10th HbbTV Symposium

November 9-10, 2022

Implementation of HbbTV-TA and ADB2+TA

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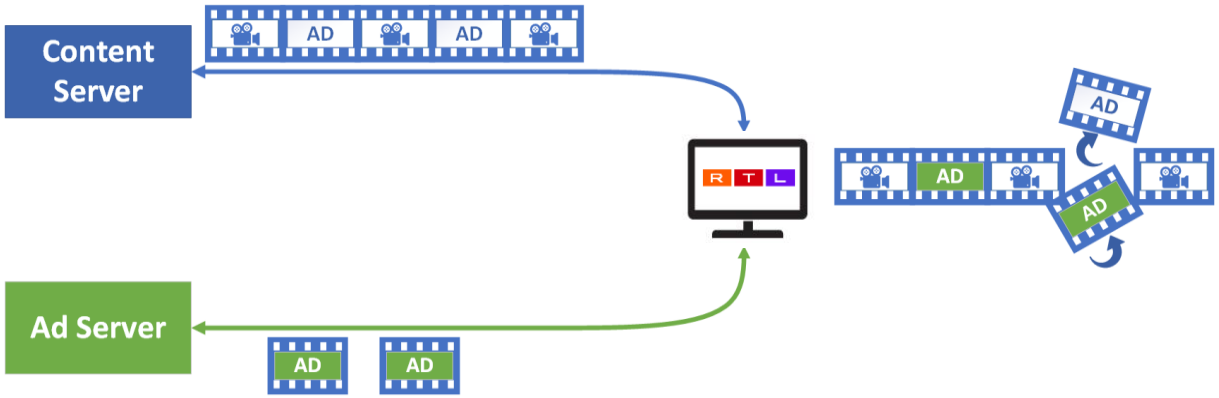
ATV today



- **Substitution of ad spots and ad breaks**
- **OnAir daily since 2019**
- **On the basis of HbbTV 1.5 technology**
- **SD & HD, SAT & Cable Distribution**

