Global Market and Regulatory Trends

Launching Meeting of HIPSSA Project

Ethiopia, 11-11 December 2008

Nancy Sundberg
Regulatory and Market Environment Division
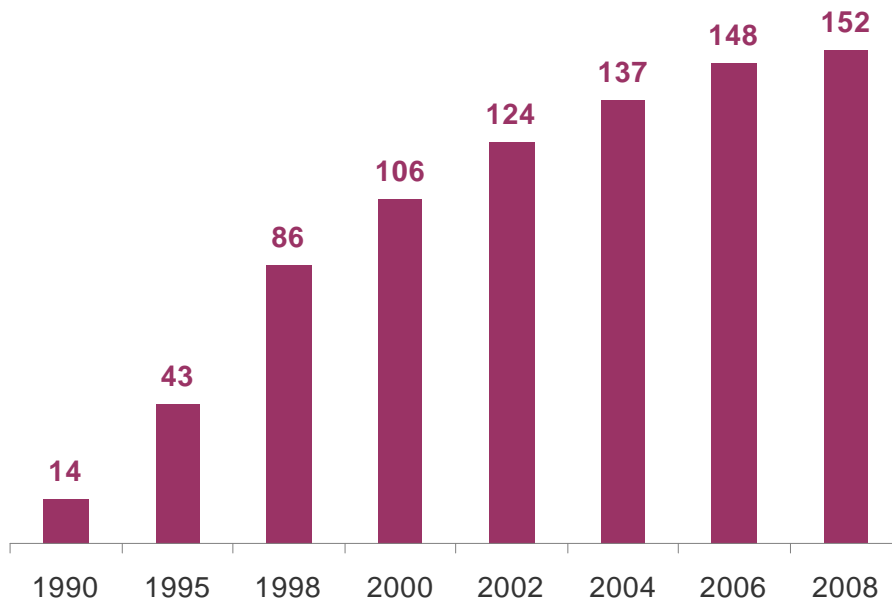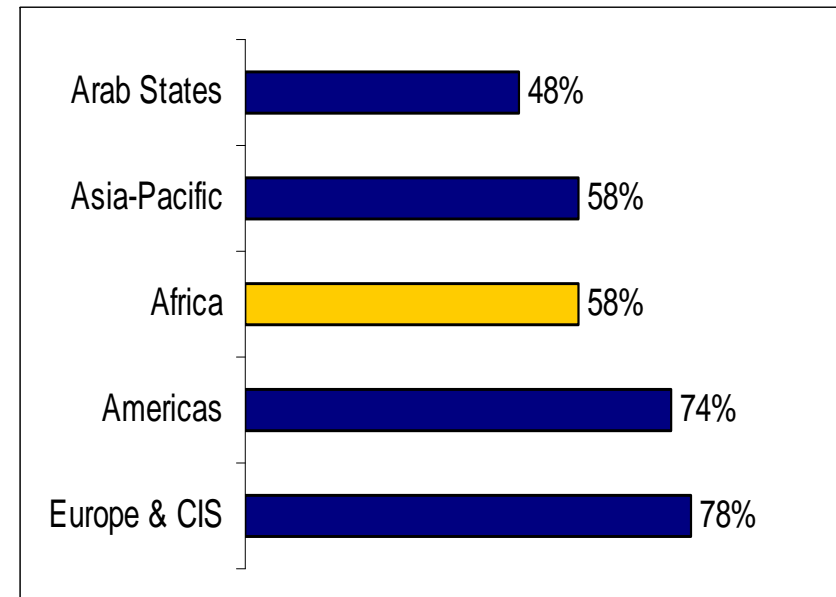BDT, International Telecommunication Union

Agenda

1. Global market on the move
2. 1st wave of regulatory reform
3. Towards 2nd wave of regulatory reform
4. More information on ITU regulatory activities

