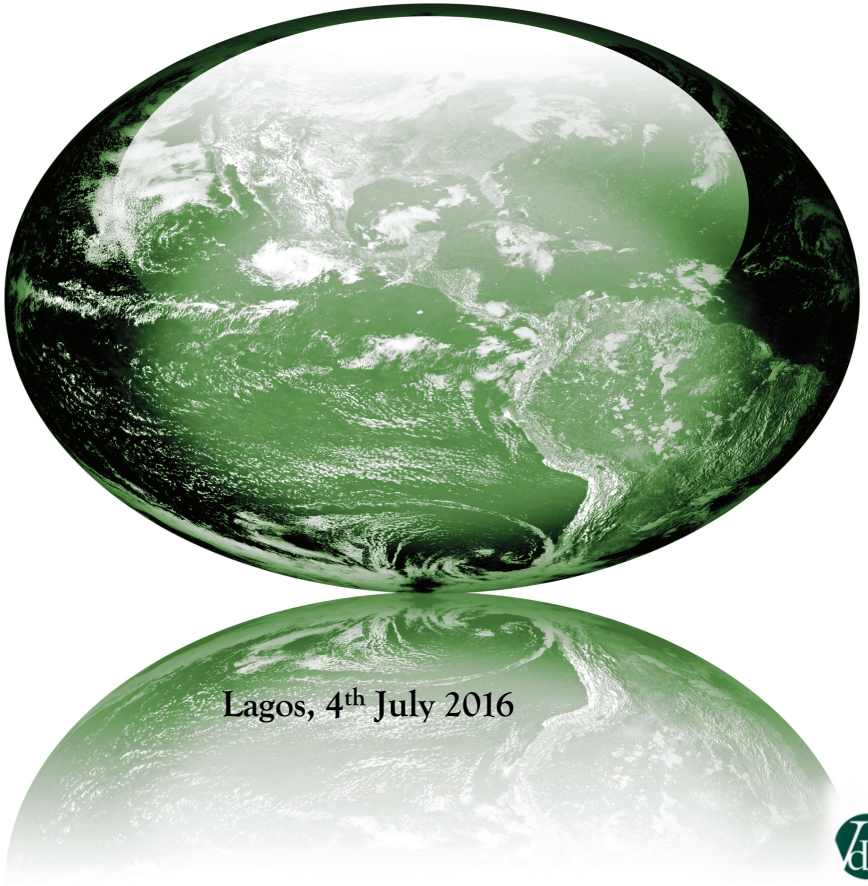
GOOD PRACTICE IN THE REGULATION OF INFRA-STRUCTURE SHARING



Lagos, 4th July 2016

A4AI ALLIANCE FOR AFFORDABLE INTERNET

VIEIRA DE ALMEIDA & Associados Sociedade de Advogados, RL

Agenda

1. General notes on Infrastructure Sharing
   - Concepts
   - Infrastructure sharing advantages/ disadvantages
   - Commercial Models

2. Infrastructure Sharing in some countries
   - Angola
   - Botswana
   - European Union / Portugal
   - Mozambique
   - Tanzania
   - South Africa
   - Zambia

3. Good Practice / General Overview

4. Q & A

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General Notes on Infrastructure Sharing

The Concept

What does it mean?

The shared use of telecommunications infrastructures, elements or network resources by two or more operators, for the purpose of pursuing the public interest and providing services to the final user

Why is it important?

Government / Regulators	Infrastructure as mechanism for removing barriers to entry, with positive effects on competition and market development
Historic Operators / Entities subject to sharing obligation	Initially resistant to infrastructure sharing, although after an initial stage, they tend to see the advantages of infrastructure sharing, at least due to cost-reducing effect
New Operators	Usually very much in favour of mandatory infrastructure sharing with regulated pricing