Single Spot Replacement

Broadcast

Single Spot Replacement

Broadcast

Brodband/

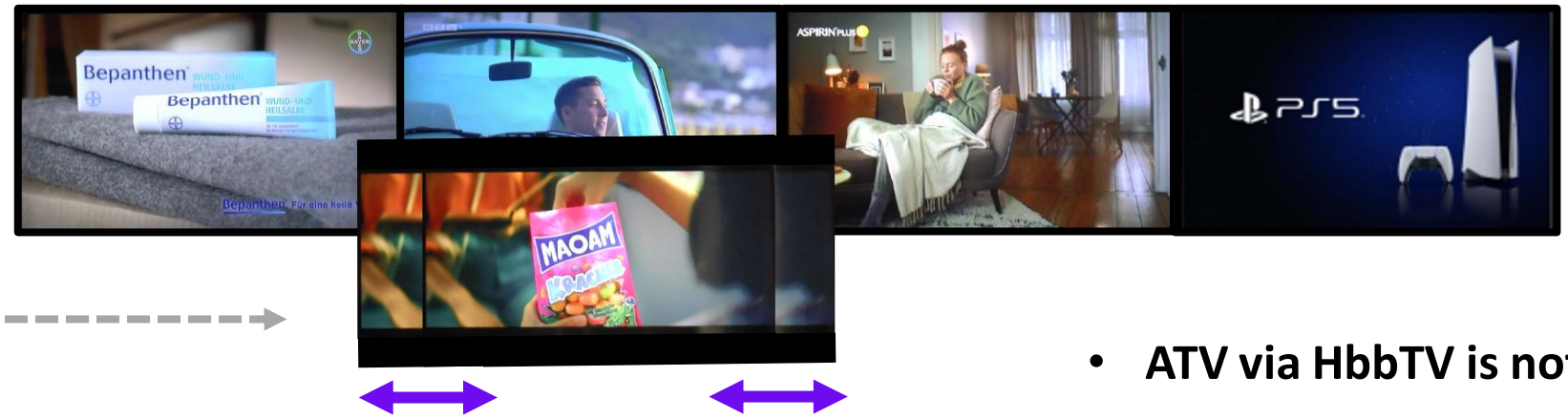
Ad Server

Single Spot Replacement

Broadcast

Brodband/

Ad Server



- ATV via HbbTV is not standardized
- Lack of signalling / switching accuracy

Single Spot Replacement

Starting Zone

Landing Zone

Broadcast

Brodband/

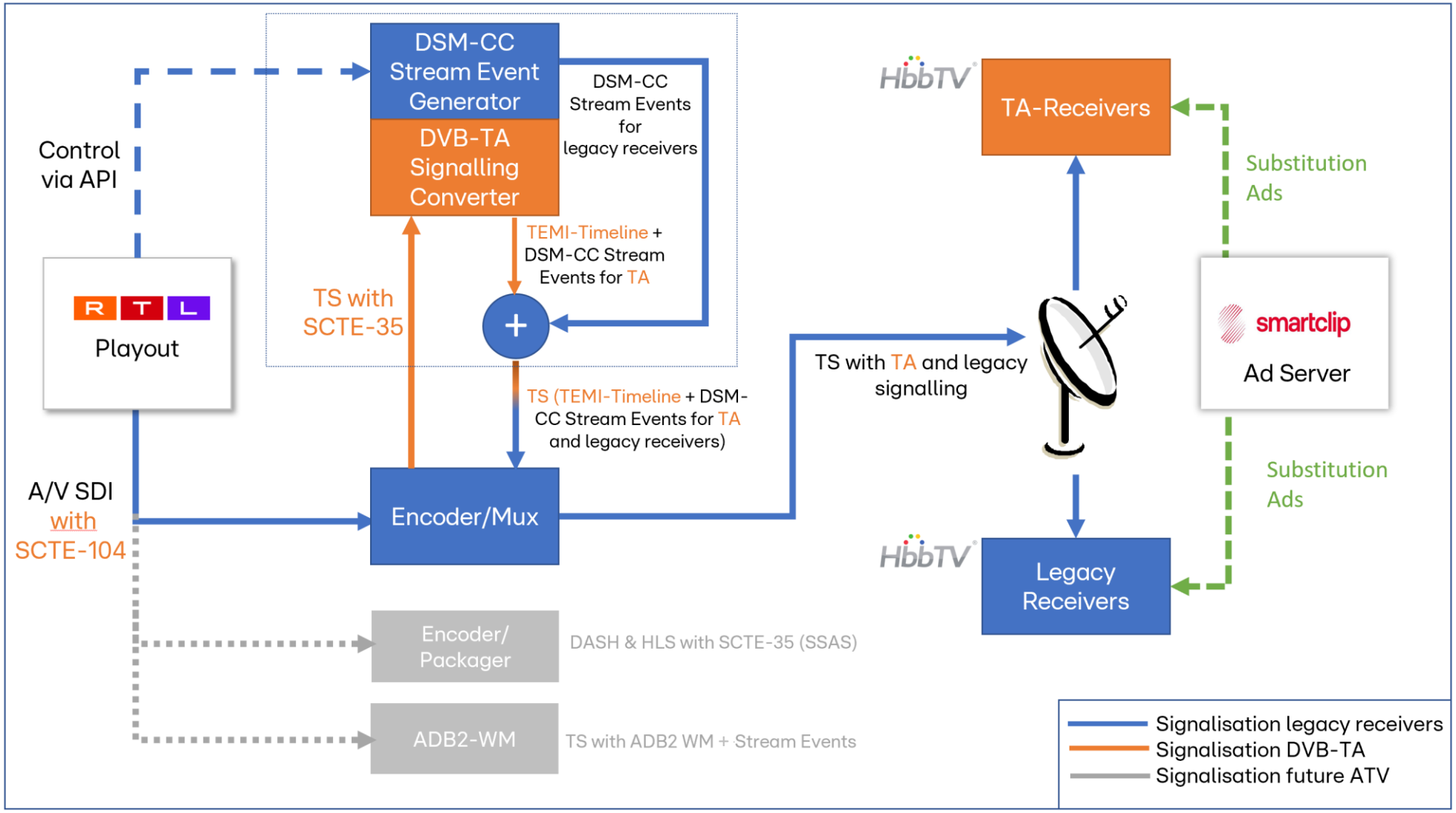
Ad Server

- Start/ Landing Zones in linear BC
- Major testing efforts / Whitelisting
- 110 devices in RTL „Receiver Zoo“
- Limited reach and scalability