1ˢᵗ wave of regulatory reform
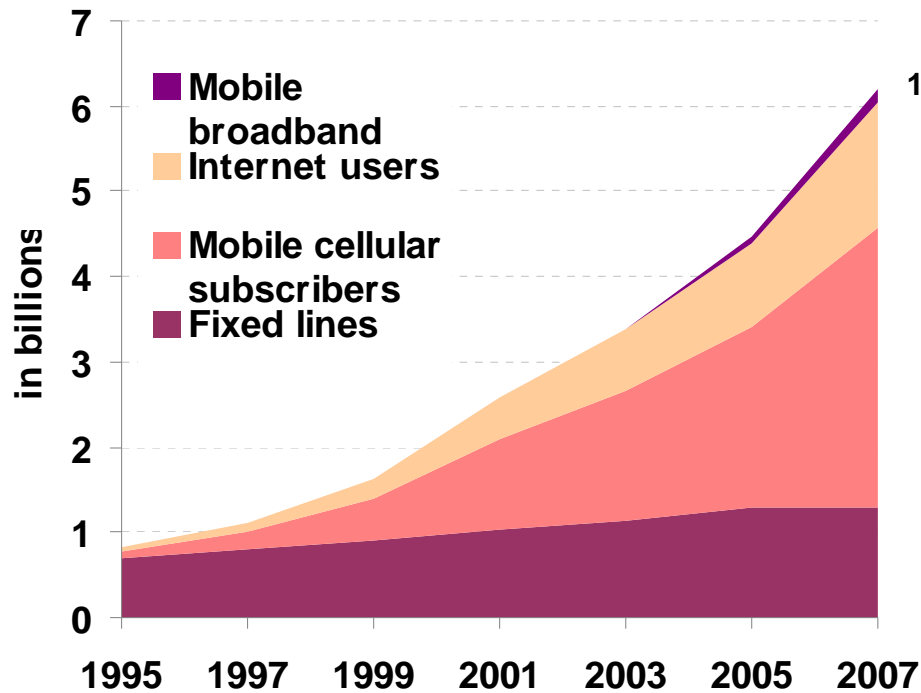
Growth of Regualtors, worldwide 2008

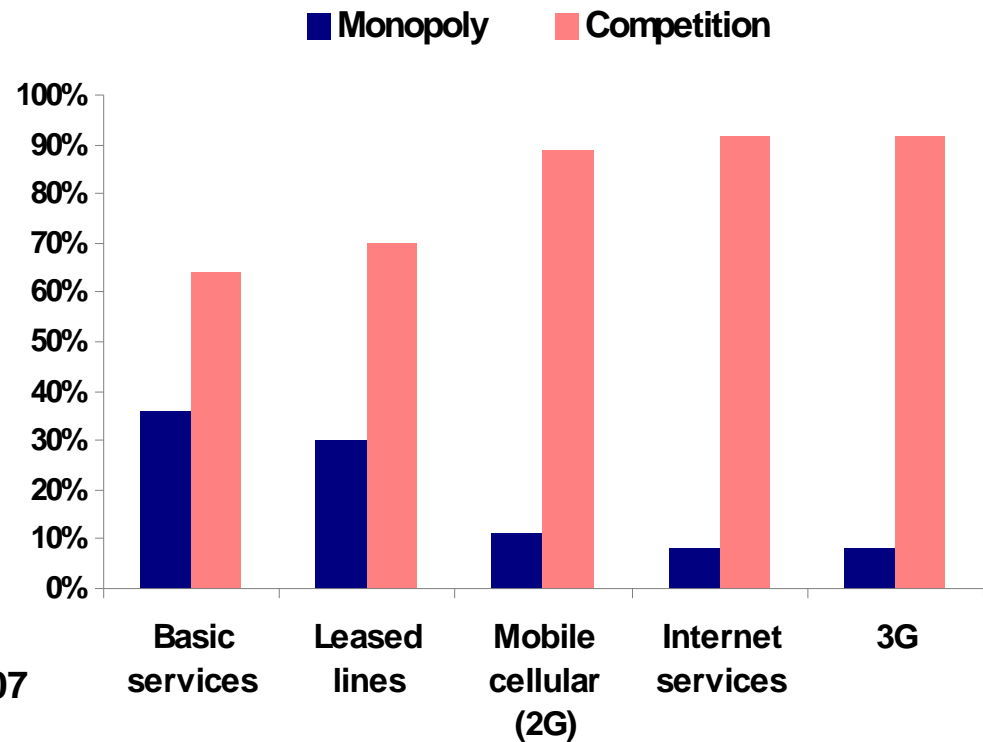**Privately-owned fixed-line incumbents in %, by region, 2008**

