

# *Introduction to HbbTV*

*Dr. Klaus Illgner-Fehns*

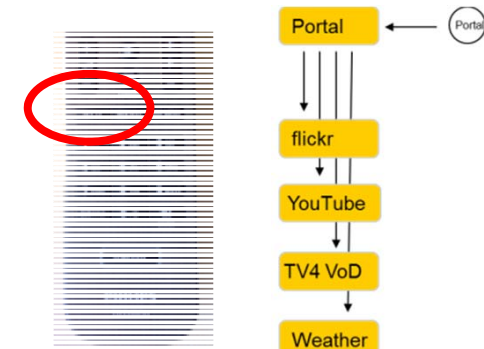
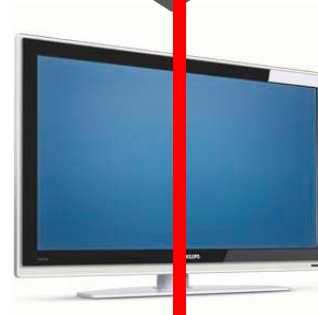
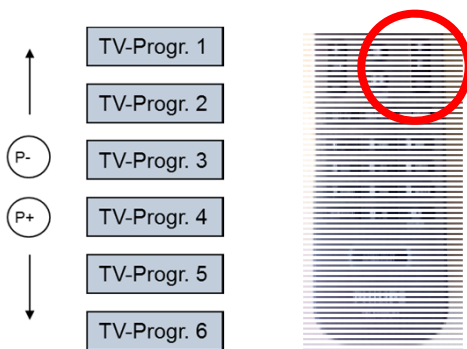
*Managing Director, IRT  
Chairman HbbTV consortium*

# „Connected Devices“ The worlds are still separated

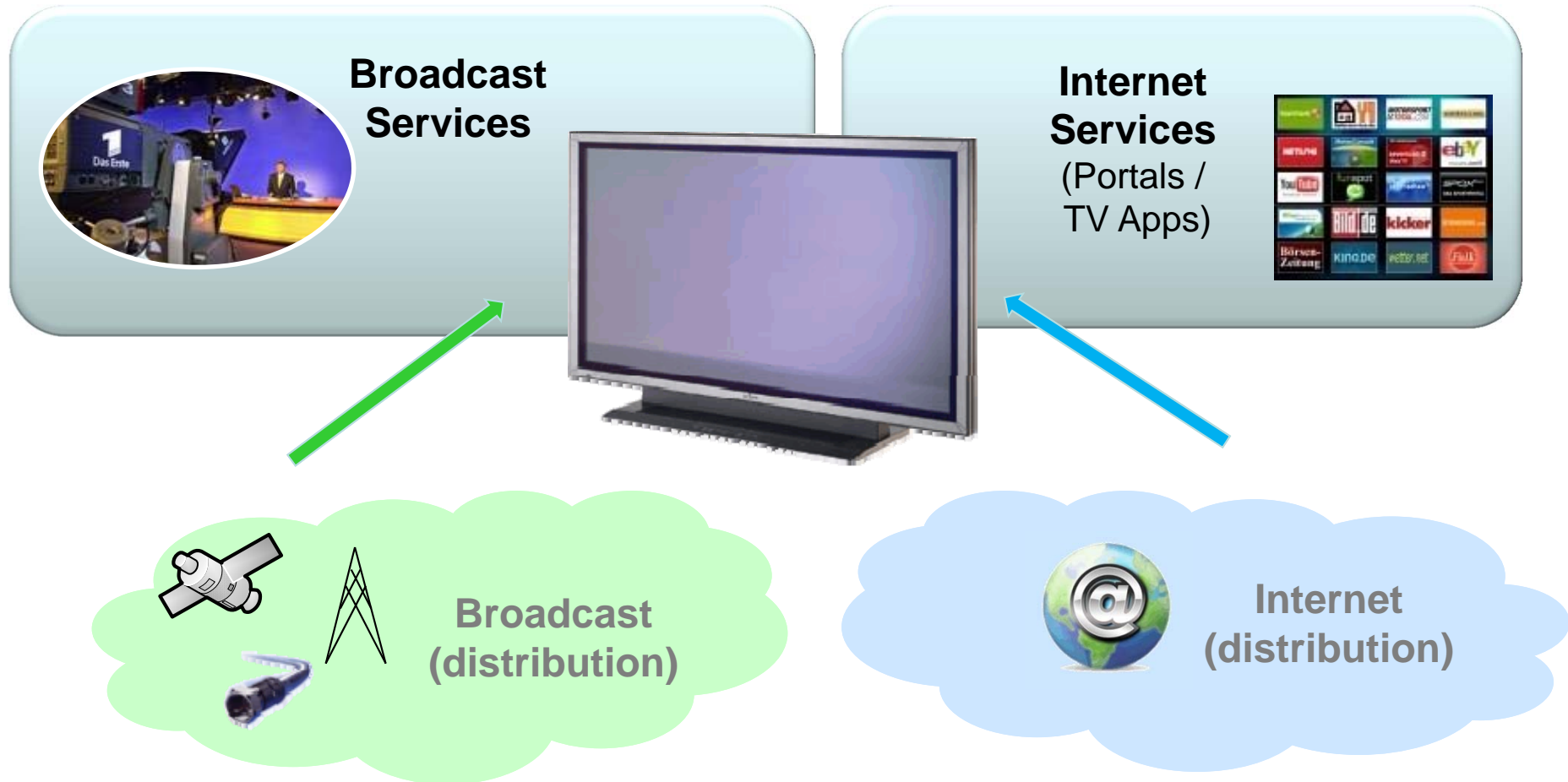
**Broadcast  
context**



**Internet  
context**



# HbbTV – a new paradigm





# HbbTV creates a holistic TV experience

Example for Instantiation → „Red Button“:  
Static and dynamic linking of broadcast and internet content



