HbbTV beyond broadcast

10th HbbTV Symposium and Awards Nov 10, 2022

Klaus Merkel, rbb / Distribution Strategy

System overview HbbTV 1.0

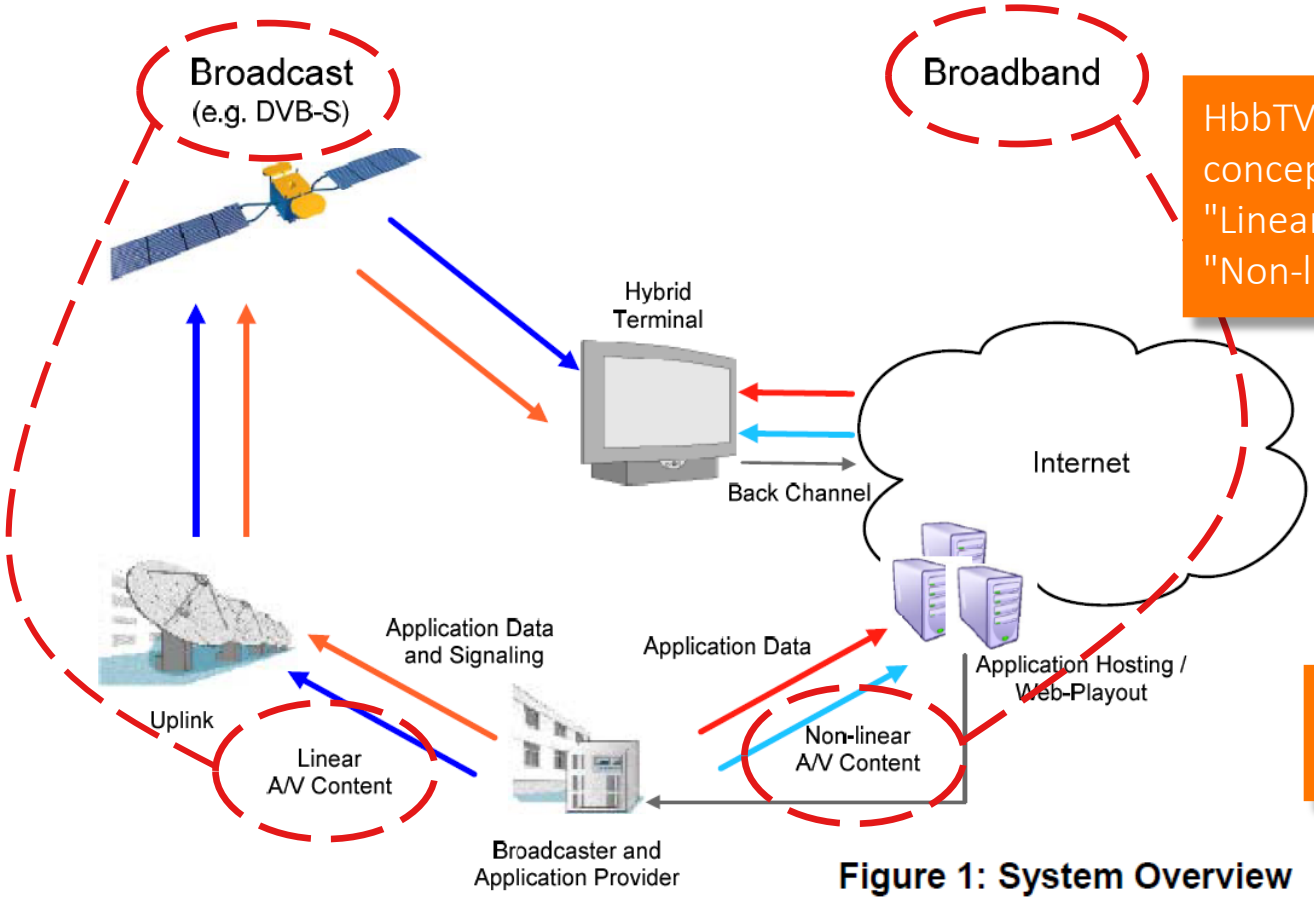
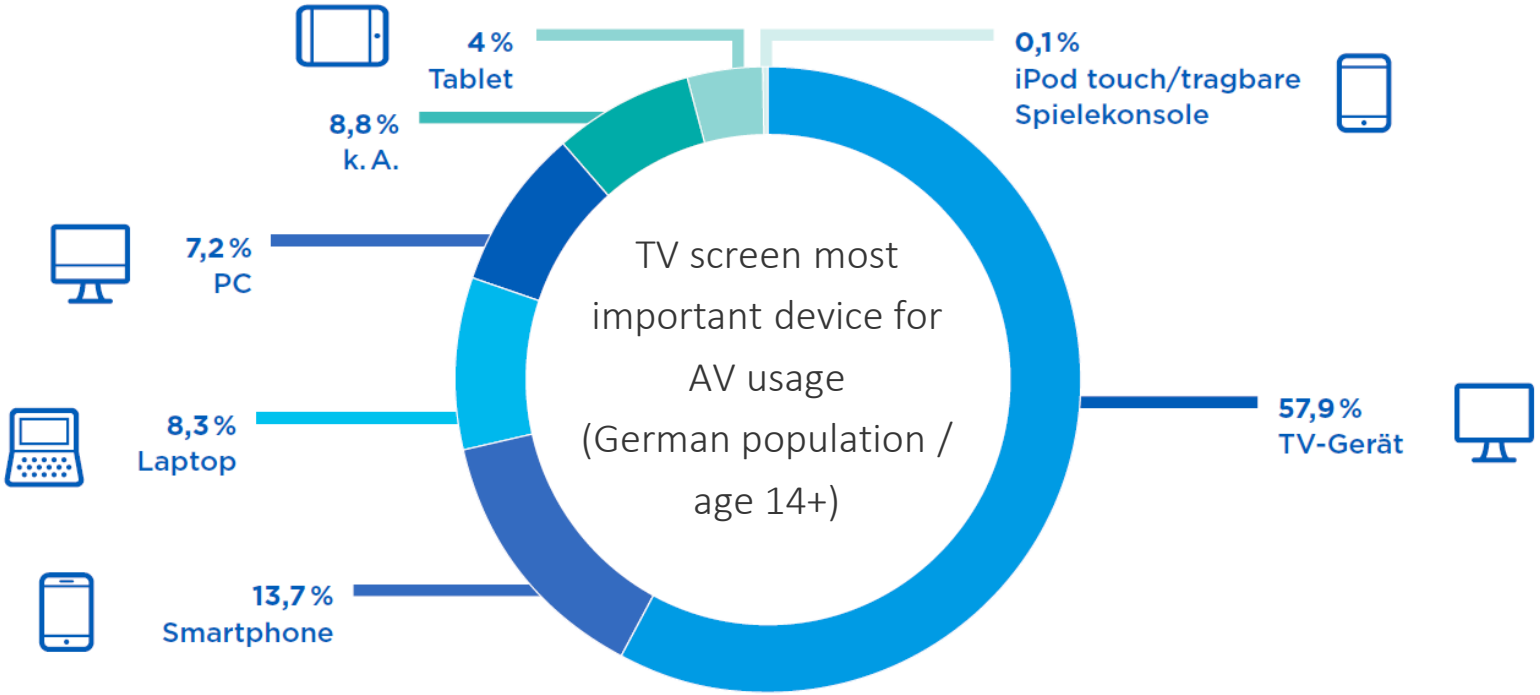


