

# ITU ACTIVITIES IN DIGITAL BROADCASTING TRANSITION

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## Content

- Mega trend and digital broadcasting
- ITU outputs for digital broadcasting
- ITU cooperation with broadcasting organizations
- Digital Broadcasting roadmap project
- What to consider in making digital broadcasting transition roadmap ?

## Mega Trend & Digital Broadcasting/1

- Convergence/Multimedia/Ubiquitous ?
  - Any terminal, any infra/media, any contents
  - What is the impact ?
    - : Provide users with higher accessibility to infra/media and contents
    - : Economy of scope
    - : Promote competition and cooperation between broadcasting & telecommunication companies

**Chance to jump to new infra and service through new MEDIA POLICY**

## Mega Trend & Digital Broadcasting/2

- Globalization from the aspects of education and culture
  - Education is essential factor for strengthening national competitiveness (required to establish more effective way to deliver info. & knowledge)
  - Increasing importance of preserving and developing own culture and understanding other cultures

**These have been important roles of broadcasting and more active leadership is required for new era**

## Mega Trend & Digital Broadcasting/3

- The policy for digital broadcasting and new media is
  - not only technical issues
  - but also political, economy and industry issues
- Its policy making requires
  - not partial
  - but comprehensive approach

## ITU outputs for digital broadcasting transition

## ITU outputs/1

### Global and regional spectrum allocation

- WRC / RRC-06

### Spectrum Management Guideline (SG1)

- Handbook and Recommendation SM 1047-1 "National Spectrum management"
- Recommendation SM 2012-1 "Economic Aspect of Spectrum Management"
- Handbook on Computer Aided Techniques for Spectrum Management
- Handbook on Spectrum Monitoring
- SMS4DC (Spectrum Management System for Developing Countries)

## SMS4DC/Introduction

- **SMS4DC purpose:** a software tool to assist developing countries in efficiently and effectively managing their national use of the radio spectrum.
- **SMS4DC development:** a joint project between the ITU Development and Radiocommunication Sectors. Outline concept endorsed by WTDC 2002 and design specification in accordance with ITU-R Recommendations.
- **SMS4DC maintenance:** annual licence fee provides ongoing technical support and free upgrades;

## SMS4DC/ Annual licensing fee

Annual licensing fee  
in Swiss francs:

Catalogue Price (software) annual licensing fee: CHF 4,410.-  
(for a single workstation)

Member State Administrations and Sector Members: -15%  
Administrations of the Least Developed Countries: -80%  
Libraries of educational institutions: -80%

Price for software installed on one single or multiple workstation(s)

Number of workstations*	1 <input type="checkbox"/>	2-3 <input type="checkbox"/>	4-5 <input type="checkbox"/>	6-10 <input type="checkbox"/>
Annual licensing fee (in Swiss francs)	4 410.-	6 615.-	7 497.-	8 820.-

\* Please tick the appropriate box

## SMS4DC/Future development

- Google Earth linkage
  - Calculation results, borders, contours in KML format which is readable by Google Earth
- Monitoring
  - Respond to queries from monitoring system through XML files
  - Send orders to monitoring system and import of the requested information to the SMS4DC through XML files
  - Display monitoring data (e.g. measurements)
- Addition of new services (e.g. radionavigation, maritime mobile)

## ITU outputs/2

### **Wave Propagation recommendation (SG3)**

- Recommendation ITU-R P.1546 "Method for point to area prediction for terrestrial services in 30MHz-3000MHz"

### **Report of the Rapporteur on transition (SG6/WP6A)**

- Revision 2 to Document 6D/6-E (7 May 2008) "On transition from analogue to digital terrestrial broadcasting"  
<http://www.itu.int/md/R07-WP6A-C-0006/en>

## ITU outputs/3

### **Digital broadcasting transition**

- ITU-D Question 11-2/2 "Examination of terrestrial digital broadcasting technologies, and systems, including cost/benefit analysis, interoperability of digital terrestrial system with existing analogue networks, and methods of migration from analogue terrestrial techniques to digital techniques"

### **SG activities for developing countries**

- ITU-D Study Group 2's Report on question 9-2/2 "Identification of study topics in the ITU-T and ITU-D study groups which are of particular interest to developing countries"

## **ITU cooperation with Broadcasting Organizations**

- WBU : Cooperation agreement under preparation
- ASBU : ITU/ASBU Seminars on digital broadcasting
- ABU : Close cooperation in transition from analogue to digital
- AIBD : ITU/AIBD workshops on digital technologies
- EBU : Signed cooperation agreement

## **Digital Broadcasting Roadmap Project**

- 1<sup>st</sup> phase of the project : Feasibility Study on Digital Broadcasting roadmap in Africa
- 2<sup>nd</sup> phase of the project : Roadmap for Transition to Digital Broadcasting in Africa

## Why started from Africa ?

- RRC-06
  - Agreement for digital broadcasting services in the frequency band 174-230/470-862MHz
  - Transition period from 17 June 2006 to 17 June 2015, allowing some countries an additional five-year extension for the VHF
- World Telecommunication Development Conference 2006(WTDC-06)
  - African region decided introduction of new digital broadcasting technologies as one of the important regional initiatives
  - Ask ITU to implement at national, regional, interregional and global level, making utmost use of its resources

## Feasibility Study on Digital Broadcasting roadmap in Africa

- Brief Introduction
  - Period : January – July 2008
  - Contribution : Korea
  - Implementing Agency : ITU
- Outputs of the study
  - Analysis of current broadcasting situation and plan for digital broadcasting transition
  - Identification of pilot countries for roadmap project
  - Developing of project document for making roadmap



## Summary of survey's result/1

<Replied by 22 African countries among 53>

- Plans to introduce digital terrestrial broadcasting services:
  - No plans at this moment: 7 countries;
  - Currently developing a plan: 7 countries;
  - Finalising a plan : 5 countries;
  - Trial: 1 country.
- Introduction of digital terrestrial/mobile TV:
  - until 2010 : 9/6 countries;
  - until 2015 : 1/0 country;
  - until 2020 : 1/1 country.

