RUNDFUNK BERLIN-BRANDENBURG

ARD and Digitization in Germany

An Overview focussing on Television

Seminar in Santiago, 16.12.2010

ARD Play-Out-Center / rbb
Uwe Welz

ARD and Digitization in Germany

1. Television in Germany
2. The digital “Big Bang” in 1997 / 1998
3. 2002: End of analogue Antenna transmission
4. 2012: End of analogue Satellite transmission
5. From analogue Substitution to digital Differentiation

1. Television in Germany

- Free TV and Pay TV in Germany
- ARD and its broadcasters
- ARD’s digital program familiy
- Rundfunk Berlin Brandenburg (rbb)
- Modes of TV-reception
- Digitization by transmission platforms
- Rate of digitization in Germany

1. Television in Germany

Germany‘s TV world

Free TV

Public TV

subscriber license fee: 17,98 € per month

Commercial TV

SAT.1 RTL ProSieben RTL II Kabel 1 super RTL N24 VOX

Financed by advertising

Pay TV

sky

Subscription (10 – 90 €/ month)

1. Television in Germany

rbb

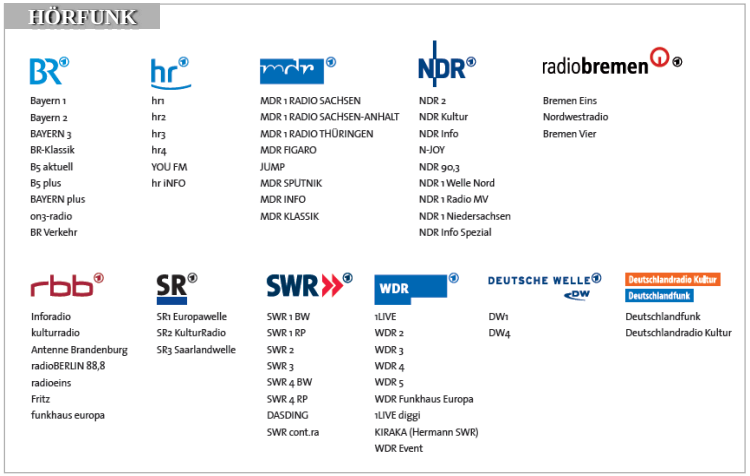
ARD and its broadcasters

- **ARD:**
- Association of Public Broadcasting Corporations
- Public Broadcasters under state law
- Under public control
- Programmes for everyone.
- License fees from everyone.

ARD ZDF

1. Television in Germany

ARD‘s digital programme family



- 18 TV programmes (national, regional and local “windows”)
- Three exclusively digital TV channels
- More than 60 radio stations
- Interactive services
- Transmitted via satellite, cable, antenna, + (IPTV, mobile ...)

