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# **Regional Seminar on Costs and Tariffs for Member Countries of the Regional Group for Asia and Oceania (SG3RG-AO) (former TAS Group)**

Hanoi, Vietnam, March 4-6, 2009

## **Document 1**

# **ITU-D Strategy on Cost Modeling**

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



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# Agenda

- A brief summary of COSITU
- Some statistical results
- Code source release
- Cost model development - training
- Overview of related ITU-D activities

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# COSITU

COSITU is an ITU-designed software for calculating telephone service costs, tariffs and interconnection rates.

This model is based on principles of enhanced fully distributed costs (FDC), using activity-based costing (ABC) principles.

It adopts the ITU-T's D-series Recommendations on general tariff principles.

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# Main users of this model

- Policy-making bodies
- Regulators and public authorities
- Fixed and/or mobile telephony operators and service providers

# Costed services

## Basic telephone services

- Local/urban
- Trunk/interurban
- International outgoing
- International incoming
- Subregional outgoing
- Subregional incoming

## Transit services

- International to international traffic
- International to subregional traffic
- Subregional to international traffic
- Subregional to subregional traffic

## Interconnection services

- International to national traffic
- National to international traffic
- Outgoing national traffic
- Incoming national, single transit traffic
- Incoming national, double transit traffic
- National to national traffic

## Implementation sequence



**Evaluación del tráfico**

La primera ventana permite proceder a la evaluación del tráfico según los cuatro métodos disponibles: Entrada manual, Análisis de registros, Tabla (matriz) de actividades, Ingresos.

El objeto de esta etapa es evaluar el tráfico de los diferentes servicios:

- Tráfico
- Internacional
- Subregional
- Subregional
- Internacional
- Internacional
- Tráfico internacional a
- Internacional

Creation of new session for a specific year

Inputing of reference data

Selection of methods for traffic evaluation and cost estimation

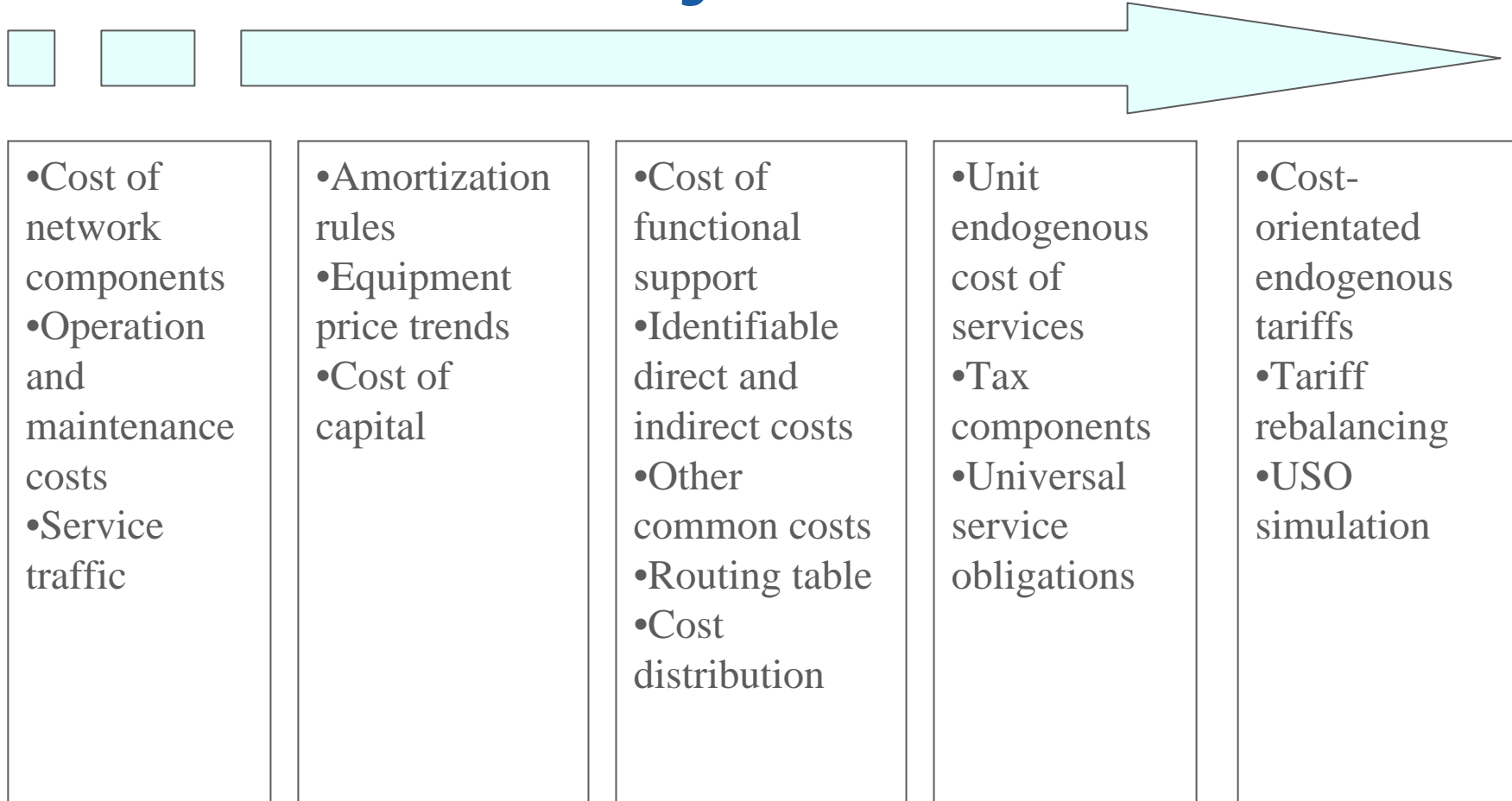
Inputing of data required for traffic estimation and calculation

