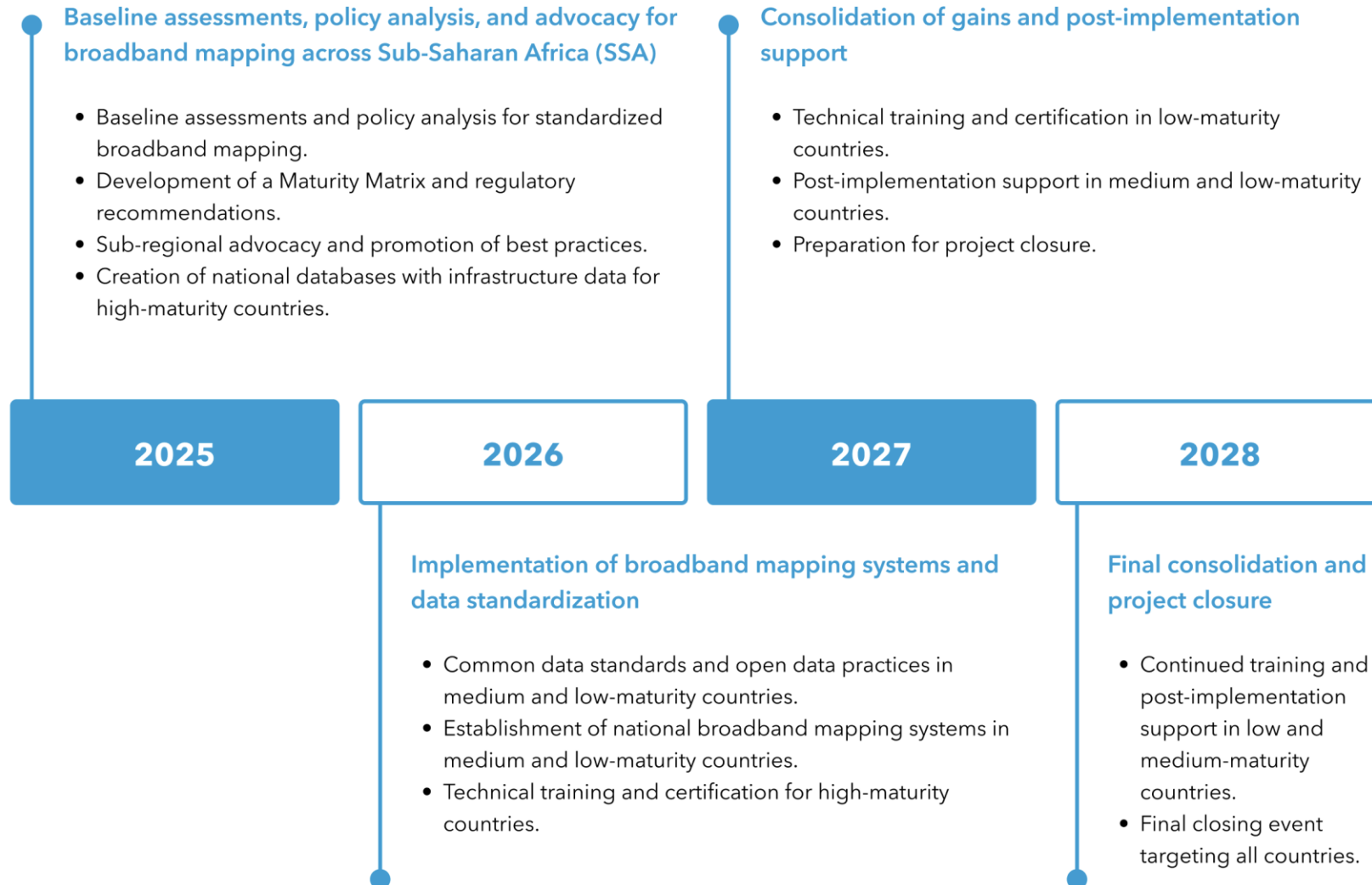
- ITU as the implementing agency, managing overall project execution.

ITU Expert Teams:

- Formation of 11 European expert teams and match making for each Sub-Saharan beneficiary country, composed telecommunications engineers and legal policy advisors.

ITU Team	Beneficiary countries
ITU Team 1	Cote d'Ivoire
ITU Team 2	Nigeria
ITU Team 3	Benin
ITU Team 4	Ethiopia
ITU Team 5	Kenya
ITU Team 6	Uganda
ITU Team 7	Botswana
ITU Team 8	Malawi
ITU Team 9	Zambia
ITU Team 10	Zimbabwe
ITU Team 11	Burundi

Project Timeline



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Thank you, any question?