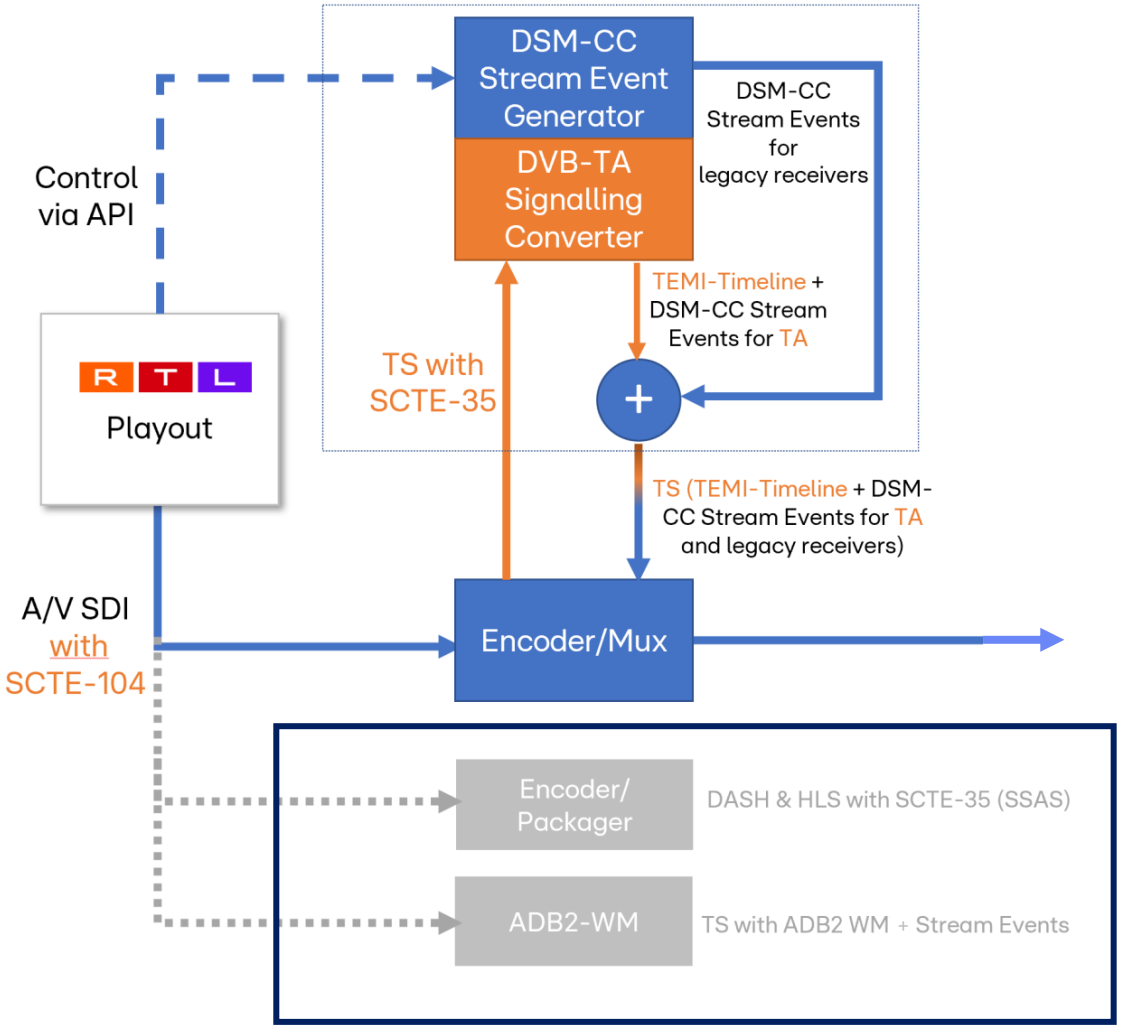
Targeted Advertising

- DVB-TA and HbbTV-TA the first open ATV standards
- Standardized approach for seamless and precise substitution of advertising in linear television
- ADB2+TA is already on the starting block ...