Inputing of accounting data for cost estimation and calculation

Inputing of current tariff data

Calculation of tariffs and use of simulation module

# Stages of cost-orientated charging allowed by this model



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# “Bottom-up” or “Top-down”

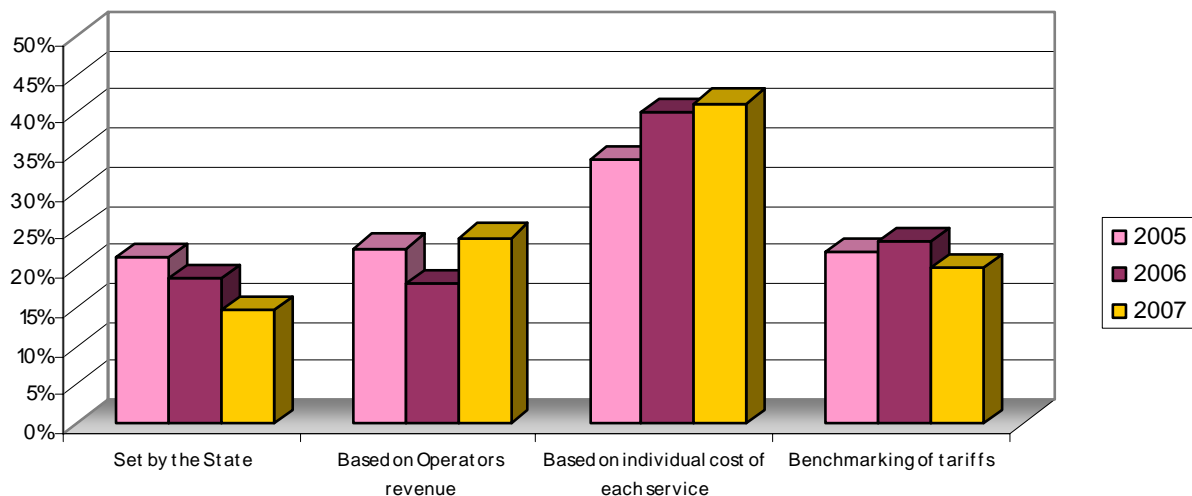
- The difference between these two methods lies in the way the cost of network components is determined:
  - Bottom-up (“scorched node” or “earth node”): a fictitious network is worked out from an estimate of traffic needs based on statistical data;
  - Top-down: the existing network is the source of all information.
- COSITU accommodates both, the initial stage for the bottom-up method being completed outside the model.