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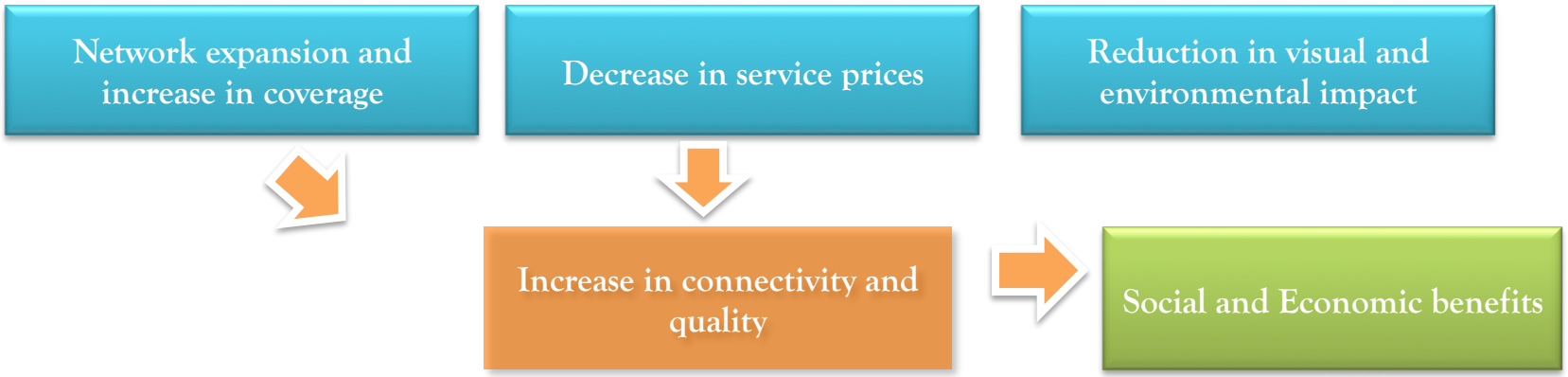
ADVANTAGES AND DISADVANTAGES

Advantages

- **Cut-down on capital costs**, which may translate in an additional investment on product and service development
- **Cut- down in** *time-to-market*
- **Reduction in operational expenses** (through sharing maintenance costs, security and energy expenses)
- **Possible reduction in the prices applicable to services** (as was the case in Ghana and Nigeria, where the entry in the market of service providers dedicated only to the construction of infrastructure resulted in a reduction of prices, in 45% and 82%
- **Less duplication of infrastructures**
- **Reduction in environmental impact**
- Possible new market dedicated to infrastructure construction



ADVANTAGES AND DISADVANTAGES

- Less **differentiation potential**
- Increased **potential for market splitting agreements** between operators (with possible exclusion of small operators)
- Risk of **abusing dominant position**
- **Decreased investment** in quality infrastructures
- Possible **litigation** between operators
- Risk of **breach in confidentiality**

