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A shift in the future of radio in cars?



Plus

- The journey towards Dynamic Media Facilities
- Generative AI for content creation: not yet ready for prime time
- ORF's Harald Kräuter on why public media needs smarter production and more...

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Cover story: The rise of quadricycles, which are lightweight vehicles that typically come without a built-in radio, highlights a growing challenge for public service media in the evolving automotive landscape. David O'Neill of the new ARD Automotive unit explains why on pages 10-11.

Cover photo: © Stellantis

Editor-in-Chief: Antonio Arcidiacono
Managing Editor: Patrick Wauthier
Editor: Eoghan O'Sullivan

tech@ebu.ch

Design: Louise Tait

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The EBU tech revolution: preparing for the next 100 years

Antonio Arcidiacono, Director of Technology & Innovation, EBU

In 1925, the International Broadcasting Union was formed to help the world's broadcasters master the emerging world of media technology. The IBU's technology community officially started operations with a first meeting in Geneva on 3 April 1925 at the UN's *Palais des Nations*.

2025 is thus the 100th anniversary of both the original IBU and of the precursor of the EBU Technology and Innovation department, which has been at the heart of broadcasting innovation for a century, driving advancements that have shaped how we deliver and consume media today.

NOBLE GOALS

In the period from 1925 to 1949, the IBU was instrumental in making broadcasting practical in a world where radio frequencies were no respecters of manmade national boundaries. The organization was central to the development of international cooperation on frequency allocation, ensuring that radio signals from different countries did not interfere with each other. It also forged and implemented the idea of sharing media content between broadcasters, with the noble aim of helping international understanding. The technology community played a key role in developing international cooperation for the exchange of content that continues until today.

The EBU T&I department (under various names) has, since 1950, been at the forefront in driving innovation across a wide range of areas related to television and radio alike.

In television, our technology community helped enable and drive the transition from analogue systems, used for decades across the world, to the



Antonio Arcidiacono

development of common digital television standards and later systems for high-definition television (HDTV) and on to ultra-high-definition television (UHDTV). More recently, we have been instrumental in the emergence of online video platforms and IP-based cloud production, and a major participant in innovation in satellite and terrestrial fixed and mobile broadcasting.

In radio, the EBU supported the development of the FM stereo system and was a leading partner in the development, in the 1980s, of digital audio broadcasting (DAB), as well as, more recently, internet-delivered systems.

FROM AI TO M.A.R.S.

The EBU T&I department continues today to drive innovation in media. Take artificial intelligence (AI), for example, which is applied for language management

(EuroVOX), for media recommendation (PEACH), and for secure chatbots (NEO). We are also committed to ensuring that broadcasting, combined with online delivery, remains a vital and innovative medium for the coming decades under our M.A.R.S. – Multilayer, Anywhere, Resilient, Sustainable – edgecast-based distribution strategy.

EBU T&I stimulates a dialogue around innovation at both European and global levels, working with key bodies such as the ITU, SMPTE, ETSI and the European Space Agency, together with sister organizations whose creation was fostered by the EBU: the DVB Project, 5G-MAG and Security4Media. The latter was founded just last year and is hosted by EBU T&I to defend media cybersecurity and facilitate the tracing of content provenance and attribution.

NEXT 100 YEARS

To realize our full potential and shape the next 100 years will require the collaborative efforts and substantial resources of all public and private media companies, as well as the entire media industry.

Just as international cooperation was crucial in the early years of media development, it is now more essential than ever, particularly in these challenging times and given the resource limitations we face compared to the global tech giants.

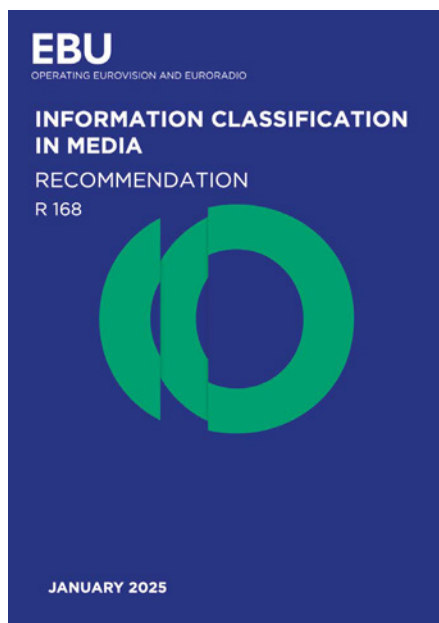
Our strengths lie in our collaboration, our ingenuity, our spirit of innovation, and the contributions of new generations who are eager to learn, innovate, and transcend national borders with the noble goal of safeguarding the future of democracy.

EBU recommends classifying data to better protect it

A new EBU Recommendation provides guidance for media companies on data protection. R 168 recommends the classification of data based on the potential damage caused if it is misused. Already a priority, the protection of data has become even more important with the increased use of AI-based tools, which can see information being unintentionally ingested by such tools or even deliberately scraped.

Media organizations handle large volumes of sensitive information, including personal identifiable information, business data, media assets, and journalistic research. Leakage or tampering with this data can lead to legal, technical, or business risks, disrupting operations, opening attack vectors to critical infrastructure, and even endangering the safety of journalists or staff.

Categorizing information based



on its potential impact if exposed facilitates the application of appropriate protective measures to sensitive data. The four proposed information classes are:

- Public: data already made available to the public, such

as published articles or press releases.

- Restricted: less sensitive data that could disrupt operations if leaked, such as internal reports or workflows.
- Confidential: sensitive data whose leakage could cause significant damage, including internal communications or unreleased media content.
- Strictly confidential: data whose unauthorized exposure could lead to severe legal or business consequences or put employees at significant personal risk.