11

- Seamlessly tying linear and non-linear (online) services together
- maintain full control of brand and consumer awareness

## Approach:

- generate short-term win-win situation in the market for value chain
- define minimum requirements only
- create extensible solution to allow for differentiation



Fast application development  
by using a browser



Minimize resource impact  
on device



No central gatekeeper /  
portal needed



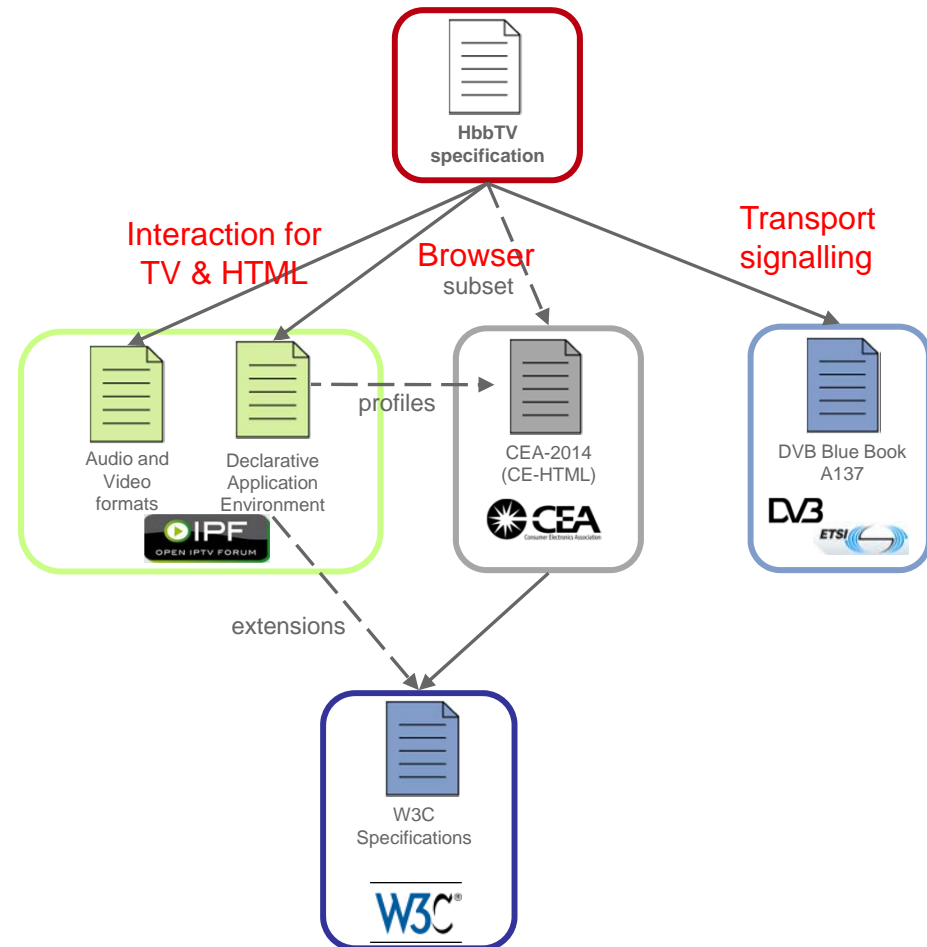
Broadcast can remain  
anchor for service usage



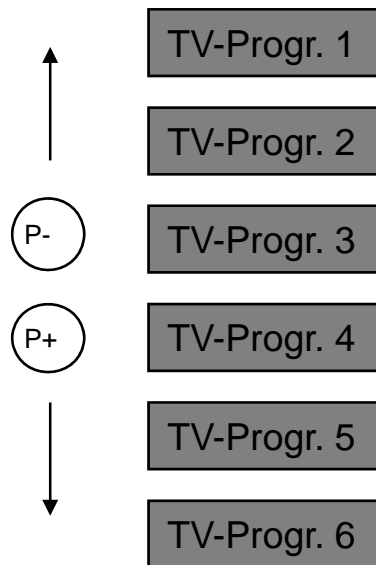
Independently maintain  
brand and UI design

# The Key Building Blocks of the HbbTV Specification

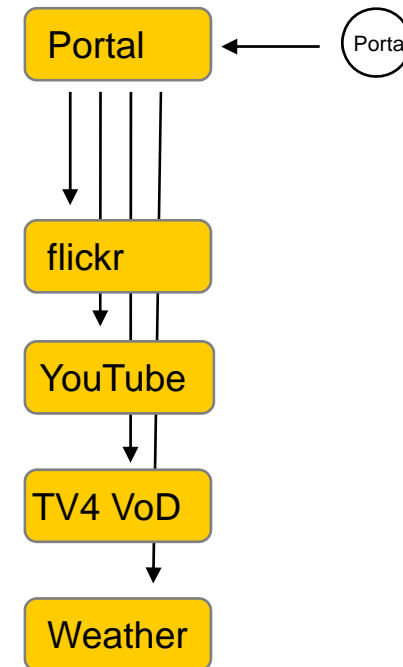
- Start from two key mature & stable pieces of technology
  - Web standards as included in web browsers for embedded devices
  - DSM-CC object carousel as used with MHEG-5 in UK and MHP in Italy
- Mix in elements from other work where necessary
  - Application signaling & lifecycle management as used in MHP
  - JavaScript APIs for TV from OIPF