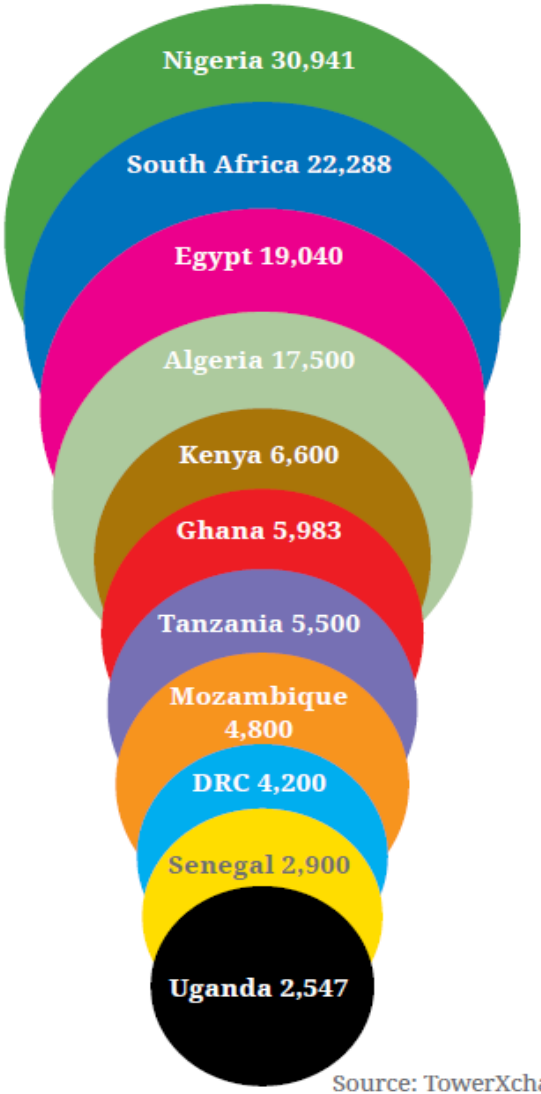
Commercial Models

	Joint Venture	TowerCo	Fibre companies	Government-led	PPP & Consortia
Government involvement					
Risk sharing	Operators	Private investors	Private investors	Public sector	Development banks, governments, investors
Access	Operators of the joint venture	Wholesale basis	Wholesale basis	Open Access	Wholesale basis
Ownership	Operators	Private investors	Private investors, operators	Public	Operators, governments and private investors
Fibre					
Mobile/Wireless					
Funding	Private	Private	Private	Public sector, USO funding, multilateral banks	Development banks, governments, investors
Examples	Three operator fibre network in South Africa	Helios Towers, Eaton Towers, IHS Towers	Phase 3	NOFBI-Kenya Broadband Infraco-South Africa	Burundi Backbone System

Source: *"Unlocking Broadband for all – Broadband Infrastructure sharing policies and strategies in emerging markets" (Deloitte)*

Commercial Models

TowerCo



Source: TowerXchange

The "Big Four"

- **IHS**
  (22.000 towers)
- **American Towers**
  (9.936 towers)
- **Helios Towers Africa**
  (between 7.800 and 8.300 towers)
- **Eaton Towers**
  (approximately 5.000 torres)

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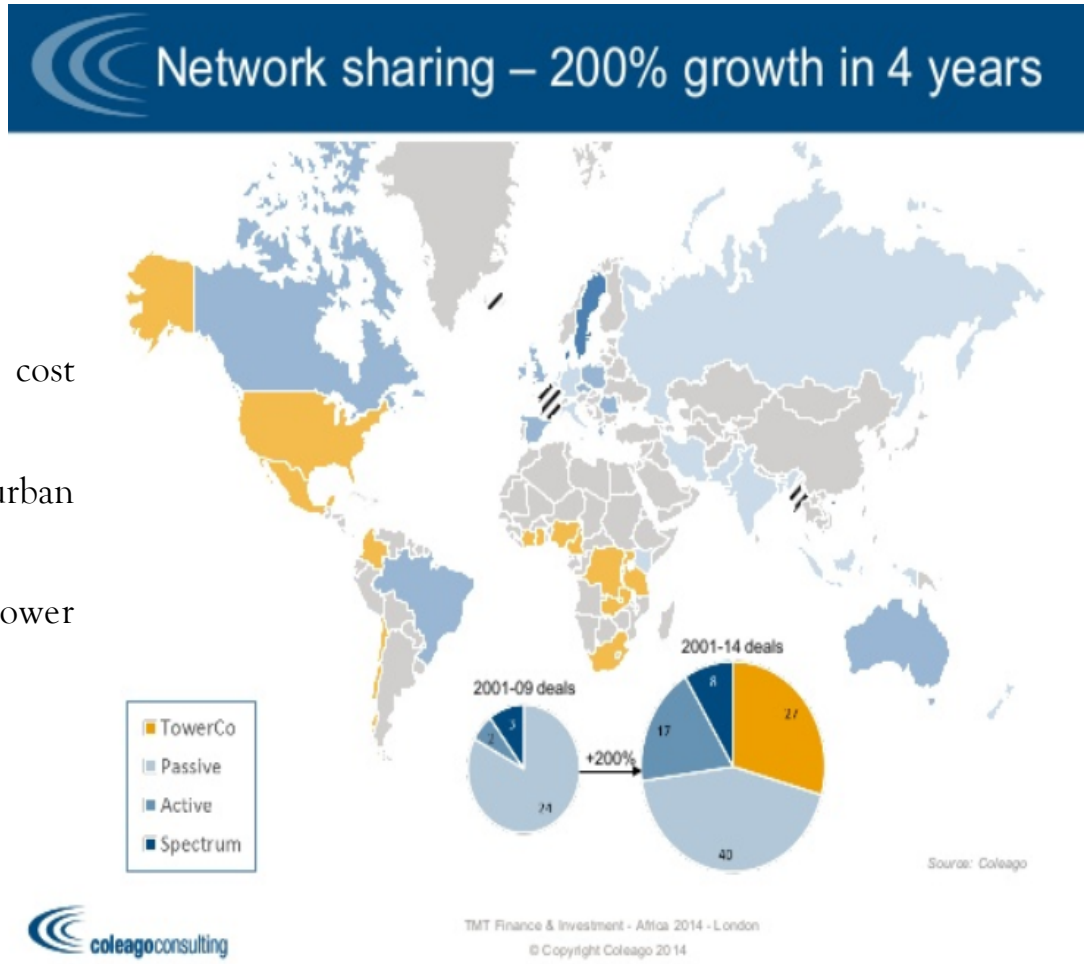
Infrastructure sharing in some countries

