**ITU activities
for the transition from
Analogue to Digital Broadcasting**

István BOZSÓKI
ITU / BDT / TND

Contents

- Why transition raises issues?

- ITU activities and outputs

- Digital broadcasting roadmap project in Africa (Guidelines for making roadmap)

- Future plan

International
Telecommunication
Union
Committed to connecting the world

1

Why the transition raises issues?

Arab Regional Development Forum, 3 June 2009, Tunis

❑High Cost and Long Term

- Over the last 10 years, broadcasting has been experiencing a revolution through the influence of digitization
- Transition from analogue to digital takes at least a few years, costs so much and has the immense influence on society, economy and industries
- It is essential for each country to make a project plan (roadmap) of the transition
- However, there is a big difference in the digital broadcasting transition process among countries
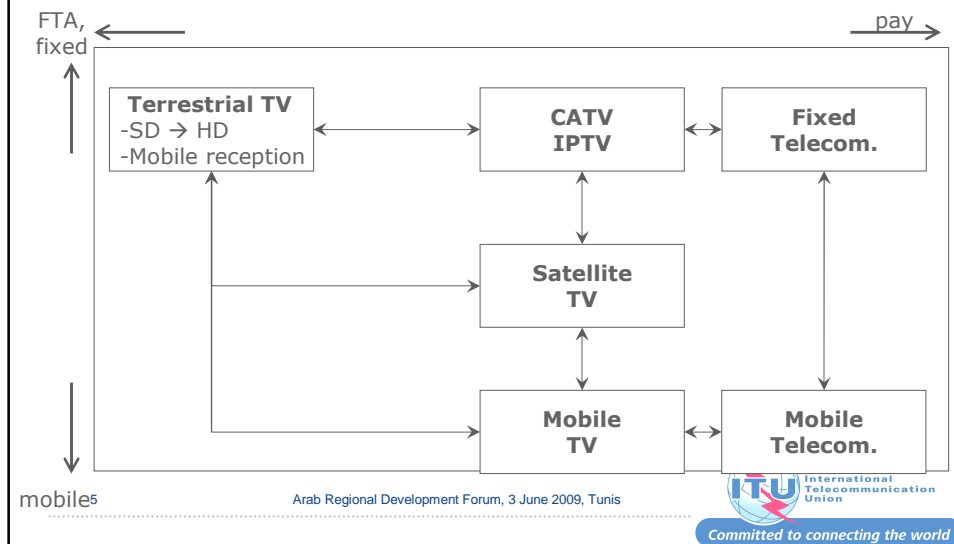
Arab Regional Development Forum, 3 June 2009, Tunis

❑ Digital Convergence: Competition & Cooperation between media

FTA, fixed → pay

Terrestrial TV -SD → HD -Mobile reception	**CATV IPTV**	**Fixed Telecom.**
	Satellite TV	
	Mobile TV	**Mobile Telecom.**

mobile

5   Arab Regional Development Forum, 3 June 2009, Tunis

International Telecommunication Union
Committed to connecting the world

❑Digital Dividend

- Spectrum made available over and above that required to accommodate analogue TV services in the digital form
- Immense economic potential : 150-200 Billion Euro (European Commission estimation)
- Competitive demand from Broadcasting and telecommunication
  - HDTV, Mobile TV, New media,…
  - Wireless broadband

6   Arab Regional Development Forum, 3 June 2009, Tunis

International Telecommunication Union
Committed to connecting the world

ITU Activities & Outputs for Digital Broadcasting Transition

International Telecommunication Union

Committed to connecting the world

❑ITU Activities

- Assist developing countries in transiting to digital broadcasting

  - provide Consulting of broadcasting

    infrastructure development

  - develop reports and guidelines

  - provide training

- Close cooperation with international and regional broadcasting organizations (WBU, ABU, AIBD, EBU)

  - regular workshop and seminar

International Telecommunication Union

Committed to connecting the world

❑ITU Outputs

- Spectrum allocation (WRC/RRC)

- Wave Propagation recommendation

- REPORT ITU-R BT.2140 :Transition from analogue to digital terrestrial broadcasting

- ITU-D Question 11-2/2

  "Examination of terrestrial digital broadcasting technologies…"

- ITU-D SG 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"

9   Arab Regional Development Forum, 3 June 2009, Tunis

International Telecommunication Union

Committed to connecting the world

ITU Outputs

- **Spectrum Management Guideline**

- Handbook and recommendation : Spectrum management, Computer Aided Techniques for Spectrum Management, Spectrum Monitoring

- **SMS4DC**

- Purpose: to assist developing countries in efficiently managing their radio spectrum

- Features: Engineering and administrative applications, results on Google Earth, linkage with monitoring system

10   Arab Regional Development Forum, 3 June 2009, Tunis

International Telecommunication Union

Committed to connecting the world

Digital Broadcasting
Roadmap Project in Africa

International
Telecommunication
Union

Committed to connecting the world

Introduction of the Project

❑ **The objective of the project**
- To assist the African countries in making their own roadmap to shift smoothly from analogue to DTTB and to introduce MTV

❑ **1st Phase of the roadmap project**
- Period : January – July 2008
- Survey on broadcasting & transition situation

