

All about Infrastructure Sharing 2018

The increase in telecommunication/ICT infrastructure development and sharing has led to more efficient rollout of next-generation networks (NGN) worldwide. Infrastructure sharing contributes to improved competition and increased economies of scale, which, in turn, accelerate affordable access for digital transformation. It also translates into the sharing of expertise and best practices on network infrastructure at national, regional and international level.

During our discussions at the *ITU Global Symposium for Regulators (GSR-18)* and in the 2018 *Best Practice Guidelines*¹ adopted by regulators, the importance of defining adequate regulatory measures to foster infrastructure and spectrum sharing practices was highlighted. Regulators

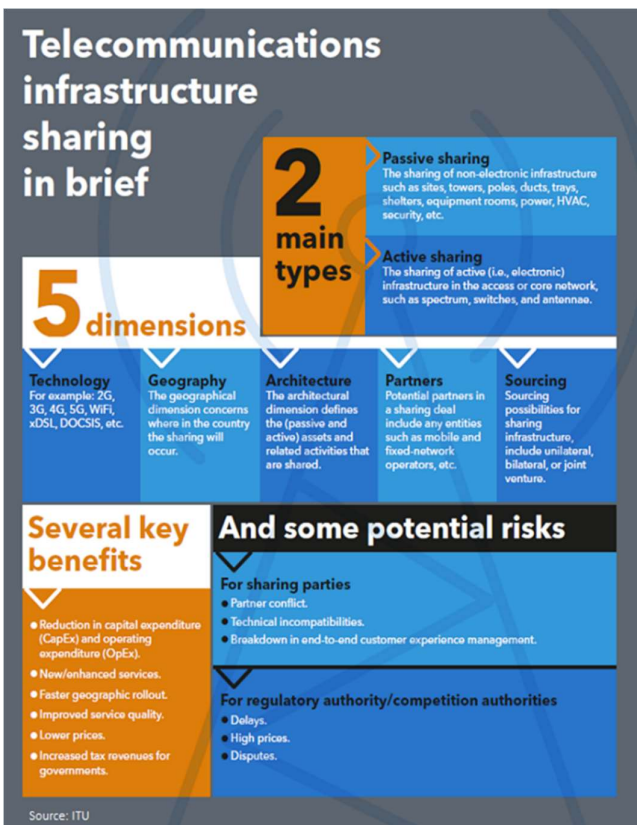


also provided that encouraging national coverage and enhancing performance of networks should be considered with the aim of guaranteeing fast and reliable access to digital technologies and services. Such measures also contribute to leveraging emerging technologies for affordable digital infrastructure and services.

As ICTs continue to be a key enabler of social and economic development, I am sure that ICT infrastructure sharing can contribute enormously to accomplish the *Sustainable Development Goals (SDGs)*.

In order to disseminate data collected by ITU on infrastructure sharing² this brochure provides an analysis of positive trends in the implementation of innovative infrastructure sharing and open access strategies to promote affordable digital access to all.