THE BIG PICTURE

Overall, infrastructure sharing has increased due to:

- Granting of 3G licenses
- Pressure over big operators towards cost reduction
- Possible lack of space for new sites in urban areas
- In emerging economies, due to tower management rights granted to TowerCos.



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ANGOLA

[Infrastructure Sharing Regulation (Presidential Decree nr. 166/14, dated 10 July)]

Applies to **passive** infrastructure sharing

Ensures a general principle of free negotiation between the Parties, although regulator INACOM (http://www.inacom.gov.ao/) may intervene:

- In cases of unreasonable refusal to share
- To impose sharing; or
- To act as mediator, in the event of a dispute on the matter

An independent body is established, with the task of controlling the enforcement and application of this Regulation: INFRACOM (*Comité Coordenador de Infraestruturas de Comunicações Eletrónicas*)

Three possible models:

- **Model A:** One operator shares its infrastructure with another operator
- **Model B:** Two or more operators agree on joint construction of infrastructure
- **Model C:** A third entity (public utilities) leases infrastructure from operators

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ANGOLA

Infrastructure Sharing Regulation
(
Presidential Decree nr. 166/14, dated 10 July)

The content of the infrastructure sharing agreement is defined by law:

- Identification of parties;
- Scope;
- Type of sharing model;
- Identification of infrastructures to be shared;
- Parties rights and obligations;
- List of equipment to be installed, if applicable;
- Availability of services required for network operation, such as energy, cooling, fire prevention, other elements;
- Rules for accessing the infrastructure, namely for installation, maintenance and removal;
- Rules on maintenance of equipment and premises;
- No subleasing provisions;
- Rules on pricing;
- Duration;
- Rules on removal of equipment or termination of use for the infrastructure following termination of agreement;
- Dispute resolution

Agreement valid only following homologation by INACOM

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Botswana

Telecommunications Act

BTA Guidelines for sharing passive communications Infrastructure

Infrastructure sharing not regulated by law, but included in the guidelines issued by the regulator - Botswana Telecommunications Authority (BTA) (http://www.bocra.org.bw/)

Guidelines apply to **passive** infrastructure sharing (operators being encouraged to explore other possible types of sharing)

Infrastructure sharing negotiation should be based on the principles of neutrality, transparency and non-discrimination, based on a *first come, first served*" model

Prices must be cost-oriented

BTA may intervene in case of litigation

BTA believes it is premature to create laws specifically aimed at infrastructure sharing

"The real value of infrastructure sharing goes well beyond concepts like revenue, turnover and efficiency rates. Its greatest benefit lies in the power to connect communities and people together at low cost"

Source: *BTA Guidelines on infrastructure sharing*

European Union / Portugal

2004

General rules in the Electronic Communications Law for the incumbent operator

Applicable to the incumbent

2005

Legal regime for construction, management, access to infrastructures within State public domain