>> **93** % of African countries have established a separate regulator

Global telecom market on the move

Growth in ICTs, in billions, 1995-2007

Level of competition, selected services world, 2007

Legend (left chart):
- Mobile broadband
- Internet users
- Mobile cellular subscribers
- Fixed lines

Y-axis: in billions

Legend (right chart): Monopoly — Competition

Categories: Basic services, Leased lines, Mobile cellular (2G), Internet services, 3G

International Telecommunication Union

ITU — Committed to connecting the world

The 1st wave of regulatory reform by region

ICT penetration rates per 100 inhabitants, 2007

Legend:
- ■ Fixed telephone lines
- ■ Mobile subscribers
- ■ Internet users
- ■ Broadband subscribers

Americas: 31, 72, 41, 10.3
Africa: 2, 23, 4, 0
Arab States: 10, 53, 13, 1
Asia & Pacific: 16, 36, 14, 3
World: 19, 49, 20, 5
Europe & CIS: 38, 104, 39, 13
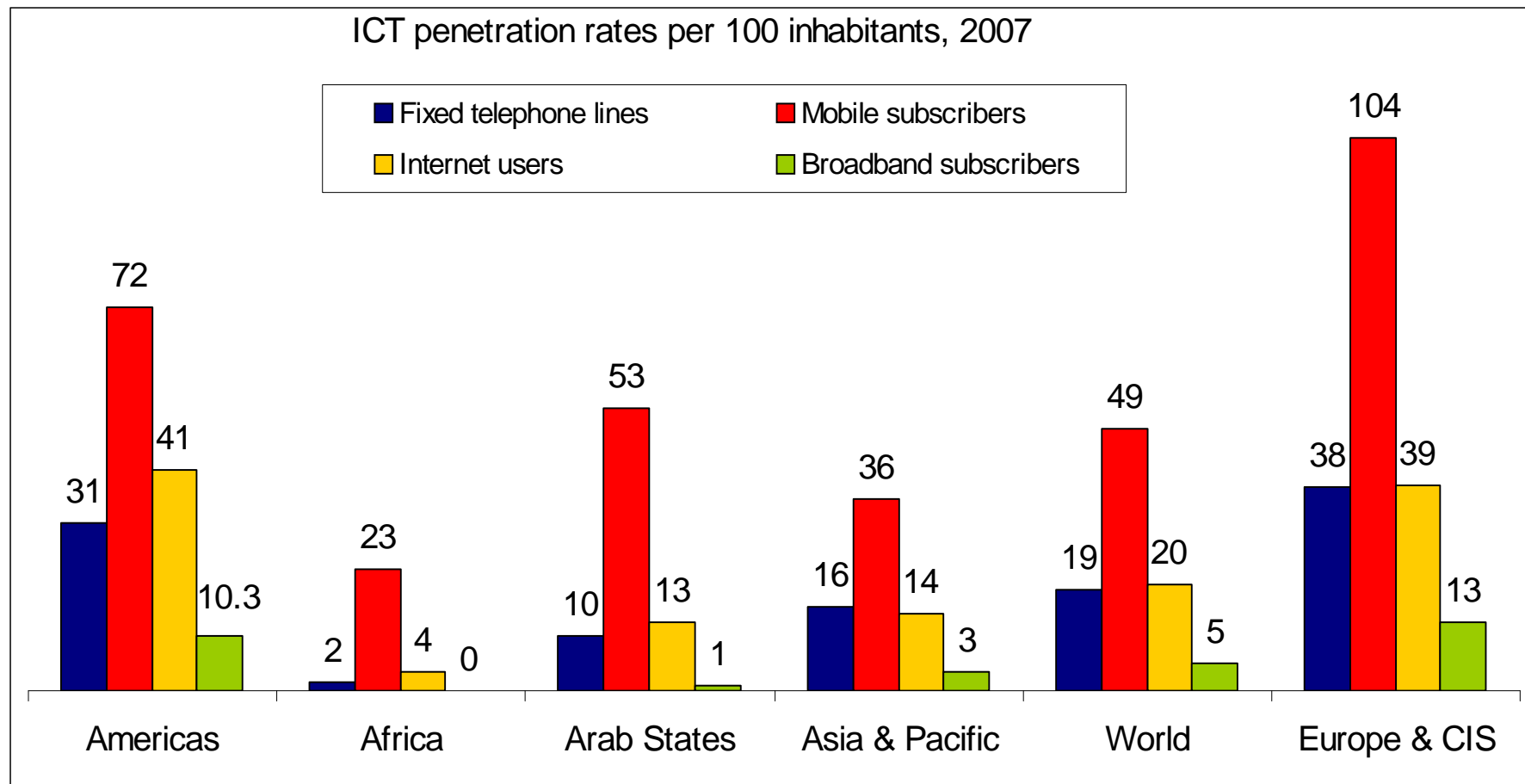
Source: ITU World Telecommunication/ICT Indicators Database