# „Portal Button“ by Connected TV



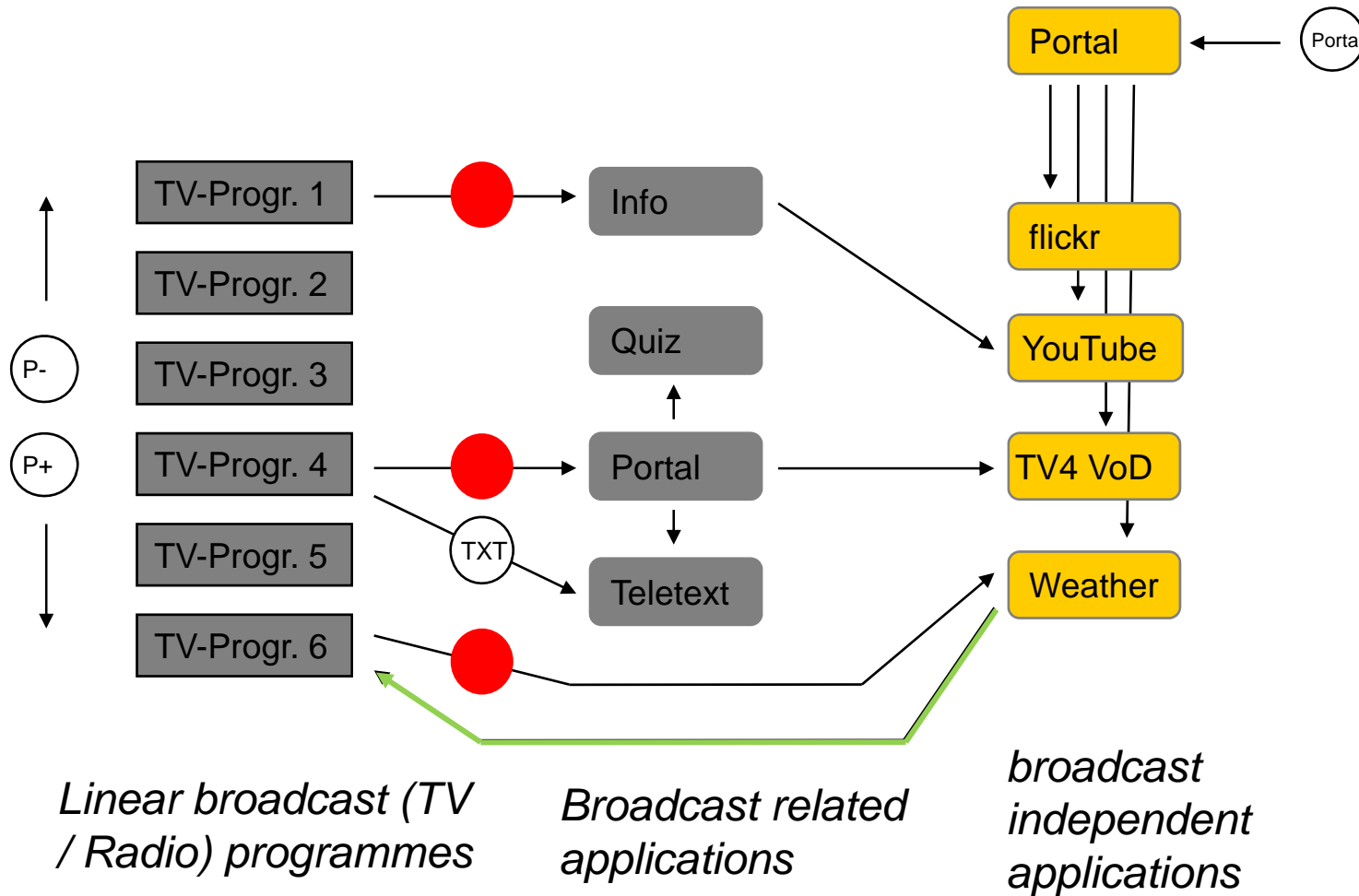
*Linear broadcast (TV / Radio) programmes*



*broadcast independent applications*



# „Red Button“ of „Hybrid TV“



Borne out of a cooperation arrangement between French and German initiatives

Initial members:

ANT, APS, Canal+, EBU, France Télévisions, IRT, OpenTV, Philips, Sony, Samsung

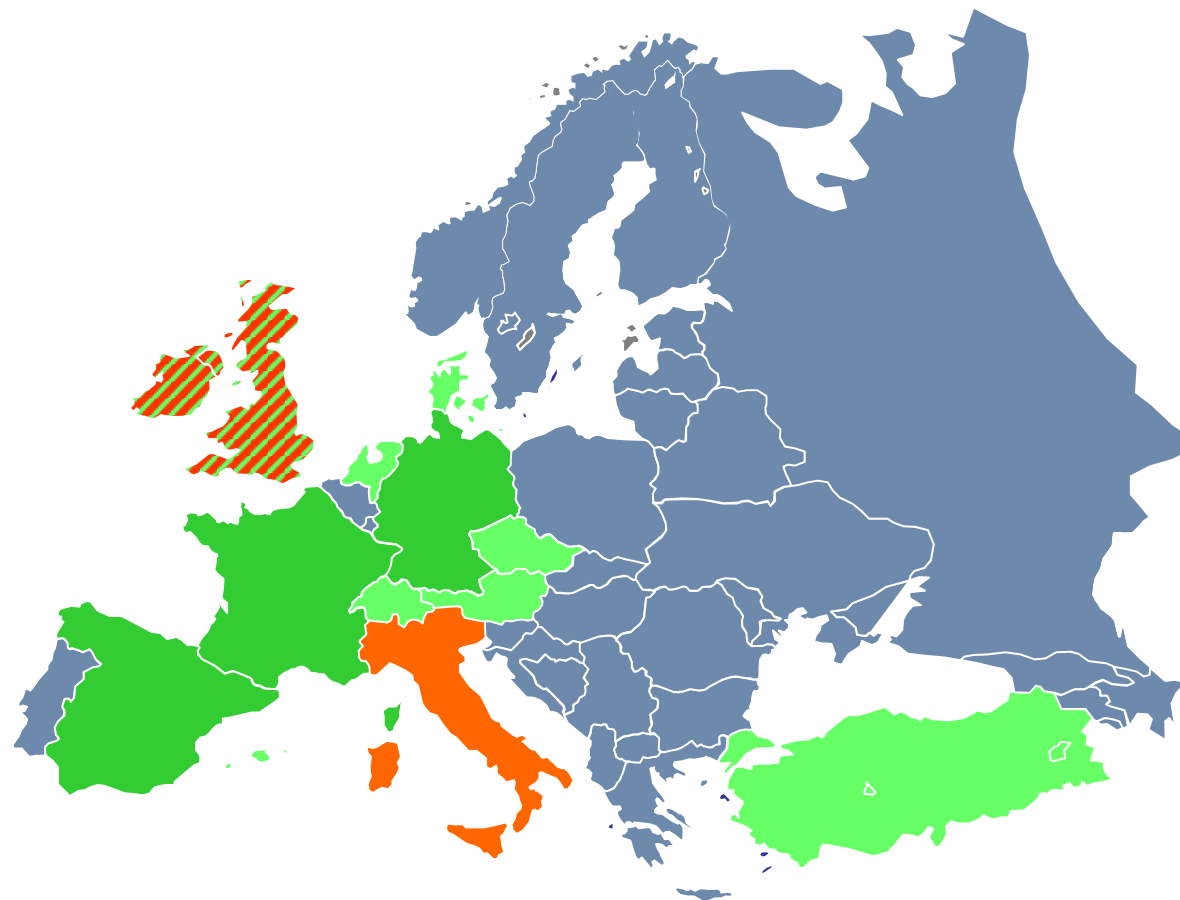
HbbTV consortium formally established in 2010

Today 59 members

## Results

- ETSI specification TS 102 796 v1.1.1
- HbbTV 1.0 „errata“
  - maintenance work on HbbTV 1.0: fixing bugs and unclear items
  - no new features
  - mainly completed
- HbbTV 1.5
  - intermediate specification reacting to short term market requirements
  - adding some new features to HbbTV 1.0:
    - adaptive streaming, advanced DRM integration, full EIT support

# HbbTV<sup>®</sup> in the international market



in regular operation

announced

trial phase

no information

other plans

HbbTV caught interest also outside Europe e.g. US, Japan, Australia China (HbbTV trials)

More countries are about to decide .....

# Brands offering HbbTV (Germany)



# HbbTV at Major Retailers (Germany)



**139,-**

**TELESTAR** 5310414 HBB S1+  
**HD TV SAT RECEIVER**  
 mit CI+ Slot zum Nachrüsten von HD, elektronische Programmführer (EPG), Software Update via Satellite, einfache Installation über einen Installationsassistenten, Dolby Digital, Super Videotext mit 1000 Seitenprophet, HDMI- und USB-Anschlüsse. Art. Nr.: 114 7441

**HbbTV - Mehr Infos. Mehr sehen.**

PREISWERT+KOMPETENT

**expert TechnoMarkt**

**129,-** Barzahlungspreis

**64 PUNKTE**

**KENDO**  
 Sat-Receiver DVB-S  
 1200+ FHD

- DVB-S2 - HD TV - Receiver
- 1000 Programmspeicher
- CI+ Slot zum nachträglichen Einlegen von Pay-TV
- HbbTV (Original Broadcast Channels) TV für erweiterte Videotext- und Interaktionsfunktionen (auch ohne TV-Gerät nutzbar)
- PVR Ready, Aufnahme, Wiedergabe und Time-Shift auf externe Speichermedien per USB 2.0
- Mediatext per HbbTV und Mediatext in JPEG-Format

• EPG, elektronischer Programmführer mit Zeitverschiebung

• HD, mehrsprachiges On-Screen-Display

• Videotext Decoder mit 100 Seitenprophet

• TV-Auflösung: 576i, 576p, 720p und 1080i

• USB-Stromversorgung (Kategorie 2)

• Unterstützt lineare Sat-Anlagen

Art. Nr.: 11401001477

Monatliche Mindestrate 9,-

HD TV  
 HbbTV  
 PVR READY  
 USB

KATHREIN HD TV  
 Sat-Receiver UPS 2100

SONY

Dolby Digital, DTS-HD-Decoder  
 3D-Sensord

selling HbbTV devices at retailers & discounters

- ALDI
- Mediamarkt / Saturn
- TechnoMarkt

MEDION®  
**106,7 cm/42" LED-Backlight TV**  
 MEDION® LIFE® X17006 (MD 30465)  
 mit 100 Hz Technologie und integriertem HD Triple Tuner<sup>1</sup>

- Top-Design
- Integrierte Empfangsmöglichkeiten DVB-S2; DVB-T; DVB-C; Kabel-Analog
- Full HD 1.080p
- HD+ fähig durch integrierten CI+ Slot<sup>2</sup>
- HbbTV - Erweiterter Videotext mit Online-Zugriff auf multimediale Inhalte
- DLNA-Wiedergabe von Medien vom PC und Notebook

36 Monate Herstellergarantie

**MEDION®**

Stück **599,00**



# Examples of Services in Regular Operation (Germany)



Viele Videos zum Abrufen in der ARD-Mediathek



Immer-up-to-date mit der aktuellsten Tagesschau



Mehr als 1000 Videoclips im Videocenter von ProSieben



ran Live Ticker zur Champions League bei SAT.1



Der Programmführer für alle ARD-Programme



Teletext-Angebot in neuer Aufmachung und mit neuen Funktionen



Aktuelle Sportinformationen bei Sport1



KabelKiosk interaktiv von Eutelsat mit VOD und lokalen Inhalten



Auch die dritten Programme sind dabei mit ihren Mediatheken ...