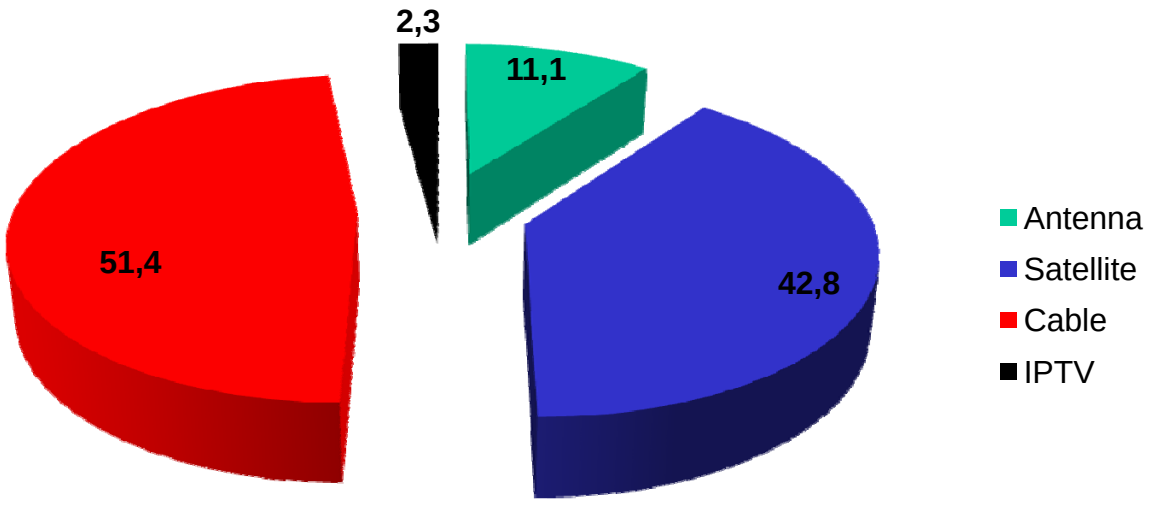
1. Television in Germany

Rundfunk Berlin-Brandenburg (**rbb**)

- Regional public broadcaster of Berlin and Brandenburg
- Main premises in Berlin and Potsdam
- One TV channel (**rbb**, 24/7), teletext, online services; six radio channels
- Provides 7% programme input for the nationwide ARD network
- Revenue around 400 Mio. Euro/p.a.
- Hosts and operates the ARD Play-Out-Center and ARD Text

1. Television in Germany

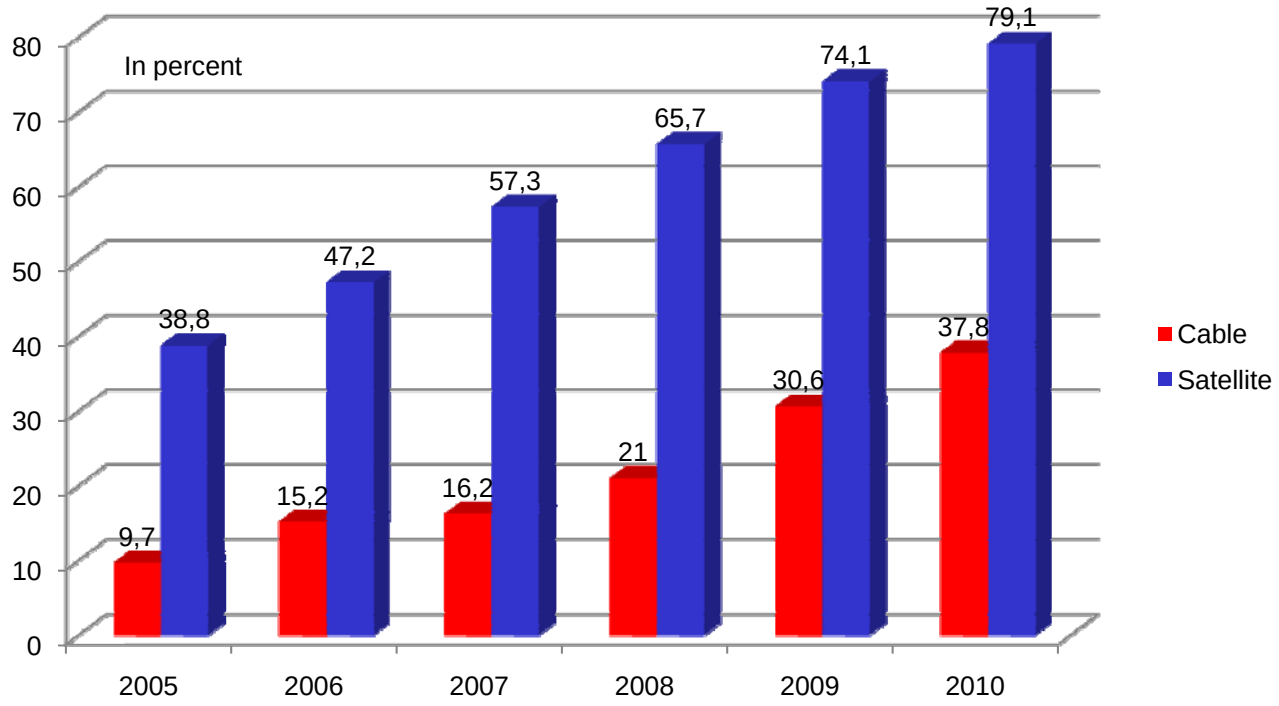
Mode of reception (analogue and digital)