## Summary of survey's result/2

- The end of transition period:
  - until 2010 : 1 country;
  - until 2015 : 8 countries;
  - until 2020 : 9 countries.
- Assistances expected from ITU:
  - Technical or regulatory expertise: 20 countries
  - Adapting roadmap to the country: 19 countries
  - Providing technical information: 18 countries
  - national legislation : 18 countries;
  - financing and budget: 15 countries;
  - customer awareness: 14 countries;

## Roadmap for Transition to Digital Broadcasting in Africa

- Brief introduction
  - Period : November 2008 – August 2009
  - Contribution : ITU and Korea
  - Implementation agency : ITU
  
- Expected outputs of the project
  - Developing Guidelines for making digital broadcasting transition roadmap and action plan
  - Customization of some pilot countries' roadmap
  - Deployment of pilot systems

## What will be included in the Guidelines for digital broadcasting transition roadmap and action plan ?

## Roadmap and action plan

- Digital broadcasting transition is a long and complex one
- A smooth transition requires co-ordination between many actors and interests
- Roadmap could provide certainty on market , create common knowledge and expectations
- This would then facilitate players' decision and investment, encourage co-ordination

## General scheme of approach

Structural market failure  
General interest objectives related to switchover



Cost and benefit analysis  
Government policy (intervention)



Switchover roadmap/Action plan/Information  
Fiscal incentive/Switchover fund  
Regulation on technical standard  
Deregulation of broadcasting policies

## Structural Market failure

- Chicken-and-egg situation
- Situation rents of incumbents
- Free-rider syndrome
- External benefits
- Threshold effects

## Who will lead the migration ?

- To give a key role to market
  - Minimize government's burden on budgets and give broadcasters maximum flexibility
  - No link with national objectives to advance digital infrastructure construction
  - Deepen digital divide between the rich/the poor
- Managed market take up strategy
  - In case if there is no clear market demand
  - Impose a moratorium on analog roll out and announce cut off date for analogue
  - Subsidy to the consumers in buying set-top
  - Fast way providing universal service

## Cost and Benefit Analysis (CBA)

- CBA translates the positive/negative impacts of envisaged decision into monetary terms

### COSTS and RISKS

- digitization of reception/receivers
- digitization of broadcasting infrastructure
- risks of competition distortion
- risks of moral hazard

### BENEFITS

- positive impact on markets, info. society & economy
- reduction of transmission cost
- Increase of competition
- Spectrum gains
- Prevention of digital divide
- promotion of universal digital access

## What to do at each Phase of migration/Phase 1

- Starting introduction of digital television transmission
  - No further analogue license issued for terrestrial broadcasting
  - Regulation should be reviewed to reflect the implication of digital transmission
  - Special frequency channels will be allocated to the current broadcasters to provide simulcasting in digital format
  - The possibilities relative to infrastructure-sharing arrangements involving a number or all operators will be explored

## What to do at each phase of migration/Phase 2

- The simulcast period
  - Broadcaster will be encouraged to establish a migration plan
  - National broadcasts will be transmitted as must carry, free-to-view, on any digital terrestrial platform that may be available

## What to do at each Phase of migration/Phase 3

- Analogue Cut-off
  - Before analogue cut off, All current broadcasters will need to be migrated to a digital platform
  - Households will need to have upgrade TV sets to digital or buy set top boxes
  - The time required will be depending on the migration option selected by the broadcasters/regulators and the market reaction to the introduction of DTTV

## **Main Policies and Consideration/ Regulatory and Legislative matters**

- Setting up a new media policy
  - Introduction of new digital broadcasting media like digital terrestrial broadcasting, mobile broadcasting, IPTV...
  - Liberalization? privatization? competition?
- Strategies and process of transition
- Ownership of multiplex
- Licensing of broadcasters, network operators and multiplex operators
- Frequency related issues
- Financial measures in support of transition
- Digital tuner mandatory

## **Main Policies and Consideration/ Technology**

- Study and choose on the available standards
- Identify the costs associated with development of the required broadcast facilities :network infra, compression options, transmission standards, upgrading studio facilities
- Cost calculations on network infrastructure is linked to coverage predictions regarding options on network type (SFN or MFN), the modulation scheme and data rates

## Main Policies and Consideration/ Customer awareness

- Study consumers' behaviour and expectation toward digital broadcasting transition
- Improve consumer information about digital TV : Ensure the public are prepared for the introduction of digital services. Public should know what needs to be done to receive digital broadcasting services
- Encourage consumer switchover by reduction switchover cost : discount license fee or VAT
- Subsidise the purchase of set-top boxes for analogue broadcasting switch off

**Thank you for your attention !**

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