... und neugestalteten Teletextangeboten



Interaktives Musikfernsehen bei YAVIDO



CD-Shop von Music Box



Infoseiten zu den ARD-Radioprogrammen



Begleitinformationen zu aktuellen Events



Abrufvideos bei „Videoframe“



Sonnenklar.tv mit Reiseangeboten und Reisevideos

>90% of broadcast market supports HbbTV with applications on air  
~ 50 currently known applications from large and small stations

# HbbTV enables platforms



Platform for cable operators

Device portal



# „Videotext“ → WEB-page as „Service Guide“





# „Videotext“ → WEB-page as „Service Guide“



zurück

Jenner

09:59

Di	5°	Mi	4°	Do	3°

1802 m  
8.5 °C  
NW 2.8 km/h

# Example for Commercial Service

**LIVETICKER** **SPORT**

**3:0**  
(1:0)

Mainz vs. Nürnberg

Spielende  
Fazit:  
Mainz beendet den Heimfluch und kommt zu einem letztlich hochverdienten Sieg gegen harmlose Nürnberger. Die Tendenz des Clubs zeigt klar nach unten.

90. Ende 2. Halbzeit  
Der Schlusspfiff!

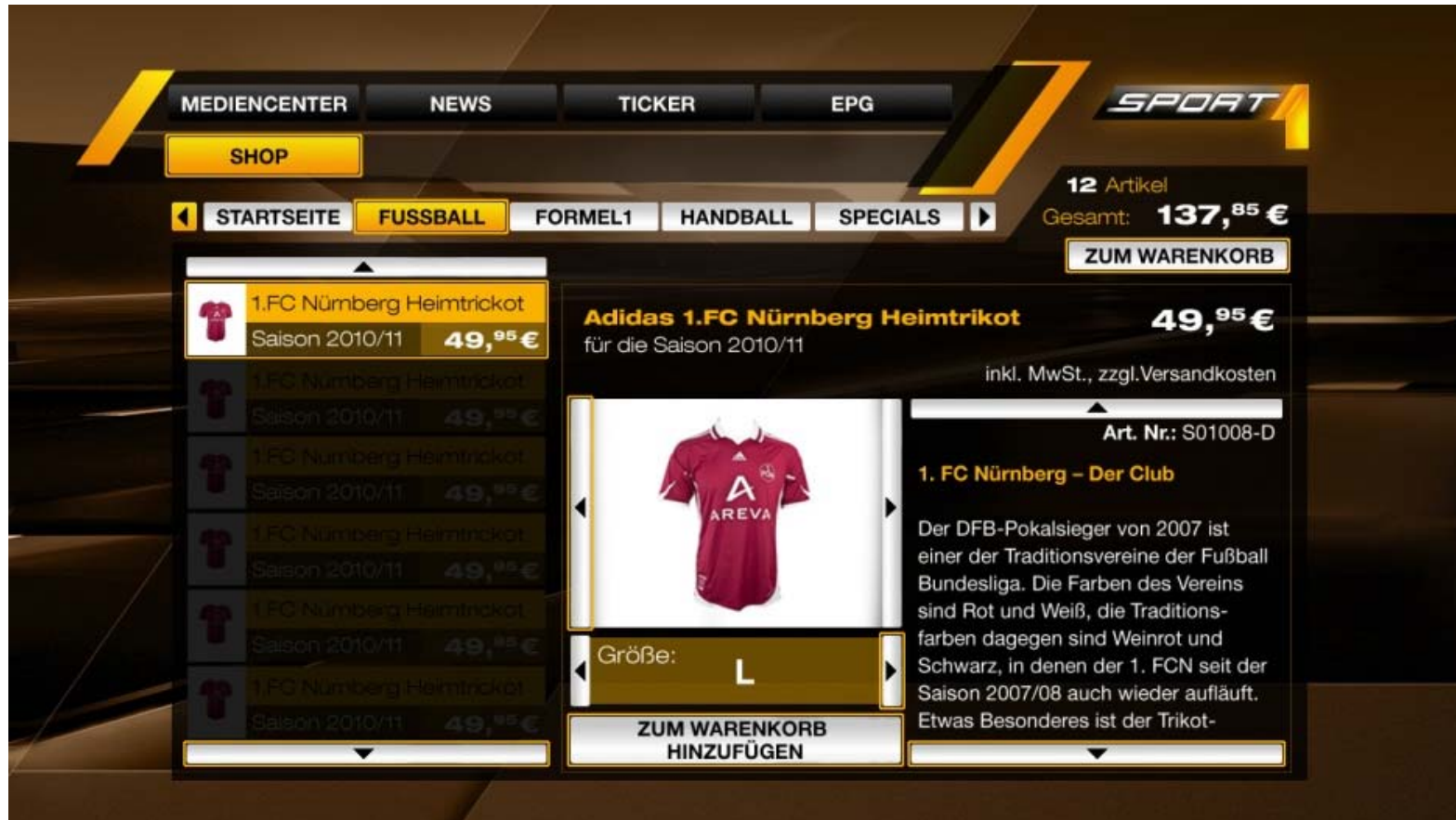
88. Gelbe Karte für Wolf (Nürnberg)  
Wolf ist ziemlich gefrustet und beschwert sich

abm Produktion der Arbeitsgemeinschaft Behinderung und Medien

LIGA	BEGEGNUNG	ERGEBNIS	STATUS
Premier League	Lok Plovdiv - Chernomorets	-:-	In Kürze
Football League	Panetolikos - OFI Crete	-:-	In Kürze
Liga Zon Sagres	Portimonense - Uniao Leiria	1:0	abandoned

Ausblenden News/Artikel Mediacenter EPG

# Example for Commercial Service



The screenshot shows a sports shop interface on a TV screen. At the top, there are navigation tabs: MEDIENCENTER, NEWS, TICKER, EPG, and a prominent SPORT logo. Below this is a SHOP button. A secondary navigation bar includes STARTSEITE, FUSSBALL (selected), FORMEL1, HANDBALL, and SPECIALS. On the right, it indicates 12 items for a total of 137,85 €. A button labeled ZUM WARENKORB is visible.