2009

New regime for infrastructure construction and sharing

Applicable to public entities and operators

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European Union / Portugal

Law ne. 5/2004, dated 7 February (Electronic Communications Law)

Directives nr. 2002/19/CE, 2002/20/CE and 2002/21/CE of the European Parliament and the Council dated March 7

Decree-Law nr 123/2009, dated 21 May (regime for construction, access and installation of infrastructures)

Infrastructure sharing obligations applicable to operators, but also to the State (including municipalities), concessionaires for public entities

Access must be provided in non-discriminatory, transparent and equal terms, subject to a cost-oriented pricing principle; **Refusal to provide access is only allowed in specific cases**

Operators required to have Reference Offer; keep updated internal registry of their infrastructures; publicise works carried out in the context of building or enhancing their infrastructures (operators may choose to join construction and share the costs

Legal regime articulated with regime over powers held by municipality and fiscal obligations and principles in what concerns fees and taxes

MOZAMBIQUE

Telecommunications Strategy
(Resolution nr. 54/2006, dated 26 December)

Telecommunications Law
(Law nr. 8/2004, dated 21 July)

Infrastructure sharing Regulation
(Decree nr. 62/2010, dated 27 December)

Proposed ITED/ITUR Regulation
(May 2015)

Infrastructure sharing regulation spread through various diplomas: Telecom Law, Telecom Strategy and Infrastructure Sharing regulation

Telecommunications Strategy

- Infrastructure sharing identified as essential and should be foreseen in the construction of utilities and pursued by the regulator

Telecommunications Law

- All operators have the right to enter into infrastructure sharing agreements, although only operators with a dominant position are obligated to allow access to their towers and infrastructures, whenever technically feasible

Infrastructure Sharing Regulation

- Detailed regulation of passive infrastructure sharing: procedures and content of sharing agreement; mandatory information to be provided by owners/operators of the infrastructure; obligation to send final agreement to INCM
- No standard sharing agreement
- INCM intervenes in case of litigation

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Mozambique

Telecommunications Strategy
(Resolution nr. 54/2006, dated 26 december)

Practical challenges:

- Overlapping of regulation in various diplomas
- Sharing options and mechanisms vary from operator to operator
- No infrastructure sharing culture
- No technical or operational specifications apply
- Few incentives to sharing – regulatory fees, tax exemptions, for example)

Revision to Infrastructure Sharing Regulation ongoing

NIGERIA

Under the Nigerian Communications Act, the Regulador NCC must encourage and promote infrastructure sharing by licensed operators, including by issuing guidelines to the effect

Government Notice nr. 115 (Nigerian Communications Act)

- In order to develop and incentivate infrastructure sharing, NCC approved guidelines on passive infrastructure sharing, based on a "*first come, first served*" *model* (capacity being allocated in accordance with the order of the access requests)
- Guidelines indicate terms of the infrastructure sharing prelationship between the operators (content of contract/ types of sharing, terms and conditions. etc.)
- Sharing requests should be replied within 30 days and refusal is allowed only in case of insufficient capacity; safety, reliability, incompatibility of facilities; and engineering considerations
- Reference offer must be provided by operators, but is not absolutely binding

Guidelines on Collocation and Infrastructure Sharing

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NIGERIA

Guidelines on Collocation and Infrastructure Sharing

Operators may negotiate infrastructure sharing agreements freely, NCC intervening (i) in the event of refusal to share; or (ii) to act as mediator in the absence of an agreement

Negotiation to be based on the principles of neutrality, transparency and non-discrimination and prices must be cost-oriented

Infrastructure sharing carried out under the terms of the license issued by NCC

Both the licence model **(Infrastructure Sharing and Collocation Services License)** and specific conditions for infrastructure sharing are available through the regulator's website (http://www.ncc.gov.ng/)

South Africa

[Act nr. 1/2014 (Electronic Communications Act)]

Infrastructure sharing obligation applies to all operators holding a ENCS licence (Electronic Communications Network Service), which allows for the roll-out and operation of a physical telecommunications network

