



ITU-D Regional Development Forums 2010 for the
Africa region on
"Modern spectrum Management and Transition from
Analogue to Digital Broadcasting – Trends and
Technologies"

**Switchover from Analogue to Digital Terrestrial
Television Broadcasting**

Experiences of the simulcast period (Hungary)

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Facts and preliminaries

▪ **Facts:**

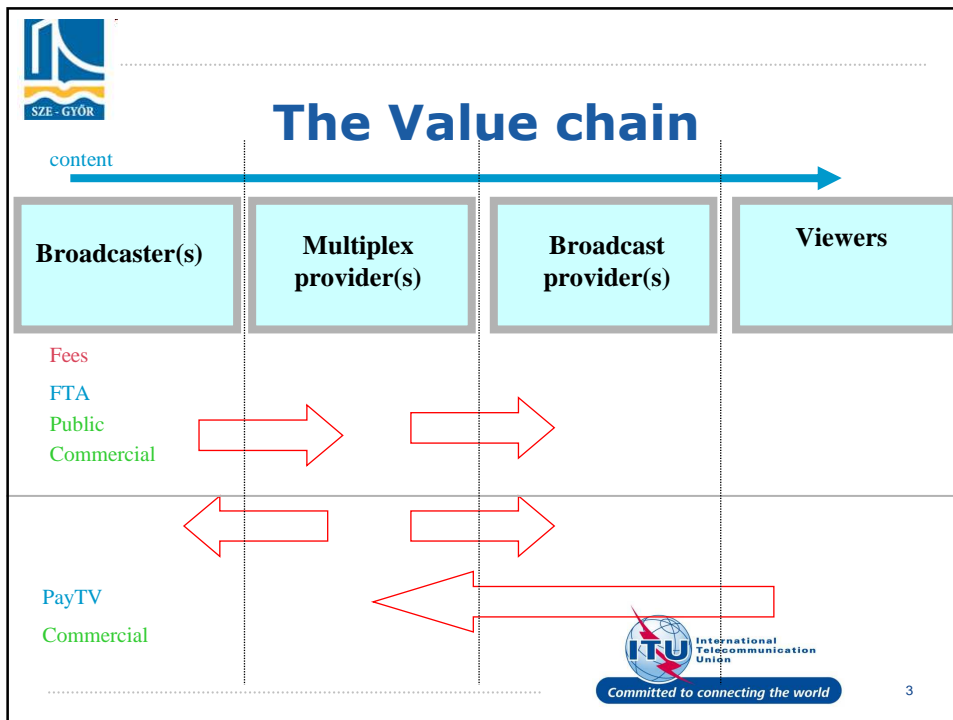
- GE06 plan
- Hungary is member of the EU => it is necessary to **switch off** the analogue terrestrial TV broadcast network **till 2012**

▪ **Preliminaries:**

- Accepted DSO strategy by government and all stakeholders
 - In our focus is the digital terrestrial television broadcasting, but do not forget other platforms.
- Suitable legislation (audiovisual and communication parts) without any setback factors
- Timing
- Finished and successful process to choose the multiplex and/or broadcasting company/companies.
- Unambiguous timetable for all market players till ASO.



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Broadcaster

- The terrestrial platform is one of the others.
- Their behaviour is "The content is king."
- Public broadcasters – Must carry rules
- Competition between commercial broadcasters (?)
- No direct contact with viewers.
- No direct contact with manufacturers.
- DRM
- Nationwide broadcasters are HD ready. => MPEG-4
- Ensure the quality of the signal to the viewers.
- Difficult to install new features. (AFD, 3DTV)

- Local and regional broadcasters

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Multiplex provider

- FTA (HD) content is a most favourable
- Number of the valuable and native language FTA content is finite.
- PayTV => limited competition with other platforms (capacity, no return channel)
- Limited competition
 - => SD is preferred
 - => low quality of the signal
 - => indoor coverage in urban area
- Must carry channels increase or decrease the competitiveness of the platform
- Customer service, billing, etc.
- Competition between multiplex providers (?)

- Local and regional broadcasters (one-man company)
- Mobile TV

Broadcast provider

- Coverage: fix, outdoor, indoor
 - During the simulcast
 - After the ASO
- Coverage: target value till ASO
- Use the previous infrastructure or replanning.
- Use the same infrastructure => antenna reconstruction => final or temporary solution.
- Polarization same as analogue terrestrial broadcasting ?
- Frequency band is full UHF band?
- ASO nationwide or island by island
- Frequency coordination with National Communication Authority.
- Non public services.
- Reduced outgoing power in several cases.

- Mobile TV
- Digital dividend.
- Competition between broadcast providers (?)
- Local and regional broadcasters (one-man company)



Viewers (analogue)

Analogue broadcasting

- The analogue reception may change during the simulcast (retuning)
- The covered area may differ from former one due to the new final or temporary transmitter antenna-system cause
- Switch off by transmitters or nationwide



Viewers (digital)

Digital broadcasting

- Echo of the former pilot systems (MPEG-2 vs. MPEG-4)
- Reception mode, indoor antenna would be preferable
- New antenna necessary if the polarization differs from polarization of analogue broadcasting.
- New antenna necessary if digital broadcasting uses the full UHF band.

Subsidy

- The rules are not clear, and elections cause tardiness

Campaign

- Disinformation from other platforms direct or indirect way



Viewers (digital)

Receivers

- The receiver market is open for manufacturers but some receivers do not work properly in our network. MPEG-4 compatibility is not enough. Sounds, TXT, EPG, etc.

After the ASO

- Some settlements will not cover by terrestrial broadcasting



Stakeholders

- **Manufacturers**
 - They are one of them who will be the winner of the DSO.
 - On the other hand the local market is not big, therefore they reluctantly develop the national features.





Stakeholders

- Competitors
 - The DTH market develops very quickly. A country could be at other country's mercy.
 - Cable TV
 - This platform will be the last in the process of full digitalization.



Stakeholders

- MNOs (?)

They have very strong international lobby. The expansion of mobile broadband service claims newer and newer frequency bands from UHF band.





Thank you for your attention