The main content area displays a list of 1. FC Nürnberg home jerseys for the 2010/11 season, each priced at 49,95 €. A detailed view of the selected item is shown below:

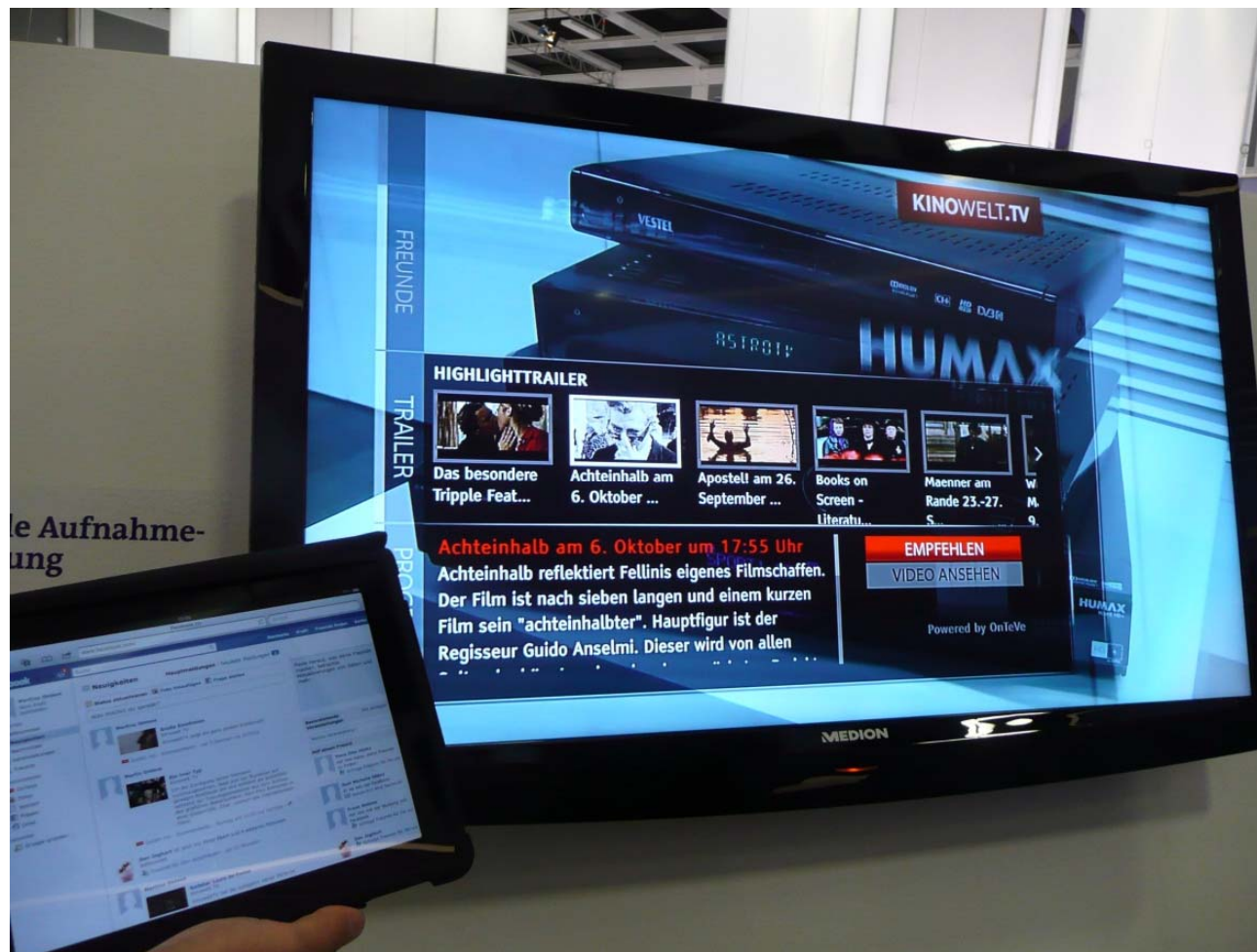
- Adidas 1.FC Nürnberg Heimtrikot** für die Saison 2010/11 **49,95 €**
- inkl. MwSt., zzgl. Versandkosten
- Art. Nr.: S01008-D
- 1. FC Nürnberg – Der Club**
- Der DFB-Pokalsieger von 2007 ist einer der Traditionsvereine der Fußball Bundesliga. Die Farben des Vereins sind Rot und Weiß, die Traditionsfarben dagegen sind Weinrot und Schwarz, in denen der 1. FCN seit der Saison 2007/08 auch wieder aufläuft. Etwas Besonderes ist der Trikot-

The size is set to **L**. A button labeled **ZUM WARENKORB HINZUFÜGEN** is at the bottom.