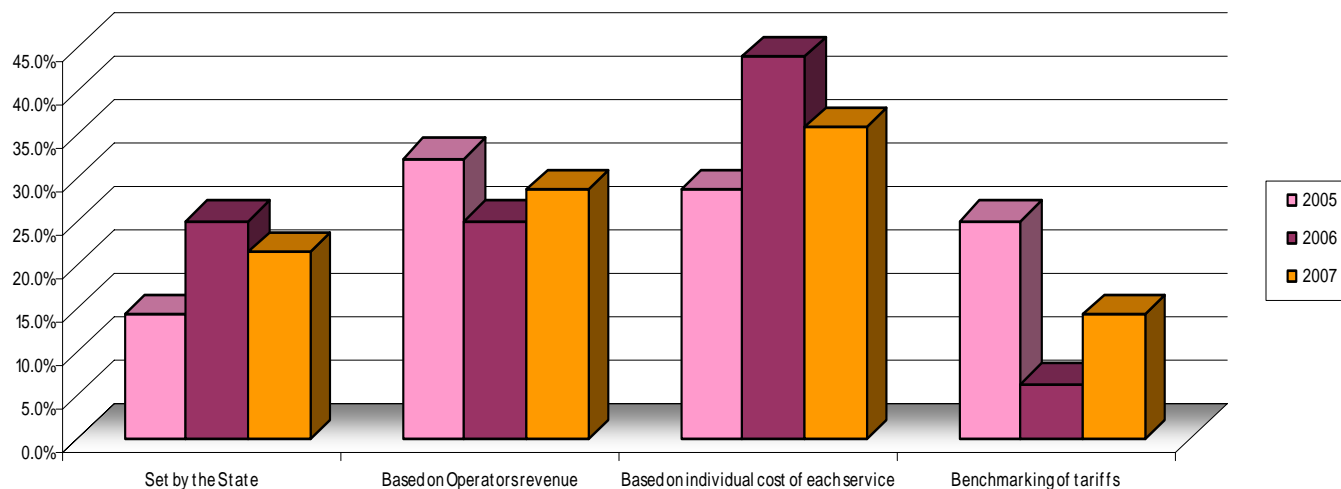
# Some statistical results from the Tariff policies survey...