EBU R 168, which also provides guidance on the protection measures that should be taken for each information class above, was developed by the EBU Media Cybersecurity group.

EBU R 168 is available from:
<https://tech.ebu.ch/publications/r168>

Fresh guidance on 5G Broadcast network planning

With continued industry focus on the potential for 5G Broadcast to be used for media delivery in future, the EBU has published an update of Technical Report 063 on 5G Broadcast network planning and evaluation. The report was first published in August 2021.

Reflecting the results of studies undertaken in the intervening period, including in the context of field trials, the revised report includes substantial updates on network planning and analysis of hybrid

broadcast/unicast operations made possible by the seamless switching feature that can be enabled in 5G Broadcast receivers.

EBU TR 063 is an essential technical input for anyone studying the potential roll-out of a 5G Broadcast network. The report was developed within the framework of a joint technical group between the EBU and Broadcast Networks Europe. A full list of the contributors can be found in the report, available from: <https://tech.ebu.ch/tr063>

EBU updates its guidance on CDN procurement

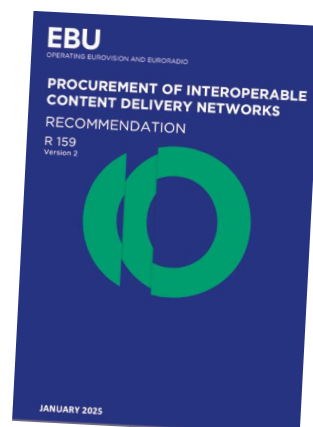
First published in September 2023, the EBU recommendation on procurement of interoperable CDNs (content delivery networks) has been revised and updated. In version 2 of R 159, published in January 2025, several of the procurement requirements have been refined to improve the potential for service interoperability. Additionally, the section covering SLAs (service level agreements) for streaming has been extended with best practice descriptions. These updates were based on feedback received from the streaming industry and as well as discussions at the well-received webinar that accompanied the recommendation's publication.

The guidance contained in the recommendation

has been appreciated by both the broadcast community and CDN service providers.

EBU R 159 has been used to guide multiple procurements and forms the basis of ongoing discussions with the industry around functional specifications.

R 159 was produced by the EBU's Broadband Distribution Architectures group and is available from:
<https://tech.ebu.ch/r159>

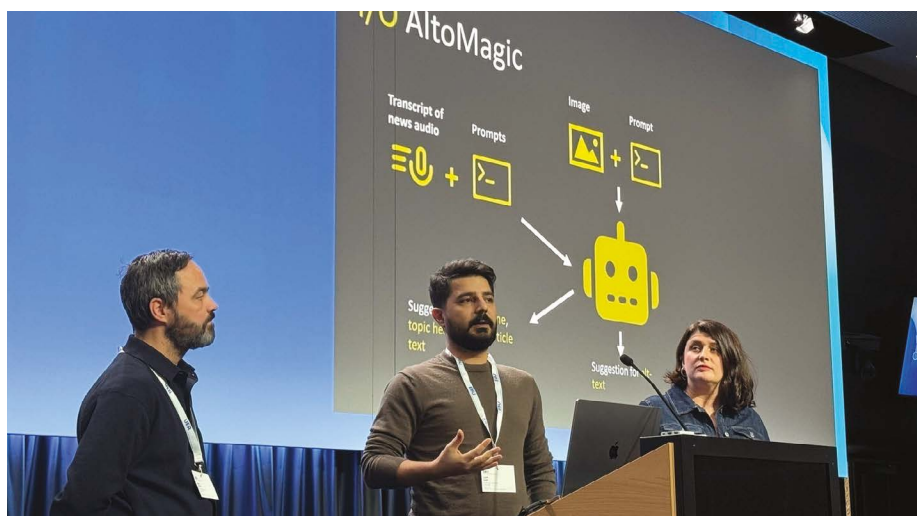


Workshop showcases widespread PSM innovation on AI tools

Just ahead of December's second annual EBU AI Summit, the Technology & Innovation department took the opportunity to hold a workshop dedicated to explore the extent to which EBU Members could build these tools themselves. The psmGPT workshop featured contributions from Austria, Belgium, Germany, France, Slovenia, Sweden and Switzerland, providing a rich tapestry of ideas and inspiration.

The work presented fell into three major categories. The first was the use of LLMs – the large language models that power generative AI tools – to assist with content creation. Examples here included the Mediagen platform that France Télévisions has developed for all employees and Fenix AI, which provides a chatbot to assist journalists at RTV Slovenia. AltoMagic at Svergies Radio does something similar, but with integrated tools.

The second category was that of platforms and integration. Here, examples came from Germany's Deutsche Welle and SWR, with the former putting in place a framework that will allow the gradual addition of more AI tools while the latter is moving towards "agentic" processing, where the tools should be able to perform actions, rather than just providing answers.



Toft Stade, Sam Sam and Danina Mahmutovic presenting Svergies Radio's AltoMagic tool at the psmGPT workshop

The third category of work presented is the use of LLMs for audience engagement. This is where RAG – retrieval-augmented generation – systems provide more user-friendly ways for audiences to engage with the huge volumes of content held by EBU Members. Examples included ORF's AI Search and the EBU's own Neo project. Also noteworthy was the Study Buddy tool from ARD, being a

RAG focused on education.

The workshop identified three top concerns for EBU Members as they embrace generative AI tools: balancing innovation with credibility, having appropriate security measures, and ensuring processes are scalable.