These operators must share their electronic communications facilities with other operators and must comply with any guidelines by the regulator - Independent Communications Authority of South Africa (ICASA) (https://www.icasa.org.za/)

The law does not have a clear definition of "infrastructure", which means not all stakeholders agree on its scope

In September 2015, ICASA carried out a public consultation on infrastructure sharing in the country, which results were published in March 2016

South Africa

Act nr. 1/2014 (Electronic Communications Act)

ICASA carried out a public consultation on infrastructure sharing and published its conclusions in March 2016, which did not set major differences, but concluded that

- Benefits are realised by stakeholders as a result of existing initiatives for infrastructure sharing.
- Infrastructure sharing is important, but its efficiency may be limited in areas where infrastructure is in poor condition
- Investment mechanisms such as the USAF may need to be explored to encourage network rollouts in areas that are not financially viable
- The objectives of infrastructure sharing have, to a certain extent, been achieved through commercial agreements
- Infrastructure sharing matters should not be dealt with in one regulation

ICASA conclusion: **current rules on infrastructure sharing already regulate the matter of infrastructure sharing.** In any case, specific matters such as local loop unbundling should be addressed

TANZANIA

Eletronic and Postal Communications (Access, Co-location and Infrastructure sharing) Regulations, 2011

All operators must share their infrastructure with other operators on a non-discriminatory and impartial basis, according to a "*first come, first served*" model

The law imposes the principle of free negotiation, with the parties having the freedom to establish a standard sharing model (with cost-oriented prices)

Final version of sharing agreement must be sent to the regulator, which has the right to approve or propose changes

The regulator Tanzania Communications Regulatory Authority (TCRA) (http://www.tcra.go.tz/) may impose the infrastructure sharing obligation on the incumbent

TCRA to consult stakeholders in 2016 on the topic of infrastructure sharing, for the purpose of preparing setting up a new infrastructure sharing regime

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ZAMBIA

The Information and Communication Technologies Act, 2009

ZICTA Guidelines

The law contains no express reference to infrastructure sharing

Sets out an obligation (applicable to all operators) to ensure access, co-location and interconnection, in accordance with the guidelines published by the regulator - Zambia Information and Communications Technology Authority (ZICTA) (http://www.zicta.zm/)

In practice, regulation is equivalent to an infrastructure sharing obligation

ZICTA provides a template contract for access, co-location and interconnection, although it is not mandatory and the parties may agree on different models

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Good Practices

Good Practices

1. Sharing-friendly environment

- Establishing an **adequate regulatory environment** that favours competition (based not only on services, but also on infrastructure) and the entry of new operators, considering the advantages and disadvantages of possible business models

- Creating **incentives to competition and investment (regulatory fee exemptions, tax regimes)**, in order not to limit infrastructure sharing to certain operators or types of services

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Good Practices

2. Innovative Regulatory Policies and Strategies

Reasonable Terms and Conditions so that: (i) sharing obligations do not hinder the investment made in infrastructure/ services; and (ii) commercial and non-commercial terms do not act as a barrier to sharing arrangements

Pricing: prices should ensure commercially reasonable build-or-buy positions

Pre-approved agreement templates

Licensing: licensing procedure for providers of passive infrastructure that do not compete in retail market (ex. TowerCos)

One-stop-shop: for coordination of installation and operation work, as well as connection between operators

Transparency: mandatory provision of information by operators on their websites

Dispute Resolution: intervention of regulator or other independent body, in the event that alternative mechanisms are not sufficient

Universal access: creation of incentives (such as regulatory exemptions) for infrastructure sharing, which allow for compliance with universal access goals

Interaction with other sectors and market players: incentivising sharing with players in other sectors (specifically utilities) benefiting the environment, financial health and urban planning

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Good Practices

- What kind of Infrastructure to be shared?
- Dispute Resolution Procedures
- Sharing: an option or an obligation?
- Regulator empowerment
- Adequacy of Infrastructures
- Spectrum trading
- Regulating Commercial terms
- Incentives to Investment

All addressable through law and regulation for the sector, for example:

- NCC Guidelines
- Smart State Initiative
- National Broadband Plan
- Federal Ministry of Works "Guidelines for Grant of Access on Federal Highways Right of Way to Information and Communication Technology Service Providers)

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Good Practices

What kind of Infrastructure to be shared?