Brahima Sanou
Director of the ITU
Telecommunication Development Bureau



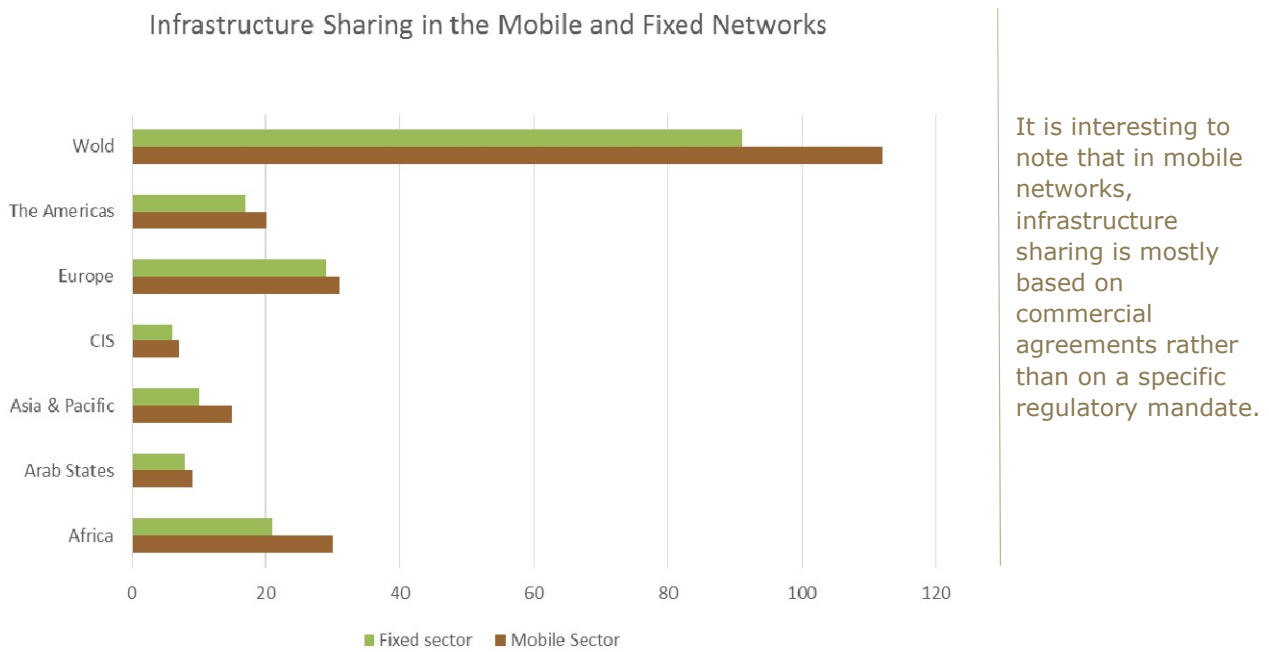
¹ GSR-18 Best Practices Guidelines www.itu.int/en/ITU-D/Regulatory-Market/Pages/bestpractices.aspx

² ITU ICTEye database (www.itu.int/net4/itu-d/icteye/): Tariff Policies Survey and Regulatory Survey for year 2017. These surveys are addressed to National Regulatory Authorities (NRAs) worldwide. CIS refers to: Commonwealth of Independent States

Is infrastructure sharing practiced in your country?

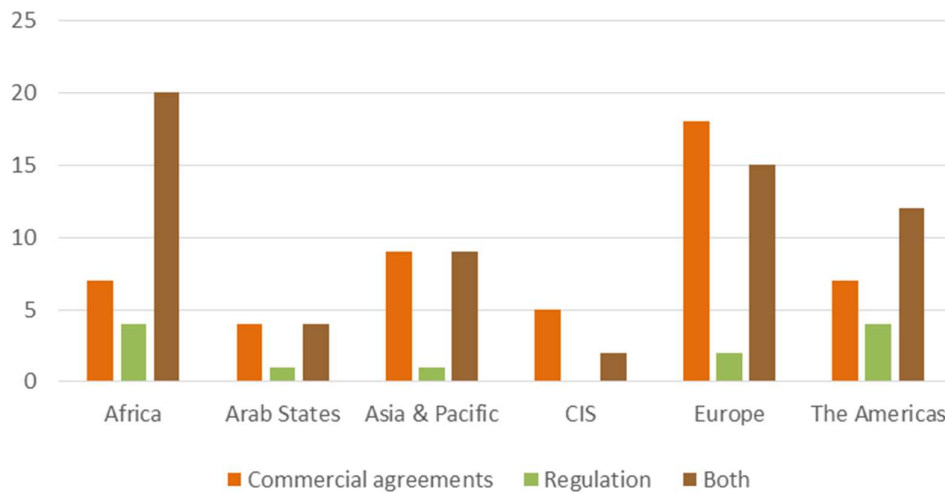
Infrastructure sharing is more and more applied in all regions for both mobile and fixed networks. The ITU Survey shows that infrastructure sharing occurs more in the mobile (126 out of 140 countries applying) than the fixed sector (91 out of 112 countries applying).

Infrastructure Sharing in the Mobile and Fixed Networks



Source: ITU

Infrastructure sharing based on commercial agreements or regulatory mandate - mobile networks

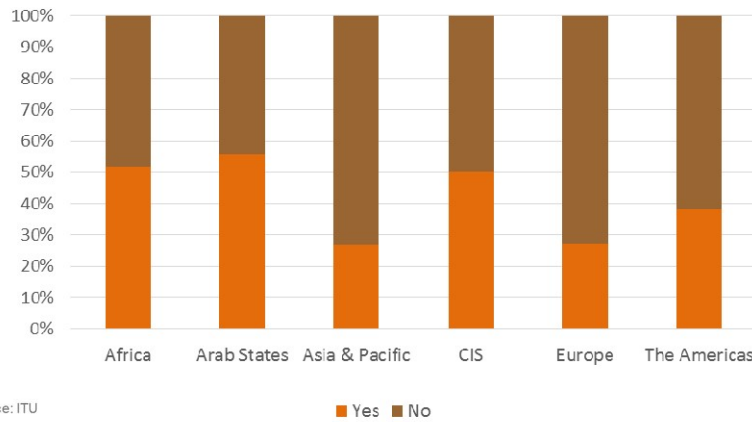


Source: ITU

What about National Roaming... and co-location?