The presentations from the psmGPT workshop are available to EBU Members here: <https://tech.ebu.ch/psmgpt2024>

PSM AND LLMs - WHO'S DOING WHAT?

EBU Technical Report O83, published in January 2025, explores the use and evaluation of LLMs in media organizations, focusing on applications, evaluation methods and integration challenges. It also addresses the issue of scalability and suggests cost-effective strategies for certain tasks such as classification or tagging. See: <https://tech.ebu.ch/tr083>

OUR NEXT EVENTS

Data Technology Seminar 2025

Geneva, 11-13 March The EBU's annual flagship event for practitioners in data and AI for media, focused on real use-cases and real technology.

<https://tech.ebu.ch/dts2025>

Sustainability Summit 2025

Online, 10 April
A one-day online event focused on everything related to sustainability in the media sector. A mix of presentations and discussions from both EBU Members and industry experts.

<https://tech.ebu.ch/sustainability2025>

Horizons 2025

Geneva, 6-7 May
Helping EBU Members get their content to audiences in an efficient and sustainable manner, while providing engaging and innovative user experiences.

<https://tech.ebu.ch/horizons2025>

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Sweating assets and the technology tango: CTO panel at PTS 2025

One highlight of this year's EBU Production Technology Seminar was the panel discussion, on the opening day of the event, featuring the CTOs of four EBU Members. We report on some of the themes that emerged.

"We have small resources, and we are playing with the giants." This was the succinct description by Janne Yli-Äyhö, Chief Technology Officer at Finland's Yle, of the challenge facing the CTOs of all public broadcasters today.

His counterpart at NRK in Norway, Pål Nedregotten, suggested that the sense of urgency that has been experienced by commercial media since around 2012 had come a little later to public service media (PSM), but that the important thing now was "that we shouldn't waste a good crisis". Harnessing the energy that comes from being in "fighting mode" would be key, he said, to delivering value for audiences.

OUTPUTS TO OUTCOMES

Hege Marie Kallestad, who is the Director of Live & Production Technology at TV2 Norway, talked about the need for strategic storytelling to support the transformation. She uses the metaphor of dancing the tango to illustrate how the different parts of the company need to move to the same rhythm. TV 2 has been restructuring the technology department into products and domains, going from silos to common goals and "from outputs to outcomes" as well as from "projects to products". This shift to product thinking means that the business and the strategy are taken into account.

"We have to be a tech company", said Frédéric Brochard, CTO at France Télévisions. Not, he said, with regard to matching the amount of money that the big tech companies put into development – this would not be possible for



Hans Hoffmann (EBU) moderating the CTO panel featuring (L to R) Pål Nedregotten (NRK), Frédéric Brochard (France Télévisions), Janne Yli-Äyhö (Yle) and Hege Marie Kallestad (TV 2 Norway)

PSM organizations – but in the sense of technology being part of the executive leadership and actively shaping the company strategy. Agreeing with this, Pål Nedregotten went even further saying "if the CTO is the only technology-competent person in the top management group, you have a problem."

Janne Yli-Äyhö sounded the alarm about what he termed the "hammer and nail" problem, where organizations might tend to buy a new technology to address every challenge that comes up, where finding a solution "as a service" might make more sense. "Maybe we don't need technology in every area, and naturally it's a bit distressing for us," he said. "Is this something we should be doing or is somebody better at doing this and [we shouldn't] buy anything?"

TECH PURCHASES

Both Pål Nedregotten and Hege Marie Kallestad concurred with this need to think twice before agreeing to the purchase of new technology. The NRK CTO asked, for example, whether buying new large-format cameras would

"help us win against TikTok?" And coming back to this point later, he said that, with technology departments under so much financial pressure, "we need to sweat the assets that we have, to be able to afford the things that are really important for us".

Hege Marie Kallestad, with TV 2 Norway now aiming to address outcomes rather than outputs, said that a request for new cameras must be considered in the context of what it will do in terms of outcomes for the overall business. "It's certainly a culture change," she said.

On the question of culture change, Frédéric Brochard argued that PSM can learn from the kind of culture the dominates the big tech companies. "[...] you have to accept failures, and it's not really happening in our media company. Failure, which is fully adopted in the geek culture, is not something which is widely spread in content and journalism, and how you analyse your failures, accept them, and you can rebound on them."

EBU Members can view the full discussion at: <https://tech.ebu.ch/pts2025/cto-panel>

Dynamic Media Facilities: the next infrastructure revolution is taking shape

With the digital shift having seen public service media investing greatly in the ‘shop window’, developing impressive online platforms, it’s now time to invest in the ‘workshop’, where we craft the goods that fill those windows, writes **Willem Vermost** (VRT).

When conducting the EBU/VRT Live IP Proof of Concept about a decade ago, certain key non-functional requirements consistently emerged in conversations with those looking to produce content using the available infrastructure. Above all, the infrastructure should be flexible, scalable, and shareable. The introduction of the SMPTE ST 2110 and NMOS standards has provided the foundation for fulfilling these promises.

In current IP-based installations, many devices from the SDI era remain in use but are simply updated with a different connector on the rear panel. Numerous vendors argued at the time that software platforms were not yet powerful enough to facilitate a transition to generic off-the-shelf hardware. However, today’s CPUs and GPUs are rapidly outpacing the capabilities of traditional, dedicated hardware used in broadcasting. This development enables the industry to move closer to adopting cloud technologies, employing the same tools as cloud providers to enhance agility and optimize resource sharing.

