GSMA™

ITU Workshop on "Telecommunication Service Quality"

Amman, 18th October 2022

Who are we?

The GSMA represents the interests of mobile operators worldwide

UNITING NEARLY **800** MOBILE OPERATORS

WITH ALMOST **300** COMPANIES in the broader mobile ecosystem

The world's leading mobile industry events, Mobile World Congress and Mobile World Congress Shanghai, together attract

160,000+ people from across the globe each year

The GSMA works to deliver a regulatory environment that creates value for consumers by engaging regularly with:

MINISTRIES OF TELECOMS

TELECOMS REGULATORY AUTHORITIES

INTERNATIONAL & NON-GOVERNMENTAL ORGANISATIONS

CONNECTING **23,000+** Industry Experts

Exclusively for GSMA Members, InfoCentre² is your place to connect with a global community of industry experts
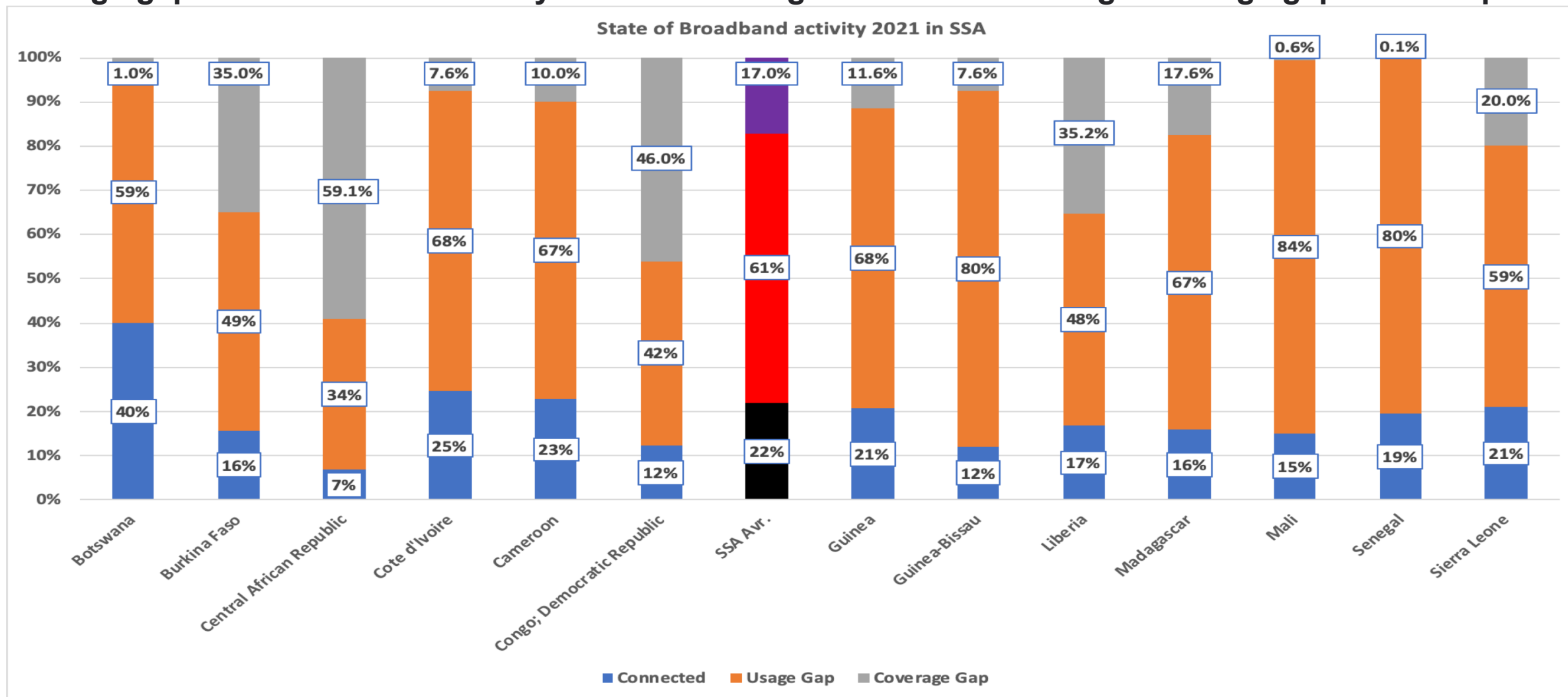
GSMA Working Groups provide frameworks and standards in commercial, operational and technical matters that help maintain and advance mobile industry ecosystems
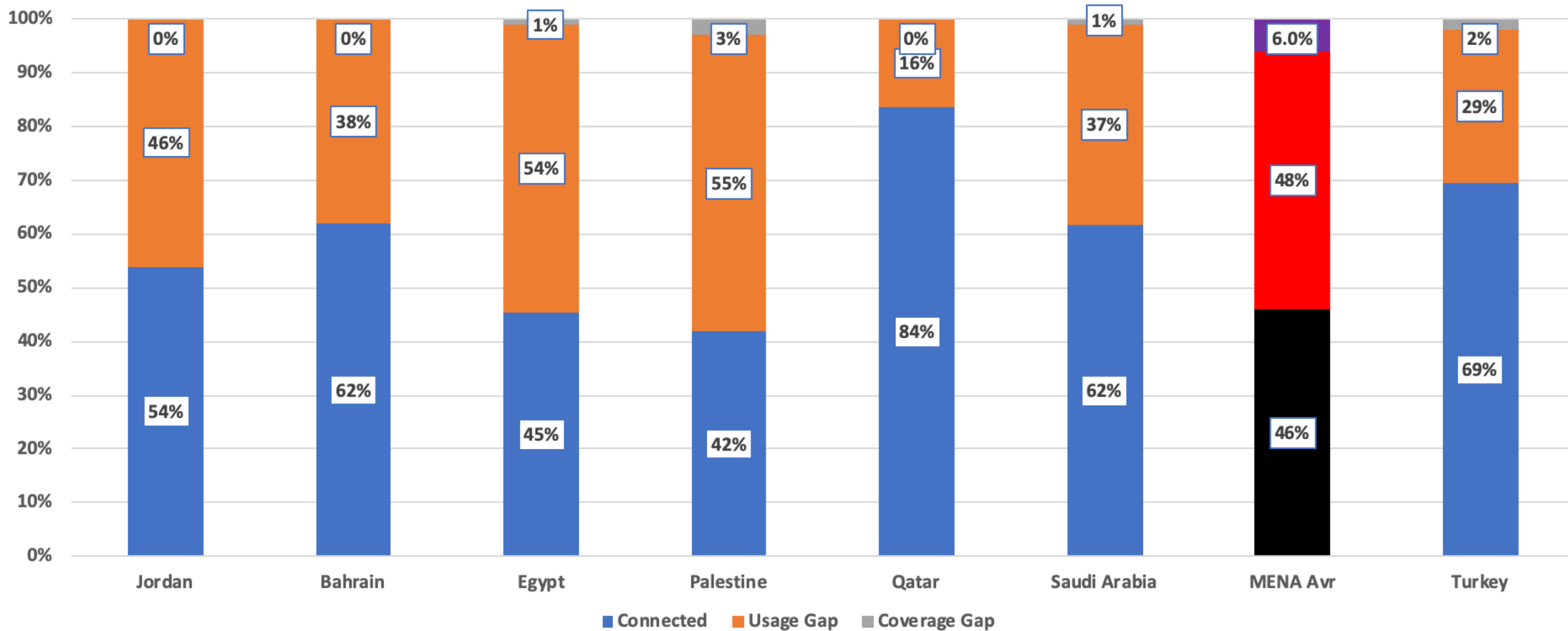
8.1 BILLION+ MOBILE CONNECTIONS WORLDWIDE

Coverage gap has been on the steady decline. Shifting focus to addressing the usage gap is now a priority.