Figure 1: System Overview

HbbTV 1.0 associates conceptually and technically
"Linear" with "broadcast"
"Non-linear" with "broadband"

(the name "HbbTV does so as well ...)

Market basis for the HbbTV "red button"



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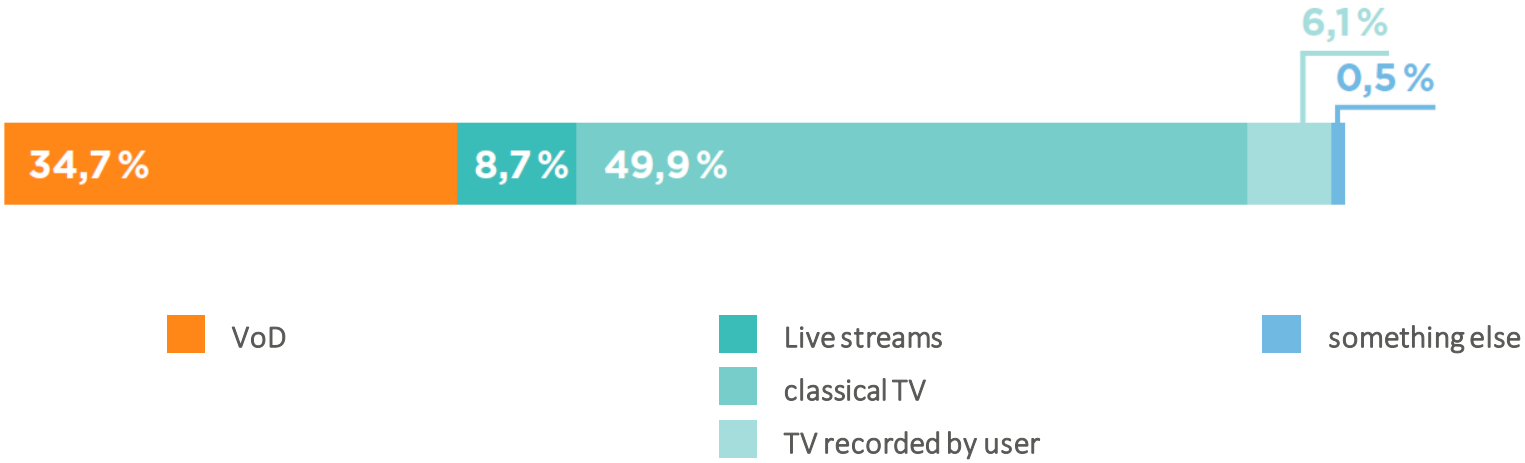
Market basis for the HbbTV "red button"

Linear still dominating AV usage

(viewing duration across the whole German population / age 14+)



