

**Regional Seminar on the economic and financial aspects of
telecommunications Study Group 3 Regional Group for
Latin America and Caribbean (SG3RG-LAC)**



ITU - ICT Eye and other Regulatory Tools

*Santo Domingo, Dominican Republic
6-7 July 2010*

**Carmen Prado-Wagner
Regulatory and Market Environment Division
Telecommunication Development Bureau**

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Agenda

- Enabling Environment
- Global Regulators' Exchange (G-REX)
- ICT Eye
- ICT Regulation Toolkit
- ICT DEC
- Cost modeling tools

Enabling Environment

Objective:

- Establish enabling environment for ICT investment through attractive policy/regulatory frameworks

Actions:

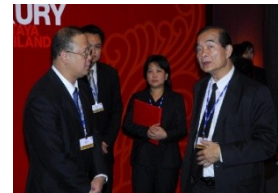
- Global Symposium for Regulators (GSR) and Global Industry Leaders Forum (GILF)
- Support regional harmonization efforts
- Studies, guidelines, tool kits, best practices, information sharing



Annual Global Symposium for Regulators (GSR)



- A unique venue for regulators and policy makers from developed and developing countries to meet and exchange views and experiences
- To develop a common understanding, and
- Adopt best practice guidelines addressing key regulatory issues





10th Global
Symposium
for Regulators
10-12 November 2010
D A K A R
S E N E G A L

Committed to Connecting the World



International
Telecommunication
Union

GSR 2010

- Date:** 10 - 12 November
- Location:** Dakar, Senegal
- Organization:** ITU in collaboration with ARTP, Senegal
- Chair:** Agence de Regulation des Telecommunications et des Postes (ARTP) , Senegal
- Theme:** Enabling tomorrow's digital world
- Programme:**
- 1st day open to the ITU-D Sector members
 - 2nd Day reserved for Regulators and Policy makers
- Expected Output :** Best practice guidelines in relation with the theme

<http://www.itu.int/ITU-D/treg>

The GSR-10 Discussion Papers

1. Building tomorrow's digital world today: the impact of broadband on the economy
2. 21st Century regulation
3. Spectrum in transition: the digital dividend
4. Dispute resolution in a digital world
5. ICTs and climate change: what role for regulators ?
6. Addressing cybercrime
7. Living the information society
8. Measuring regulatory efficiency

Global Regulators' Exchange (G-REX)

Global Regulators' Exchange (G-REX) - Windows Internet Explorer

Recherche Web | Signets | HP Games | HP Solutions | Snapfish | HP Smart Deals | Courriel | My Mon Yahoo! | Questions/Réponses | Anti-logiciel espion

http://www.itu.int/ITU-D/grex/index.html

Global Regulators' Exchange (G-REX)

ITU International Telecommunication Union

Home : ITU-D : GREX

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Regulatory Reform

ICT EYE Facts & Regulatory Information

Publications

Events

Data & Research

Useful Links

GREX Virtual Tool for Regulators

Address book

Economics and Finance

G-REX, The Virtual Tool For Regulators

The **Global Regulators' Exchange** (G-REX) is a password protected website* for national communications regulators, policy makers and regional regulatory organizations.

This exciting initiative, launched by the Telecommunication Development Bureau (BDT) of the International Telecommunication Union (ITU) in May 2001 provides a vehicle for sharing information, views and experiences on pressing regulatory issues. Regulatory information is key to creating an enabling environment to bridge the digital divide.

The most popular feature of G-REX is the **Hotline** through which regulators and policy makers can pose any question they wish and seek feedback from their colleagues around the world. G-REX Advisors translate all postings into French, Spanish and English and research regulators' websites to find useful information responsive to Hotline queries.

G-REX is managed by the Regulatory & Market Environment Division (RME):
regulators.hotline@itu.int

The RME is also in charge of TREG, the Regulatory Knowledge Center, providing key regulatory information such as:

- Websites, names and addresses of regulators and policymakers worldwide
- The most comprehensive listing of telecom
- Regulatory information at regional & country levels
- Profiles (country, regulators and regional)
- Link to the ITU-InfoDev ICT Regulation Toolkit
- Useful documentation on key subjects
- Case studies
- Self-learning material

[Login](#) [Registered Members](#)

* The staff of national communications regulatory bodies, policy makers and regional regulatory organizations interested in registering for G-REX are invited to do so here:

[JOIN US!](#) [New registration](#)

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 Contact for this page : BDT Support
 Updated : 2008-10-10


http://www.itu.int/ITU-D/grex/policy.asp?PageLanguage=En

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Announcements

Dear regulators,





please [send us](#) information about your forthcoming events!

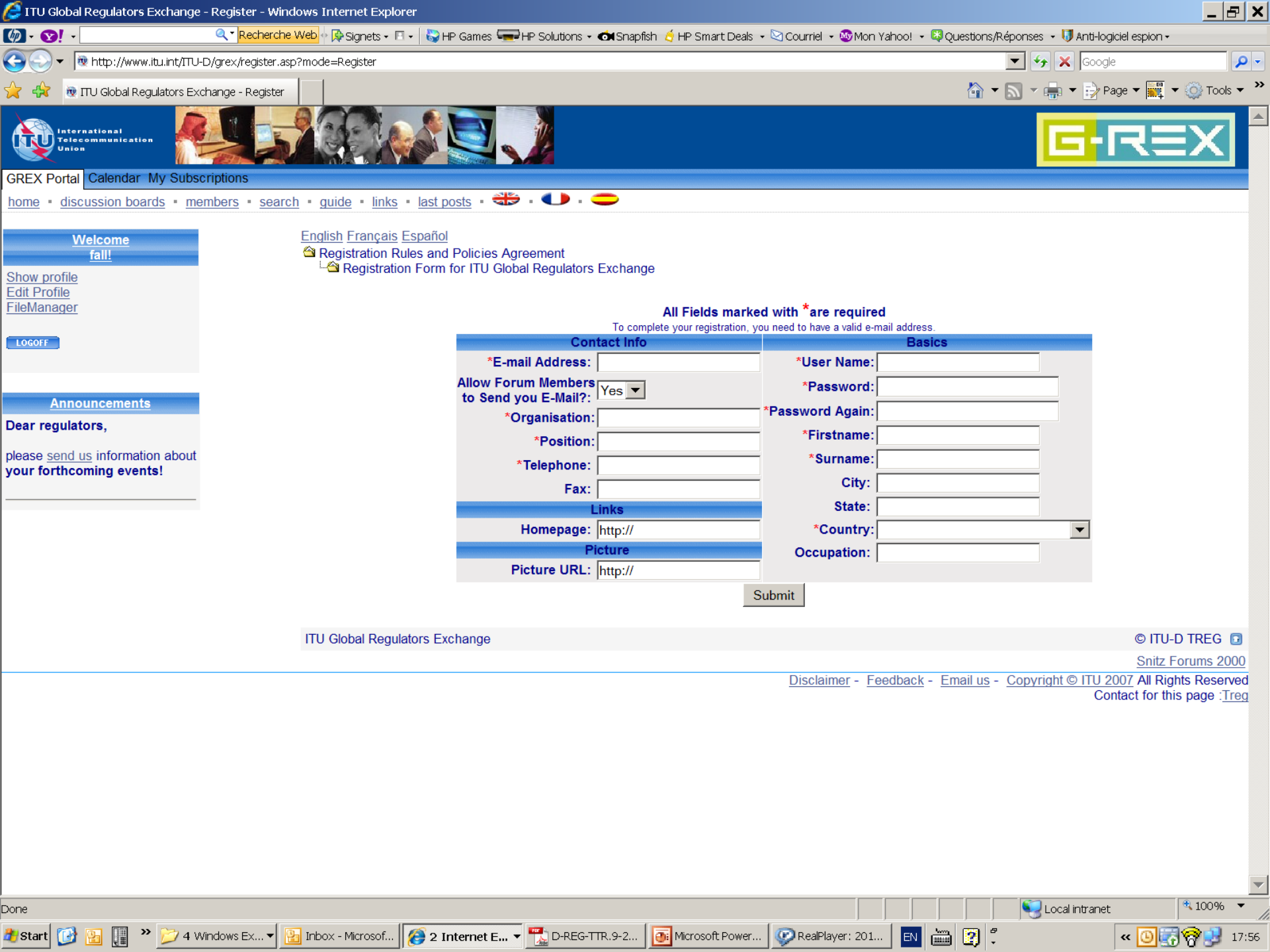
 [All Forums](#)
 [Regulators Hotline](#)

 [Post New Question](#)