Source: ZAK 2010, Digitization Report (Sum total > 100% due to multiple modes of reception)

1. Television in Germany

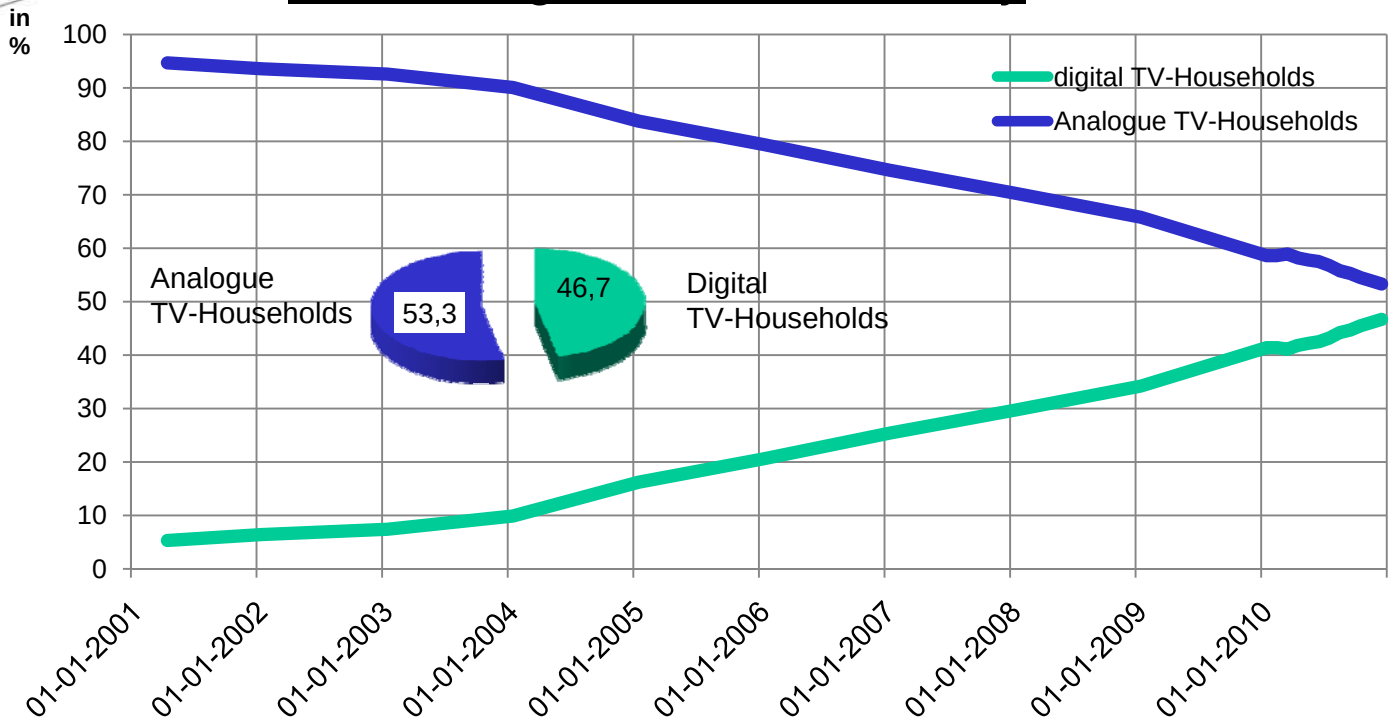
Digitization by transmission platforms



Source: ZAK 2010, Digitization Report

1. Television in Germany

Rate of Digitization in Germany



Source: AGF/GFK Fernsehforschung, TV-scope

ARD and Digitization in Germany

1. Television in Germany
2. The digital “Big Bang” in 1997 / 1998
3. 2002: End of analogue antenna transmission
4. 2012: End of analogue Satellite transmission
5. From analogue Substitution to digital Differentiation