CONTAINERS & ORCHESTRATION

In the broader IT industry, flexibility and scalability are achieved through the ‘pets vs. cattle’ approach to infrastructure management. Traditional servers (pets) are manually configured, unique, and require careful maintenance, making them difficult to scale efficiently. In contrast, modern cloud-based infrastructure (cattle) treats servers as disposable and interchangeable, enabling automated provisioning, scaling, and recovery. This shift, driven by



CBC/Radio-Canada’s Mathieu Ronchon showed how a Dynamic Media Facility can take shape in practice, with his presentation on their Toronto project during EBU PTS 2025

containerization and orchestration, allows organizations to swiftly scale resources up or down as required.

These containers must be capable of exchanging media within a compute cluster, regardless of the company providing the specific functionality, or where the cluster is. Some broadcast vendors are at the forefront of adopting and offering this technology. When the industry transitions into a new domain, a proliferation of technologies often emerges, which can hinder interoperability. To remain ahead of these challenges, the EBU has published a white paper (<https://tinyurl.com/dmf-white-paper>) outlining a proposed reference architecture and issuing a call to action.

In November last year, a meeting was held at EBU headquarters in Geneva to assess the interest of key industry players and explore the

possibility of collaboration. The response was overwhelmingly positive, with a clear sense of preparedness and enthusiasm to proceed and set this initiative in motion.

INDUSTRY COLLABORATION

At the time of writing, an industry collaboration is being established. It will bring together the requisite expertise and resources from both end users and solution providers. This collective effort will exploit advanced computing principles to address key challenges in media workflows.

The initial objective of this collaboration is to enable media functions to exchange media between computing systems in a manner akin to hyperscale computing, thereby eliminating the necessity to stream real-time media across the network. By adopting an asynchronous model, the initiative seeks to accelerate workflows and minimize latency, ultimately enhancing operational efficiency, optimizing overall system performance. This approach fosters greater scalability and flexibility, paving the way for more cost-effective live processing solutions that join up seamlessly with the wider media supply chain.

During the recent EBU Production Technology Seminar 2025, several presentations referenced the DMF, with CBC/Radio-Canada standing out as they showcased their plans for the Toronto project, highlighting a strong emphasis on these concepts. (See: <https://tech.ebu.ch/pts25/cbc-dmf>)

Follow the EBU work on Dynamic Media Facilities here: <https://tech.ebu.ch/dmf>

Less complexity, more collaboration – a new content exchange format for German PSM

A new format for exchanging television content, including a new MXF profile, was introduced by ARD and ZDF in January 2025, writes **Stephan Heimbecher**, who leads ARD's Competence Centre for Production and Infrastructure.

Anyone who runs a large television channel is constantly dealing with material from different studios, production companies and even countries. The exchange of all this material must be coordinated and the best way to do this is to agree on a common exchange format that is binding for everyone.

Until now, ARD and ZDF had defined no fewer than six different material exchange format (MXF) profiles, each with different requirements, for the exchange of HD material. From now on, everything will be much simpler: there will only be a single profile for the common HD format 1080p50 (i.e., Full HD with 50 progressive frames per second). Much less to consider, fewer sources of error, more flexibility.

However, the previous profiles will remain available if needed.

Another piece of good news: ARD, ZDF and their partners have agreed on a single codec to exchange the material. Where there have been 'Sony houses' and 'Panasonic houses', in future the already dominant Sony standard XAVC-L50 will prevail. Another step towards smooth co-operation.

ONLY PROGRESSIVE

While the interlaced format, in which full images (frames) are transmitted as two half-images (fields), was previously used with 1080i25, the new exchange format uses only progressive images, whereby each image is displayed directly in its full resolution. For viewers, this means a more beautiful, smoother picture, especially with fast movements. Interlaced no longer exists – progress instead of regression.

One of the most important



MXF Plugfest at RBT, Nuremberg, October 2024

goals of the new MXF profile is to increase compatibility and reduce manual effort. The 'material acceptance' process is significantly more automated, with no more tedious reformatting and customizing. The use of automated quality control and assurance is simplified by predefined parameters. The MXF profile is used as an import/export template in the various software products, which makes the entire workflow faster and more efficient.

Of course, the new MXF profile first had to be put through its paces. This involved numerous quality tests in which, for example, losses over several generations were analysed. In addition to tests in individual state broadcasting organizations, Rundfunk Betriebstechnik (RBT) in Nuremberg undertook extensive testing. An MXF Plugfest was also held there in October 2024, the first since the closure of the Institut für Rundfunktechnik (IRT), the former R&D arm of ARD, ZDF, ORF and SRG. This event to test interoperability between

manufacturers with a view to the new MXF profile can be considered a great success. The response was good: the industry is behind the new profile.

WHAT NEXT?

The new profile is initially only designed for standard dynamic range (SDR), but an extension to high dynamic range (HDR) is easily possible. The introduction of Next Generation Audio (NGA) for even better multi-channel audio formats can also be implemented. The format is therefore future-proof and flexible enough to cope with future technical developments.

To summarize, the new MXF profile not only represents technical progress for ARD and ZDF, but also an enormous relief for everyone who works with media formats. Less complexity, fewer sources of error and significantly improved collaboration between broadcasters – these are the big gains from this new system. Having initially focused on developing an exchange format that is as compatible as possible, we are now addressing the expansion of the profile for production, where there are additional requirements.

The houses will once again work together closely, under the leadership of the ARD/ZDF MXF Expert Group (MXF EG) and with the support of the Competence Centre Production and Infrastructure (CC PUI), to drive forward harmonization within ARD and with ZDF. And another MXF Plugfest in autumn 2025 is already being planned – this time hosted by the EBU.