Page: **1** of 28

Sort by **last question posted** in **descending** order from **all questions** [Go](#)

| | Question | Keyword | Author | Replies | Read | Last Post | |
|---|---|--|-----------------------------------|---------|------|---|-----------------------|
| | 17 May the WTISD The World Telecommunication and Information Society Day | | | | | | |
|  | every year ITU come with Spotlight Motto to celebrate WTISD, this year 2010 it's: "Better city, better life with ICTs". let us g | Universal Access | Sami Salih | 0 | 13 | 25 May 2010 18:53:30 by: Michèle Rioux | REPLY |
|  | ITU - UNESCO Broadband Commission f On Monday, 10 May, ITU and UNESCO launched the Broadband Commission for Digital Development. The main purpose of the Commission is to help encourage countries to actively adopt broadband dev | Internet and broadband | Yulia Lozanova | 0 | 12 | 24 May 2010 09:35:08 by: Yulia Lozanova | REPLY |
|  | Jammers type approval Criteria and Regulations Dear All, I have been assigned study on Type Approval of Jammers. It is requested to provide country model the criteria (Output Power level, jamming radius etc), license conditions fo th | Other | Ahmed Waqas | 0 | 24 | 21 May 2010 20:36:53 by: Michèle Rioux | REPLY |
|  | SRD and WAS Dear ALL, Iam requesting your help in differentiate between Short Range Device(SRD) and Wireless Access System(WAS) which are working in the band 2.4 GHz. My concern is how to differentiate | Other | Ibrahim Al-Mawali | 2 | 48 | 18 May 2010 00:38:13 by: Michèle Rioux | REPLY |
|  | Interconnect Exchange Dear GREX users, In India at present the telecom operators are directly interconnected to each other for their telecom traffic. However, keeping in view the growth of the telecom sector, | Interconnection | N Parameswaran | 1 | 38 | 11 May 2010 22:53:04 by: Michèle Rioux | REPLY |
| | world trends in regulation Is there any document about world trends in regulation? | | | | | | |



<http://www.itu.int/ITU-D/finance/>

Economics and Finance of Telecommunications - Windows Internet Explorer

File Edit View Favorites Tools Help

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http://www.itu.int/ITU-D/finance/ Live Search

Economics and Finance of Telecommunications

Home : [ITU-D](#) : Financing Strategies

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Economics and Finance of Telecommunications


Financing Strategies

- Cost Models
- Publications
- COSITU
- Events
- Useful Links
- Regulatory Reform

News

- Developments of Next Generation Networks (NGN): Country Case Studies**
The aim of this document is to present the current situation of NGN development in different regions of the world and to examine what effect the transition towards NGNs is having on regulation.
- Mobile Termination Rates: To Regulate or not to Regulate**
Over past few years mobile termination charges — the charges that mobile operators levy on each other and on fixed network operators for terminating calls on their networks — have become a concern in many countries throughout the world. The main aim of this paper is to analyze the development of MTR regulation in the different regions of the world and to evaluate the necessity and the scope of such regulation.
- Regulatory Accounting Guide**
This guide focuses on the implementation of cost accounting models and the development of regulatory policies, based on best practices, to help National Regulatory Authorities (NRAs) implement a regulatory accounting model. It also provides a methodology to identify markets. Significant

ICT-Eye



The ICT Eye

a one stop-shop for ICT information - including results from the [Tariff Policies Survey](#)

What is the eye?

Tools, Studies and research

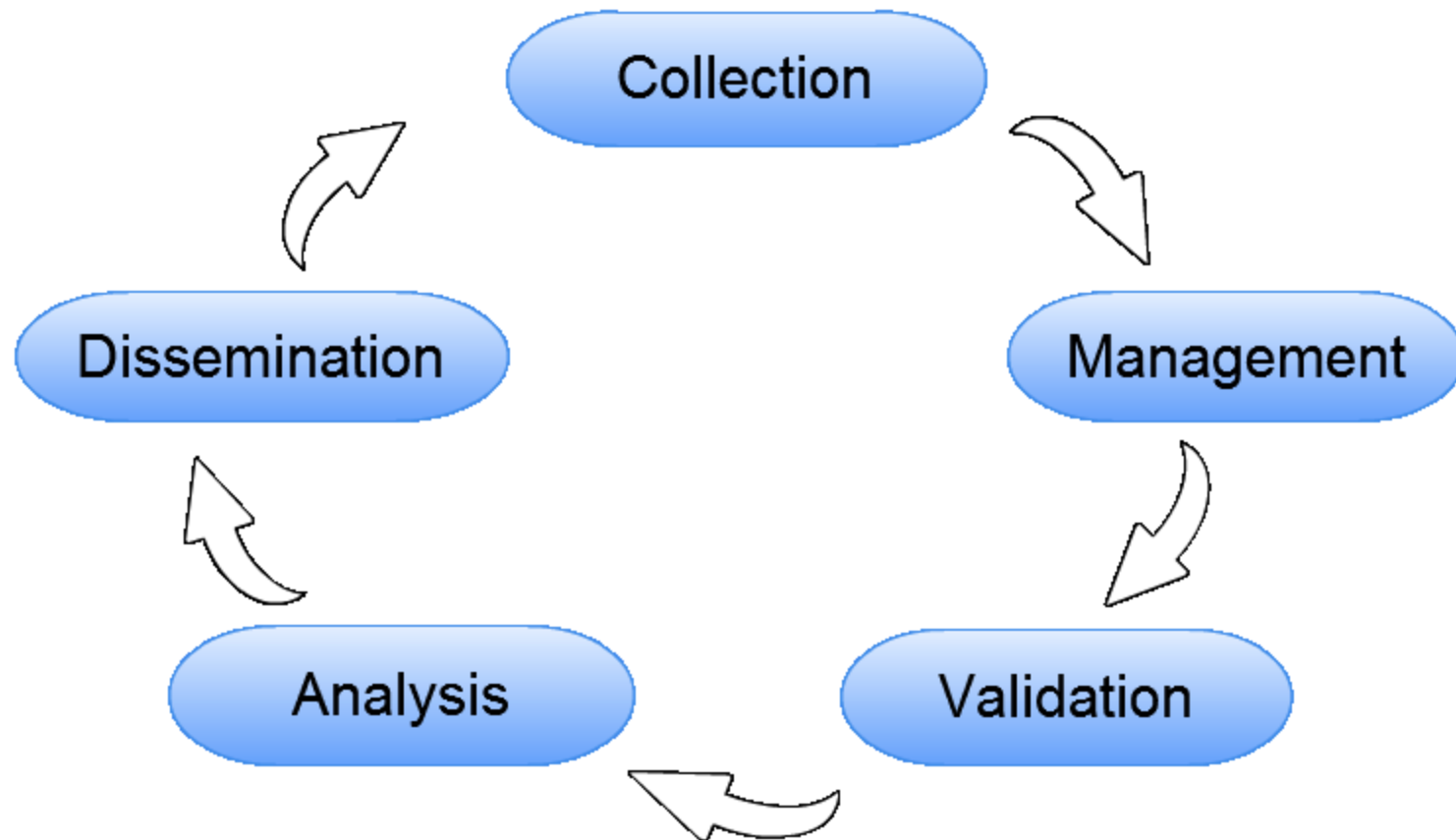
- Efficient Operator: Methodologies, modeling and application for tariff regulation**
This study sets forth and analyses the methodologies for fixing tariffs used in the modeling of an efficient operator, focusing on the advantages and disadvantages and looking at the results of a number of recent applications in Chile, Venezuela and Colombia.
- International Mobile Roaming Regulation – An incentive for cooperation**
This paper addresses a variety of issues raised by international mobile roaming charges: how do they differ from charges for non-roaming international mobile calls (i.e. when a mobile subscriber calls an international number from its home country); what is the structure of their costs; is there a need for regulatory intervention and, if so, how could they be regulated; and finally, is cooperation and coordination on international mobile roaming regulation beneficial?

Keeping an “Eye” on ICTs



- The ICT Eye website is *one stop-shop* for Telecom/ICT data, providing historical and up to date statistics, regulatory and policy profiles, national tariff policies and more

A Platform Providing a Complete Data Cycle



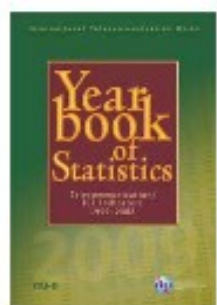
ICT Eye Data is used for ITU Publications such as



Trends in Telecommunication Reform 2009:
Hands-on or hands-off?
Stimulating growth through effective ICT
regulation



Measuring the Information Society 2010



Yearbook of Statistics –
Telecommunication/ICT Indicators –
1999-2008

ITU ICT EYE

- ICT Statistics
- Regulatory Information
- Tariff Policies
- Scientific Institutions
- WSIS Stocktaking

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Welcome to ITU's ICT Eye

ITU, the UN specialized agency for telecommunications, has its "eye" on ICTs and is recognized around the globe as the leading provider of timely and comprehensive telecommunication/ICT statistics and trends.