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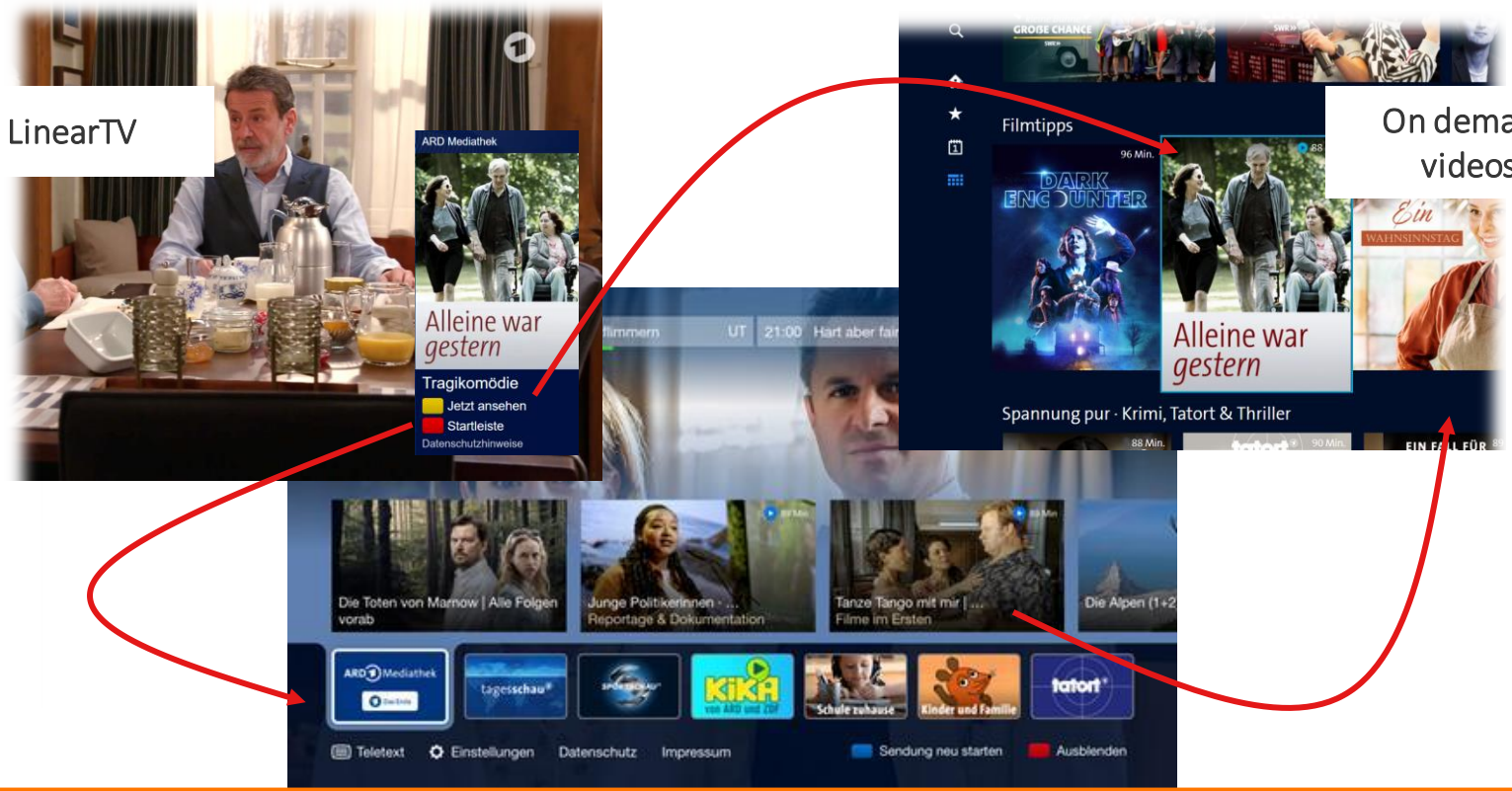
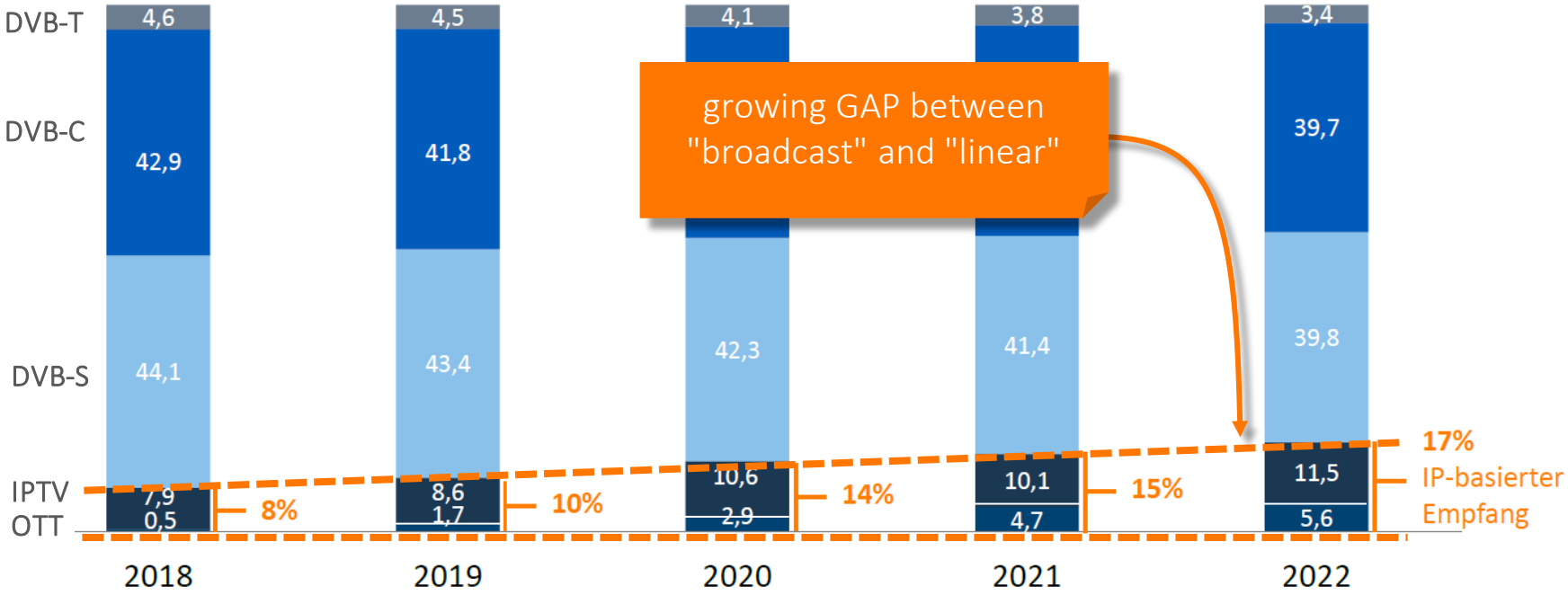
HbbTV "red button" - a success model for ARD



HbbTV + "red/yellow button": most used platform for ARD to access on demand content on TV Screens

