

DVB-I Goes Live with HbbTV: A TV Manufacturer Perspective

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VESTEL



DVB-I Experience and Market Evidence

Vestel's DVB-I Journey and Early Adoption

DVB-I Integration Foundation

Vestel began adding DVB-I support in **2021** to its Linux-based TV middleware by its small team of experienced software engineers at **Cabot Communications Ltd.**, a UK subsidiary.

The same team was responsible for adding UK's Freeview Play support and part of the Freely HbbTV OpApp development.

Early Adoption and Collaboration

Early adoption allowed Vestel to collaborate with many broadcasters and standards bodies, gaining valuable implementation feedback.

From Trials to Production

Vestel evolved its DVB-I support from trial phases directly into production TVs, pioneering commercial deployment of the technology. Vestel's engagement with **Mediaset** and **Kineton** in the Italian DVB-I Market Trial and being the first TV manufacturer to market DVB-I support in production TVs. Latest DVB-I development releases are sent out regularly to over 60 individuals.

Overcoming Interoperability Challenges

Early implementation faced interoperability issues, driving robust solutions for service instance fallback handling, supporting the many types of DVB-I linked apps and standards compliance.

DVB-I is Ready for Commercial Deployment

Real-World DVB-I Deployments

Vestel's DVB-I trials in Italy and Germany demonstrate practical broadcaster requirements and operational success.

International Proof-of-Concepts

Ongoing DVB-I POCs in Ireland, Finland, and Spain highlight DVB-I flexibility across varied regulatory and user contexts.

Consumer Benefits and Updates

DVB-I satellite channel instant setup, as available in Eutelsat's Sat.tv Service Lists, and its **Sat.tv Connect HbbTV** companion app, and **DVB-I FAST** channel support improve user experience on modern smart TVs and enable access to more content.

Integration with HbbTV

DVB-I paired with HbbTV applications enables interoperable and enhanced interactive TV services whether delivered by broadcast or IP.

SAT.TV in Egypt

الإضافات	اليوم التالي	اليوم السابق	نصبة	الآن / الجدل التالي
1	Al Hayah HD	2026/07/10 14:33	15:00-14:00	متدد
نظرة متعمقة في التاريخ الثري لمدارس الإنشاد المصرية، وأهميتها الروحية وتأثيرها الثقافي؛ بالإضافة إلى متابعة الجيود المبنولة لإحياء هذا التقليد العريق. (إظهار/إلعب)				
الحياة				
2026/07/10	14:00	15:00	16:00	
1.	Al Hayah HD	متدد	التشبا بخير	لا توجد معلومات
2.	CBC Sofra	لا توجد معلومات	بالهدا والشفا	أميرة في المطبخ
3.	CBC			
4.	CBC Drama	أمر واقع		ضد الكسر
5.	MBC Masr HD	(حلقة 31) التعيب في ككس العالم	(حلقة 28) فريد	لا توجد معلومات
6.	MBC Masr 2 HD	لا توجد معلومات	(حلقة 38) الخائن	(حلقة 39) الخائن
7.	MBC 4	لا توجد معلومات	(حلقة 24) للموت	(حلقة 25) للموت
8.	MBC Drama	(حلقة 37) كريستال		(حلقة 3) العائلة

DVB-I FAST

Jetzt/Näch.Prog	Filter	Vorheriger Tag	Nächster Tag	Extras
5004 CNN International	Fr 10/07/2026 16:30	16:00-17:00		
Connect the World The host sheds light on key global news stories and events that impact the world.				
CNN				
Fr 10/07/2026	29 Minuten übrig	16:00	17:00	18:00
1003. radio3				
5004. CNN Internatio...	Connect the World	One World		
5006. Euronews Deutsch	News			
5008. CGTN	The World Today	World Insight with T	The World Today	The Vibe
5017. Nachrichten 360	Nachrichten in 15 Mi	Nachrichten in 15 Mi	Nachrichten in 15 Mi	Nachrichten in 15 Mi
5022. Bloomberg TV+	Bloomberg TV+		Bloomberg TV+	
5026. CGTN Global Biz	Meet C	Meet C	Follow the Money: Where Climate Capital Is C	BizTalk Summer Dav
5028. CNN Headlines Int...	Top stories from CNN		Top stories from CNN	

Technical Integration and User Experience

HbbTV 2.0.4 Annex O as the Integration Layer

Integration Role of Annex O

Annex O defines interoperability between HbbTV applications and DVB-I services, enabling seamless IP channel interactivity.

Complexity in Implementation

Annex O covers application signaling, lifecycle, media APIs, and service context, posing numerous technical challenges for manufacturers.