## Determination of Price of domestic telecomm services in the world

### World



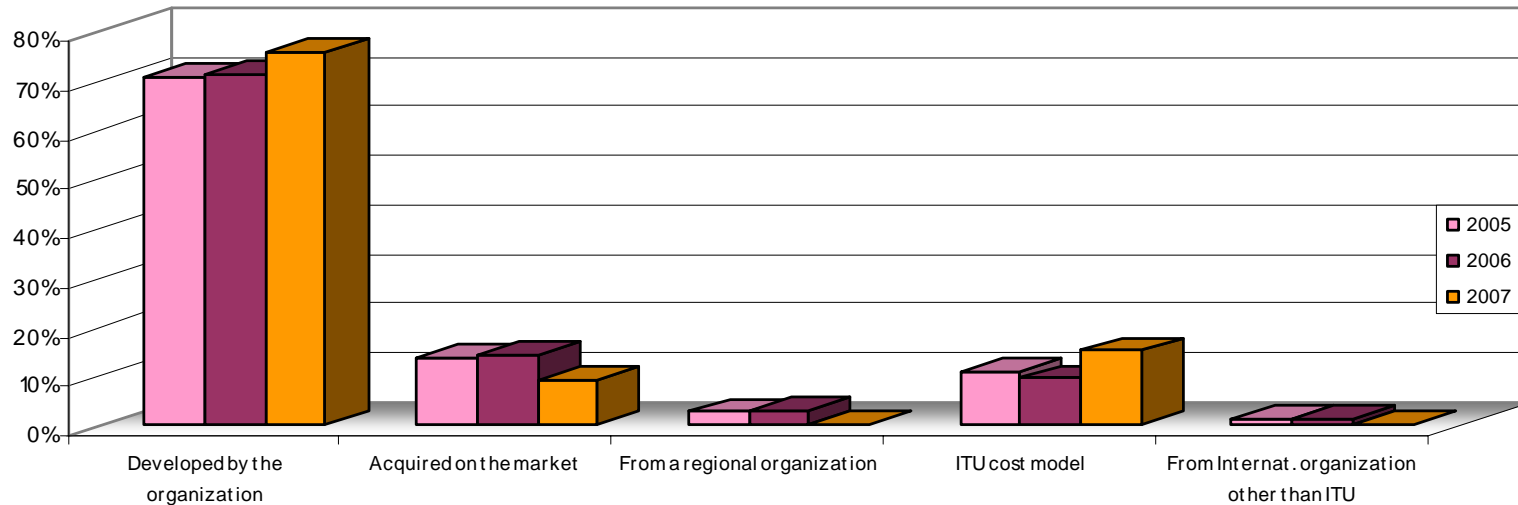
### Asia and Oceania



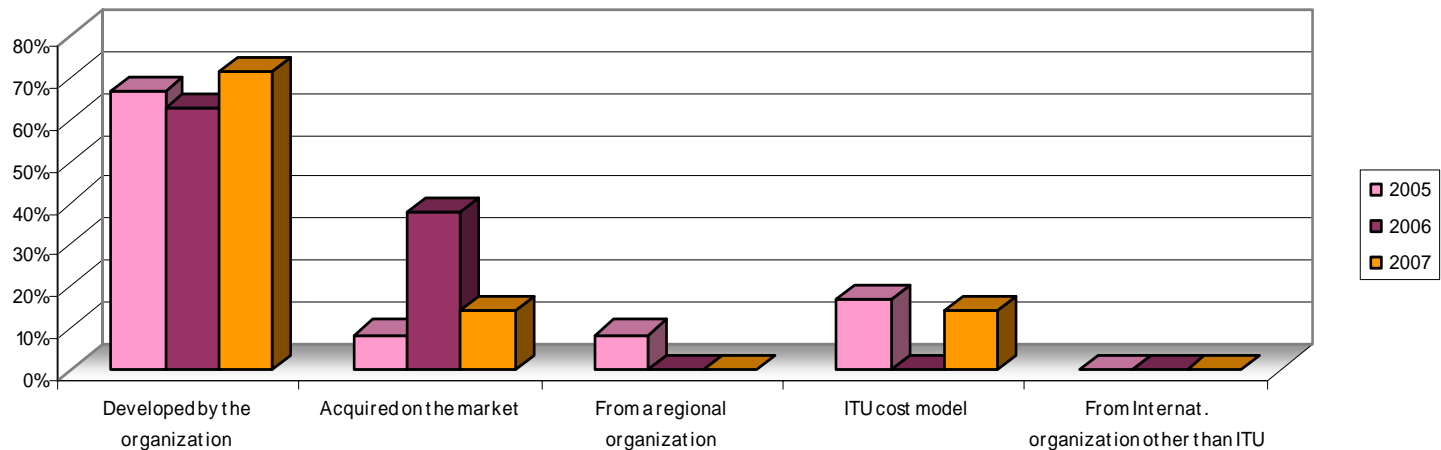
Source: ICT Eye

# Type of cost model used for cost-based tariff

## World

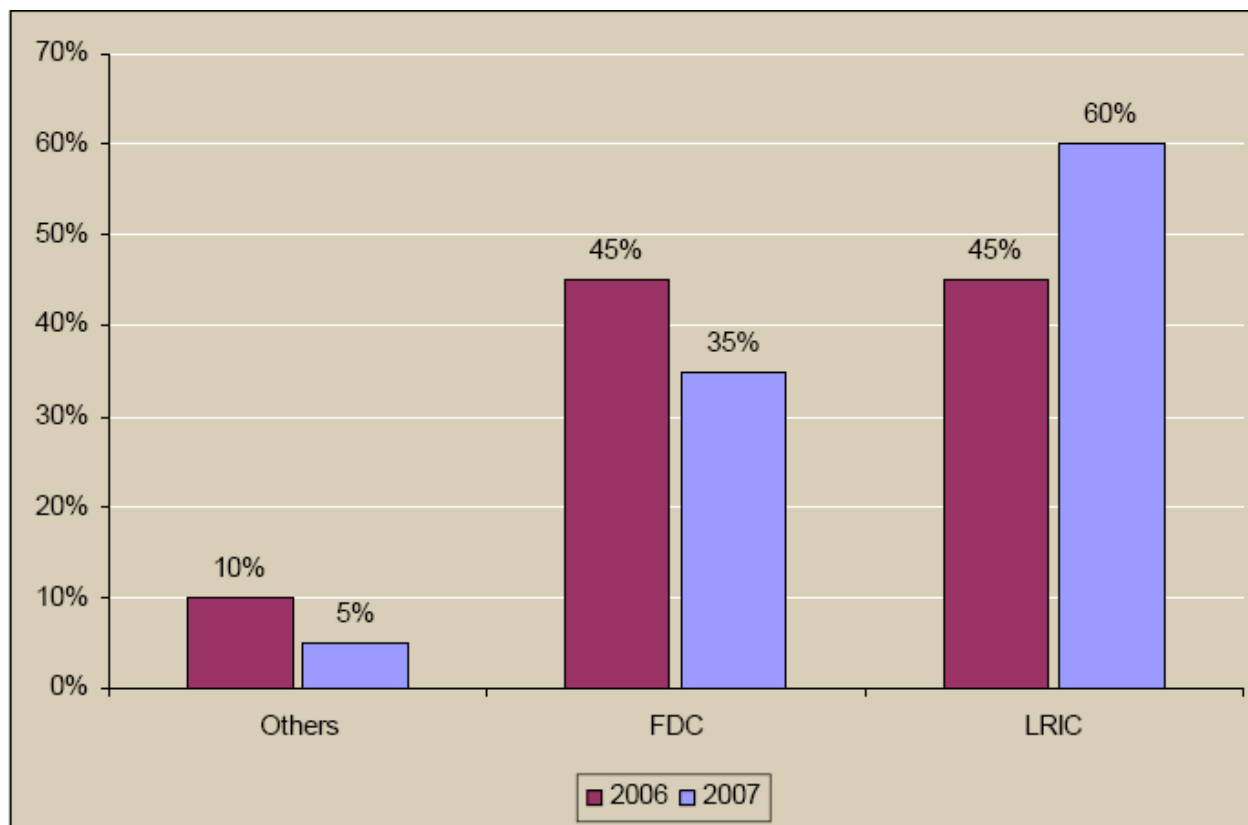