2nd wave of regulatory reform
Spurring competition

- **Efficient and independent regulator with extended powers**
  - From separate telecom & broadcasting regulators towards converged regulators
- **Licensing**
  - From service-specific licenses towards general authorizations, unified & class licences
  - From technology-specific towards technology-neutral licences
- **Spectrum**
  - From administrative approach towards flexible spectrum allocation practices (sharing, trading, etc.) to create new access networks that deliver both voice and broadband cost-effectively
- **Network & bottleneck facilities**
  - From exclusive ownership towards passive & active infrastructure sharing
  - Open access to network and bottleneck facilities (fiber backbones, LLU)
  - International gateway liberalization
- **Universal access & services**
  - From fixed-line voice towards broadband universal access
- **Flexible, transparent & simplified procedures**
  - Facilitate market entry
  - Stimulate innovation

Innovative sharing strategies

- Aim to connect all the world to broadband
- Cost single biggest reason to share
- Developing countries seek to leverage mobile infrastructure boom into mobile broadband boom
- Developing countries also seek to build IP-based backbone and backhaul networks
- Developed countries seek to leverage fixed line investments and upgrade to Fibre to home, building or curb
- Both share the same goal: to expand network deployment and development by cutting costs
- Sharing can only take place in a competitive, transparent and non-discriminatory market & regulatory environment

Licensing framework in an era of convergence

General regulatory framework:

- Ensuring a level playing field
- Technology and service neutrality in licensing & development of converged licensing frameworks
- Transparency
- Simplifying licensing processes (shift from individual license and class licenses to multi-service licenses, notifications, registrations and/or deregulation)
- Developing the enforcement capacity to resolve disputes, revoke licenses and impose sanctions

Enabling convergence

- Adoption of more administratively simplified and flexible licensing regimes with broader categories of licenses / unified licenses
- Reduced licensing requirements for rural areas
- Reduced license fees & tax incentives

» **GSR Best Practice Guidelines on Licensing (2004)**

» **GSR Best Practice Guidelines for NGN Migration (2007)**

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8

Int'l connectivity- addressing backbone bottlenecks

- Incumbent ownership of backbone networks can constrain competition
  - **impose excessive access costs / limit availability of bandwidth and QoS supported / impose restrictions on points of interconnection**
- Although costs of duplicating backbone networks can deter market entry, regulators can play an important role:
  - **regulate new-entrant access to existing infrastructure**
    - **appropriate pricing points and terms & conditions**
  - **encourage new backbone network deployment**
    - **make alternative infrastructure accessible**
    - **promote open access/infrastructure sharing**
    - **encourage coordination among potential backbone providers (think beyond telecom networks to power utilities, railways, pipelines and roads)**
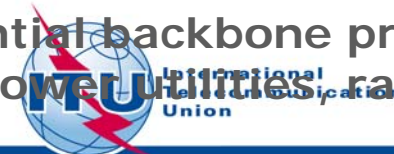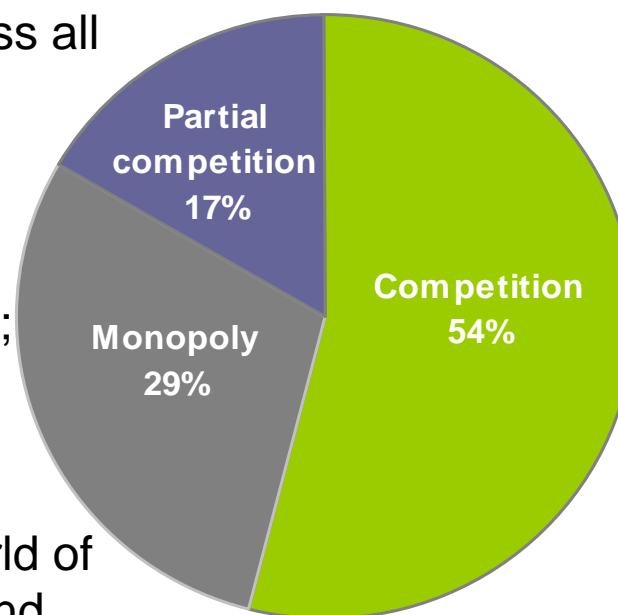
Liberalization of International gateways