The ICT "eye" website is a one stop-shop for ICT information and provides telecommunication/ICT indicators and statistics, regulatory and policy profiles, national tariff policies and scientific institutions, and much much more...

ITU ICT Eye

Latest year :

2009

Country profile

Regulatory Information

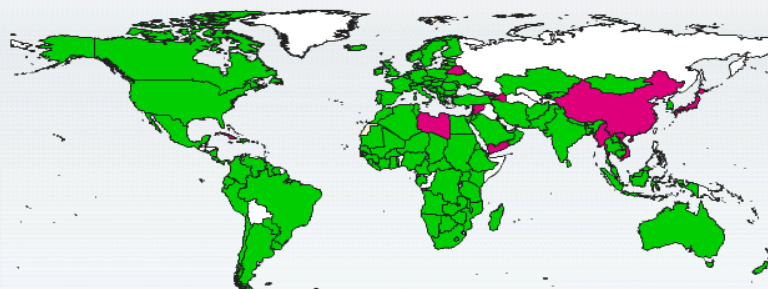
► Seperate Telecommunic

- Level of competition
- Interconnection agreeme
- Interconnection prices
- Reference interconnect
- Licensing agreements
- VoIP policies
- Spectrum information
- Universal service definiti
- Universal access/service
- Infrastructure sharing

ICT Statistics

Tariff Policies

Does a separate Telecommunication Regulatory Authority exist?



Yes

No

Source: ITU.

For numerical data, the dynamic legend will appear allowing one to tweak the ranges of values as a percentage of the maximum value.

The designations employed and the presentation of material in this map do not imply any opinion whatsoever on the part of the ITU concerning the legal or other status of any country, territory or area or any endorsement or acceptance of any boundary.

Macromedia Flash MX plug-in is needed to view / use the map above. Download [here](#).



News

25 May 2010

New website launched with an *interactive data map* and *dynamic reporting* for creating your own reports.

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News

25 May 2010

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Latest year :

2009

Country profile

Regulatory Information

► Separate Telecommuni

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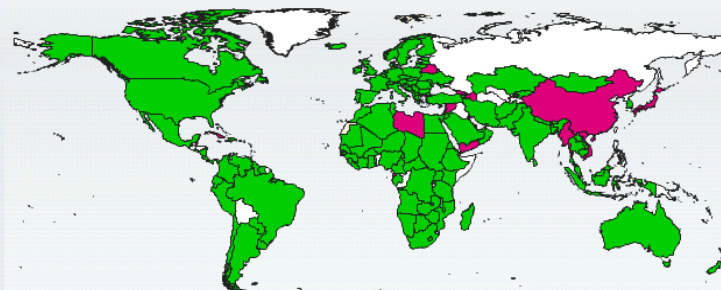
ICT Statistics

Tariff Policies

Topics

Reports

Does a separate Telecommunication Regulatory Authority exist?



■ Yes
■ No

Interactive data map

Source: ITU.

For numerical data, the dynamic legend will appear allowing one to tweak the ranges of values as a percentage of the maximum value.

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Does a separate Telecommunication Regulatory Authority exist?

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Latest year :

2009

Country profile

Regulatory Information

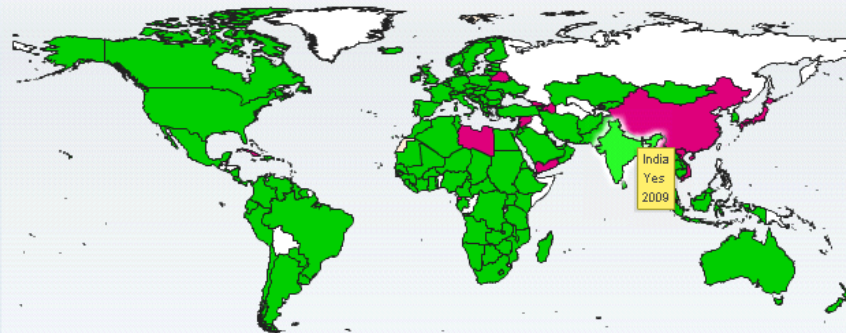
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- Interconnection prices
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- Licensing agreements
- VoIP policies
- Spectrum information
- Universal service definiti
- Universal access/service
- Infrastructure sharing

ICT Statistics

Tariff Policies

Does a separate Telecommunication Regulatory Authority exist?