2. 1997/1998:The digital „Big Bang“

- Political Initiative for Digital Broadcast
- Starting with DVB-S and DVB-C
- Profound changes
- ARD Play-Out-Center since 1997

2. 1997/1998:The digital „Big Bang“

Political Initiative for Digital Broadcast

- Political initiative of Federal Government and “Bundesländer”
- Harmonizing the transition from analogue to digital broadcast
- Invitation to hardware manufacturers, publishers, broadcasters
- Aims:
  - Terrestrial switch-over until to 2010
  - More efficient use of frequencies
  - Additional services (like iTV)
  - Reducing cost

2. 1997/1998:The digital „Big Bang“

Starting with DVB-S and DVB-C

- **Public broadcasters** ARD and ZDF started digital transmission on satellite and cable – unscrambled and with no extra costs
- Simulcast transmission of analogue and digital signals
- 1996/97: **PayTV** started in Germany (DVB-S), later on in cable – subscriber model
- Commercial FreeTV followed with simulcast
- Proprietary vs. standardized hardware and middleware, non-discriminatory access to programs!

2. 1997/1998:The digital „Big Bang“

Profound changes!

- Better quality of signals
- Compressed signals, more efficiency
- Lower transmission costs
- A larger selection of channels, but as well an explosion of available channels
- Completely new competitive situation for broadcasters
- How to be found in the digital diversity?

2. 1997/1998:The digital „Big Bang“

ARD Play-Out-Center since 1997

- ARD installed a separate institution for common tasks
- Digitizing 8 TV programs
- Programming and realizing three exclusively digital TV-channels
- Central database for schedule-information and metadata
- Developing and testing of new techniques and workflows
- Managing two uplinks
- Editorial and technical stuff: 62 employees

ARD and Digitization in Germany

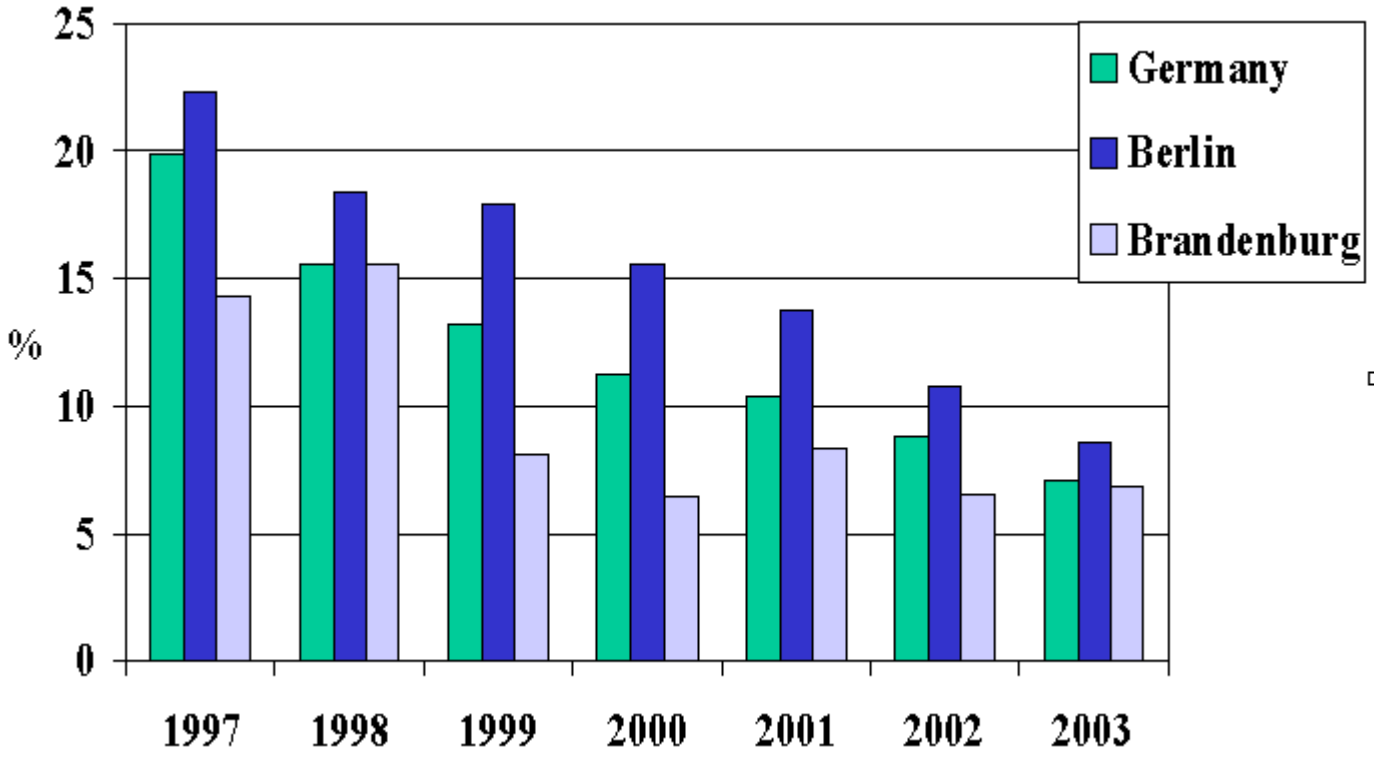
1. Television in Germany
2. The digital “Big Bang” in 1997 / 1998
3. 2002: End of analogue antenna transmission
4. 2012: End of analogue Satellite transmission
5. From analogue Substitution to digital Differentiation

