

ITU Expert-Level Training on cost modeling

**Telecommunication Development Bureau (BDT)
Regulatory and Market Environment Division**

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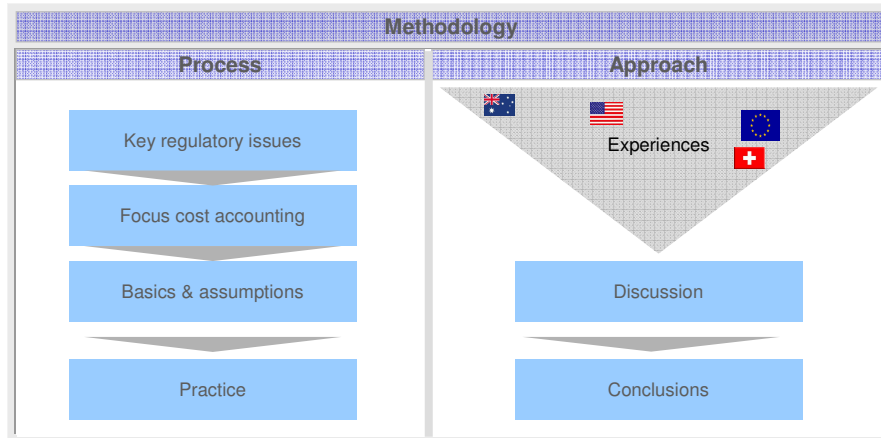
The focus of this training is to provide participants with concrete exercises and hands-on practice so that they can develop their own cost models. This meeting will:

- Analyze and describe in detail the different costing methodologies applicable to telecommunications/ICT (e.g. LRIC, FDC, ABC, etc.) and showcase alternative methods of price regulation (such as benchmarking, price cap, accounting separation, etc.);
- Provide a detailed presentation of existing cost models (e.g. COSITU, World Bank Model and other examples of public and private models);
- Enable participants to test the model using different case studies which 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, etc.;
- 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;
- Offer a look forward in adapting cost models to NGN – overview.



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The training methodology is based on practice and experiences (case studies)



Part 1 - overview

Session 1: Team building, introduction, expectations

Session 2: Process of liberalization & regulation -

Session 3: Key topics of liberalization

Session 4: Price control as a strategic tool

Goals:

- >Team building;
- >introduction on liberalization & regulation;
- >price controls as strategic tool (benchmarking);
- >Identify priorities (fixed, mobile, interconnection, unbundling, wholesale and/or retail tariff setting);
- >Market analysis.

Part 2

Session 5: Cost accounting, regulatory accounting, strategic aspects

Session 6: Accounting separation, calculation of costs and prices

Session 7: Direct costs, common cost, joint cost, cost drivers

Session 8: Key documents: Regulatory accounting overview

Goals:

- >Overview of different methodologies of price controls and their advantages and disadvantages;
- >Limitations of benchmarking;
- >Understand the differences of various cost accounting methodologies and their application;
- >Work out the difference between financial accounting and regulatory accounting;
- >Understand the functioning and limitations of accounting separation;
- >Definitions of different types of costs – develop a common ground as a basis for further discussions;
- >Understand the main network elements in fixed and mobile networks as a basis for further cost accounting model development;
- >Understand the most important parts of a costing model (structure).

Part 3

Session 9: Accounting standards and concepts

Session 10: LRIC, LRAIC, SAC, ABC, FDC differences economics and rationale

Session 11: Cost of capital WACC

Session 12: Practical experiences

Goals:

- >Understand the need for regulatory accounting standards and how this process is developed;
- >Definition of the scope of accounting standards;
- >Overview of the most frequently used cost concepts;
- >Understand the forward looking long run incremental cost approach;
- >Know the main assumptions of the LRIC approach;
- >Outline the basics of the WACC approach and get a feeling for critical parameters.