The new MXF Profile can be downloaded at: <https://tinyurl.com/ard-zdf-mxfprofile>

Generative AI: promising for content creation but not yet ready for primetime

An IBC Accelerator project highlighted the immense potential of generative AI to transform media production, write **Roberto Iacoviello**, **Alberto Ciprian** and **Davide Zappia** of Italian broadcaster Rai.

Generative AI has the potential to democratize content creation but retains some limitations for now. An IBC Accelerator project, titled *Generative AI in Action* and led by the EBU and Rai, involved the creation of an animated pilot inspired by “Around the World in 80 Days”. It used state-of-the-art AI tools for scriptwriting, concept art, storyboarding, animation, and audio. The project also involved EBU Members Yle and ITV along with Somersault, Xansmedia and Pluxbox.

The aim was to develop an end-to-end production workflow leveraging generative AI tools. The primary objective was to test the feasibility of generative AI in producing cohesive, high-quality content, and to explore its implications for democratizing media production traditionally limited to experts.

The selection and testing of AI tools prioritized transparency regarding copyright and effectiveness. Tools such as ChatGPT, Dramatron and Gemini were employed for scriptwriting, while DALL-E, Firefly, and Stable Diffusion were used for concept art and style images. Runway and Kling AI enabled image-to-video conversion, and Respeecher facilitated voice modulation for audio production.

WORKFLOW OVERVIEW

There were five stages to the workflow:

- 1) Scriptwriting: an interactive process that involved guiding the AI with prompts to ensure narrative coherence. On average, 4-5 iterations were required for satisfactory results.
- 2) Concept art and storyboarding: the initial focus was on defining the mood and style of the content, independent of visual coherence. This phase guided the overall artistic direction and



narrative tone.

- 3) Style images: following the concept art phase, style images were created to establish visual consistency. Backgrounds were generated first, followed by the composition of characters into these environments, ensuring seamless integration. On average, creating style images required 10-15 iterations per image and significant attention to detail.
- 4) Animation: the project employed image-to-video techniques to overcome the limitations of text-to-video tools, achieving smoother transitions while retaining stylistic fidelity.
- 5) Audio: pre-recorded phrases were transformed using Respeecher, ensuring tonal alignment with the characters.

Hardware requirements varied significantly. While online tools required minimal resources, generating content locally necessitated high-performance GPUs.

The project showcased the versatility and potential of generative AI in media production. A polished script, concept art, and storyboard were developed, establishing the foundation for the pilot episode. The team animated one minute of the pilot and created a one-minute title sequence, demonstrating the feasibility of the workflow.

In terms of performance, generating a single high-quality

shot required 10-15 iterations, with each iteration averaging two minutes. While these metrics highlight the computational demands of generative AI, they also underscore its capability to deliver high-quality results with careful refinement.

PROMISE & LIMITATIONS

This project has demonstrated how generative AI can simplify pre-production tasks such as scriptwriting and storyboarding. However, the journey towards fully autonomous video production remains a challenge, as advancements in AI capabilities are necessary to achieve broader adoption. Feedback from industry professionals, including experts at Rai, validated the project's approach. While the pre-production elements were lauded for their efficiency and quality, the video outputs were deemed not yet ready for public broadcasting. This constructive critique highlighted both the promise and the current limitations of generative AI in media production.

Future goals include making these tools more accessible to non-experts and enhancing automation to simplify the creative process further. Additionally, integrating multimodal AI workflows that seamlessly combine text, visuals, and audio will be critical for establishing a holistic production pipeline.

Ultimately, this study demonstrates how generative AI can be a transformative ally in storytelling, unlocking new creative possibilities and inspiring the next generation of media professionals to embrace innovative technologies.

The final video is available here:
<https://tinyurl.com/ibc-gen-ai>

Radio at risk: the absence of radio devices in quadricycles and the implications for PSM

The rise of these lightweight vehicles, typically without built-in radios, highlights a growing challenge for public service media in the evolving automotive landscape, writes **David O'Neill** of the new ARD Automotive unit.

Over the past few years, broadcasters have proven that they can keep pace with the technological developments currently under way in the automotive sector. For most major European public service media (PSM) organizations, ensuring discoverability and accessibility in software-defined vehicles has become a core part of their strategy. Consequently, the adoption of the European Electronic Communications Code (EECC), which has led to a significant increase in the percentage of DAB receivers in new passenger cars sold in the European Union, was an important landmark.

However, a new challenge could emerge in the form of quadricycles: a type of vehicle where many do not come with a built-in radio, threatening access to PSM content at a time when most radio listening still takes place in cars. Even though the sales figures are still rather moderate, it is worthwhile for broadcasters to take a closer look.

A NEW PLAYER

Quadricycles are lightweight, four-wheeled vehicles that are mostly electrified and are legally classified between motorcycles and conventional cars. They align with the zeitgeist, appealing to environmentally conscious urban users who value individual mobility while supporting the mobility transition. Additionally, in the European Union, quadricycles throttled to 45 km/h can be operated from the age of 14 without the need for a driving licence, being in a different category to regular passenger cars. This makes them particularly attractive to younger demographics as an alternative



© Stellantis

Quadricycles generally have a minimum of onboard electronics

to bikes and mopeds.