3. End of analogue antenna transmission

- Situation before switch-over
- The experience of Berlin / Brandenburg (**rbb**)
- **rbb**’s résumée
- Switch-over in Germany
- DTT reception in Germany

3. End of analogue antenna transmission

Analogue terrestrial reception before switch-over



3. End of analogue antenna transmission

The experience of Berlin / Brandenburg

- Concept for public communication:
  - information instead of advertisement
  - no annoyance of cable households
  - info-programs & trailer (most important)
  - telephone hotline
  - Web-Sites
  - 1.5 Mio. letters to all households (expensive & inefficient)
  - press information
  - information for retailer

3. End of analogue antenna transmission

The experience of Berlin / Brandenburg

Steps to switch-over:

- 2/2002: Agreement between public and commercial broadcasters concerning a common switch-over
- 11/2002: starting simulcast (analogue and digital)
- Transmission of analogue private programs was switched off (28.02.2003)
- End of simulcast for programs of the public broadcasters (04.08.2003)
- **Terrestrial analogue transmission was switched off completely in the conurbation of Berlin-Potsdam**

3. End of analogue antenna transmission

rbb's résumée

- Successful roll-out of DVB-T in the greater Berlin area
- First Berlin than Brandenburg
- Successful switchover of public AND private broadcasters
- Prices for set-top-boxes declining rapidly
- Potential for improvements particularly at the receiver parts of the boxes and indoor antennas
- Negative side-effects by feeding into cable networks have been identified and resolved
- Information about the switch-over for the customers needs very much (=> more...) attention!!!!

3. End of analogue antenna transmission

1. Between 2003 and 11/2008: All german regions switched to DTT
2. Since 2009: DVB-T coverage about 95 % of area and over 90 % of population
3. 16 Mio. DTT-receivers sold since 2003

ARD and Digitization in Germany

1. Television in Germany
2. The digital “Big Bang” in 1997 / 1998
3. 2002: End of analogue antenna transmission
4. 2012: End of analogue Satellite transmission
5. From analogue Substitution to digital Differentiation

4. End of analogue Satellite transmission

- Initial position and forecast
- The campaign „klardigital“
- Objectives of the campaign

