



Business profile

Germany's leading provider of video content

Business Unit of the RTL Group

14 strong channel brands and the streaming service RTL+/TV Now

Own production units like RTL Studios and RTL News

Bundling broadcasting and production operations through CBC

As part of the Ad Alliance, RTL Deutschland provides advertising sales opportunities that are individually tailored to advertisers

RTL Deutschland is headquartered in Cologne and has 4,000 employees at 24 locations in Germany and worldwide

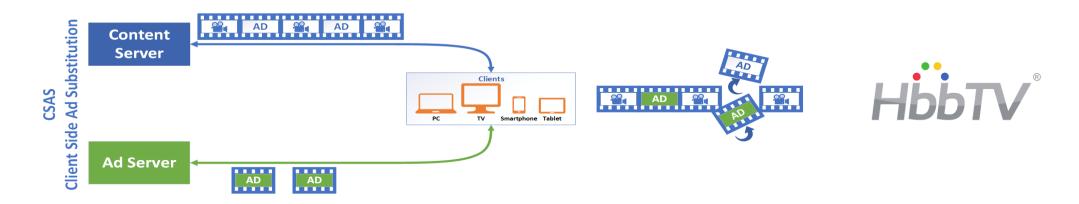




Addressable TV

Securing classical TV advertising while building a sustainable business model for Addressable TV

- Addressable TV is one of the defining topics of the future for RTL Deutschland
- Open standards are an important foundation for implementing addressable TV



Dynamic Ad Substitution (DAS); CSAS

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Addressable TV

- Dynamic Ad Substitution on linear RTL channels on the basis of HbbTV 1.5 technology is "On Air" since 2019
 - "Target Spot"
 - "Target Break"
- HbbTV-Targeted Advertising (TA) will enable a new level of addressable TV implementation, where, during commercial breaks, linear content can be precisely switched to addressable content via broadband internet.
 - RTL Deutschland is working with TV set manufacturers to drive the rollout of HbbTV-TA in Germany.
 - First HbbTV-TA TV Sets are available (TP Vision / Philips and others).
 - First DAS with targeted ads on the basis of HbbTV-TA planned for early 2022.
- To expand the HbbTV reach RTL and other Broadcasters are also aiming to access the HbbTV Specification ADB2 including the recently published TA extension.

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Addressable TV

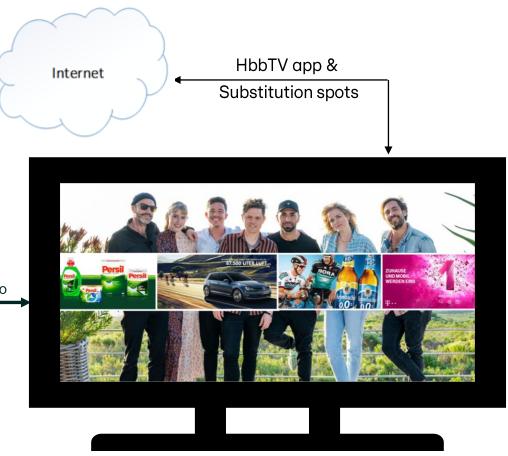
ADB2 + TA enables "standard" HbbTV applications as well as Dynamic Ad Substitution in situations where the broadcast TV signal is received by a set-top box (STB) and passed to the HbbTV TV set via a connection such as HDMI.

In this case, the signalization is realised by the use of watermarks in audio/video.



Examples of Usage scenarios:

- Autostart application / Red Button
- Launchbar in front of the broadcast signal
- Digitaltext
- Switch-In banner
- Replacing (non-) adjacent spots in an ad break
- Replacing broadcast by regional video



HbbTV/ADB2/TA TV Set



ADB2 Target markets: TV HH, where a non-DAS-capable set-top box is used.

1 Horizontal market STBs:

- STBs that can be bought in stores off-the-shelf
- available for direct-to-home (DTH) satellite reception, digital terrestrial TV (DTT), DVB-C/C2 cable viewers
- Some STBs support HbbTV, some manufactures may implement HbbTV + TA in the future
- However, a large number of TV HHs remain equipped with horizontal market STBs (e.g. legacy STBs or STBs designed for the low-end market) that won't support HbbTV (-TA)



102 Vertical market, Operator-specific STBs (OSTBs):

- provided by IPTV, cable and also DTH platform operators to their customers
- Typically, OSTBs do not support HbbTV
- OSTBs have minimum lifecycles that have been defined before they were shipped
- IPTV and cable platform operators have shipped different generations of OSTBs over the years, established population of receiving devices is inhomogeneous with respect to their technical performance capabilities
- It can be assumed that new/future generations of OSTBs will already be capable of DAS or may potentially be DAS-enabled by a software update, but this may not always hold true for older OSTB generations
- The roll-out of new OSTB models may require a premium upsell or contract extensions from a customer's point of view, which will also delay the process
- This is in contrast to a Broadcasters goal to achieve maximum reach and short time-to-market for TA

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Analysing the Market Potential of ADB2 / TA

The German TV market:

No. of TV households: 38,520 million

Shares of transmission platforms:

Terrestrial: 6,3%

Satellite: 44,1%

Cable: 43,6%

IPTV: 10,6%

Connected TV only: 2,9%

ADB2 + TA is of high relevance for the German market, due to stable numbers of Cable HH and increasing numbers of IPTV HH (with legacy/ non-DAS-capable set-top boxes)



Source: Kantar Digitalisierungsbericht 2020 (Germany)

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Simplified estimation for a ADB2 / TA market potential, e.g. in Germany:

Assumptions, e.g.