Part 4

Session 13: Overview models (top down, bottom up, hybrid models)

Session 14: Key assumptions (e.g. scorched earth vs. scorched node)

Session 15: Fixed, mobile, universal service, retail and wholesale models

Session 16: Practical experiences

Goals:

- >Understand the differences between top down, bottom up models and hybrid models;
- >See the advantages and disadvantages of top down, bottom up models and hybrid models;
- >Get familiar with the key assumptions of the models;
- >Have an idea of the main differences of models;
- >Get able to determine the demand for costing models in the own country.

Part 5

Session 17: Definition of parameters & generic questions

Session 18: Traffic distribution assumptions, data requirements

Session 19: Cost elements, WAAC, routing table

Session 20: Process, reporting and auditing

Goals:

- >Get a feeling of the main parameters to be defined before starting to develop a costing model;
- >Be able to define the country specific network elements to be modelled in the costing model;
- >Understand the main options concerning the level of detail of a model;
- >See the impact of assumptions concerning traffic distribution.

Part 6

Session 21: Accounting separation examples

Session 22: Kick off case studies

Session 23: Case studies continued

Session 24: Focus: data collection

Goals:

- >Understand the main decision path when it comes to cost modelling;
- >Be able to identify the main sources of data collection and interpretation of data;
- >Get input for own definition of separated accounts and their requirements;
- >Start of the practical case studies.

Part 7

Session 25: Data collection

Session 26: Case studies part 2

Session 27: Analysis of concrete model – COSITU

Session 28: Analysis of concrete model – World Bank Model

Goals:

- >Overcome the challenges of data collection;
- >Get a deeper view into the case study;
- >See how publicly available costing models work and get an impression of their advantages and disadvantages.

Part 8

Session 29: Depreciation/MEA

Session 30: Case studies part 3

Session 31: Analysis of concrete models – fixed interconnection

Session 32: Analysis of concrete models – fixed interconnection

Goals:

- >Operationalize the determination of a modern equivalent asset value;
- >Understand the differences of capital maintenance concepts and their impact to the results;
- >See concrete examples of customized and tailor made fixed interconnection costing models.

Part 9

Session 33: Mobile assumptions

Session 34: Case study part 3

Session 35: Analysis of concrete models – mobile interconnection

Session 36: Analysis of concrete models – unbundling

Goals:

- >Get a feeling about the main differences between fixed interconnection and mobile interconnection models and the additional assumptions which are necessary for mobile cost calculations;
- >Raise the awareness of the issue of valuating frequencies;
- >Demonstrate that market share is the critical input factor for a mobile costing model;
- >Finalize the case study;
- >See different strategic options how to develop a mobile interconnection model;
- >Show the basics of an unbundling costing model.

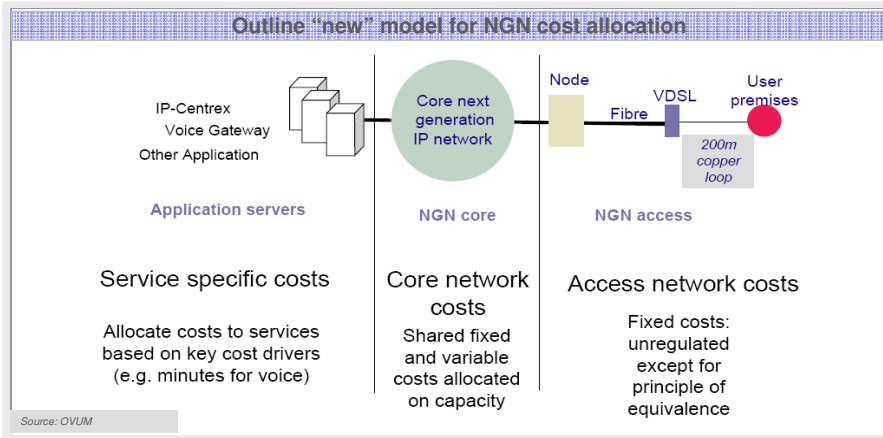
- Session 37: Next Generation Networks - developments
- Session 38: Next Generation Networks – cost modelling
- Session 39: Case study – practical evaluation
- Session 40: Wrap up and feedback