Harmonized signalling for TA and legacy receivers



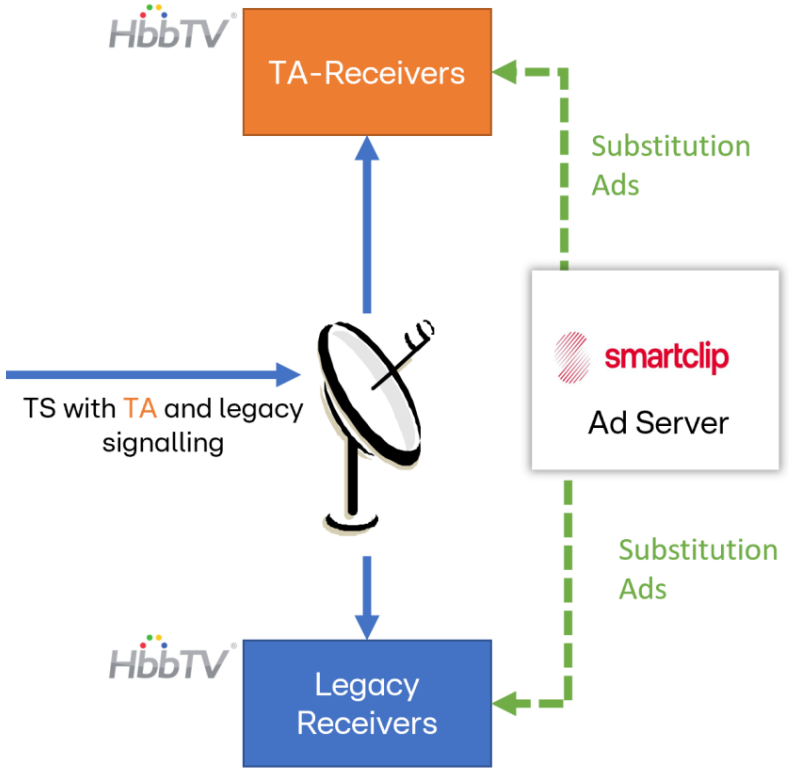
PLAYOUT



- **Backwards compatibility:**
  - maintain the control of the DSM-CC stream-event generator for legacy devices
- **Future-proof:**
  - In the playout automation software, additional ATV distribution paths shall be fed with the same markers in one source signal

APP & RECEIVERS

- **Improvements**
  - are based on TEMI timeline support and the new “fast media switch” API
- **HbbTV-TA SDK (Smartclip)**
  - can differentiate between legacy and TA stream events
- **Use case:**
  - Replacement of non-adjacent spots in an ad break with pre-fetched 20 sec. substitution ads, using HbbTV-TA profile #2.
  - 4 black frames between each spot (160ms)



How to bring TA OnAir?