Although desirable for the future of urban mobility, these vehicles point to a disturbing possible future for broadcasters. To keep prices low – quite a few models are available under € 10,000 – quadricycles are generally less well-equipped, particularly when it comes to onboard electronics. Not only do they lack modern entertainment and sound systems; even basic multimedia equipment, such as a radio, is often omitted or only available at extra cost. This is possible because quadricycles are not classified in a way that the EECC legislation, ensuring the presence of digital radio receivers in new passenger cars, applies; quadricycles belong to vehicle class L, while passenger cars fall into class M.

As the table opposite illustrates, out of 13 of the most popular quadricycles, only four have a

terrestrial radio receiver, while three at least offer it via an app. Two models allow retrofitting or an additional-cost option. Bluetooth connectivity is available on four models and is at least optionally available on most.

RADIOLESS FUTURE?!

This raises two major concerns for broadcasters. The most obvious is that if the quadricycle market share increases, more vehicles on European roads will lack easy access to public service content. This is particularly risky in emergencies, where radio remains a crucial source of information, but it also deprives drivers of traffic updates and news. The second and potentially more far-reaching issue is that quadricycles could be a test-run for the omission of radios in a wider range of vehicles – even in passenger cars.

Despite a slight decline in recent years, radio has traditionally played a central role in the car and continues to reach more people there than at home or work. According to a study by the EBU's Media Intelligence Service, almost 60% of Europeans still regularly tune in while on the move. Even among drivers who stream radio stations, those brands available over terrestrial broadcast remain the most popular. The same study found that 90% of in-car radio listeners consider the availability and easy accessibility of radio as "very important". The disappearance of radios in vehicles would therefore negatively impact a significant portion of the population.

SOUTHERN POPULARITY

While quadricycle sales figures remain relatively low across Europe, the market is growing; they are particularly popular in southern Europe, where smaller cars have traditionally been favoured. They already had a strong presence in Germany and France in the early 2010s, albeit with declining sales afterwards. There has been a resurgence since 2020, with sales now surpassing

Presence of radio in most popular quadricycle models

Model	Radio	Bluetooth
AIXAM Emotion	Optional	Optional
Ligier Dué	Optional	Optional
Citroën Ami	via App	Optional
Opel Rocks-e	No	No
Mobilize Duo	No	Yes
Renault Twizy	No	No
Fiat Topolino	via App	Optional
XEV Yoyo	via App	Yes
Silence S04	No	Optional
Chatenet CH40	Yes	Optional
Casalini M14	Yes	Optional
Microlino	No	Yes
M.Go	Yes	Optional

previous figures.

In France, which is the largest market for quadricycles, sales have consistently been quite high: just under 15,000 units were registered in 2012, and by 2023, this number had almost doubled to 26,000. In 2024, quadricycles accounted for 1.41% of all new vehicle sales. The three most popular models across Europe – the AIXAM Emotion, the Ligier Dué and the Citroën Ami – all stem from French manufacturers; just like the since-phased-out Renault Twizy, which was responsible for the majority of quadricycle sales in Germany in the early 2010s.

While the German market has recently started

to pick up speed again and reached 1,500 quadricycle sales in 2023, Spain and Italy are already a little further ahead: Italy had recorded 17,000 quadricycle registrations by 2024, while Spain reached 8,500. The relaunch of the Twizy, which is planned for early 2025 under the name Mobilize Duo, can be expected to further boost sales figures in Germany.

TIME TO ACT

The omission of radios in quadricycles is more than just a niche market issue – it signals a broader risk to radio's position in vehicles. While sales are currently modest, the growing popularity of quadricycles, particularly in southern Europe, highlights the need for broadcasters to take notice.

We must act to ensure that radio remains a standard and easily accessible feature in all vehicles – even those not covered by the EEC legislation. There are many possible approaches to the topic, but as a baseline, it certainly is crucial to work together as broadcasters, keep a close eye on market developments and exchange ideas and experiences. Otherwise, the risk is clear: what starts with quadricycles today could extend to all cars tomorrow.



The ARD Automotive unit

To ensure that public service radio and on-demand content remain easily accessible in cars amid rapid technological change, ARD – the joint organization of public service broadcasters in Germany – has expanded its expertise: David O'Neill, Azuma Satter and Julian Oude-WeBelink (pictured, left to right) now constitute the newly established ARD Automotive unit, led by Gwendolin Niehues. Their mission is to secure prominent placement for ARD audio products in connected cars and make the listening experience as intuitive as possible for users. The team also actively contributes to the EBU's Connected Cars and Devices Group.

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Ensuring clarity: new guidelines for Audio Description dip levels

A new report from the EBU offers a standardized approach to improving accessibility in broadcasting, writes **Kieran Lynch**, researcher at Institute of Art, Design and Technology in Ireland.

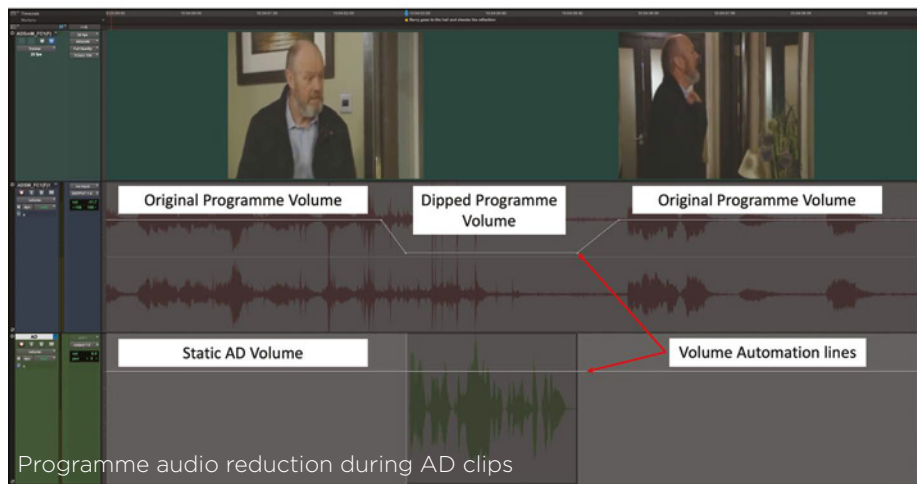
In a move to enhance accessibility and improve the viewing experience for visually impaired audiences, the EBU has published a new report, TR 084, that addresses long-standing inconsistencies in how AD services are delivered across broadcasters and streaming platforms.