➤Liberalization of international gateways has brought many benefits to the sector including the decrease of tariffs and boosting sector growth:

Liberalization of IGW alone could not address all challenges. Important challenges remain:

➤ Dominance control;
➤ Interconnection issues;
➤ Cost of access to international bandwidth;
➤ Security issues.

Liberalization of the int'l gateway worldwide, 2007

Partial competition 17%

Competition 54%

Monopoly 29%

Monopoly of IGW is barely sustainable in the world of convergence, rapid technological development and globalization. Even if liberalization of the IGW is just one piece of larger system, it may significantly influence market development.
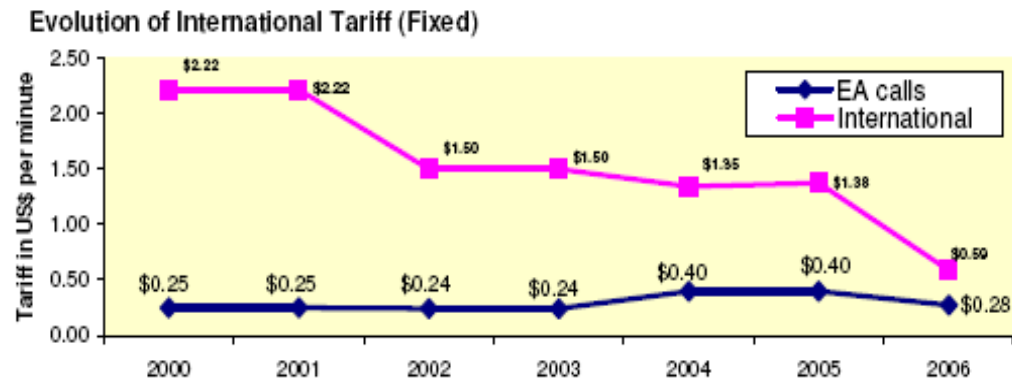
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Liberalization of International gateways

Experiences :
Tanzania

2005-2006
-Fixed international tariffs decreased by 57 %
- Mobile international tariffs decreased by 68%

Evolution of International Tariff (Fixed)

Source: Tanzania Communication Regulatory Authority

Singapore:

- IDD tariffs dropped by 90%
- Number of outgoing international telephone minutes per month increased from 64 to 581 million
- Broadband penetration increased from 5% to 77%

See GSR discussion paper on International Gateway Liberalization: the Singapore experience

Achieving Universal Access to ICTs in Africa

- Wired and wireless services become complementary but also substitutable.

- Developing countries might "leapfrog" capitalizing on wireless technologies to rapidly deploy cost-effective infrastructure nationwide.

- Broadband networks (both BWA or cable) are likely to be the key to the sustained growth in Internet subscribers.

- Although broadband has not been included as part of national USOs, an increasing number of countries have made broadband service providers subject to compulsory contributions to funds promoting UA & US (USFs): Brazil, etc.

- Licensing requirements: e.g. requiring an operator to connect a specified number of new villages, etc.

Bringing it all together

What regulatory framework to spur all-Africa connectivity?