■ Yes
■ No

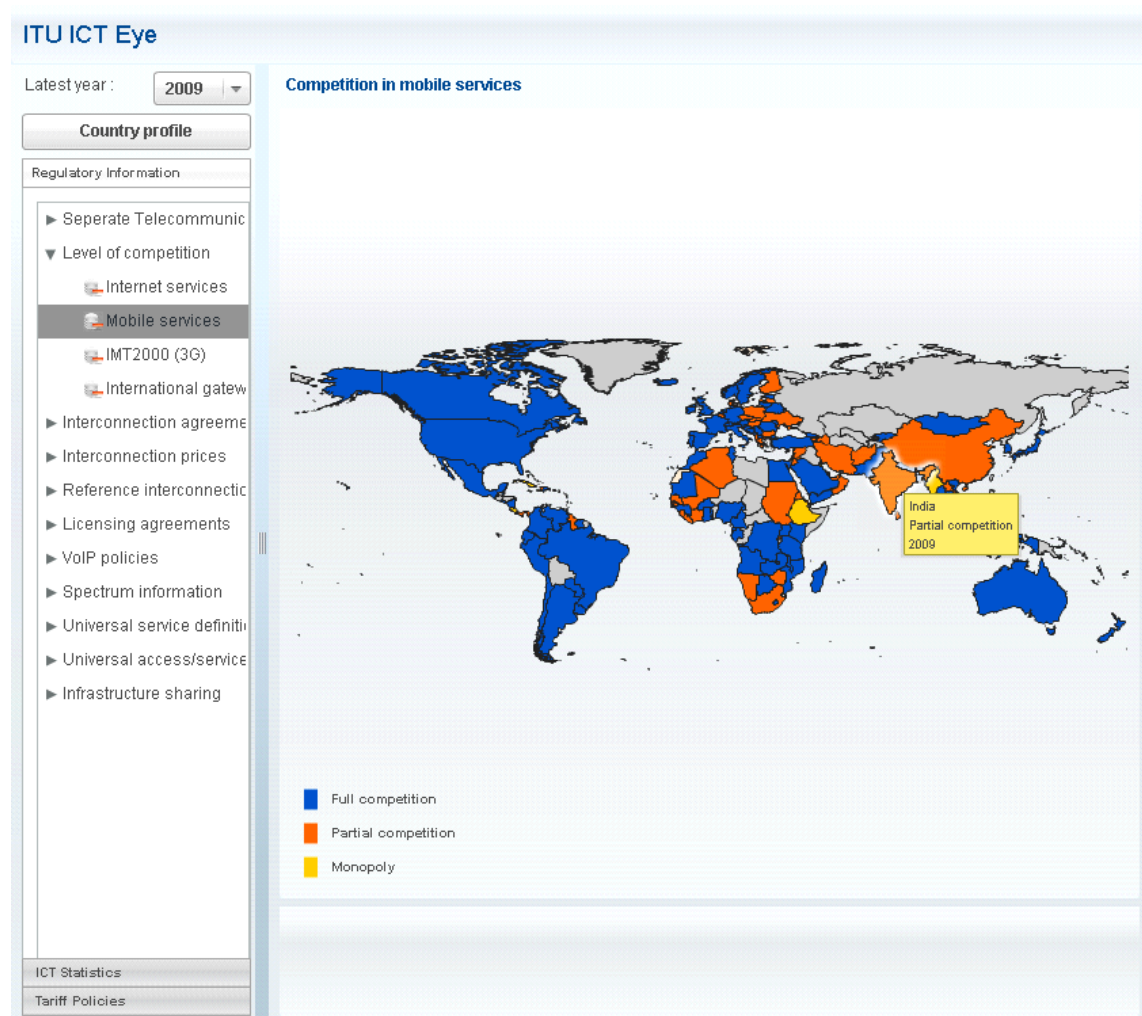


Yes



No

Competition in mobile services

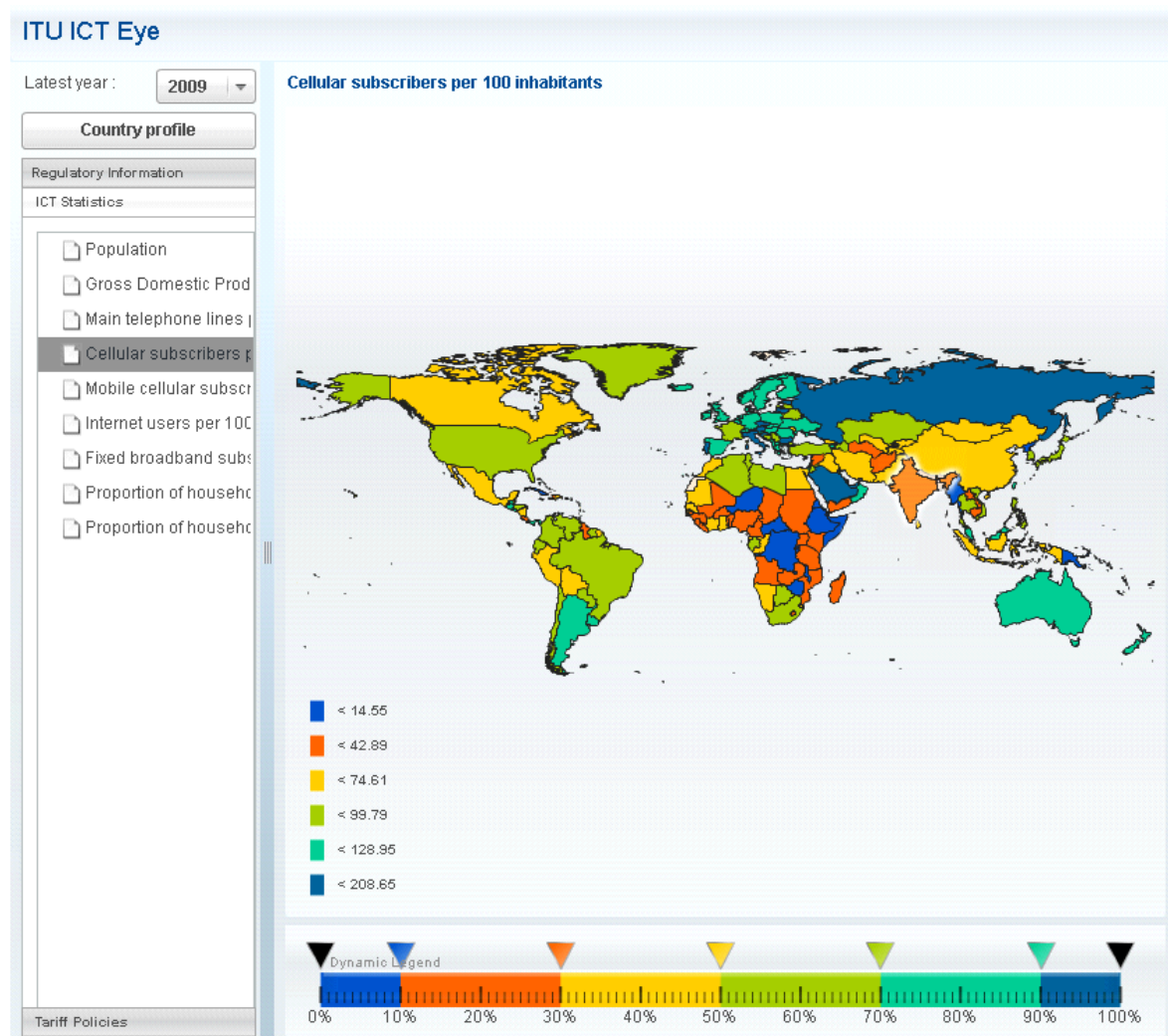


Full
competition

Partial
competition

Monopoly

Cellular subscribers per 100 inhabitants



<14 <42 <74 <99 <128 <208

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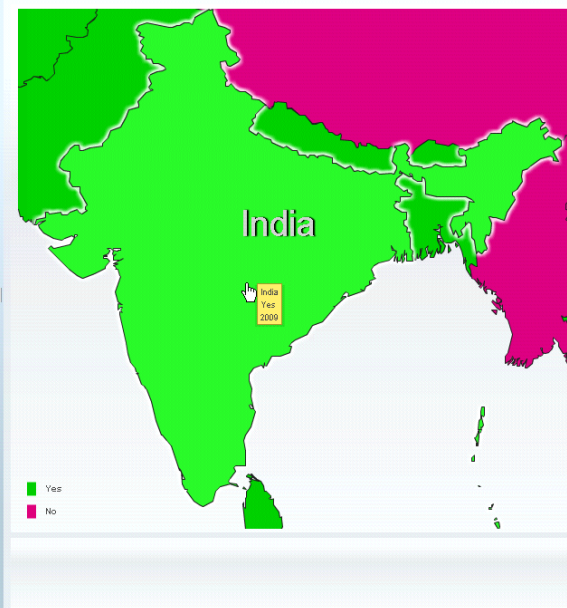
Latest year : 2009

Does a separate* Telecommunication Regulatory Authority exist?

Country profile

Regulatory Information

- Separate Telecommunic
- Level of competition
- Interconnection agreeme
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- Universal access/service
- Infrastructure sharing



Level of
competition

Source: ITU.

For numerical data, the dynamic legend will appear allowing one to tweak the ranges of values as a percentage of the maximum value.

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| India | | ICT Statistics 2008 | | Regulatory Information 2009 | |
|--------------------------------|---------------------|--|----------------------|-----------------------------|---|
| Level of Competition 2009 | | | | | |
| Service | Competition | Population | 1'181'411'913 (US\$) | Regulatory Authority | |
| Local services | Full competition | Gross Domestic Product (GDP) | 1'223'250'201'126 | Name | Telecom Regulatory Authority of India |
| Domestic fixed long dist | Full competition | Main telephone lines per 100 inhabitants | 3.21 | Address | Mahanagar Doorsanchar Bhawan, Jawahar Lal Nehru Marg (Old Minto Road), |
| Inter-national fixed long dist | Full competition | Cellular subscribers per 100 inhabitants | 29.36 | City | New Delhi - 110002 |
| Wireless local loop | Full competition | Mobile cellular subscribers with access to data communication at broadband speed per 100 inhabitants | 0.00 | Phone | +91 11 23211934, 23233466, 23220534, 23236308 |
| Data | Full competition | Internet users per 100 inhabitants (calculated) | 4.38 | Fax | +91 11 23235161 |
| DSL | Full competition | Fixed broadband subscribers per 100 inhabitants | 0.45 | Email | param.trai@gmail.com , re@trai.gov.in |
| Cable modem | Full competition | Proportion of households with a computer | 4.44 | Website | www.trai.gov.in |
| VSNL | Full competition | Proportion of households with Internet access at home | 3.39 | Policy Maker | |
| Leased lines | Full competition | >> ICT Statistics database | | Name | Ministry of Communications & Information Technology, Department of Telecommunications |
| Fixed Wireless Broadband | Full competition | >> Regulatory database | | Address | Sanchar Bhawan, 20, Ashoka Road |
| Mobile | Partial competition | >> Tariff Policies 2009 | | City | New Delhi - 110001 |
| Paging | n/a | Cost model to determine prices of regulated services | | Phone | +91 11 23719898 |
| Cable TV | Full competition | >> More Regulatory info | | Fax | +91 11 23711514 |
| Fixed sat | n/a | | | Email | sidbehura@yahoo.co.in |
| Mobile sat | n/a | | | Website | www.dot.gov.in |
| GWPCS | n/a | | | | |
| IWT 2000 | n/a | | | | |
| Internet services | Full competition | | | | |
| Inter-national gateways | Full competition | | | | |
| >> Regulators database | | | | | |
| Scientific Institutions | | | | | |

Statistics

Regulatory
information

Tariff
policies

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ICT Statistics

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 **India**

Cost, tariff models and tariff rebalancing 2009

Cost model to determine prices of regulated services

- Yes

Accounting separation situation

- In place

Tariff Rebalancing of fixed telephony services implemented

- Yes

Type of costs on which the cost model is based

| | Retail services | | Wholesale services | |
|------------------|-------------------------------------|--------------------------|-------------------------------------|--------------------------|
| Historical costs | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Current costs | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Other | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Cost allocation methodology

| | Retail services | | Wholesale services | |
|-----------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Fully Distributed Costs (FDC) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Long-Run Incremental Costs (LRIC) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Other | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Approach applied

| | Retail services | | Wholesale services | |
|-----------|--------------------------|--------------------------|-------------------------------------|--------------------------|
| Top-down | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Bottom-up | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Hybrid | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Other | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Interconnection issues 2009