Audio description plays a crucial role in making television content more accessible for blind and visually impaired audiences. It provides verbal narration of key visual elements, ensuring that viewers can follow the story, setting, and character interactions. However, user feedback has revealed a common problem: AD levels often vary widely between and even within programmes. Inconsistent volume dips, where the background audio is lowered to accommodate narration, can disrupt the experience, making it difficult to follow both the programme and the descriptive narration.

To address this, TR 084 offers practical guidance on setting dip values – the amount by which programme audio is reduced when AD is active. Developed in collaboration with industry experts, the framework aims to remove guesswork, improve consistency, and ensure a better listening experience for AD users.

PRACTICAL GUIDANCE

Many of those responsible for setting dip values are not trained sound engineers. Broadcasters often rely on scriptwriters, AD narrators, or other production personnel to make these adjustments, leading to inconsistent results. Some rely on default software settings, while others follow internal guidelines or personal judgment. As a result, AD users have reported frustrating experiences where



“the description is sometimes louder than the programme” or where “volume changes make the film choppy and unwatchable.”

TR 084 addresses this issue by providing a structured workflow for non-sound engineers, outlining clear steps on measuring loudness, determining appropriate dip values, and maintaining a balance between programme audio and AD narration.

The recommendations are backed by extensive research. A benchmarking study that analysed the mixing practices of eight professional sound engineers across multiple genres and loudness ranges was used to develop an optimal dip value equation, ensuring that AD narration remains clear without overpowering the original content.

Instead of applying a fixed dip value, the report introduces a dynamic approach based on the maximum short-term loudness (SMax) of the original programme material, with recommended dip values provided. By applying the values dynamically, the framework ensures that AD narration remains intelligible while preserving the natural flow of a show’s audio

Broadcasters can integrate

these recommendations into their workflows, whether delivering AD as a pre-mixed audio file or using real-time receiver-mix metadata. The guidance is also compatible with existing loudness standards such as EBU R 128, ensuring seamless adoption across the industry.

By introducing a standardized methodology, TR 084 not only improves the experience for visually impaired audiences but also enhances overall broadcast quality. The report encourages broadcasters, streaming platforms, and AD service providers to align their practices, ensuring that accessibility services meet a consistent, high-quality standard.

As the industry continues to prioritize accessibility, the EBU urges broadcasters to adopt these new guidelines and provide feedback. Implementing the best practices outlined in TR 084 represents a major step toward making television more inclusive. By prioritizing clarity and consistency, the media industry can ensure that visually impaired audiences receive a seamless, engaging, and equitable viewing experience.

Find EBU TR 084 here: <https://tech.ebu.ch/publications/tr084>

Late nights and frayed nerves in the search for spectrum solutions

Jochen Mezger (ARD), vice-chair of the EBU's Strategic Programme on Spectrum, outlines some of the topics set to dominate the next round of increasingly complex international negotiations on radiofrequency.

Dubai, WRC-23, sometime in the night: *"Chairman, don't roll your eyes when I'm talking to you!"*

The nights are long, people are tired, and a lot is at stake. The manners at a World Radiocommunication Conference can sometimes become a bit rough and nerves are on edge. But what is a WRC about?

Organized every four years by the ITU, the International Telecommunication Union, a WRC sees almost all countries meeting to allocate frequencies for all types of radiocommunication services. There is no escape. Everyone must agree, regardless of nationality, religion, or political orientation. In the end, only one thing counts: interference-free coexistence across national borders must become possible.

Since frequencies are a finite natural resource and the demand for wireless applications continues to rise, the struggle to reach agreement on their allocation is becoming increasingly fierce, guaranteeing even more vivid discussions in the future. The agenda for WRC-27 was set at in Dubai at WRC-23, to allow thorough technical preparation to take place.

SATELLITE CONSTELLATIONS

WRC-27 will be largely a satellite conference. This is mainly due to technological progress that has enabled the construction of large so-called mega constellations, with several thousand satellites each. These include the Starlink system and the forthcoming OneWeb and Amazon Kuiper deployments.

The orbits of these satellites are relatively low (500-1,000 km), which makes broadband internet



Additional spectrum is sought by operators of low-earth orbit satellite constellations

coverage possible even in remote areas or independent of classic terrestrial mobile networks. For example, EBU Members' news reporting from Ukraine makes intensive use of Starlink. To avoid being solely dependent on Starlink and the whims of its owner, it is in the interest of European broadcasters to have independent alternatives that provide attractive data rates for the transmission of images and sound. This requires appropriate frequencies – sought in the area around 2 GHz – and regulation. However, EBU Members use exactly these frequency bands for wireless cameras and wireless audio production tools, essential services that must be protected accordingly. The art is therefore to find a suitable middle ground that allows both.

The mobile telecoms industry is already planning the introduction of 6G and is seeking further frequencies at around 4 GHz, 8 GHz and 15 GHz to support its generally increasing data volume.