I. TA Test applications

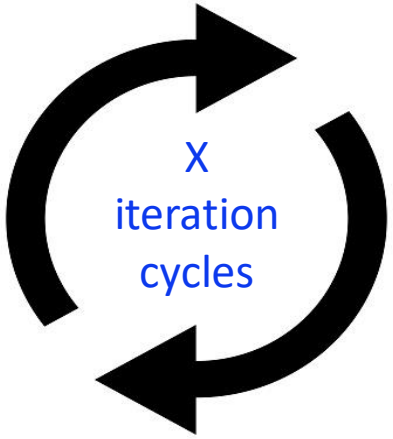
II. Playout, Signalisation

III. Cooperation with manufacturers

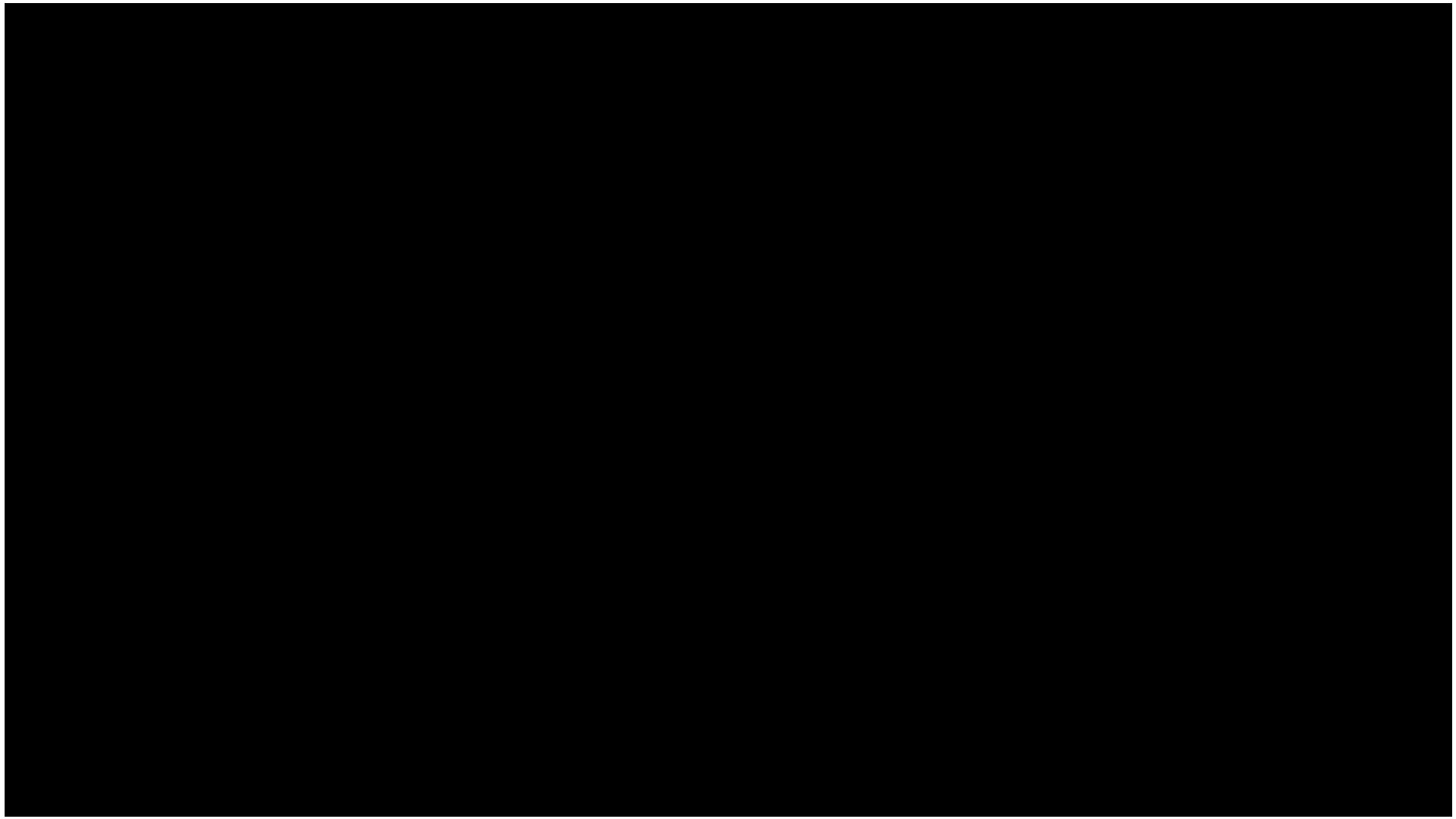
IV. HbbTV On Air application

V. Testing, Receiver Zoo

VI. Successfull TA implementation



HbbTV-TA



Some conclusions …

1. **Challenges for BC:**
   - Playout / STCE marker setup / Generate TEMI-timeline
   - Limited debugging feat. of the “fast media switch” API
   - Variations in CEM HbbTV-TA implementations
2. **Challenges for CEM:**
   - e.g. device capabilities, “frame accurate “switching times (Switching from Ad to Ad allows nothing to be lost..)

3. **HbbTV-TA (the same for ADB2) is not easy to implement.**

- A harmonization of TA requirements and implementation guidelines would be very usefull.

ADB2+TA: already on the starting block

- **Whitepaper ADB 2**

  „ DTVP Task Force ADB 2“ , chaired by RTL and RBB

  - ✓ Requirements for HbbTV devices for a market introduction of ADB2+TA in Germany
  - ✓ Market potential of appr. 9-12 Mio households
  - ✓ Typical ADB2+TA usage scenarios of public and commercial Broadcasters
  - ✓ Solutions for complicated “edge cases”
  - ✓ Implementation topics wrt audio and video wm, which are not fully specified in the standard
  - ➢ Including a test report on OnAir ADB2 robustness tests

THANK YOU !