National roaming, which refers to the ability to connect from one mobile operator to another in the same country, continue to be implemented in all regions.

Do you mandate infrastructure sharing for national roaming in your country?



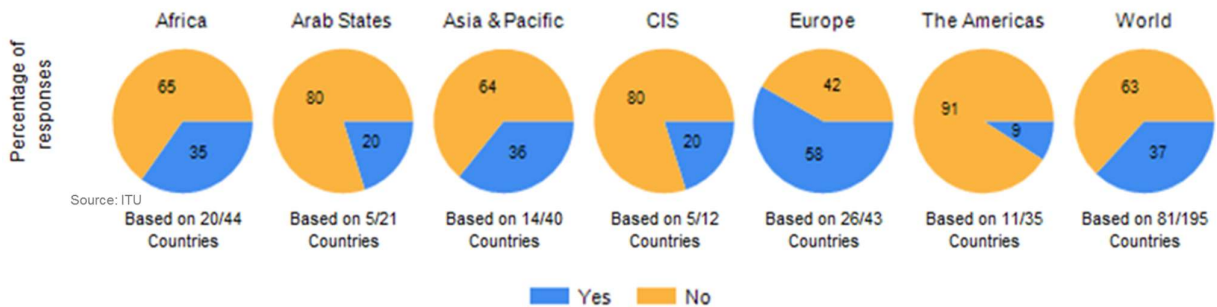
Source: ITU

		Africa	Arab States	Asia & Pacific	CIS	Europe	The Americas	Total
Do you mandate national roaming in your country?	Yes	14	5	4	3	7	8	41
	No	13	4	11	3	19	13	63
If no, have mobile operators entered into national roaming agreements commercially?	Yes	7	1	5	1	15	1	30
	No	11	3	8	3	9	10	44

Foster infrastructure and spectrum sharing practices could encourage national coverage and enhanced performance of networks, to enable end-users to use digital technologies and services with fast and reliable access.

Europe and Asia & Pacific have less regulatory intervention to oblige operators to share infrastructure for national roaming. In general, if there is no regulatory intervention, mobile operators enter into national roaming negotiations through commercial agreements.

Mobile operators entering into national roaming commercial agreements

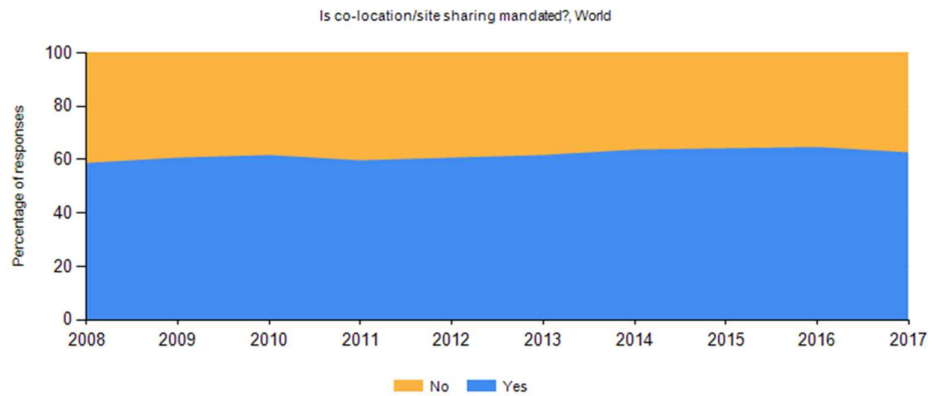


Source: ITU

Regarding co-location of infrastructure

Co-location is the possibility to rent facilities/infrastructure to other operators and/or service providers to share operational costs. Noteworthy is that global trends have been relatively stable since 2008.