Active Infrastructure

- Ideal for mature markets
- Good for rural/remote areas (last mile coverage)

- More complex and invasive model
- Not ideal for emerging markets
- Possible loss of service quality when connecting equipment
- No longer adequate in fast growth cycles or when network is saturated

Passive Infrastructure

- More simple
- Less invasive
- Better fit for emerging economies

- Requires very active regulator
- Requires cooperation between sectors

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Good Practices

Sharing: an Obligation

- Advantages:

  (i) Reduction in entry costs for new operators;

  (ii) Possible increase in investment on technology

- Disadvantages:

(i) No incentive to investment in quality infrastructure

Disadvantages can be mitigated with appropriate regulatory conditions and mandatory obligations when initiating activity (requires regulator empowerment)

Sharing: an Option

- Advantages:

(i) May be a more natural model (infrastructure sharing already being a market-driven phenomenon)

(ii) May encourage development of quality infrastructure

- Disadvantages:

(i) Increased entry costs for new operators

(ii) Does not reduce disparities in non-competitive markets that naturally require regulation

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Good Practices

Adequacy of Infrastructures

- Enforcing obligations associated to new infrastructures that make them technically fit for sharing and for taking on network resources

- To be assessed on a case-by-case basis, depending on the type of operator and market, based on objective technical and financial criteria

- Coordenation with public works sector, so as to ensure that public works on network sectors include sharing capacity and network resources; and sharing obligation as a condition for being granted and using public funds

- Creating administrative and legal procedures that facilitate infrastructure construction on public domain (rights of way)

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Good Practices

Regulating Commercial terms

- Advantages:
  - (i) Preferred option for new entrants– establishes level playing field
  - (ii) Predictability in negotiation
  - (iii) Facilitates rasonable negotiation (under a cost-orientation principle)

- Disadvantages:
  - (i) May discourage investment
  - (ii) The concept of "cost" may be difficult to establish for certain equipment/technology
  - (iii) Requires revision and monitorisation by the regulator, considering the nature of the telecom sector

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Good Practices

Dispute Resolution Procedures

- Advantages:
  - (i) Reduces negotiation bottleneck
  - (ii) Preferred model for new entrants

- Disadvantages:
  - (i) Requires a robust legal/regulatory framework with speedy and clear proceedings, deadlines, cooperation obligations and enforcement mechanisms
  - (ii) Requires specific and in-depth know-how by the regulator

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Good Practices

Regulator Empowerment

- Regulator power to impose sharing in certain cases of refusal to share or lack of cooperation amongst operators
- Principle of equivalent conditions granted to vertically integrated operators
- Provision of publicly available binding instructions on procedures to be carried out by operators
- Power to apply sanctions in the event of breach in applicable obligations on infrastructure sharing (including compulsory pecuniary sanctions)
- Obligation to provide periodic reports to regulator regarding infrastructure sharing arrangements and conditions

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Good Practices

Spectrum Trading

Transfer of the right to use spectrum: allows purchaser to change the use to which the spectrum was initially put while maintaining the right to use

- Boosts transparency by revealing the true opportunity cost of the spectrum
- Allows companies to expand more quickly
- Makes it easier for prospective new market entrants to acquire spectrum
- Provides incentives for incumbents to invest in new technology in order to ward off the threat of new entrants, which will boost market competition

Potential for unlocking the full range of new technologies and eliminating artificial scarcities of spectrum

Economic efficiency only accomplished if transaction costs are not too high and no external effects intervene (anti-competitive behaviour/ interference)

"[...] Should a telecom operator decide to sell its spectrum to another operator, especially without the 'knowledge' of the regulator, it will not augur well for the sector, because such will create room for abuses. At the end of the day, the customer may suffer for it. **It is important the regulator has an oversight on 'why' and 'how' the process is done**"