State of Broadband activity 2021 in SSA

	Connected	Usage Gap	Coverage Gap
Botswana	40%	59%	1.0%
Burkina Faso	16%	49%	35.0%
Central African Republic	7%	34%	59.1%
Cote d'Ivoire	25%	68%	7.6%
Cameroon	23%	67%	10.0%
Congo, Democratic Republic	12%	42%	46.0%
SSA Avr.	22%	61%	17.0%
Guinea	21%	68%	11.6%
Guinea-Bissau	12%	80%	7.6%
Liberia	17%	48%	35.2%
Madagascar	16%	67%	17.6%
Mali	15%	84%	0.6%
Senegal	19%	80%	0.1%
Sierra Leone	21%	59%	20.0%

Legend: ■ Connected ■ Usage Gap ■ Coverage Gap

State of Broadband activity
2021 in MENA

Context (1)

➢ Mobile operators are increasingly scrutinized for performance and face regulatory intervention on Quality of Service (QoS) in the region

➢ Some of the QoS regulations imposed, mainly in Africa, are unnecessarily complex and contain a large number of parameters to be measured.

➢ The absence of an objective and standardized measurement methodology has sometimes led to different interpretations of performance indicators and often led to discrepancies between the results claimed by regulatory authorities and those measured by mobile operators.

➢ Sometimes failed internetwork calls were attributed to the originating network, although there was no clear indication of where the call failed.

➢ Mobile carriers sometimes dispute drive test results stating that they are not representative of the network, particularly if they were conducted over a relatively small geographic area, a short period of time, or involved a small number of users. samples.

➢ The quality of service experienced by mobile consumers is affected by many factors, some of which are beyond the control of operators, such as device type, application and propagation environment.

Context (2)

➤ Mobile operators must deal with ever-changing traffic patterns and congestion, within the limits imposed by limited network capacity, where a user's traffic can have a significant effect on overall network performance.

➤ **QoS is impacted by other elements beyond the control of service providers (eg, right-of-way challenges, power supply, fiber cuts, equipment security and vandalism, etc.).**

➤ Regulation that rigidly defines a particular level of quality of service is not necessary and is likely to have an impact on the development of new services.

➤ Regulatory authorities should strengthen dialogue with the industry to find solutions that strike the right balance on quality of service transparency, and above all ensure that operators have the means to continue to invest in improving QoS.

➤ **Regulation of quality of service is inevitable but must be proportionate**.

Diversified QoS data sources and collection

❑ **Regulator QoS measurements :**

 ▪ Expensive, complex and national-scale field test or survey campaigns.
 ▪ QoS measurements using specialized equipment that captures, records and then analyzes network information.

❑ **Operator network QoS indicators :**

 ▪ OMC-R data is collected as raw data on server or by probe to be transformed into KPIs using formulas.

❑ **User data (crowdsourcing):**

 ▪ Crowdsourcing solution which is a form of regulation by Data, and which allows :
   o know network information from smartphone applications
   o participate in network test campaigns and have a free certified tool to compare operators' offers and their quality of service.

 ▪ It ultimately enables the collection of accurate and personalized coverage and QoS data..

Format and transmission of reliable data

❑ The data format is closely linked to the collection method

❑ The Regulator shall jointly define the operators and in order to avoid conflicts resulting from misinterpretation :

- the nature of the data to be collected (the raw data collected at the source gives more guarantee)
- The numbers and indicators to measure
- collection methodology
- The objective of the measures
- the basis and formula for calculating KPIs

❑ Reconciliation between data collected by the Regulator and that of the operator will be the final step in the procedure..