Interconnection charging principle adopted

Telecommunication services 2009

Fixed communications

| | With price control | Without price control |
|--|-------------------------------------|-------------------------------------|
| Access to network (monthly line rental/subscription fee) | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Local voice services | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| National long distance voice services | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| International voice services | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| IP telephony | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Internet access (Internet connection) & data services | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Provision of links (leased lines) | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Other | <input type="checkbox"/> | <input type="checkbox"/> |

Mobile communications

| | With price control | Without price control |
|---|-------------------------------------|-------------------------------------|
| Access to network (monthly subscription fee) | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Voice services | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| SMS | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| National voice roaming | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| International voice roaming | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Internet access (Internet connection) & data services | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Other | <input type="checkbox"/> | <input type="checkbox"/> |

Broadcasting services

| | With price control | Without price control |
|----------------|--------------------------|-------------------------------------|
| IPTV | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Mobile TV | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Terrestrial TV | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Concept of dominance 2009

Concept of "dominance" or Significant Market Power (SMP) defined

- Yes

Criteria used for determining "dominance" or SMP

| | |
|--|-------------------------------------|
| Geographical | <input type="checkbox"/> |
| Market share in terms of number of subscribers (or revenues) for the type of market in question (specify in %) | <input checked="" type="checkbox"/> |
| Control of essential facilities allowing access to the end user | <input type="checkbox"/> |
| Easy access to financial resources | <input type="checkbox"/> |
| The strength of the countervailing power of consumers | <input type="checkbox"/> |
| Economies of scale and scope | <input type="checkbox"/> |
| Barriers to entry | <input type="checkbox"/> |
| Potential competition | <input type="checkbox"/> |
| Other | <input type="checkbox"/> |

Most common ex ante obligations imposed on operators or providers

| | |
|--|-------------------------------------|
| Transparency (e.g. publishing RIO and RUO) | <input checked="" type="checkbox"/> |
| Non discrimination | <input checked="" type="checkbox"/> |
| Interconnection and access obligations | <input checked="" type="checkbox"/> |
| Regulatory accounting | <input checked="" type="checkbox"/> |
| Accounting separation | <input checked="" type="checkbox"/> |
| Price control | <input type="checkbox"/> |
| Other | <input type="checkbox"/> |

Next-Generation Networks (NGN) 2009

Status of NGN development

| | |
|--|-------------------------------------|
| Feasibility study | <input checked="" type="checkbox"/> |
| Planning | <input checked="" type="checkbox"/> |
| Introduction | <input checked="" type="checkbox"/> |
| Implementation | <input checked="" type="checkbox"/> |
| No plans to introduce an NGN system in a short run | <input type="checkbox"/> |
| Other | <input type="checkbox"/> |

ICT Eye Topics

ITU ICT Eye

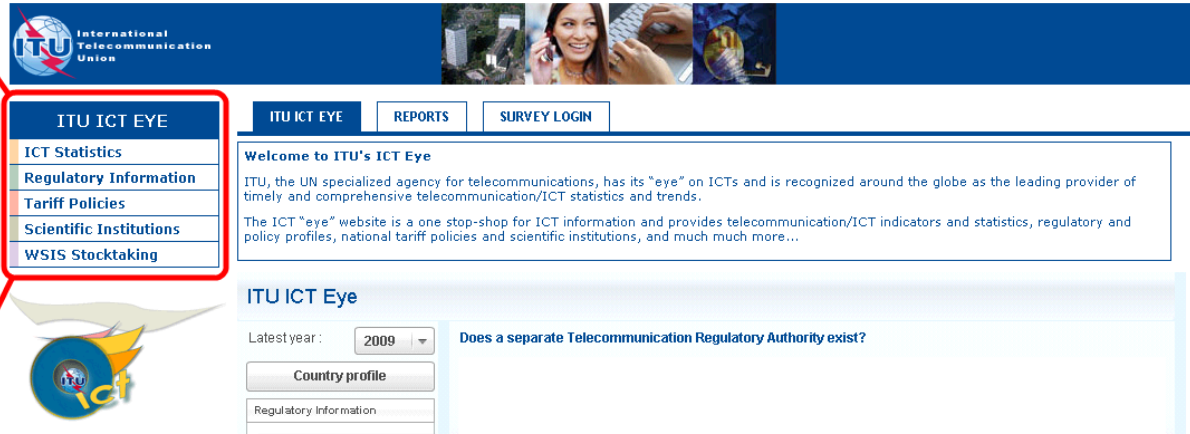
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ITU ICT Eye

Latest year :

Country profile

Regulatory Information

Does a separate Telecommunication Regulatory Authority exist?

Topic: ICT Statistics



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ICT Statistics Database

As a United Nations agency, the ITU has an obligation to identify, define, and produce statistics covering its sector - the telecommunication/ICT sector. This is in line with other specialized agencies that publish statistics covering their respective field of operations and forms part of the global statistical system of the UN.

The collection of over 100 telecommunication/ICT indicators is one of the main activities of the unit. The ITU's Market Information and Statistics (STAT) Division collects its Telecommunication/ICT data directly from governments by means of an annual questionnaire that is sent to the government agency in charge of telecommunications/ICT. This is usually the Ministry or the regulatory agency. The STAT Division verifies and harmonizes data, carries out research, and collects missing values from government web sites and operators' annual reports, particularly for countries that do not reply to the questionnaire. Market research data are also used to cross-check and complement missing values.

The indicators/statistics published in this publication are used to back up ICT sections in inter-governmental publications such as the UNDP Human Development Report, the World Bank World Development Indicators and the United Nations Statistical Yearbook. Data are available in a number of formats including printed publications, CD-ROM, and by electronic download.

The flagship publication, the Yearbook of Statistics, has been published annually for almost three decades and is widely respected as the world's leading source of ICT statistics.

The electronic database, World Telecommunication/ICT Indicators, available both in a user-friendly CD-ROM and by electronic download, provides an important historical perspective of the Information and Communication Technology (ICT) industry, with annual time series dating back to 1960 and extending until 2008 - for over 100 items and some 200 economies.

Some key and popularly requested ICT/telecommunication data are provided for free, at <http://www.itu.int/ITU-D/ict/statistics/>. Users also have free access to our presentations; definitions and references of handbooks and links to other relevant sites and information sources.

ICT Statistics by indicator

Select Year

[1. Basic indicators: Population, GDP, ratio of mobile cellular subscriptions to fixed telephone lines](#)

[2. Fixed telephone lines](#)

[3. Mobile cellular subscriptions](#)

[4. Internet: users, total subscriptions, broadband subscriptions](#)

[For definitions, see Telecommunication/ICT Indicators Handbook 2010](#)



Thematic
reports

Select output:

PDF

Excel

HTML

PDF

View Report

Close Report

Main Telephone Lines

| | Main (fixed) telephone lines | | | Main (fixed) telephone lines per 100 inhabitants | | |
|-----------------------|------------------------------|--------------------|------------|--|--------------|------------|
| | (000s) | | CAGR | | | CAGR |
| | 2003 | 2008 | 2003 - 08 | 2003 | 2008 | 2003 - 08 |
| 1 Afghanistan | 36.7 | 101.1 | 22.5 | 0.16 | 0.37 | 18.2 |
| 2 Albania | 255.0 | 343.6 | 6.1 | 8.26 | 10.93 | 5.8 |
| 3 Algeria | 2'147.0 | 3'314.0 | 9.1 | 6.73 | 9.64 | 7.4 |
| 4 American Samoa | 10.7 | 10.4 | -0.6 | 17.65 | 15.71 | -2.3 |
| 5 Andorra | 35.2 | 37.4 | 1.2 | 47.41 | 44.28 | -1.4 |
| 6 Angola | 85.0 | 114.3 | 6.1 | 0.54 | 0.63 | 3.1 |
| 7 Anguilla | 5.4 | 5.8 | 1.3 | 43.05 | 39.10 | -1.9 |
| 8 Antigua & Barbuda | 38.0 | 38.0 | - | 46.76 | 43.86 | -1.3 |
| 9 Argentina | 8'603.9 | 9'742.8 | 2.5 | 22.63 | 24.43 | 1.5 |
| 10 Armenia | 563.7 | 626.0 | 2.1 | 18.42 | 20.34 | 2.0 |
| 11 Aruba | 37.4 | 38.5 | 0.6 | 38.51 | 36.47 | -1.1 |
| • • • | | | | | | |
| 230 Wallis and Futuna | 1.7 | 2.7 | 9.9 | 11.37 | 17.75 | 9.3 |
| 231 Yemen | 693.9 | 1'117.0 | 10.0 | 3.50 | 4.87 | 6.9 |
| 232 Zambia | 88.4 | 90.6 | 0.5 | 0.79 | 0.72 | -1.9 |
| 233 Zimbabwe | 300.9 | 348.0 | 2.9 | 2.41 | 2.79 | 3.0 |
| World | 1'136'464.5 | 1'252'448.6 | 2.0 | 17.82 | 18.49 | 0.7 |

Topic: Regulatory Information

ITU ICT EYE

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REPORTS

SURVEY LOGIN

Regulatory Knowledge Centre

The information and communication technology (ICT) sector is in the midst of remarkable transformation fuelled by a combination of technological, market, policy and regulatory developments. These changes include unparalleled numbers of voice telephone subscribers, the rise of IP-enabled networks and Voice over IP (VoIP) services, initial - yet promising - deployment of fixed-line broadband and broadband wireless access (BWA) services and intelligent radio devices. The market and technological developments are exerting pressure on the current regulatory framework. How will regulation change?