Real-World Testing Insights

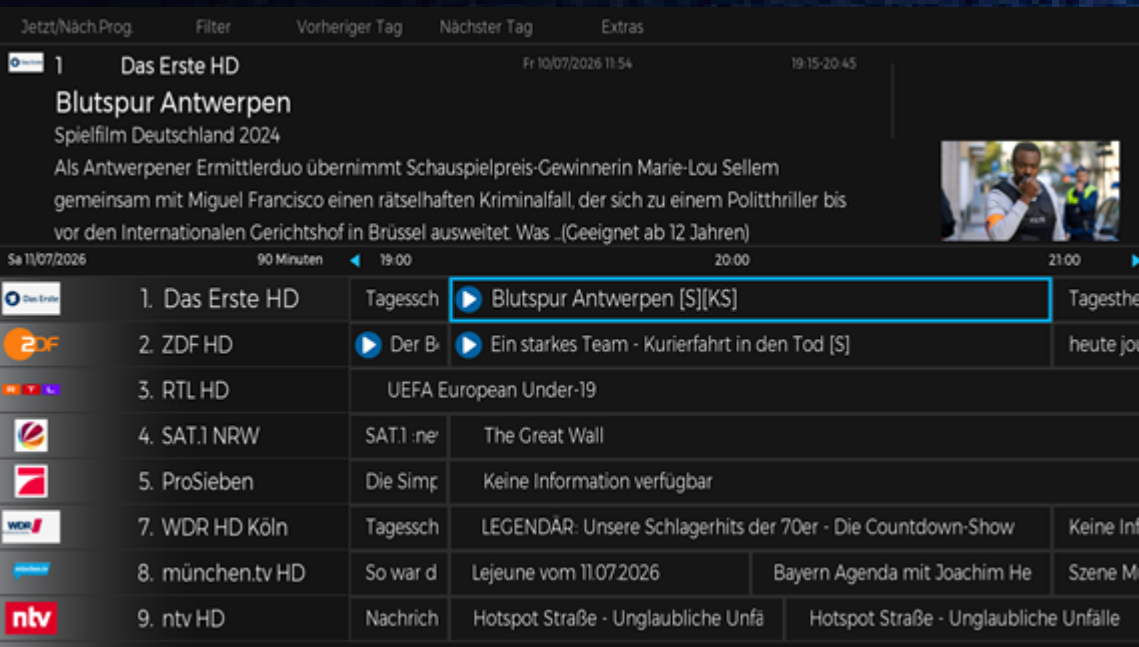
Testing with both test and live HbbTV apps from broadcasters in Italy and Germany revealed critical issues in application launch and metadata handling.

Advanced HbbTV applications

Annex O allows HbbTV applications to access DVB-I channel information e.g. to offer users to select alternative service instances whether broadcast or IP.



DVB-I metadata in the EPG in German



Jetzt/Nächst Prog	Filter	Vorheriger Tag	Nächster Tag	Extras
1	Das Erste HD	Fr 10/07/2026 11:54	19:15-20:45	
Blutspur Antwerpen Spielfilm Deutschland 2024 Als Antwerpener Ermittlerduo übernimmt Schauspielpreis-Gewinnerin Marie-Lou Sellem gemeinsam mit Miguel Francisco einen rätselhaften Kriminalfall, der sich zu einem Politthriller bis vor den Internationalen Gerichtshof in Brüssel ausweit. Was... (Geeignet ab 12 Jahren)				
Sa 11/07/2026	90 Minuten	19:00	20:00	21:00
1. Das Erste HD	Tagessch	▶ Blutspur Antwerpen [S][KS]	Tagesthe	
2. ZDF HD	▶ Der B	▶ Ein starkes Team - Kurierfahrt in den Tod [S]	heute jol	
3. RTL HD	UEFA European Under-19			
4. SAT.1 NRW	SAT.1 ne	The Great Wall		
5. ProSieben	Die Simp	Keine Information verfügbar		
7. WDR HD Köln	Tagessch	LEGENDAR: Unsere Schlagerhits der 70er - Die Countdown-Show		Keine Inf
8. münchen.tv HD	So war d	Lejeune vom 11.07.2026	Bayern Agenda mit Joachim He	Szene Mi
9. ntv HD	Nachrich	Hotspot Straße - Unglaubliche Unfä		Hotspot Straße - Unglaubliche Unfälle

User Experience Improvements Enabled by DVB-I and HbbTV

Simplified TV Setup

DVB-I enables instant channel installation, eliminating long broadcast scans for quick setup.

Enhanced Content Navigation

DVB-I provides rich metadata, including services logos, event images, access to On Demand events, Box Sets for a seamless user experience on broadcast and IP channels.

Interactive Features and Catch-Up

DVB-I and HbbTV support red button apps, catch-up access, and enhanced program info, matching broadcast service quality with native DASH / HLS playback.

Improved Content Discovery

Rich EPG data with event images, service-based apps, accessibility information, More Episodes, Box Sets, increases user engagement and content discovery.

Challenges, Lessons, and Outlook

Challenges and Lessons Learned from Integration

Implementation Simplicity

DVB-I service discovery and metadata processing was straightforward to implement due to clear specifications and existing system alignment with earlier specifications. Ongoing tracking and implementation of the latest DVB-I specifications as they evolve.

Integration Complexities

Supporting all types of DVB-I linked applications and HbbTV 2.0.4 Annex O behavior presented significant technical challenges.

Interoperability Testing Importance

Real broadcaster application integration revealed interoperability issues beyond formal test suites and country-specific tests cases highlighting practical testing needs.

Collaborative Market Alignment

Supporting supplementary **DVB-I FAST** Channels at higher LCNs in countries yet to roll-out DVB-I was challenging to preserve broadcast LCNs assigned by legacy Satellite operators' processes.

[illegible]

DVB-I combined with HbbTV offers emerging opportunities for it to be adopted by more countries to allow access to IP content, such as, app-less DRM / FAST channels, augmented with advanced HbbTV interactive service applications.

Manufacturers have invested heavily in bringing technologies such as DVB-I and HbbTV to market, yet hardware differentiation alone is becoming increasingly challenging. Therefore, it may be valuable for the industry to explore DVB-I and HbbTV business models that also generate sustainable value for manufacturers. The HbbTV Targeted Advertising ecosystem, particularly the approach promoted by ATVI, could serve as a strong example of how broadcasters, platforms, and manufacturers can benefit together while driving further innovation.

Thank You & Teşekkürler

22.July.2026

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