The challenges related to the collection and reliability of QoS data

Data collection challenges

- The level of network coverage of the operator
- The density of subscribers in a given geographical space
- Climatic conditions (bad weather, rain, thunderstorms)
- Network congestion due to user mobility
- The accessibility of certain geographical areas
- Automation of data collection

Data reliability challenges

- Combining and aggregating data from various sources
- The necessary reconciliation between data collected by the Regulator, those of the operator and possibly those of crowdsourcing
- Alignment on the calculation basis, the reference and the calculation method.
- Obtaining a large number of measurements, as well as the representativeness of the sampling

How to balance these factors?

Visualization of the performance of networks and services

Challenge of availability of the right skills, in particular data scientists capable of implementing the use cases, making it possible to visualize the relevant KPIS of each service.

Recommendation: In our training program, we should strengthen the programs around digital and datascientists

Visualization of networks

- Challenge of mapping the networks of the various concessionaires in the country (electricity, water, road works, etc.) in order to prevent the risk of cuts in telecom infrastructures.

- **Recommendation**: Implement a national platform with the databases of the different networks, an appropriate organization and processes to ensure the life of these databases

Recommendations

➢ A targeted and limited number of key performance indicators (KPIs) must be measured in order to limit the financial and regulatory cost of compliance.

➢ All consumer devices must be certified before they are allowed to connect to a mobile network. This will ensure that the devices meet the minimum performance and safety standards applicable in each country.

➢ Regulatory Authorities are encouraged to make available a list of approved devices.

➢ An objective measurement methodology should be used: combination of operator-generated statistical measurements and third-party drive tests, tests performed end-to-end on the same network, sample size of test calls should be large enough, test period must be long enough (at least 24h).

➢ The measurement methodology should be based on international standards such as those developed by the International Telecommunications Union (ITU) and the European Telecommunications Standards Institute (ETSI).

Conclusion

In a market subject to competition, operators have as much interest as the Regulator in maintaining a good quality of service provided to their subscribers.

One of the means that can enable them to improve the quality of their service is to be constantly informed of the performance of their networks through QoS measurements, and to propose optimization solutions adapted to the challenges they face. .

The crowdsourcing method allows operators to qualify the experience of their mobile customers. It is an ideal tool to cover well-covered urban areas, and a good way to complete quality of service measurements.

Drive-tests (field surveys) aim to supplement crowdsourcing, by making it possible to measure areas that are less well covered; those where the volume of traffic is low..

GSMA

Thank You

MWC Africa Over Overview of Activities

Pre-Event	MWC Africa (25 – 27 Oct)	Exhibitors Including

• **Capacity Building for Policy Makers & Regulators** (23-24 Oct)
 	
• **M4D Boot Camp** (23-24 Oct)
 	
• **Presidential dinner** 24th Oct (tentative)
 	
• **Policy Group Meeting**
  • SSA & MENA (24 Oct)
	• **GSMA Conference**: Keynotes & Theme Events
	
	• **Policy Leaders Forum (PLF)**:
	  • **Day 1** - Progressive Policy Approach to Accelerate the Digital Agenda in Africa.
	  • **Day 2** - Accelerating Digital Transformation Through Fiscal Policy Reforms
	  • **Day 3** - GSMAi Analysis
	• **M4D Theatre:** 3 days of sessions
	• **5G & Fintech Summits**
	• **Sponsored Power Hours** & **Roundtables**
	• **2 CO-LOCATED EVENTS**:
	✓ **Africa Shared Value Leadership Summit** (2 Days)
	✓ **Smart Africa, 3x Council Meetings** (Council Of Ministers of ICT, Council Of African Regulators & Forum of Private Sector)
	
	• **Africa Cultural Night** hosted by the Rwanda Ministry of ICT and innovation
	
	• **Founding Partners Sponsored Networking Cocktails**
		AIRBUS PXS PORTINGXS
		DETECON CONSULTING arm
		digis
		MTN EVINA
		PortaOne
		orange SES
		Qualcomm
		ZTE syniverse R&S ROHDE&SCHWARZ

Key Dates: MWC Africa Registration Live (**2nd August 2022**) | Registration Marketing Campaign (**22nd August onwards**)

MWC™ Africa