SmartTVs are standard for TV reception



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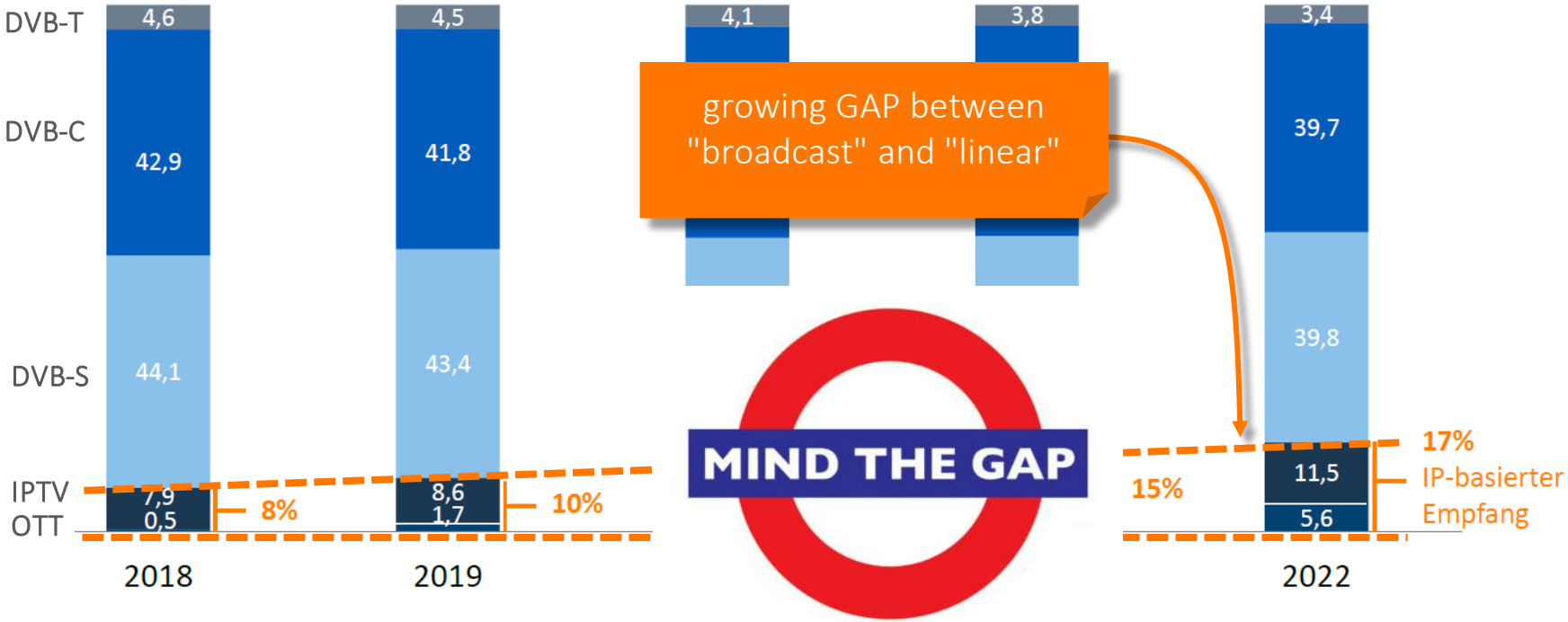

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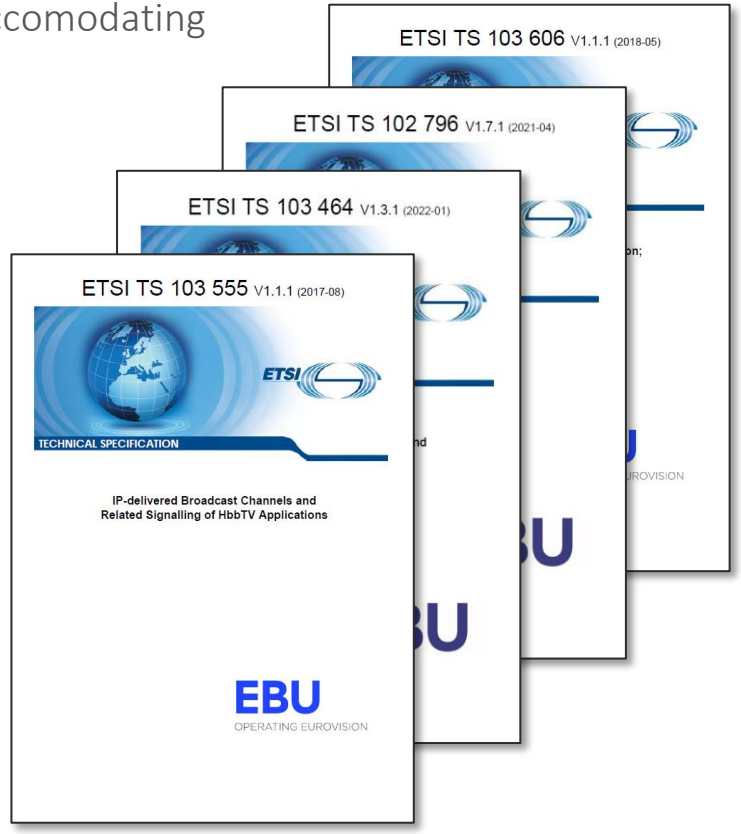
HbbTV addressing the gap

HbbTV has created / is still working on a number of specs accomodating IPTV/OTT delivery of "linear"

1. HbbTV in IPTV/OTT networks
   (ETSI TS 103 555 v1.1.1)
2. Application discovery over Broadband
   (ETSI TS 103 464 v1.3.1)
3. HbbTV 2.0.4 facilitating DVB-I integration
   (ETSI TS 102 796 v1.7.1)
4. HbbTV operator apps update facilitating OTT as "linear"
   (ETSI TS 103 606 v1.2.1)