Goals:

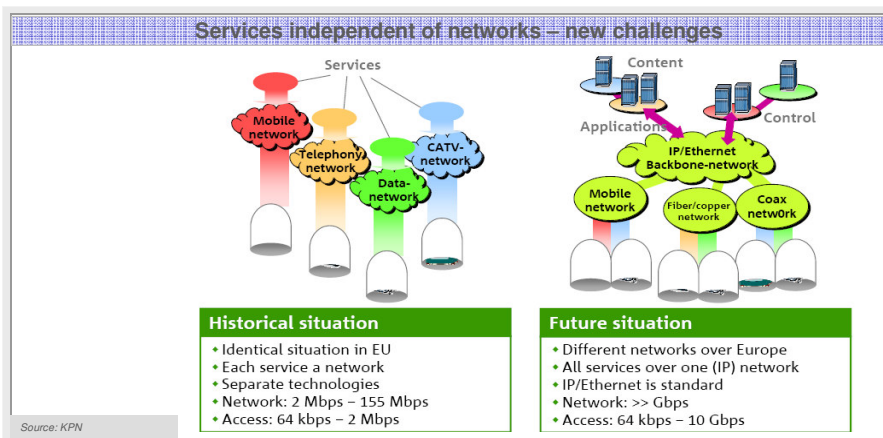
- >Understand the changes expected to come with Next Generation Networks (NGN);
- >See the future impact of Next Generation Networks on cost accounting models;
- >Test the results of the case study in practice;
- >Feedback.

Future challenges (NGN & data)

An outline "new" model for NGN cost allocation.



Services independent of networks - fundamental changes in network implementations.



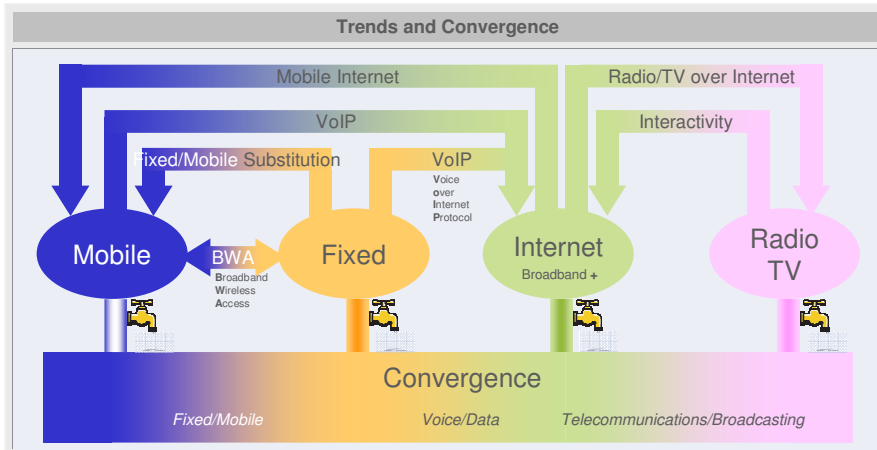
NGN and costing models

NGN – costing models implications

- Traditional costing models will not work for single services in a multiservice environment
- Forward looking cost calculation is difficult
- Migration phase
 - Price cap system for traditional networks based on bottom-up calculation
- Bottom-up cost calculation in a technology neutral world leads to different cost price calculations for the same (access) service
 - Not appropriate for consumer markets?
 - Regional / network differentiation?
- QoS and volume based cost calculation offers some flexibility
 - Stimulates cost efficiency on the network level
- Ramsey pricing may better reflect cost price levels and encourage innovation

Source: KPN

Next challenges come mainly from convergence which is driven by many developments happening at the same time.



**International Telecommunication Union
Telecommunication Development Bureau (BDT)**

For further information you can contact:

Regulatory and Market Environment Division (RME)
carmen.prado@itu.int