## Asia and Oceania



Source: ICT Eye

## Accounting methodologies used by EU-25 in the setting of fixed termination rates



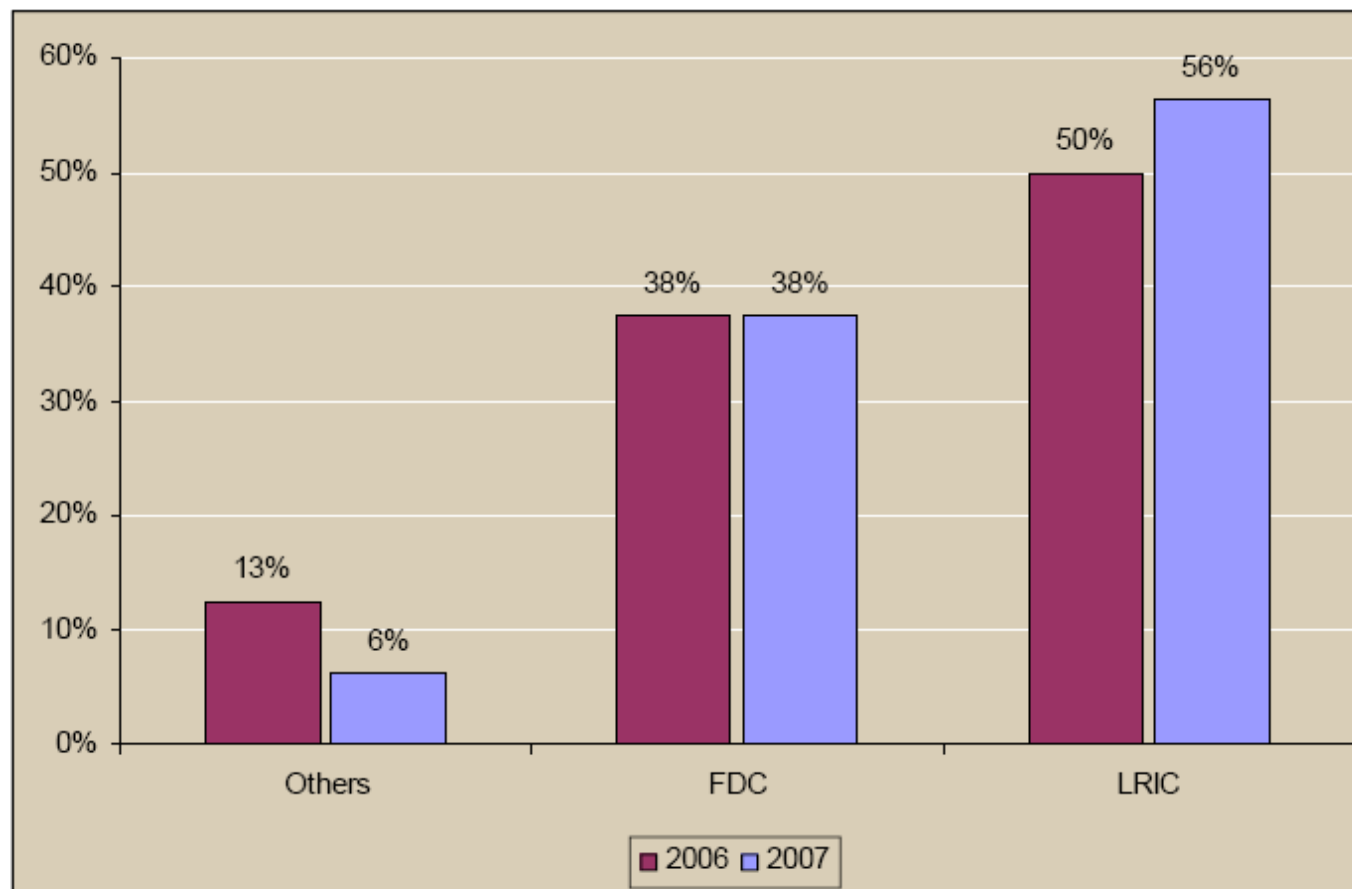
Source: ERG RA-PT 2007



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# Accounting methodologies used by EU-25 in the setting of mobile termination rates