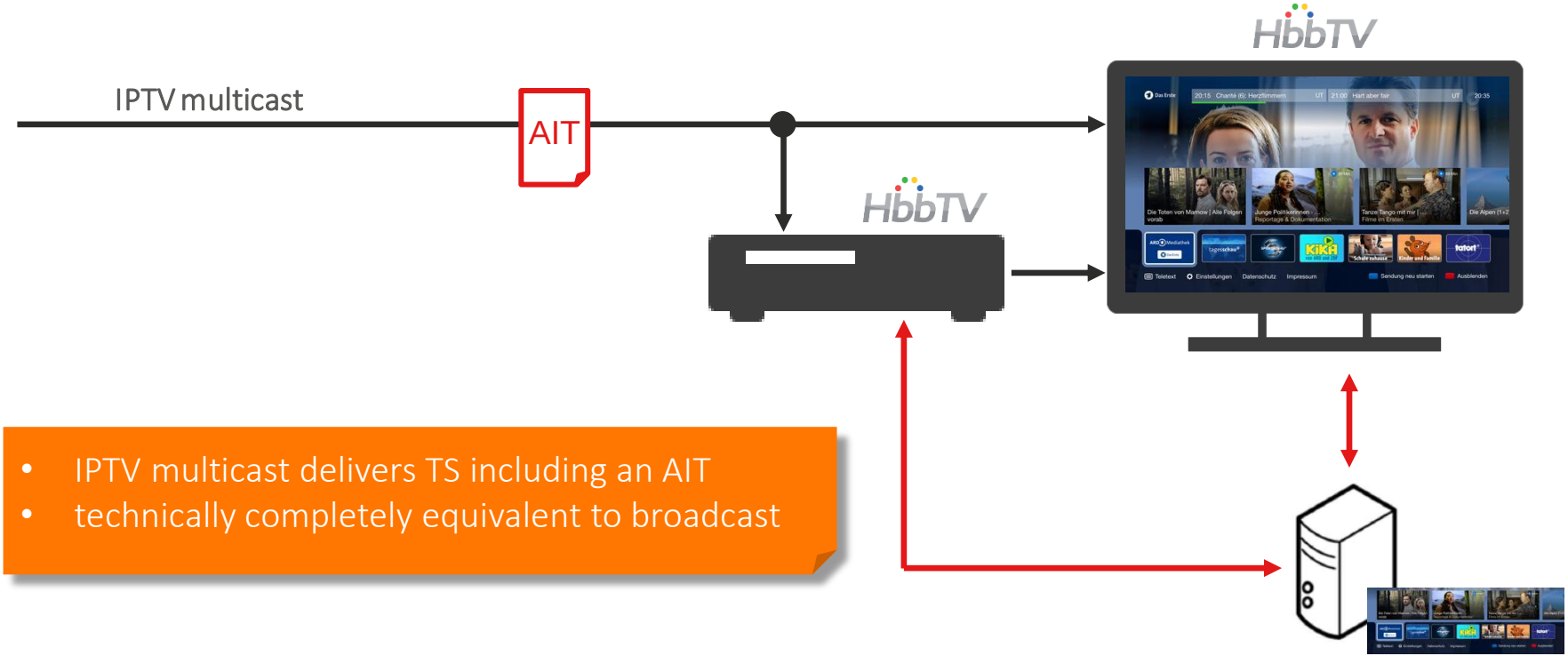


HbbTV addressing the gap

HbbTV specifications address a number of IPTV/OTT delivery scenarios of "linear"

Distribution of linear signal	channel selection by HbbTV device	AIT provision	HbbTV spec
TS via IPTV multicast	yes	AIT in TS	IPTV
Platform specific OTT device/app	yes	platform specific link to XML-AIT	IPTV/ADB1
OTT signal via DVB-I	yes	link to XML-AIT in DVB-I service list	HbbTV 2.0.4
OTT device / linear signal via HDMI	no	link to XML-AIT via watermarking	ADB2
OTT services via OpApp	no	XML-AIT provided by OpApp	OpApp v2

HbbTV in IPTV multicast networks

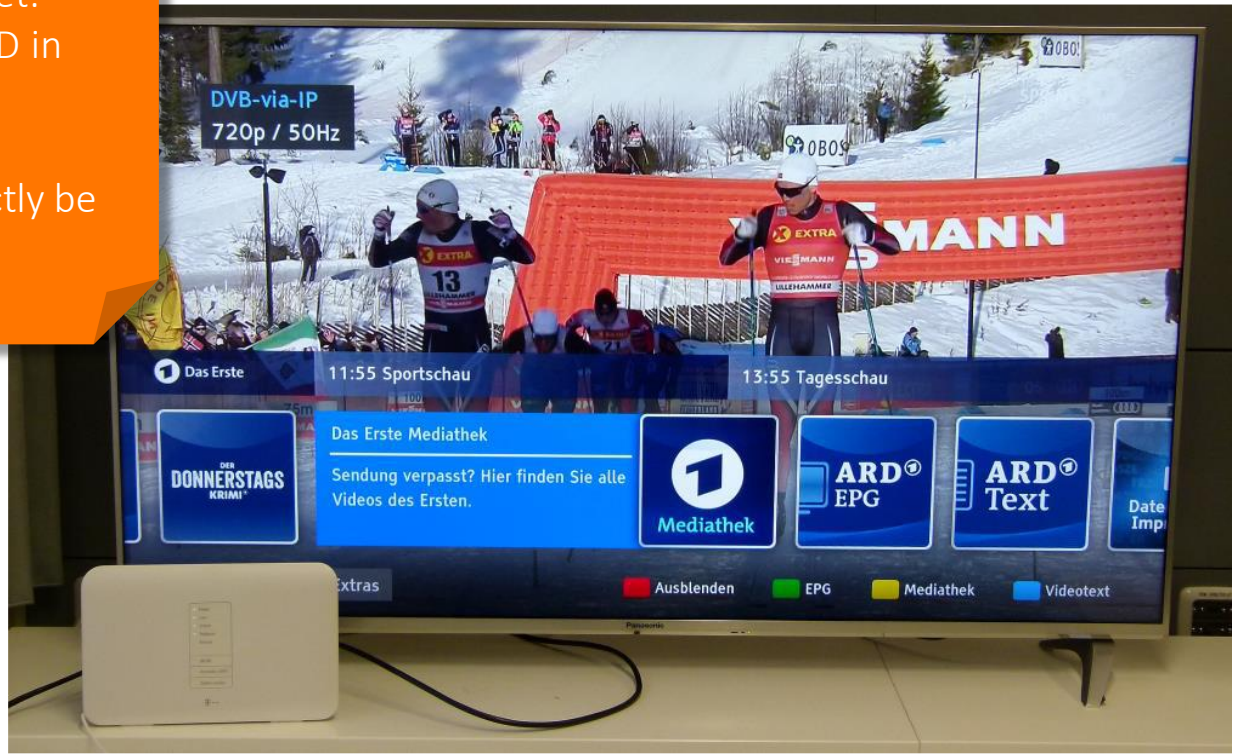


- IPTV multicast delivers TS including an AIT
- technically completely equivalent to broadcast

HbbTV in IPTV multicast networks

example from German market:

- AITs are delivered for ARD in unencrypted IPTV-TS of Deutsche Telekom
- Telecom router can directly be connected to HbbTV TVs supporting multicast