One of the core functions of BDT is the collection, analysis and dissemination of information on telecommunication regulatory trends and practices, collectively known as the Regulatory Knowledge Centre. This site is an online one-stop-shop for the latest ICT regulatory information. The data is drawn from an annual regulatory survey, which dates back to 1994. Each year the survey is adapted in order to reflect changes in the sector.

Since the start of the survey, the number of countries with separate regulators has grown by over 200%; the number of countries that have privatized has doubled and the number of countries providing competitive basic services has grown by over 500%. To view the latest trends, select the desired reports from the right hand menu.

Regional Reports

Select Region

Select Year

[Level of Competition](#)

[Status of the main fixed-line operators](#)

[Countries with a separate regulator](#)

[Laws and Regulations by region](#)

[Interconnection agreements and prices / Reference](#)

[Interconnection Offers \(RIOs\)](#)

[Licensing agreements](#)

[Dispute resolution decisions](#)

[Countering spam legislation and responsible countering spam authority](#)

[IP Telephony](#)

[Spectrum information](#)

[Sector Structure - Private Sector Participation](#)

Country Reports

Country

[Country Snapshot](#)

[Country Profile \(includes contact details, market structure and regulatory environment\)](#)

[Regulators Profile \(Includes details on the Regulators structure, financing and functions\)](#)

[Universal Service Profile \(Includes details on the Universal Service coverage, programs and financing\)](#)

[Address Book](#)

Thematic reports

Country reports

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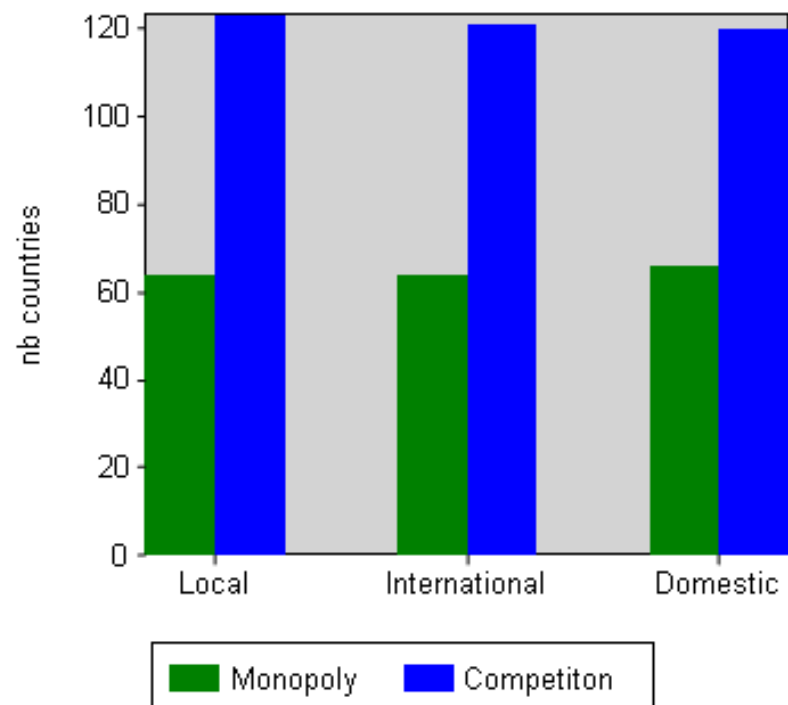
**International
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Level of Competition

UN Classification: Africa

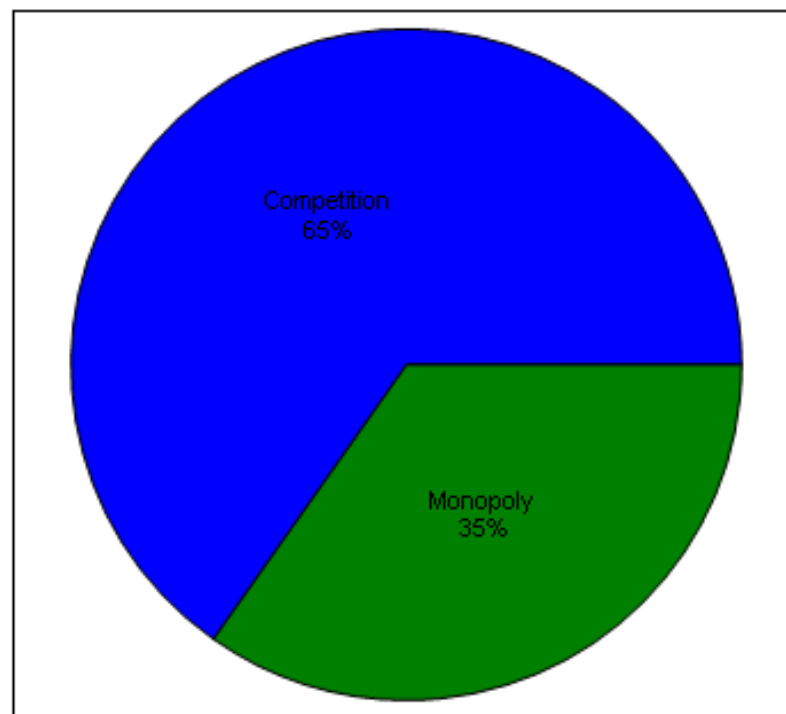
| Country | Local services | Domestic fixed long dist | International fixed long dist | Wireless local loop | Data | DSL | Cable modem | VSAT | Leased lines | Fixed Wireless Broadband | Mobile | Paging | Cable TV | Fixed sat | Mobile sat | GMPCS | IMT 2000 | Internet services | International gateways |
|-----------------|---|--------------------------|-------------------------------|---------------------|-----------|-----------|-------------|-----------|--------------|--------------------------|-----------|--------|----------|-----------|------------|-------|-----------|-------------------|------------------------|
| Algeria(2) | P | P | P | P | C | C | ... | P | C | P | P | ... | ... | ... | ... | P | ... | C | P |
| Angola(1) | C | C 2003 | C | M | C | C | M | ... | C | M | C | ... | ... | M 2004 | C | ... | C 2006 | C | M |
| Benin(2) | M | M | M | ... | ... | M | ... | ... | M | ... | C | C | ... | ... | ... | ... | ... | ... | ... |
| Botswana | C 2007 | C 1998 | C 2007 | ... | C 1998 | C 2007 | ... | C 1998 | C 1998 | C | C 1998 | ... | ... | C 1998 | C 1998 | C | C 1998 | C 1998 | C 2007 |
| Burkina Faso(2) | M | M | M | C | C | C | C | P | P | C | C | C | C | P | P | P | P | C | M |
| | Remarks: The public company has a monopoly on local and domestic and international long-distance service that expires on 31 December 2005 | | | | | | | | | | | | | | | | | | |
| Burundi(2) | C | C | C | C | C | C | ... | C | C | ... | C | C | C | ... | C | C | C | C | ... |
| Cameroon(2) | M | M | M | C | C | ... | ... | P | ... | ... | C | C | C | ... | ... | C | ... | C | ... |

Competition in fixed basic services
World 2009



ITU World Telecommunication Regulatory Database

Basic services
World 2009



ITU World Telecommunication/ICT Regulatory Database

Country Profile: Brazil 2009

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Union

Regulatory Authority (2009)

Name Agência Nacional de Telecomunicações - Anatel

Address SAUS Quadra 06 Blocos C, E, F e H - CEP: 70.070-940

City Brasília - DF

Telephone +55 61 2312 1711

Fax +55 61 2312-2244

Email secbc4@anatel.gov.br

Website www.anatel.gov.br

Policy Maker (2009)