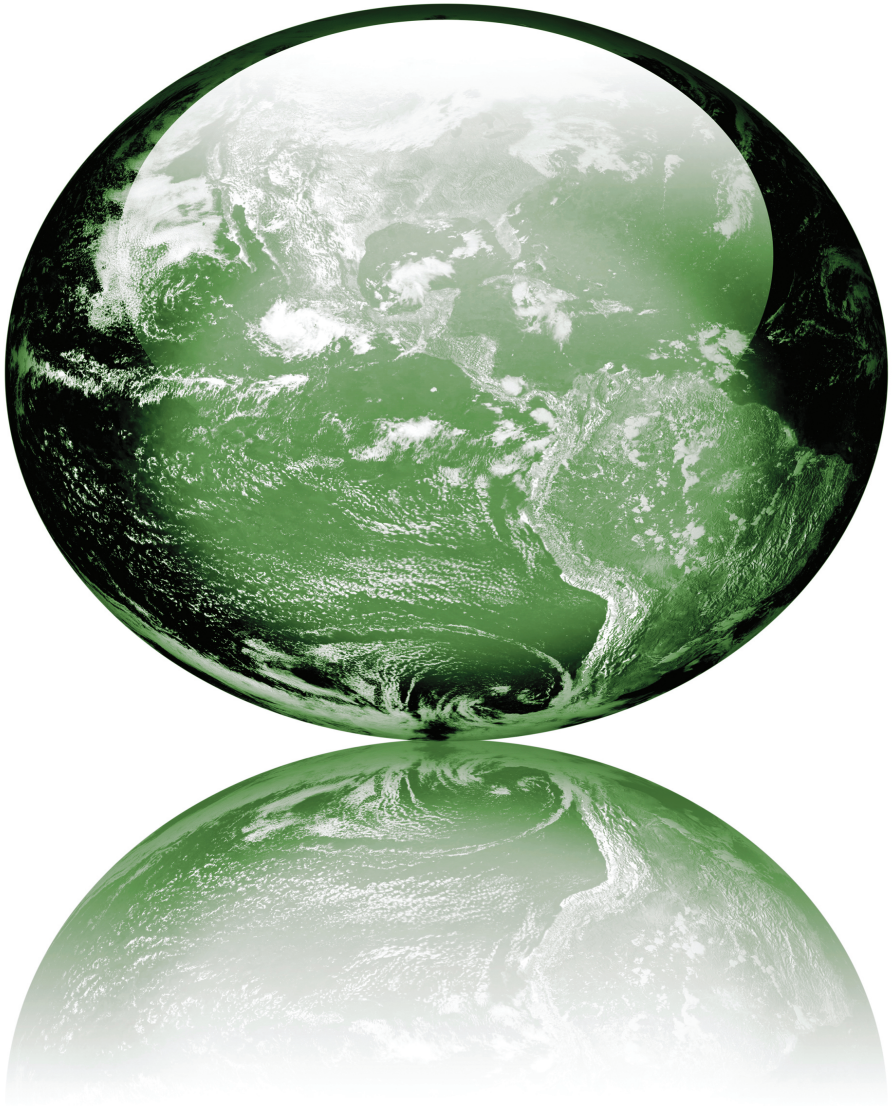
Shola Taylor, Secretary-general of Commonwealth Telecommunications Organisation

Incentives to Investment

- Possible incentives to **private investment**:
  - Reduction/exemption of regulatory fees
  - Special interest rates
  - Reduced administrative charges (for example, in the case of rights of way)
  - Equivalent measures for operators investing on infrastructure upgrade and improvement
  - Access to state funding and USF associated with compliance with infrastructure sharing obligations
  - Renovation of licenes

- Possible incentives to **public investment**:
  - Mandatory inclusion of elements (for example, ducts) when carrying out public works and obligation for public workks to allow infrastructure sharing by telecom operators

- Incentives on public investment should be considered in connection with private investment, or operators may not feel the incentive to apply efficient cost amangement measures



Q & A

Thank you!

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