Source: ERG RA-PT 2007

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# ITU Cost model strategy

- Based on the fast changing information and communication technology (ICT) environment
- The difficulty to upgrade COSITU at the same rhythm
- The increasingly use of other models developed by private firms by Regulators
- Tailor-made cost models cost are very expensive
- ITU has limited resources to develop this type of model

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# ITU Cost model strategy

- ITU is preparing the release of the source code of COSITU to national regulatory authorities
- This code source release will be available soon in a protected website, permitting a discussion forum and the exchange of new developed versions
- This release will include Terms of Reference and Technical specifications for the upgrading of the software taking into account new regulated services (Wholesale level: broadband internet services, sms (origination, termination, transit), national roaming (roaming in); Retail level: dial up internet, retail broadband internet services, sms, etc.)



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# Cost model development

- In 2008, ITU developed a two-week in-depth training course on cost model development, including long run incremental cost models (LRIC) to keep pace with technological and market developments
- In addition of a two-day Executive-Level training event designed for Heads of Regulatory Authorities on the strategic impact of cost models

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# Objective

- To provide technical staff from Regulatory Authorities with sufficient cost modeling tools and knowledge to enable them to understand how to develop their own cost models or to adapt existing cost models to the changing environment



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# The focus

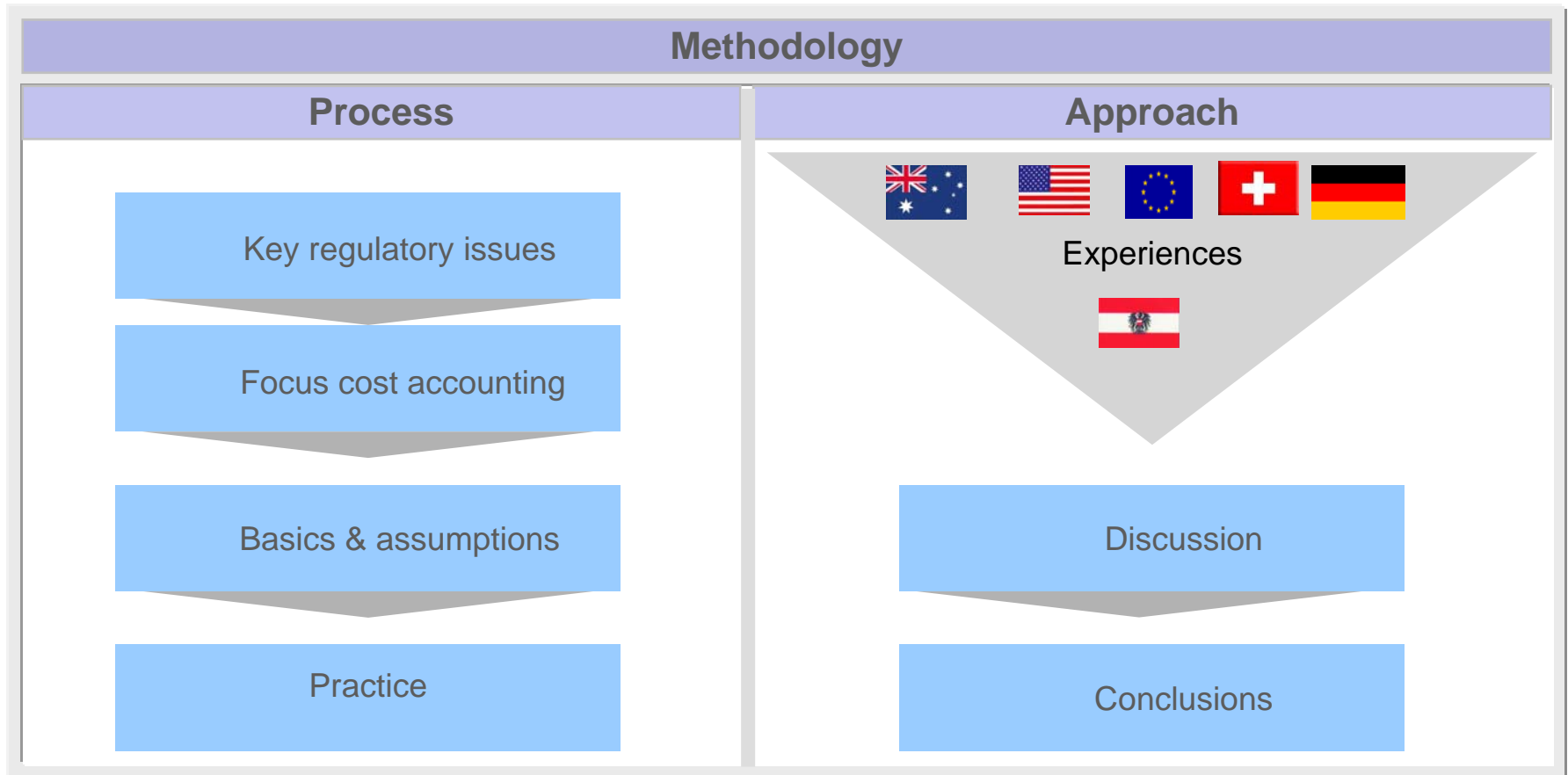
- Analyze and describe in detail the different costing methodologies applicable to telecommunications/ICT (e.g. LRIC, LRAIC, FDC, ABC, etc.) and showcase alternative methods of price regulation (such as benchmarking, price cap, accounting separation, etc.);
- Provide a detailed presentation of existing available cost models (e.g. COSITU, World Bank Model, European Union) as well as some private enterprises cost models examples;
- Provide participants with a concrete step-by-step check list to determine which method and methodology to apply in accordance with their national context;
- Explain the importance of the data collection process: how to collect the data!!!