❑ **2nd Phase of the roadmap project**
- Period : November 2008 - October 2009
- Expected outputs;
- Guidelines will be developed on transition from analogue to digital broadcasting and MTV
- Roadmaps will be customized for selected countries based on developed guidelines
- Pilot systems will be deployed

International
Telecommunication
Union

Committed to connecting the world

Guidelines for Roadmap

International
Telecommunication
Union

Committed to connecting the world

Guidelines for Roadmap

❑Main Contents of Guidelines

- Policy and regulation

- Analogue Switch Off (ASO)

- Market and business development

- Network

- Implementation

- BDT web-site: http://www.itu.int/ITU-D/tech/digital-broadcasting/indexProjectDBAfrica.html

International
Telecommunication
Union

Committed to connecting the world

Policy and Regulation / 1

- **License issues**
  - License categories
  - License process
  - License terms and condition
- **Spectrum**
  - ITU Regulation
  - National Spectrum Plan
  - Assignment procedure

International Telecommunication Union

Committed to connecting the world

Policy and Regulation / 2

- **Technology & Standard Regulations**
  - Television format,
  - Transmission standard,
  - Compression technology choice
- **Digital Dividend**
  - Technical feasibilities,
  - Interference and compatibility problems
  - Spectrum management considerations

International Telecommunication Union

Committed to connecting the world

Analogue Switch Off (ASO) / 1

- **Transition Models**
  - Simulcasting period or directly an ASO process;
  - phased approach or nationwide approach
- **Organizational Structure & Entities**
  - Joint effort between legislator, regulator, broadcasting industry, consumer association

Arab Regional Development Forum, 3 June 2009, Tunis

International Telecommunication Union
Committed to connecting the world

Analogue Switch Off (ASO) / 2

- **ASO Planning & Milestones**
  - Timing (including ASO date, duration)
  - key events and milestones
- **Infra & Spectrum Compatibility**
  - Service priorities and acceptable interference levels
  - antenna space
  - temporarily installations sites
- **ASO Communication Plan**

Arab Regional Development Forum, 3 June 2009, Tunis

International Telecommunication Union
Committed to connecting the world

Market & business development /1

- **Customer Insight & Research**
  - Introducing market analysis methods and testing service propositions;
  - identifying consumer target groups, DTTB and MTV service attributes
- **Customer Proposition**
  - Number of services
  - EPG and interactive services
  - HDTV and SDTV considerations

International Telecommunication Union

Committed to connecting the world

Market & business development /2

- **Receiver Availability Considerations**
  - Set-top-Boxes,
  - DTV and portable receivers (USB sticks),
- **Business Planning**
  - Pay-TV and FTA business models
  - revenue sharing models
  - investment hurdles and risks
  - financing

International Telecommunication Union

Committed to connecting the world

Networks / 1

- **Technology & Standards Application**
  - Technical tests to evaluate system performance
  - SDTV and HDTV specifications
  - selection of DTTB transmission standard, compression system

International Telecommunication Union

Committed to connecting the world

Networks / 2

- **Network Planning**
  - Trade off between radiation characteristic of station
  - multiplex capacity and coverage
  - SFN or MFN
  - need for fill-in transmitters
  - GE06 compliance of planned stations
- **Other**
  - System Parameters, Radiation Characteristics, Network Interfacing, Transmission Equipment Availability

International Telecommunication Union

Committed to connecting the world

Implementation of DTTB & MTV / 1

- **Policy Documents (Roadmap)**
  - ➤ Providing guidance to market players, investors and end consumers as to acquire their participation and support

- **National Media Acts**
  - ➤ Granting or sanctioning (exclusive) rights/ obligations to market entities

Arab Regional Development Forum, 3 June 2009, Tunis

International Telecommunication Union

Committed to connecting the world

Implementation of DTTB & MTV / 2

- **Communication to Consumers**
  - ➤ Providing information as to ensure that the public can make well informed

- **Communication to Industry**
  - ➤ Providing information in order to ensure that market players will prepare their contributions, bids and supplies in time and in line with the policies and regulations

Arab Regional Development Forum, 3 June 2009, Tunis

International Telecommunication Union

Committed to connecting the world

ITU Future Plan
for Assistance of the Transition

Arab Regional Development Forum, 3 June 2009, Tunis

International
Telecommunication
Union
Committed to connecting the world

Master plan

- Survey regularly on digital broadcasting transition

- Develop broadcasting policy toolkit

- Develop training material and provide on-line training

- Develop portal site to provide all relevant information on the transition

- Cooperate actively with other international and regional organizations

Arab Regional Development Forum, 3 June 2009, Tunis

International
Telecommunication
Union
Committed to connecting the world

...and

- Although this roadmap project focus on the African region, the outputs, knowledge and experience of it can and will be used in other regions widely

- Guidelines will be good reference for all countries which need to develop their own roadmaps

- ITU is making its efforts to develop this kind of roadmap project in other regions

Arab Regional Development Forum, 3 June 2009, Tunis

Committed to connecting the world

Thank you for your attention !

István BOZSÓKI
ITU / BDT / TND
istvan.bozsoki@itu.int

Arab Regional Development Forum, 3 June 2009, Tunis

Committed to connecting the world