- Platform operators have not yet enabled DAS on their latest STB models
- Legacy devices may have to be replaced by new STB models, This will not happen in the short/mid-term, From customer's point of view a roll-out requires premium upsell or contract extension
- In Germany 6,5 to 7,0 million IDTVs are sold each year (2020: 6,839 Mio., 92% Smart TVs**)
- The share of Cable households, where viewers do not use an OSTB is expected to be 50 %.
- Connectivity rate in Germany = 74%*
- Estimated 5% share of SAT HH using a STB
- BC and CEMs are aiming for maximum reach and short-time-to-market for ADB2 / TA
- TV sets will be replaced before new STB models will be distributed

Conclusions:

- Estimated market potential calculation of watermarking: ≈ 28 % (i.e. more than 10 million TV HH)
- Note: Not considered in the simplified estimation: 1) OTT streaming sticks are not yet covered and may increase the potential
 2) shares of HbbTV-ADB2/TA TV-Sets, 3) forecast over several years following



Especially markets with a high and increasing IPTV and Cable penetration will benefit more from watermarking / ADB2.

Shares of transmission platforms "Cable" & "IPTV" in other European countries, e.g.:

France:

Cable: 6,0 % IPTV: 50,4 %

Denmark:

Cable: 42,3 % IPTV: 17,3 %

Finland:

Cable: 66,9 % IPTV: 14,2 %

Norway:

Cable: 26,2 % IPTV: 20,2 %

Switzerland:

Cable: 43,5 % IPTV: 46,6 %

• Spain:

Cable: 7,1 % IPTV: 24,8 %

• UK:

Cable: 13,8 % IPTV: 8,8 %

Poland:

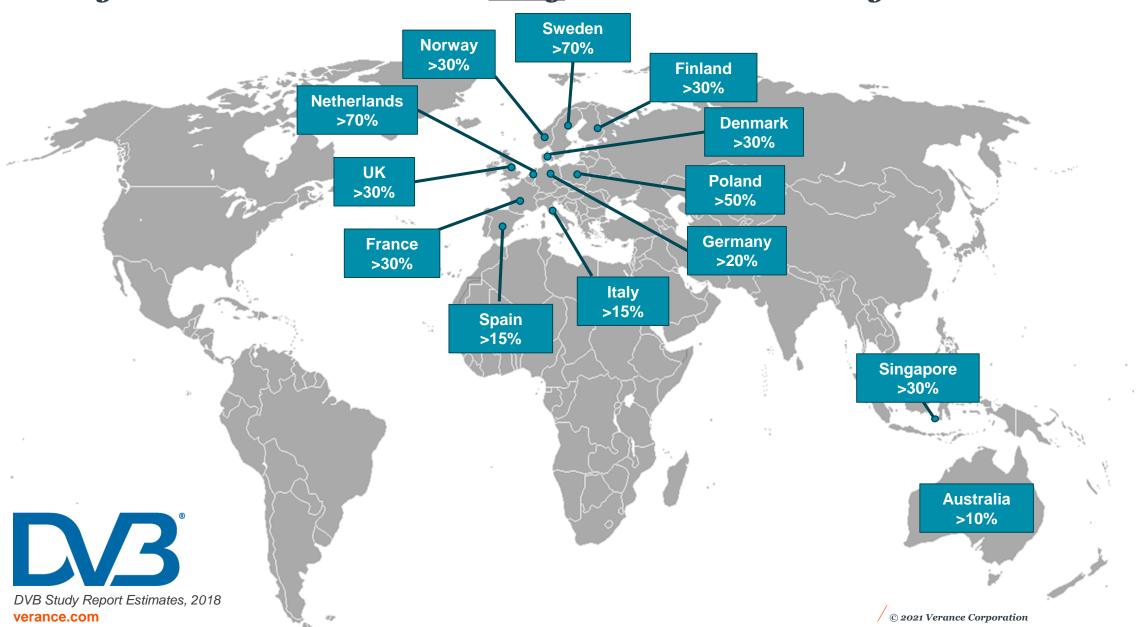
Cable: 22,8 % IPTV: 5,8 %

Schweden:

Cable: 16,2 % IPTV: 26,5 %

Source: Markit IHS 2020

Many Viewers are Reachable Only with Watermarking



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Analysing the Market Potential of ADB2 / TA

Summery:

- Broadcasters are generally interested in expanding their HbbTV and TA reach
- Maximum reach for HbbTV and TA can only be achieved if there are no technical barriers and if crossplatform campaigns become possible
- A lot of markets with high and increasing IPTV and Cable penetrations will benefit from watermarking signalization when trying to achieve a short time to market
- Further market potential: DTH OSTBs and other HDMI devices, eg. OTT streaming sticks.
- The ADB2/TA potential for Europe is expected to be highly significant.
- The TA market can only be developed in the short-/mid-term with ADB2+TA capable devices



Thank You

RTL Deutschland | October 2021