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# The focus

- Enable participants to test the models using different market environments, taking into consideration the number of operators (fixed and mobile), and the different telecommunications services, such as:
  - fixed,
  - mobile,
  - voice,
  - SMS,
  - roaming,
  - internet,
  - VoIP,
  - Mobile TV, etc.;
- Offer an overview on how to adapt cost models to NGN

# The methodology is based on practice and experiences



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# This training will be replicated in 2009

In regional training in coordination with the Centres of Excellence in local languages:

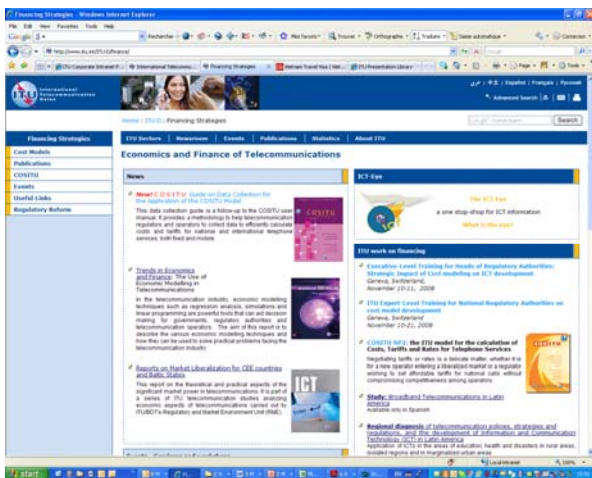
- **America:** In Spanish for Latin American countries to be held in Honduras, September 2009
- **Africa:** In English for English-speaking African countries in Namibia, June 2009
- In French for French-speaking countries in Senegal, December 2009 (tbc)
- **Arab States:** In English and Arab in coordination with the Arab League of Regulators (tbd)
- **Asia and Oceania:** Not request at present

# Other ITU-D related activities

- International mobile roaming,
- The impact of international gateway liberalization,
- Regulatory accounting Guide,
- Efficient Network implementation Guide.
- And other interesting studies published in the ITU-D finance website ....



[www.itu.int/ITU-D/finance/](http://www.itu.int/ITU-D/finance/)



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# ICT Regulation Toolkit



- **Module 1:** Regulating the Telecommunications Sector: Overview
- **Module 2:** Competition and Price Regulation
- **Module 3:** Authorization of Telecommunication/ICT Services
- **Module 4:** Universal Access and Service
- **Module 5:** Radio Spectrum Management
- **Module 6:** Legal and Institutional Framework
- **Module 7:** New Technologies and Impact on Regulation