4. End of analogue Satellite transmission

Initial position and forecast

- The share of analogue satellite-households to all TV-households is about 21 percent (over 7 millions)
- Since 1/2009 digitization in satellite-households increases by about 1,6 percent per month
- At switch-over in April 2012 about three quarters of satellite-households will be already digital.
- Reducing costs (simulcast!), more efficiency in transmission

4. End of analogue Satellite transmission

The campaign “klardigital”

- Satellite will be switched to digital on 30.4.2012
- Initiative of media authorities, ARD, ZDF, commercial broadcasters
- “klardigital”-project has been set up two years before switch-over
- Joint project office will inform the audience

4. End of analogue Satellite transmission

Objectives of “klardigital”-campaign

- The coverage of programs at switch-over must be at least stable
- Help for the viewers during transition
- Information instead of uncertainty
- Encourage viewers
- Communicate additional values of the switch-over
- Lessons learned from DTT

ARD and Digitization in Germany

1. Television in Germany
2. The digital “Big Bang” in 1997 / 1998
3. 2002: End of analogue antenna transmission
4. 2012: End of analogue Satellite transmission
5. From analogue Substitution to digital Differentiation

5. Towards digital differentiation

- High-definition television
- Orientation and information needed: EPG and programme-data
- A long way to go: from OpenTV to MHP and HbbTV
- Coexistence or competition? Linear and non-linear broadcast

5. Towards digital differentiation

High-definition television

- POC realized first HD showcases for EinsFestival between 2007 and Christmas 2009 (more than 830 hours)
- Regular HD broadcast of Das Erste since February 2010 (SD / HD simulcast)
- Public broadcasters agreed to 720p/50 for broadcast
- HD via satellite, IPTV and cable using DVB-S2
- More TV channels of ARD will follow 2014 to 2018
- End of 2010: about 5,5 millions HD-set-top-boxes
- Commercial broadcasters using a proprietary format (HD+) with additional costs (50 € p.a.)

5. Towards digital differentiation

Orientation and information needed

- Not only video and audio within digital broadcast, but standardized service-information (SI-Data)
- ARD POC is collecting, editing, updating and broadcasting a forecast up to 14 days for all TV- and radio-channels of ARD
- Very structured and efficient handling of data
- Distributing data for several purposes to internal and external partners
- Publishing enhanced SI-data online and within an ARD-EPG

5. Towards digital differentiation

From OpenTV to MHP and HbbTV

- Interactive TV services need middleware – ARD is strictly for standardization and non-discriminatory access
- The market offers different hybrid solutions (proprietary)
- **HbbTV** (Hybrid broadcast broadband TV) is a pan-European initiative
- Specification approved by ETSI (European Telecommunications Standards Institute)
- ARD is running HbbTV-prototypes since 2009 (including VoD services)
- All German FreeTV-broadcasters have adopted HbbTV

5. Towards digital differentiation

The hybrid approach

DVB-S, C, T,

Broadcast signal

IP

Broadband content

+

5. Towards digital differentiation

HbbTV and the Red Button

- Red Button guarantees direct access to program-related iTV-content
- Broadcaster: Re-using existing content
- The iTV-services are adopted for the TV-screen and for the lean-back situation.
- A strong feature: linked iTV-services and links between program and iTV-service

5. Towards digital differentiation

HbbTV: some examples

5. Towards digital differentiation

Linear and non-linear – coexistence!

- VoD-services (7-days catch up & news services) are now available not only on PC but on TV-set
- Quality of service is needed to win the viewer
- Non-linear services will change the viewer’s behavior – but not as fast as predicted
- VoD is not the end of linear broadcast
- Broadcasters will organize a planned coexistence of linear and non-linear
- We are just gathering first experiences!

RUNDFUNK BERLIN-BRANDENBURG

Muchas gracias por su paciencia y su atencion!

(ARD.de, ard-digital.de, rbb-online.de, klardigital.de, programm.ARD.de)

Uwe Welz
Head of ARD Play-Out-Center Potsdam / rbb
Uwe.Welz@ard-digital.de