# Example for Commercial Service



# Social Video (Demo)

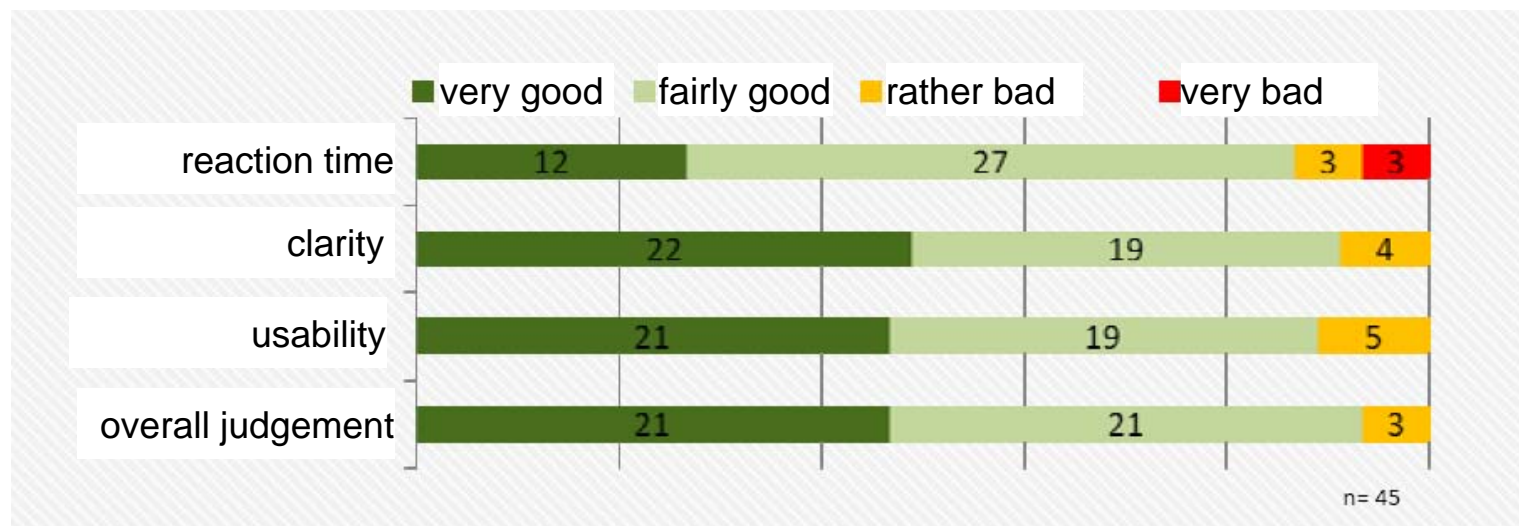


ARD usability test (performed in Jan. 2011)

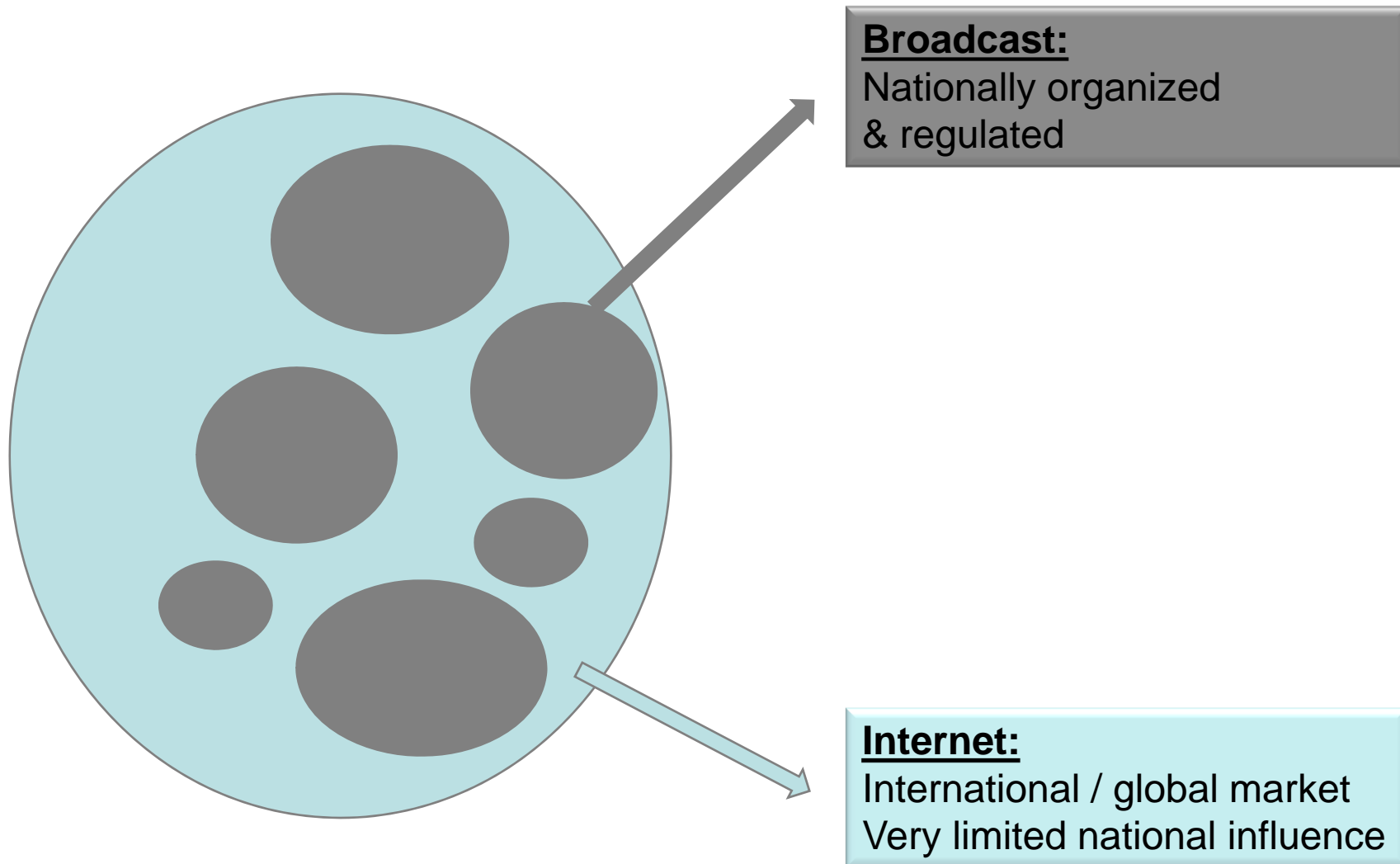
- 45 participants
- Equal age distribution between 20 and 69
- one hour of testing all ARD applications each



