Looking Forward:
DVB-TA using Watermarking
Participating Operators can use DVB-TA signalling to activate their TA-enabled STBs.
DVB-TA using Broadcast ("horizontal" market)

Participating Operators can use DVB-TA signalling to activate their TA-enabled STBs

HbbTV TA televisions can use DVB-TA signalling received from broadcast
Participating Operators can use DVB-TA signalling to activate their TA-enabled STBs.

HbbTV TA+ADB2 televisions can use DVB-TA signalling received via watermarking through Non-Participating Operator Equipment.

HbbTV TA televisions can use DVB-TA signalling received from broadcast.
Many Viewers are Reachable Only with Watermarking

- Netherlands: >70%
- Norway: >30%
- Sweden: >70%
- Finland: >30%
- Denmark: >30%
- Poland: >50%
- Germany: >20%
- Italy: >15%
- Spain: >15%
- Singapore: >30%
- Australia: >10%
- UK: >30%
- France: >30%
- Sweden: >30%
- Denmark: >30%
- Poland: >50%
- Germany: >20%
- Italy: >15%
- Spain: >15%
- Singapore: >30%
- Australia: >10%
Broadcaster Deployment Model for Watermarking

- Standards-based audio and video watermarking passes through all legacy equipment and interfaces
- Watermarks enable DAS app discovery, frame-accurate timeline, and stream event delivery
- Watermark capabilities are supplemented by broadcaster-controlled application servers
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Standardization status

- ATSC A/334 “Audio Watermark Emission Specification”
- ATSC A/335 “Video Watermark Emission Specification”
- ATSC A/336 “Content Recovery in Redistribution Scenarios”
- DVB Blue Book A/178-1 Rev. 1 “Dynamic substitution of content in linear broadcast” (2/2021)
- ETSI TS 103 464 v1.2.1 (2020-05) “Hybrid Broadcast Broadband TV: Application Discovery over Broadband”
- ETSI TS 103 736-1 v1.1.1 (2020-06) “Hybrid Broadcast Broadband TV: Targeted Advertising; Part 1: Functional requirements”
- Revisions to ETSI TS 103 464 to support DVB-TA using watermarking are in preparation for publication by HbbTV in Summer 2021.