Name Ministério das Comunicações

Address Esplanada dos Ministérios, Bloco R, CEP: 70044-900

City Brasília - DF

Telephone +55 61 3311-6000

Fax +55 61 3311-6000

Email gabinete@mc.gov.br

Website www.mc.gov.br

Status of the main fixed-line operators (2009)

| Operator | Status |
|----------|---------------|
| Oi | Fully private |
| Telesp | Fully private |
| Embratel | Fully private |

Level of Competition (2009)

| Local services | Domestic fixed long dist | Inter-national fixed long dist | Wireless local loop | Data | DSL | Cable modem | VSAT | Leased lines | Fixed Wireless Broadband |
|----------------|--------------------------|--------------------------------|---------------------|------|-----|-------------|------|--------------|--------------------------|
| C | C | C | C | C | C | C | C | C | ... |

| Mobile | Paging | Cable TV | Fixed sat | Mobile sat | GMPCS | IMT 2000 | Internet services | Inter-national gateways |
|--------|--------|----------|-----------|------------|-------|----------|-------------------|-------------------------|
| C | | C | C | C | C | C | C | C |

Remarks: As a result of privatization of the formerly state-owned companies in 1998, a temporary duopoly was created for fixed telephony. As of 2002, there are no limits to the number of licenses, except for technical

Topic:

Tariff Policies



English

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REPORTS

SURVEY LOGIN

Tariff Policies Database

The objective of this database is to track and show trends in the application of Tariff Policies related to pricing, cost/tariff models, analytical accounting, interconnection charges, management of universal service and price control in different countries.

Data is provided annually by Telecommunication Regulatory Authorities and Network Operators. This reflects the situation of the organization at the date the questionnaire is completed.

Reports

☒ Current survey type

☐ Old survey type - questions that are no longer asked in current survey

Region

Teledensity level

GDP level

Year From To

- ☐ Telecommunication services
- ☐ Cost and tariff models
- ☐ Tariff rebalancing of fixed telephony services
- ☐ Interconnection issues
- ☐ Concept of dominance
- ☐ Next Generation Networks (NGNs)
- ☐ Site sharing for terrestrial mobile services
- ☒ Survey question

Show statistics

Survey reports



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Tariff Policies

Concept of Dominance

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Selected years 2006 - 2009


Is the concept of "dominance" or Significant Market Power (SMP) defined in your country?

| Only one answer possible | | Graph | | |
|--------------------------|------|---------------|-------------|--|
| 1. Yes | 2006 | 67.65 % 23/34 | <div></div> | |
| | 2007 | 75.00 % 54/72 | <div></div> | |
| | 2008 | 71.05 % 27/38 | <div></div> | |
| | 2009 | 71.88 % 46/64 | <div></div> | |
| 2. No | 2006 | 32.35 % 11/34 | <div></div> | |
| | 2007 | 25.00 % 18/72 | <div></div> | |
| | 2008 | 28.95 % 11/38 | <div></div> | |
| | 2009 | 28.13 % 18/64 | <div></div> | |





What criteria are used in determining "dominance" or SMP?

| Multiple answers possible | | Graph | | |
|---------------------------|------|---------------|-------------|--|
| 1. Geographical | 2006 | 0.00 % 0/0 | <div></div> | |
| | 2007 | 44.44 % 20/45 | <div></div> | |
| | 2008 | 37.50 % 12/32 | <div></div> | |
| | 2009 | 45.45 % 20/44 | <div></div> | |

Dynamic Reporting: 4 Steps



International
Telecommunication
Union

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Dynamic Report

1
Select data series

>

2
Select countries

>

3
Select years

>

4
Select formatting

select
data
series

select
countries

select
years

select
formatting

Select output

HTML

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International Telecommunication Union

Dynamic Reporting

| | | | | Value |
|--------|---------|--|------|-----------------------|
| Africa | Algeria | Internet users per 100 inhabitants (calculated) | 2005 | 5.844 |
| | | | 2006 | 7.376 |
| | | | 2007 | 10.337 |
| | | | 2008 | 11.928 |
| | | Retail Fixed communications - price control of Internet access | 2005 | |
| | | | 2006 | |
| | | | 2007 | |
| | | | 2008 | |
| | | | 2009 | Without price control |
| | | Competition in Internet services | 2005 | Full competition |
| | | | 2006 | Full competition |
| | | | 2007 | Full competition |
| | | | 2008 | Full competition |
| | | | 2009 | Full competition |
| | | Proportion of households with Internet access at home | 2005 | 3.000 |
| | | | 2006 | 4.500 |
| | | | 2007 | 6.750 |
| | | | 2008 | 8.438 |
| | Angola | Internet users per 100 inhabitants (calculated) | 2005 | 1.143 |
| | | | 2006 | 1.908 |
| | | | 2007 | 2.837 |
| | | | 2008 | 3.052 |
| | | Retail Fixed communications - price control of Internet access | 2005 | |
| | | | 2006 | |
| | | | 2007 | |
| | | | 2008 | |

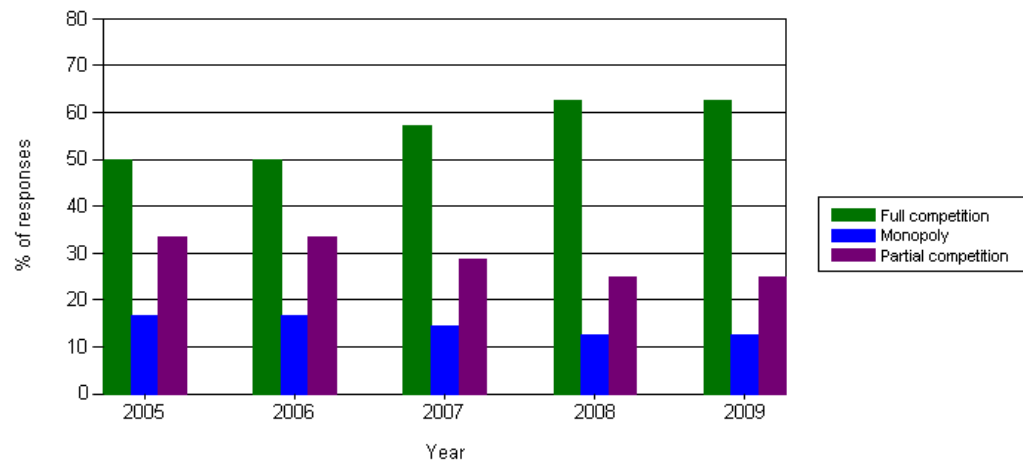
Dynamic Reporting: Output

Select output

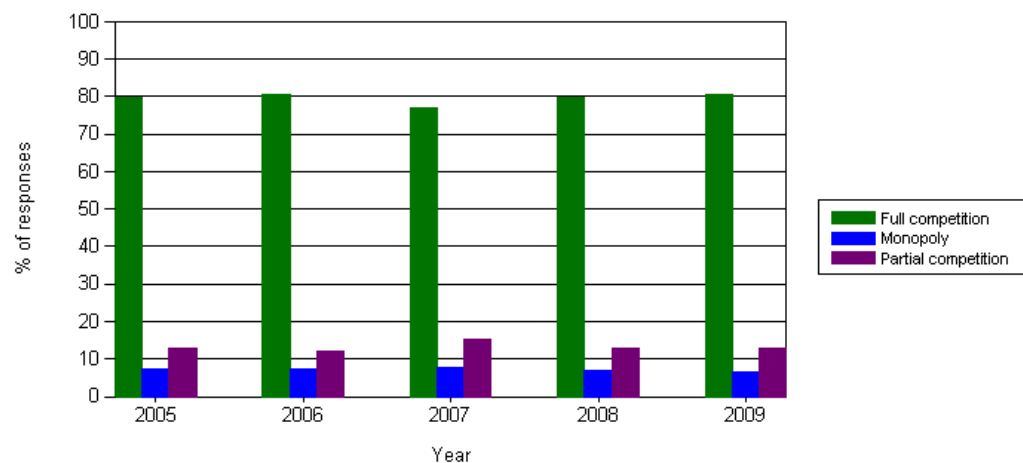
HTML

View Report

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World - Competition in Internet services
Source: ITU



Data Collection



English

ITU ICT Eye

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Each year the ITU/BDT undertakes a series of surveys in order to assess the latest trends and developments in the ICT sector. Survey data is entered by authorized users only, as defined by their organizations. Each user will be given a dedicated user name and password in order to complete the survey.

User name Password ☐ Remember Me



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The **ICT Regulation Toolkit** is a live resource for policy-makers, regulators, the telecom industry, and consumers. It provides a global overview of how telecom policy is best implemented with practical materials highlighting experience and results. [► More](#)

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ICT REGULATION TOOLKIT: YOUR FEEDBACK

We invite you to participate in this survey to know more about your experience using this toolkit.