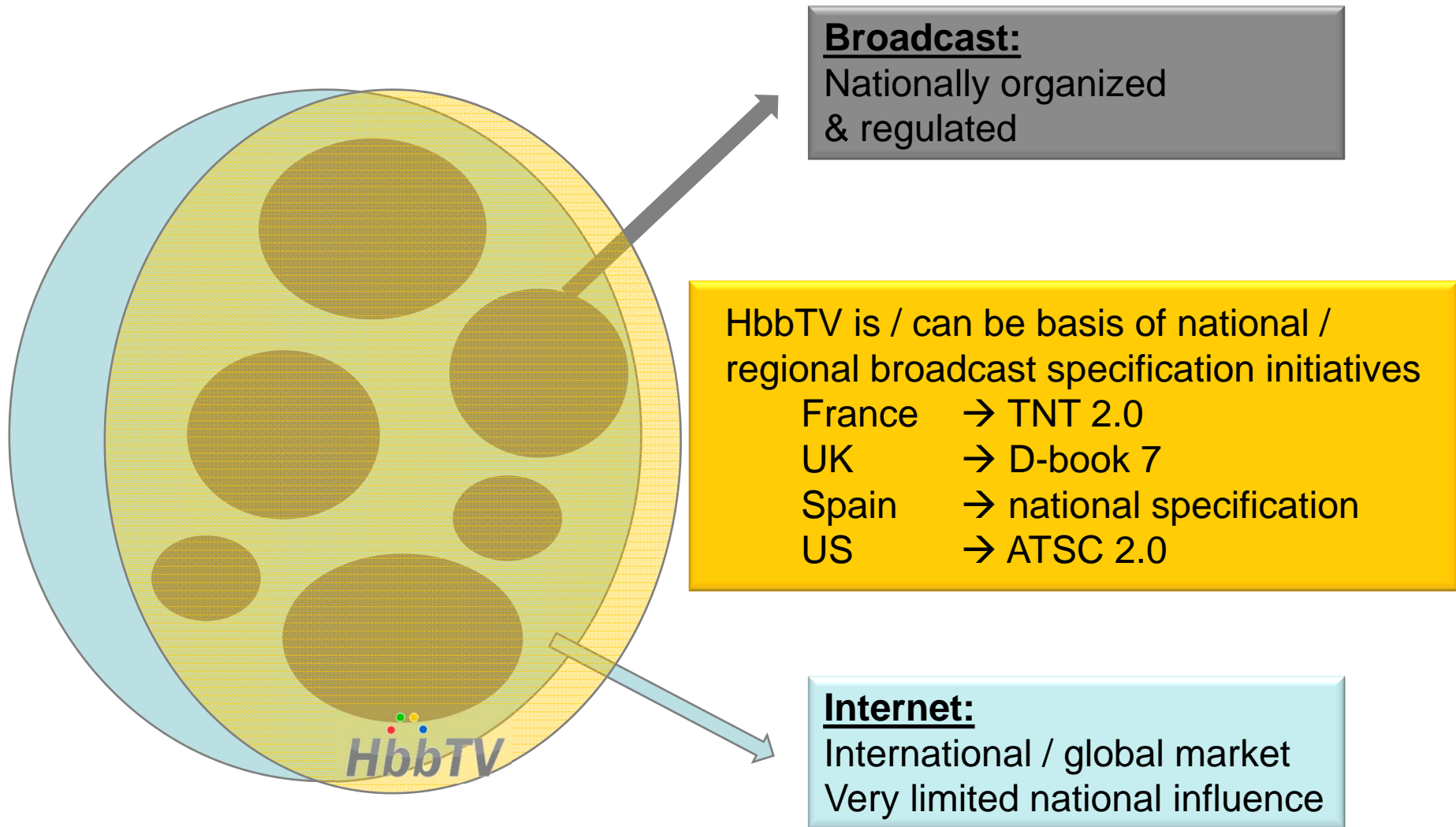
overall judgment over various ARD offerings:



# Broadcast versus Internet: Two Market Paradigms



# Broadcast versus Internet: Two Market Paradigms





# Current Challenges



- *Educate community to write applications with excellent usability and design*
  - navigation concept (simple, obvious, common principles)
  - design rule (placement of elements, graphics, text parameters)
  
- *Coexistence of HbbTV with manufacturer software stacks*
  - simultaneous execution of applications possible
  - prevent uncontrolled leveraging of content and advertisement  
→ “Internet TV Principles” by WBU (World Broadcast Union)
  
- adaptive streaming support → under development
  
- Integration of portable / mobile devices (smartphone, tablets, etc.)
  - dual screen for personal content (billing, authorizing, communication,....)

## → HbbTV v2.0

- process will start early 2012
- you are invited to participate (via HbbTV membership)

HbbTV<sup>®</sup>'s standardized solution:

- only open and business neutral technical infrastructures enable mass markets
- Immediate win-win situation for along the value chain

HbbTV<sup>®</sup> gained european-wide significant market momentum

- Rapidly growing international support is about to make it the standard feature of TV

HbbTV<sup>®</sup> sparks off fast development of attractive applications

- Potential for applications and business opportunities leveraging broadcast & broadband is barely being exploited yet.

***Thank you for your attention!***

*Dr. Klaus Illgner-Fehns*  
*Chairman HbbTV consortium*

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