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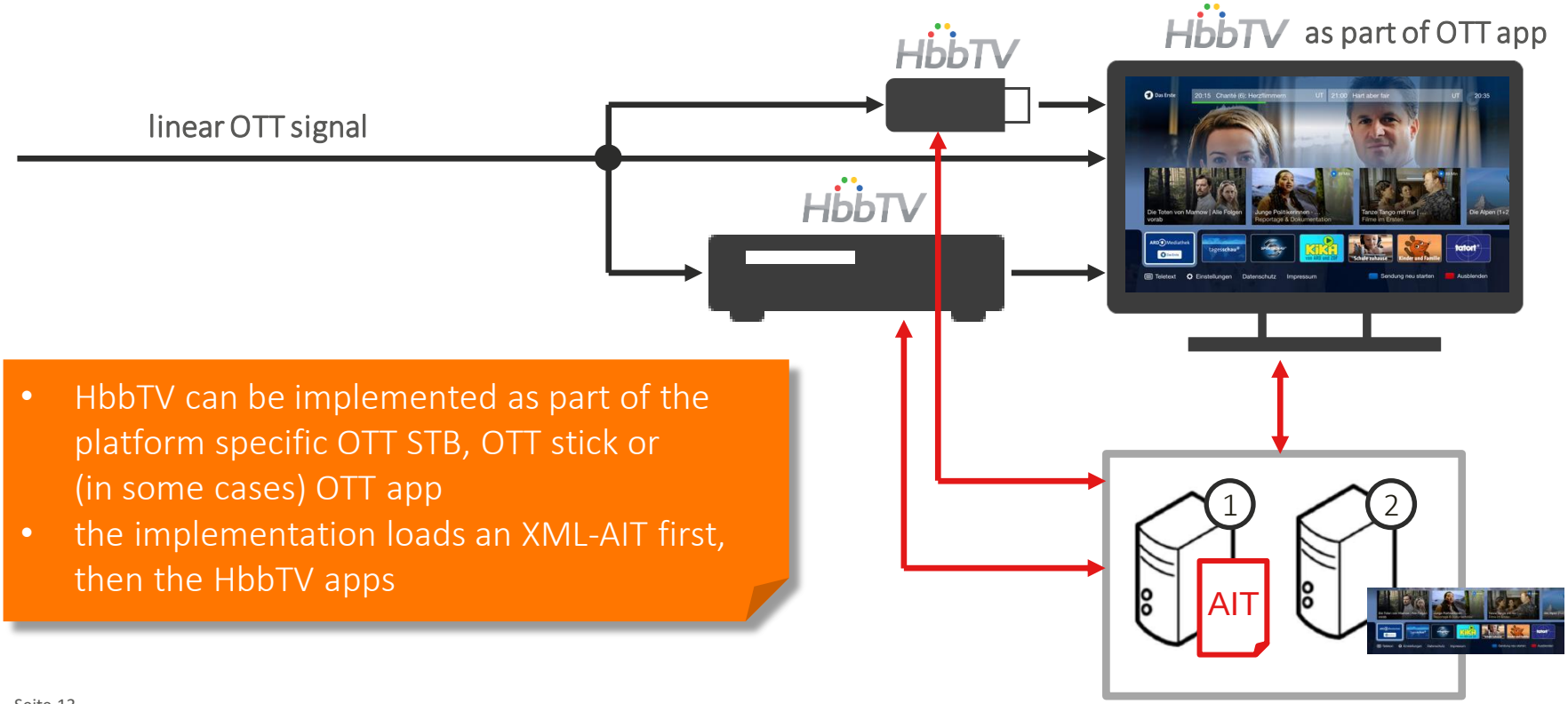
HbbTV in OTT platforms



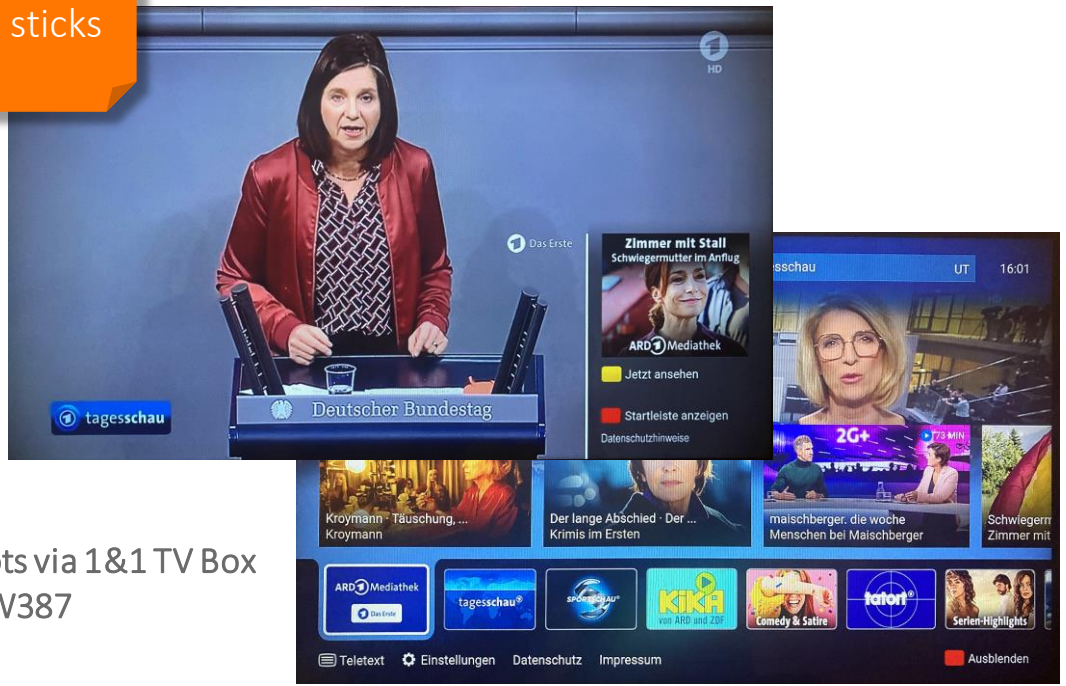
- HbbTV can be implemented as part of the platform specific OTT STB, OTT stick or (in some cases) OTT app
- the implementation loads an XML-AIT first, then the HbbTV apps

HbbTV in OTT platforms

example from German market:
HbbTV implementation on 1&1 STBs and sticks
(by Fraunhofer FOKUS)

1&1 TV platform supports HbbTV via:

- TV-Box – Sagemcom DIW387
- TV-Box – ABOX42 M30
- TV-Stick – Sagemcom DIW362P



Screenshots via 1&1 TV Box
Model DIW387

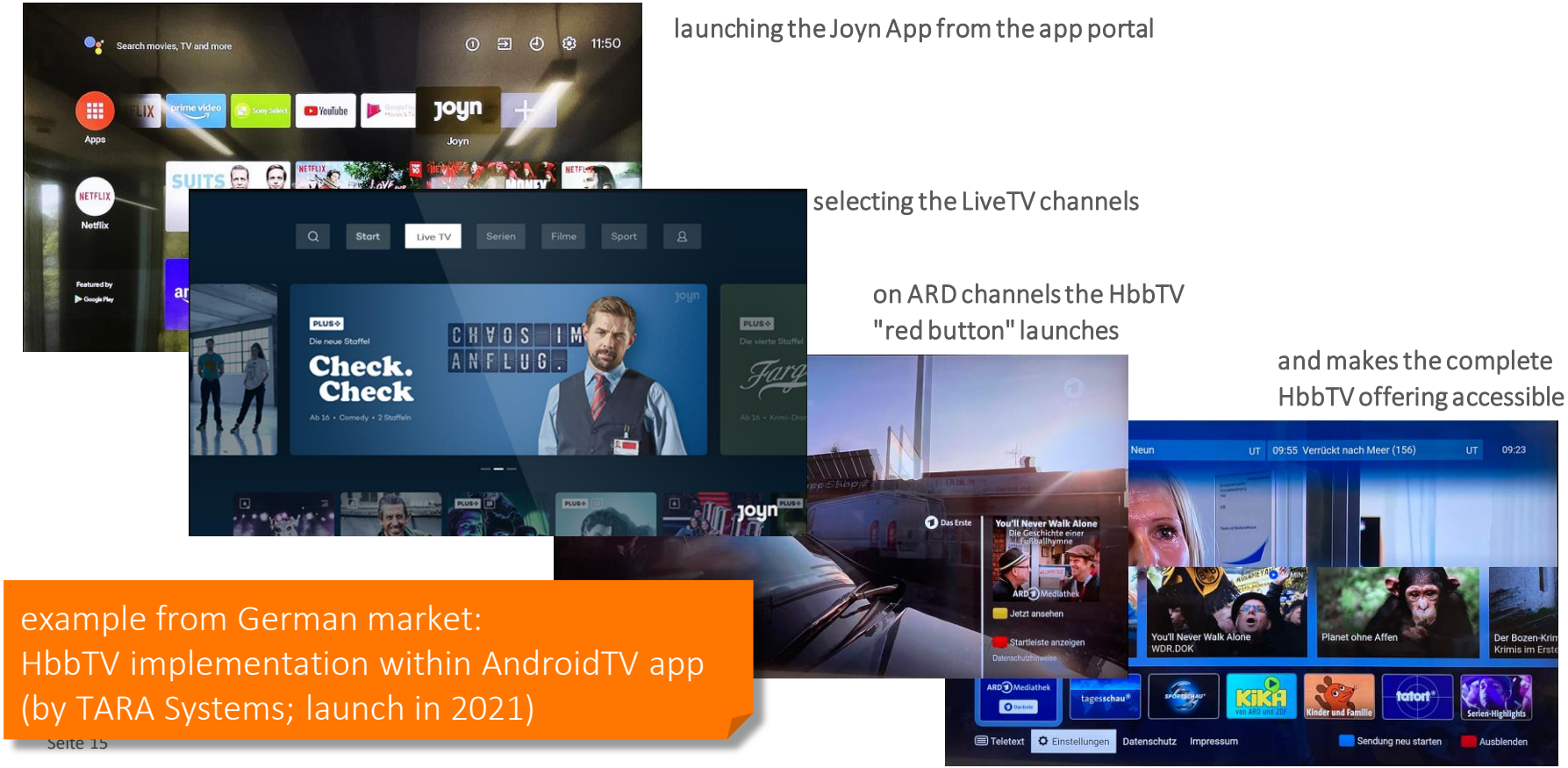
HbbTV in OTT platforms

launching the Joyn App from the app portal

selecting the LiveTV channels

on ARD channels the HbbTV "red button" launches

and makes the complete HbbTV offering accessible



example from German market:
HbbTV implementation within AndroidTV app
(by TARA Systems; launch in 2021)

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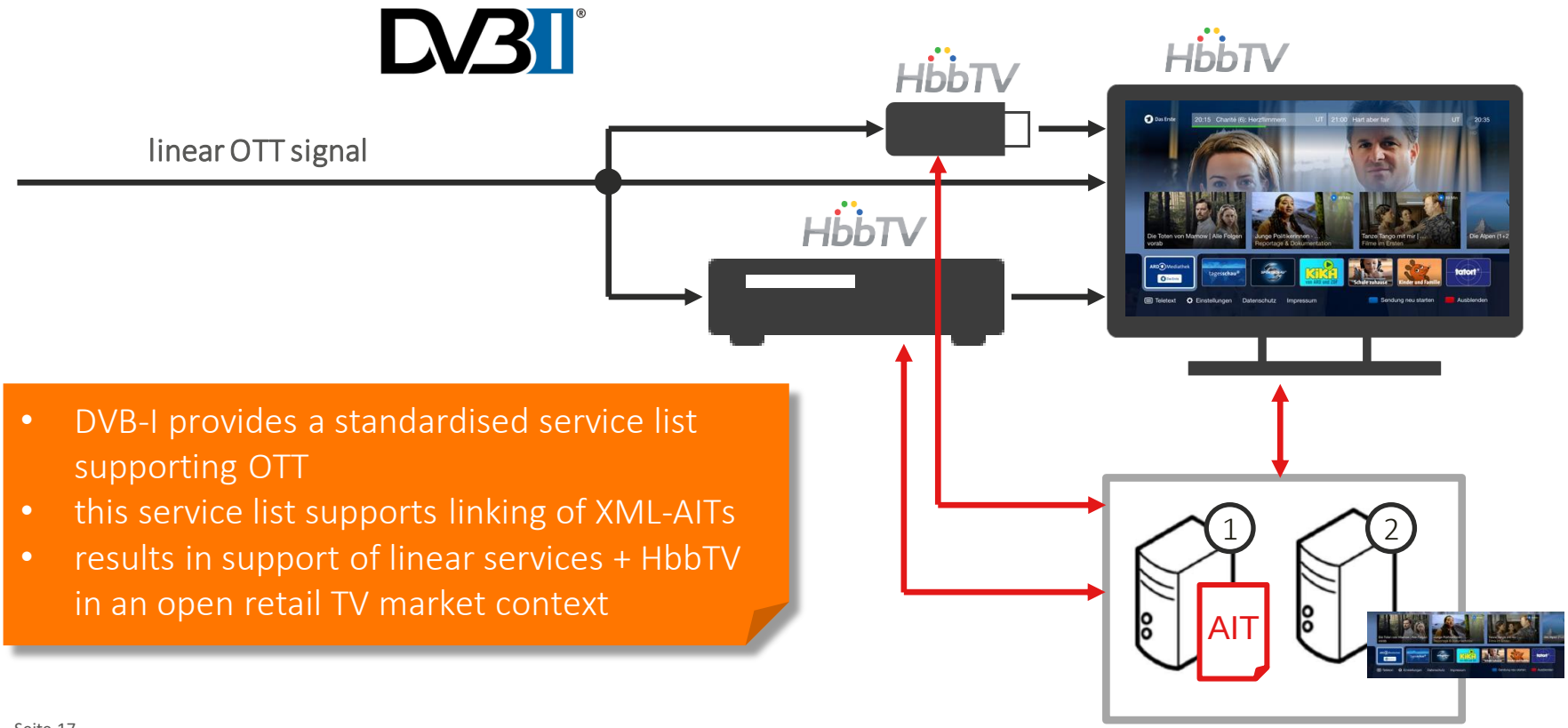
HbbTV in DVB-I/OTT context