# Global Regulators' Exchange

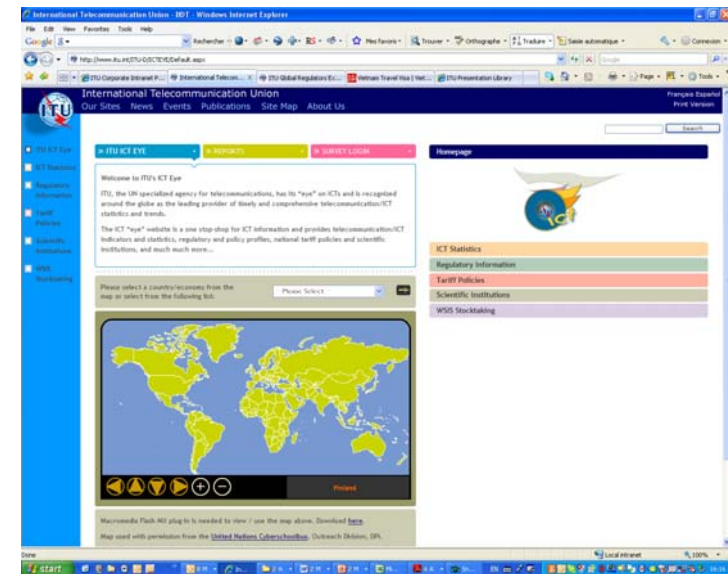
The screenshot displays the ITU Global Regulators Exchange (GREX) website. The browser window shows the URL <http://www.itu.int/ITU-D/grex/default.asp>. The page features a header with the ITU logo and 'G-REX' branding. Below the header, there is a navigation bar with links like 'home', 'discussion boards', 'members', 'search', 'guide', 'links', and 'last posts'. The main content area is a forum listing with columns for 'Forum', 'Questions', 'Posts', and 'Last Post'. The forum topics include 'Regulators Hotline', 'ITU Expert-Level Training for National Regulators', 'Study Group Q12-2/1', 'Interconnection Dispute Resolution', 'Regional Regulators Association Forum', 'List of national contacts', 'G-REX Online Interviews', and 'Bulletin Board'. Each topic has a corresponding number of questions and posts, and a 'Last Post' date and time. The left sidebar contains a 'Welcome Prado!' message, a 'Show profile' link, a 'LOGOFF' button, and a 'Subscribe to ALL BOARDS' link. The bottom of the page shows the Windows taskbar with various icons and the system clock.

Forum	Questions	Posts	Last Post
<b>Regulators Hotline</b>			
Regulators Hotline	487	2233	10 February 2009 19:14:36 by: michele.rioux
<b>ITU Expert-Level Training for National Regulators</b>			
Discussion Forum	2	5	11 December 2008 15:25:56 by: Mariya Popivanova
<b>Study Group Q12-2/1</b>			
Discussion Forum	0	0	
<b>Interconnection Dispute Resolution</b>			
Interconnection Dispute Resolution	12	33	09 October 2007 07:52:50 by: manluz
<b>Regional Regulators Association Forum</b>			
Regional Regulators Association Forum	5	7	17 October 2006 14:07:37 by: arkhanal
<b>List of national contacts</b>			
List of national contacts	1	2	23 April 2005 12:18:31 by: kkezeang
<b>G-REX Online Interviews</b>			
G-REX Online Interviews	3	3	17 September 2002 10:34:00 by: n/a
<b>Bulletin Board</b>			
Bulletin Board	23	28	12 January 2009 08:51:11

[www.itu.int/ITU-D/grex/](http://www.itu.int/ITU-D/grex/)

# ICT Eye Database

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



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# For more information on cost and tariffs in ITU-D

- Telecommunication Development Bureau
  - [www.itu.int/net/ITU-D/](http://www.itu.int/net/ITU-D/)
- Regulatory and Market Environment Division
  - [www.itu.int/ITU-D/treg/](http://www.itu.int/ITU-D/treg/)
  - [www.itu.int/ITU-D/finance/](http://www.itu.int/ITU-D/finance/)
- The Global Symposium for Regulators GSR
  - [www.itu.int/ITU-D/treg/Events/Seminars/GSR/GSR08/](http://www.itu.int/ITU-D/treg/Events/Seminars/GSR/GSR08/)
  - [www.itu.int/ITU-D/treg/bestpractices.html](http://www.itu.int/ITU-D/treg/bestpractices.html)
- TREG - [www.itu.int/ITU-D/grex/](http://www.itu.int/ITU-D/grex/)
- COSITU - [www.itu.int/ITU-D/finance/COSITU/](http://www.itu.int/ITU-D/finance/COSITU/)
- ICT Eye - [www.itu.int/ITU-D/ICTEYE/](http://www.itu.int/ITU-D/ICTEYE/)
- ICT Regulation toolkit
  - [www.ictregulationtoolkit.org/](http://www.ictregulationtoolkit.org/)
- Trends in Telecommunication Reform
  - [www.itu.int/ITU-D/treg/publications/](http://www.itu.int/ITU-D/treg/publications/)

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THANK YOU!

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