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EVENTS

- [► Global Symposium for Regulators 2008 \(GSR08\)](#)
Pattaya | 11-13 Mar 08
- [► Training Workshop for Regulators and Policy Makers in Eastern and Southern Africa](#)
Addis Ababa | 6-9 Nov 07

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Module 2: Competition and Price Regulation

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

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Overview of ICT Authorization, General authorizations and open entry approaches, Competitive licensing processes, Fees, Authorization practices and procedures, Special authorization situations, Unified and multi-service authorization regimes.

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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.

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The ICT Regulatory Decisions Clearinghouse (ICTDec) is an online resource that provides a one-stop access point to decisions originating from ICT decision making bodies such as telecommunications regulators, industry ombudsmen and specialized dispute resolution tribunals. Currently, ICTDec provides unified and simplified access to thousands of decisions available on the Web, as well as to selected decisions unavailable online.

ICTDec integrates two services in a single Web-based resource:

- A Web search engine of websites belonging to ICT decision making bodies
- A catalogued repository of ICT regulatory decisions

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 - Quality of Service
 - Regulation of content
 - Sales and Marketing
- Interconnection and Price Regulation
 - Mobile Termination
 - Co-location
- Scarce Resources Management
 - Infrastructure sharing
- Universal Access/Service
- New Technologies
- Network access and resale
- Privacy
- Sanctions
- Procedural issues and jurisdiction

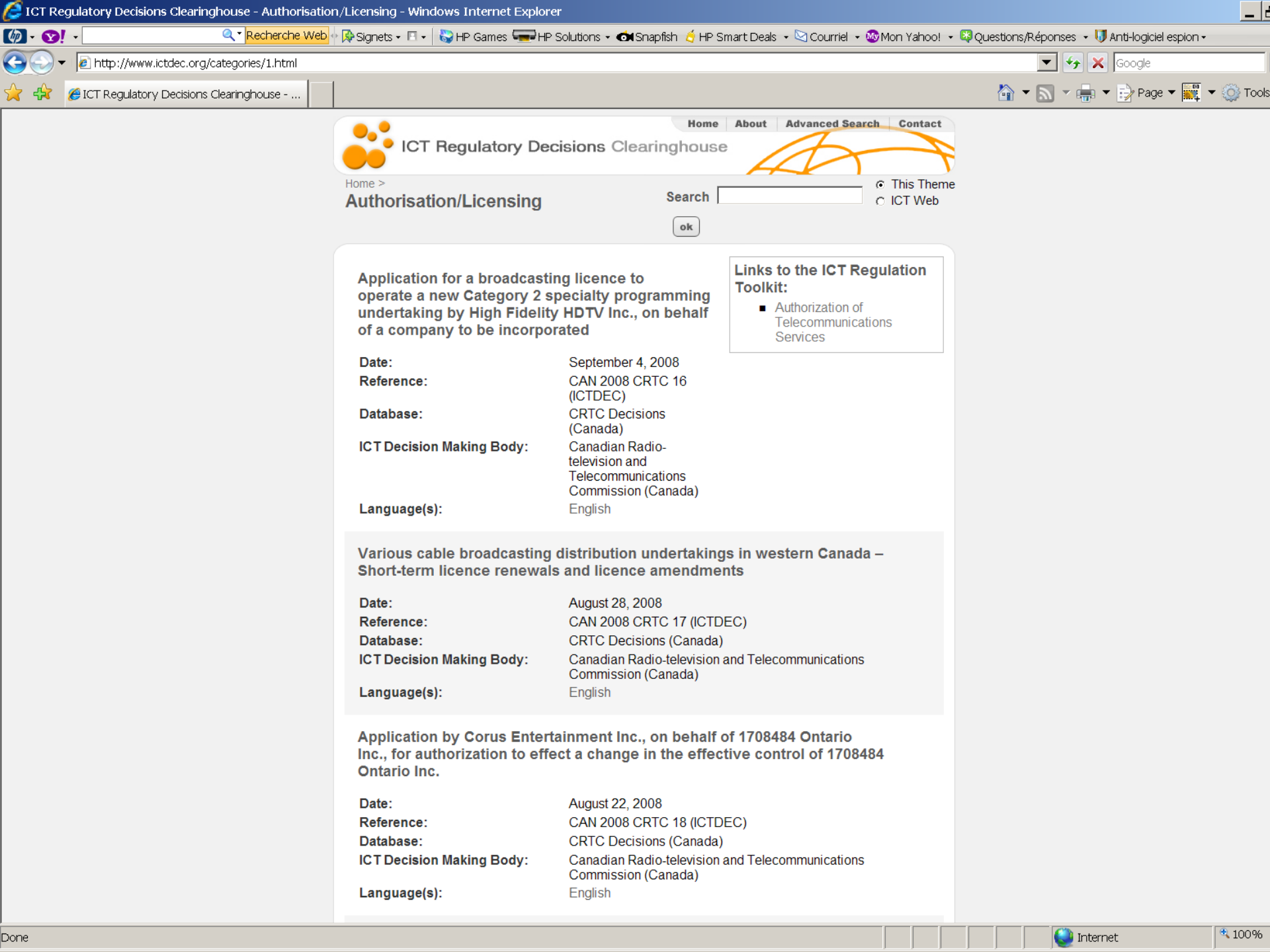
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Economics and Finance of Telecommunications

News

■ [Developments of Next Generation Networks \(NGN\): Country Case Studies](#)

The aim of this document is to present the current situation of NGN development in different regions of the world and to examine what effect the transition towards NGNs is having on regulation.

■ [Mobile Termination Rates: To Regulate or not To Regulate](#)

Over past few years mobile termination charges — the charges that mobile operators levy on each other and on fixed network operators for terminating calls on their networks — have become a concern in many countries throughout the world. The main aim of this paper is to analyze the development of MTR regulation in the different regions of the world and to evaluate the necessity and the scope of such regulation.

■ [Regulatory Accounting Guide](#)

This guide focuses on the implementation of cost accounting models and the development of regulatory policies, based on best practices, to help National Regulatory Authorities (NRAs) implement a regulatory accounting model. It also provides a methodology to identify markets, Significant

ICT-Eye



The ICT Eye

a one stop-shop for ICT information - including results from the [Tariff Policies Survey](#)

What is the eye?

Tools, Studies and research

■ [Efficient Operator: Methodologies, modeling and application for tariff regulation](#)

This study sets forth and analyses the methodologies for fixing tariffs used in the modeling of an efficient operator, focusing on the advantages and disadvantages and looking at the results of a number of recent applications in Chile, Venezuela and Colombia.

■ [International Mobile Roaming Regulation – An incentive for cooperation](#)

This paper addresses a variety of issues raised by international mobile roaming charges: how do they differ from charges for non-roaming international mobile calls (i.e. when a mobile subscriber calls an international number from its home country); what is the structure of their costs; is there a need for regulatory intervention and, if so, how could they be regulated; and finally, is cooperation and coordination on international mobile roaming regulation beneficial?

Economic and Finance studies

- International mobile roaming,
- The impact of international gateway liberalization,
- Regulatory accounting Guide,
- Efficient Network implementation Guide,
- Tariffs policies survey,
- Guide on the application of economic modeling in the telecommunication sector,
- In preparation: The Broadband Study
- And other interesting studies published in the ITU-D finance website

www.itu.int/ITU-D/finance/

Training activities

ITU Expert Level training on cost modeling for Regulatory Authorities and Operators 2010 – Advanced Level

Regional training organized in coordination with the CoE :

- 1. Arab States:** Damascus, Syria, August 2010;
- 2. The Caribbean:** Kingston, Jamaica, September 2010;
- 3. Africa:** for English-speaking African countries in Lilongwe, Malawi, October 2010
- 4. Asia Pacific :** Bangkok, Thailand, 15-19 November 2010
- 5. Latin America:** November, 2010
- 6. Africa:** for French-speaking countries, Ouagadougou, Burkina Faso, November or December 2010

For more information

- Telecommunication Development Bureau
 - www.itu.int/net/ITU-D/
- Regulatory and Market Environment Division :
 - www.itu.int/ITU-D/treg/
 - www.itu.int/ITU-D/finance/
- The Global Symposium for Regulators GSR :
www.itu.int/ITU-D/treg/Events
- TREG : www.itu.int/ITU-D/grex/
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- ICT Regulation toolkit : www.ictregulationtoolkit.org/
- Trends in Telecommunication Reform
 - www.itu.int/ITU-D/treg/publications/

Thanks for your attention

[carmen.prado\[at\]itu.int](mailto:carmen.prado@itu.int)