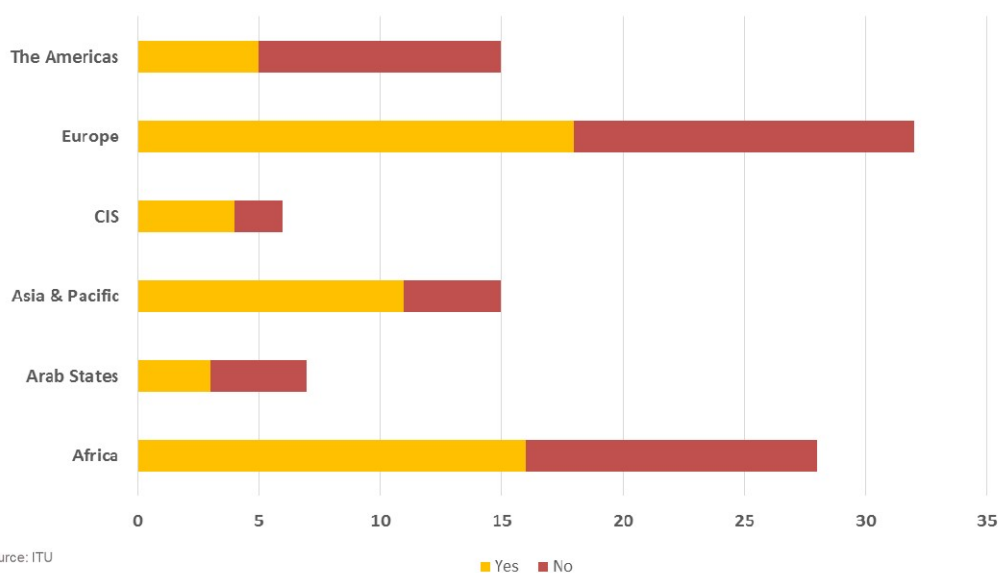
As per the ITU Survey in 2017, 67 countries out of 102 reported to mandate or regulate co-location and site sharing.



Infrastructure sharing implemented in cooperation with municipalities

The good news is that in most countries, infrastructure sharing is also implemented through cooperation between NRAs and municipalities. This could be considered as an incentive for attracting both public and private sectors investment in remote and rural areas in particular to promote uptake and effective utilization of digital services in these areas.

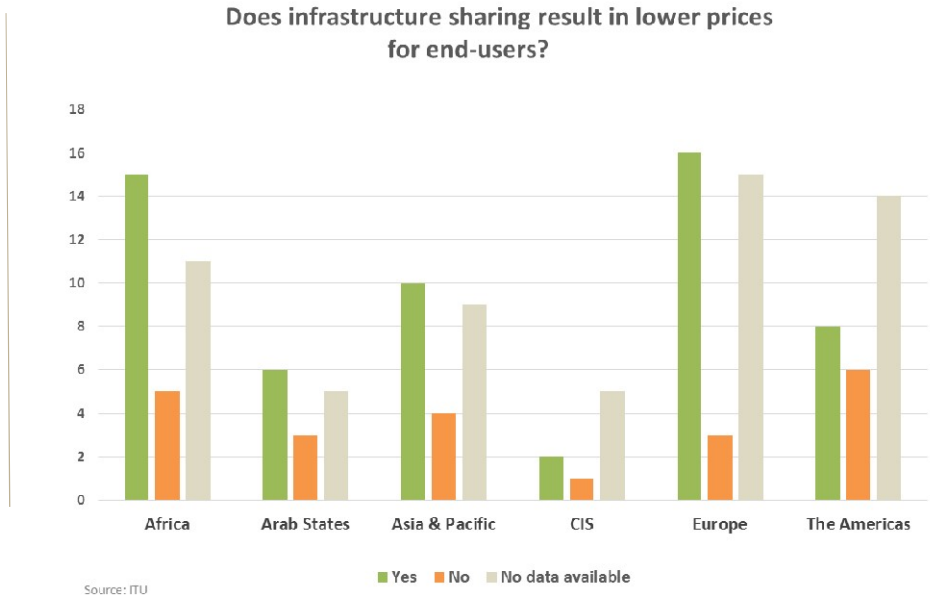
Is infrastructure sharing also pursued in cooperation with municipalities?



Does infrastructure sharing result in lower ICT service prices for end-users?

In most countries, infrastructure sharing could result in lower prices for end-users, as shown in green in the graph.