- **Encourage deployment of a full-range of broadband access technologies (from FTTx to WiMax)**
  - ➢ coordinated frequency plans and technology neutrality
  - ➢ unbundle of core and access networks or infrastructure-sharing among operators
  - ➢ stimulate competition among various technologies
  - ➢ support small-scale deployment in rural areas
  - ➢ Encourage build-out of backbone networks and regulate access to existing networks
  - ➢ Creating national and regional Internet Exchange Points (IXPs), as well as VoIP peering exchanges, to keep the local Internet traffic local

- **Ensure affordability of services**

- **Harmonize international and regional practices and standards and transpose them into national legislation**

- **Design and implement a flexible, non-discriminatory, technology-neutral and service-neutral regulatory framework to create incentives for large and small operators considerations.**

» **GSR 2004 Best Practice Guidelines on Promotion of Low-Cost Broadband**

» **GSR 2008 Best Practice Guidelines on Infrastructure Sharing**

Trends in Telecommunication reform 2008: Six Degrees of Sharing

- Chapter 1: Market and regulatory trends in the ICT sector
- Chapter 2: Six degrees of Sharing
- Chapter 3: Extending open access to national fibre backbones in developing countries
- Chapter 4: Mobile network sharing
- Chapter 5: Spectrum sharing
- Chapter 6: International sharing: International gateway liberalization
- Chapter 7: The emergence of functional separation
- Chapter 8: International mobile roaming
- Chapter 9: IPTV and mobile TV: New regulatory challenges for regulators
- Chapter 10: End-user sharing
- Chapter 11: Conclusion: Looking to the future

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▸ Table of Reference Documents
▸ Glossary

NEW *Executive Summaries for Modules 1 and 6 now available in French, Spanish, Russian, Arabic and Chinese!*

EVENTS

▸ Training Workshop for Regulators and Policy Makers in Eastern and Southern Africa
Addis Ababa | 6-9 Nov 07

▸ Global Symposium for Regulators 2008 (GSR08)
Pattaya | 11-13 Mar 08

▸More events

Module 1: Regulating the Telecommunications Sector: Overview

Telecommunications growth and innovation, Telecommunications and economic development, rationale for regulation, Principles for effective regulation, Key success factors and risk of failure, Institutional responsibilities.

▸Table of Contents | Availability: Released
Overview in French | in Spanish | in Russian | in Chinese | in Arabic

Module 2: Competition and Price Regulation

Fair competition, Interconnection and access, Prices, Benchmark price regulation, Data requirements, Effective price regulation.

▸ Executive Summary | ▸Table of Contents | Availability: Released

Module 3: Authorization of Telecommunications Services

Introduction, Authorization approaches, Competitive licensing processes, Authorization practices, Special authorization situations.

▸ Executive Summary | ▸Table of Contents | Availability: Released

Module 4: Universal Access

Principles and basic concepts, Market shortfalls and development gaps, Roles of the government and the private sector, Scope of support beyond the market, Principles of cost-effective support, Funding sources and mechanisms.

▸Table of Contents (beta) | Availability: July 2008

Module 5: Radio Spectrum Management

Current trends, Technical aspects, Scope of spectrum use and issues, International administrative framework, National institutional arrangements, Authorizing spectrum use and Assigning frequency bands to users and technologies, Stakeholders, Spectrum Pricing, Monitoring and enforcement, and Capacity building for regulators

▸ Executive Summary | ▸Table of Contents | Availability: Released

Module 6: Legal and Institutional Framework

Laws and regulations, International treaties and agreements, WTO, National legislation and regulations; Institutional arrangements for telecommunications regulation; Regulatory processes, Relationships with judiciary and competition authorities; Governance, Realistic design options, Human resources and capacity building.

▸ Executive Summary | ▸Table of Contents | Availability: Released
Executive Summary in French | in Spanish | in Russian | in Chinese | in Arabic

Module 7: New Technologies and Impact on Regulation

New technologies and applications, Convergence, Internet's impact on networks, business models, market structures, and regulation; Broadband, the way forward.

www.ictregulationtoolkit.org

More Information

- ITU TREG website and ICT Regulation Toolkit
  - www.itu.int/treg/
  - www.ictregulationtoolkit.org
- Telecommunication Development Sector
  - www.itu.int/ITU-D/
- Telecommunication Standardization Sector
  - www.itu.int/ITU-T/
- Radiocommunication Sector
  - www.itu.int/ITU-R/