- DVB-I provides a standardised service list supporting OTT
- this service list supports linking of XML-AITs
- results in support of linear services + HbbTV in an open retail TV market context

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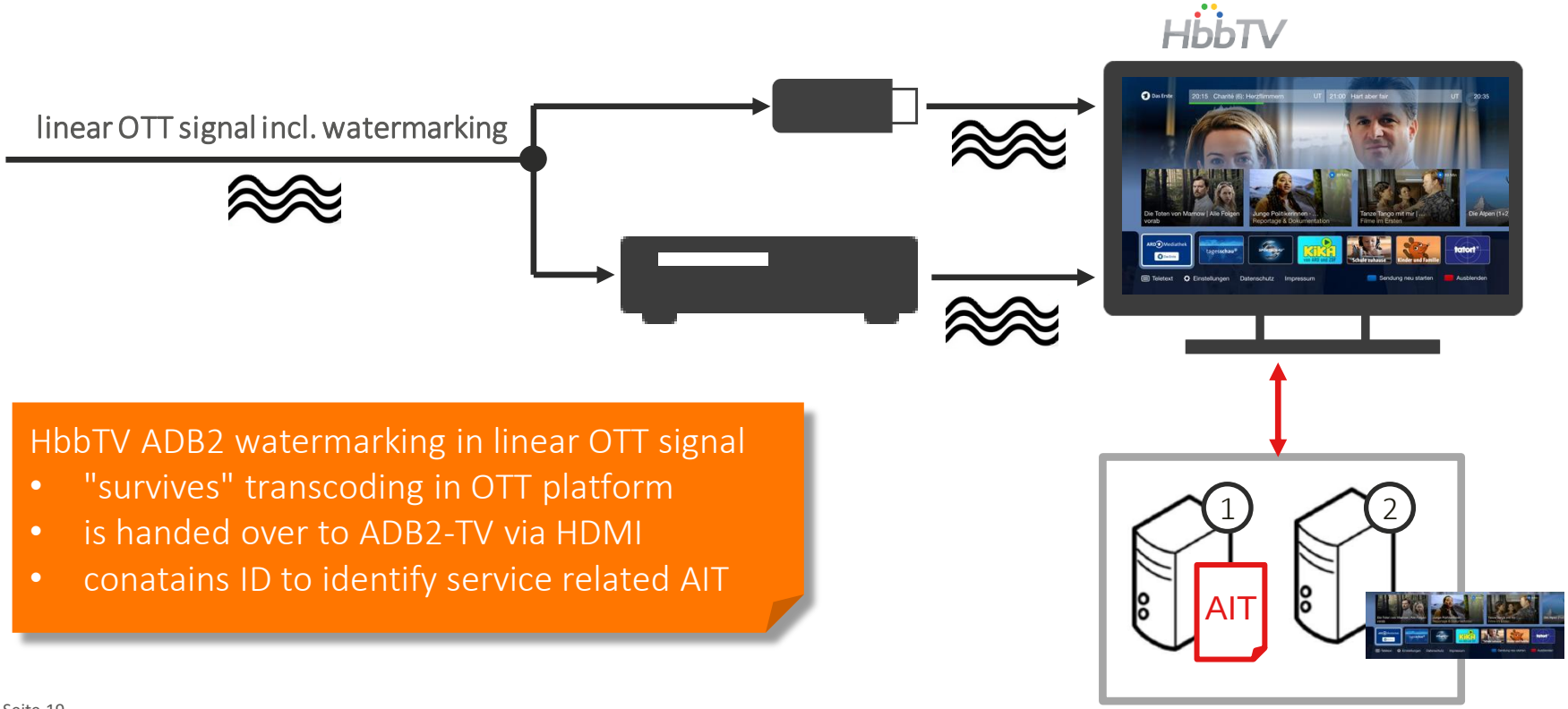
HbbTV via HDMI devices



HbbTV ADB2 watermarking in linear OTT signal

- "survives" transcoding in OTT platform
- is handed over to ADB2-TV via HDMI
- conatains ID to identify service related AIT

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HbbTV via HDMI devices

HbbTV OpApp

- provides GUI of OTT operator
- handles channel selection
- handles passing XML-AIT to TV for corresponding channel ("red button" integration still under construction in HbbTV spec group)

HbbTV beyond broadcast

Conclusion:

- HbbTV "red button" usage concept is fully valid for linear programs beyond broadcast
- the "red button" is a very fundamental tool to allow an easy user journey from the widely used linear channels to many more features (info, accessibility, ...) in the channel context or to on demand videos
- HbbTV specifications provide a set of tools for HbbTV integration in various IPTV/OTT platform setups
- HbbTV implementations in OTT platforms are already in the market
- broadcasters should become aware of these options and claim HbbTV support in all platforms for redistribution of their programmes - HbbTV being the only standard to support the important "red button" usecase

Thank you for your attention!

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