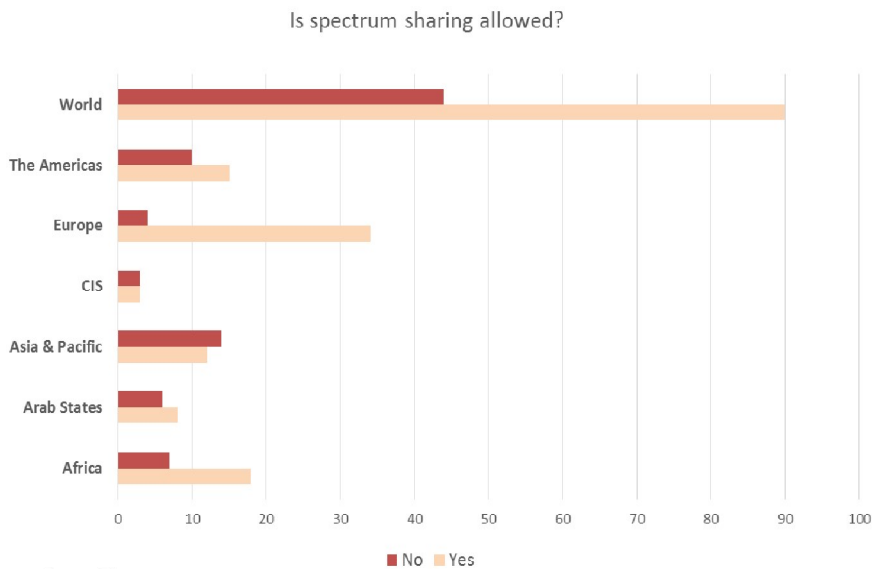
However, several countries in all regions reported that data is not available or that NRAs do not monitor prices.



What about spectrum sharing...

Spectrum sharing refers to two or more radiocommunication services effectively using the same frequency band³. Most countries reported to allow spectrum sharing.

In addition, most countries reported that spectrum sharing complies with the Radio Regulations of ITU-R and the Radio Frequency Regulations.



NRAs also reported that spectrum should be shared where the technical requirements of compatibility and interference protection are met.

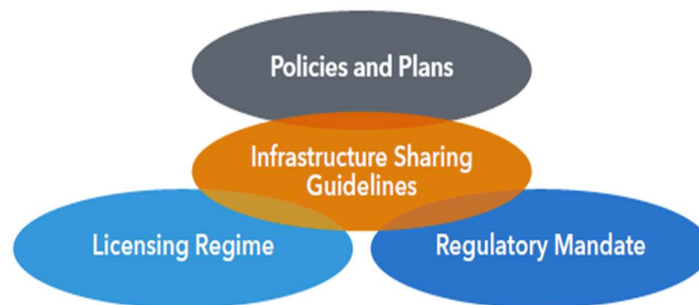
³ (ITU-R SM 1132-2).

Enabling infrastructure sharing

It is important that implementation of infrastructure sharing takes into account the need to protect the value of existing investment in infrastructure and services to enable digital transformation.

Based on the *ITU - SADC ICT and Broadcasting Infrastructure Sharing Guidelines*⁴, regulatory strategies and policies to promote infrastructure sharing could be summarized as follows:

- To achieve an enabling policy and regulatory framework conducive to infrastructure sharing;
- To identify existing platforms (transmission networks, antenna, etc.) suitable for infrastructure sharing, to encourage positive environmental impacts;
- To enable healthy competition to access networks;
- To provide positive incentives to roll out networks in rural and remote areas;
- To provide right incentives for investments in infrastructure when pricing services (with a reasonable return on investment) but should not be used as an artificial barrier to entry for new market players. Commercially negotiated pricing should prevail, except where market power exists;
- To improve quality of service (QoS), especially in rural and remote areas;
- To ensure positive impact on the ICT wholesale and retail prices and broadcasting services.



⁴ ITU - SADC ICT and Broadcasting Infrastructure Sharing Guidelines available at the ITU Infrastructure Development Portal: www.itu.int/en/ITU-D/Regulatory-Market/Pages/InfrastructurePortal.aspx

For further information

ITU Infrastructure Development Portal

www.itu.int/en/ITU-D/Regulatory-Market/Pages/InfrastructurePortal.aspx

ITU-D Regulatory and Market Environment Division

www.itu.int/treg

ITU Telecommunication Development Sector (ITU-D)

www.itu.int/en/ITU-D/Pages/default.aspx

ITU ICTEye Database

www.itu.int/net4/itu-d/icteye/

ITU-D Study Groups

www.itu.int/net4/ITU-D/CDS/sg/index.asp?lg=1&sp=2018

ITU Telecommunication Standardization Sector (ITU-T)

www.itu.int/en/ITU-T/Pages/default.aspx

ITU Radiocommunication Sector (ITU-R)

www.itu.int/en/ITU-R/Pages/default.aspx

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Geneva, July 2018



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