However, incumbent and adjacent applications shall be protected. For EBU Members, the availability of a reliable and modern mobile communication service is important for media production and mobile internet reception. At the same time, broadcasters operate fixed microwave links, cordless cameras, and airborne video links in parts of the examined frequency ranges, which are essential for feeding radio and television signals and must be protected accordingly.

UHF STILL AN ISSUE

WRC-23 also decided on proposals for the next but one conference, WRC-31. For broadcasting, it is particularly significant that the UHF spectrum from 470 to 694 MHz will again be on the agenda. This band is intensively used by EBU Members for terrestrial television and wireless microphones (PMSE). On the other hand, the mobile telecommunications industry as well as the military have an interest in opening this band for their applications.

Shared use of this band would lead to significant capacity restrictions for terrestrial television and PMSE. At WRC-27, how the agenda item for 2031 is worded will be of great importance to avoid setting a precedent in favour of mobile telecoms.

As mentioned, when tensions run high, people do not shy away from insulting the chairman. To block decisions, we have even observed delegates pretending to sleep and snoring ostentatiously. Our manners are certainly better. "Thank you, Mr. Chairman!"

Oh smart! Strengthening collaboration on open-source software for media

Jordi J. Giménez (5G-MAG) and **Daniel Silhavy** (Fraunhofer FOKUS) report on an initiative that has seen several organizations active in the media delivery ecosystem collaborating to raise awareness of the tools they provide.



You have probably heard someone saying, “Oh smart!” before, perhaps in a meeting when a good idea or a clever solution was presented. But have you heard about “OSMART” before?

First, a step back. The media industry is at a tipping point. It risks becoming solely a consumer of equipment and solutions, lacking a deep understanding of the underlying technology. This gap has been exacerbated with the rise of the internet, a domain traditionally shaped by other actors. The passive role of the media industry here hinders the ability to actively shape the development of technology and products.

Open-source tools offer a powerful avenue for media organizations to become active participants in technological advancement. OSMART stands for Open-Source Media Application Reference Tools. It is an initiative of several key organizations developing software tools in the space of media delivery.

Key objectives of the OSMART initiative are to raise awareness of software projects under development, to understand their applicability in the media delivery chain and, most importantly, to provide a central point, the OSMART Community on GitHub (<https://osmart-community.github.io/>), that can serve as a valuable resource for developers and media professionals, providing information and shortcuts to a wealth of open-source media tools.

An inaugural OSMART workshop in May 2022 focused on identifying synergies and collaboration opportunities between the invited organizations. Follow-up

workshops in December 2023 and 2024 further expanded the reach and collaborative efforts. The full list of organizations that have participated in at least one OSMART workshop is:

- 5G Media Action Group (5G-MAG)
- Consumer Technology Association WAVE Project (CTA-WAVE)
- DASH Industry Forum (now merged with SVTA)
- DVB Project
- HbbTV Association
- Moving Picture Experts Group (MPEG)
- Streaming Video Tech Alliance (SVTA, see page 17)

The most recent OSMART workshop took place (online) in December 2024. It featured updates on a range of open-source tools and projects. There follows a brief summary of what was presented. Links to all projects can be found in the OSMART GitHub community.

SVTA and DASH-IF

The SVTA and DASH-IF session introduced *livesim2*, a tool for live DASH streaming scenarios, and the widely used open-source DASH reference player *dash.js*. Both tools provide a foundation for many streaming implementations. They serve not only as reference implementations for the standardization and research communities but also as a foundation for many commercial products.

The *SVTA Common Media Library* is a collection of reusable components for media streaming implementations which, alongside the *SVTA Sandbox*, offers tools for setting up and testing streaming workflows.

CTA WAVE

The CTA WAVE session

highlighted tools for ensuring high-quality media delivery. The *Joint Content Conformance Project (JCCP)* is crucial for validating the adherence of DASH and HLS content to industry standards, ensuring interoperability and a consistent user experience. The *CTA WAVE Streaming Media Test Suite for Devices* is a comprehensive suite of tests evaluating web-based media playback performance and compatibility across devices, offering valuable insights for manufacturers and content providers.

5G-MAG

The 5G-MAG session showcased innovative tools and technologies for next-generation media delivery. The *5G Media Streaming* tools emphasize collaboration between media applications and mobile networks, focusing on network assistance, QoE/consumption reporting, and UE data collection. The *5G Broadcast* tools play a role in scaling television/radio delivery on streaming apps through a combination of unicast and broadcast delivery modes defined in 3GPP. Additionally, the tools have expanded with support on XR media and volumetric video.

DVB PROJECT

The DVB Project session focused on advancements in DVB-MABR and DVB-I. The development of *DVB-MABR Verification & Validation* resources ensures robustness and interoperability for multicast ABR workflows. The *DVB-I Reference Application* is evolving in its capabilities, with the integration of DVB-NIP (Native IP broadcasting) for increased flexibility in hybrid broadcast and broadband services.

Measuring the presence of the UN Sustainable Development Goals in RTVE programming

Carmen Pérez Cernuda, Deputy Director of Innovation and Technological Strategy, describes the Spanish broadcaster's innovative analysis to quantify the airtime dedicated the SDGs on public television.

RTVE has implemented an innovative project that utilizes artificial intelligence (AI) and natural language processing (NLP) to analyse and quantify the airtime dedicated to each of the United Nations Sustainable Development Goals (SDGs) and their specific targets in the content broadcast on its channels. Additionally, RTVE makes this information available to the public through an open-access website, thus reinforcing its commitment to transparency and the United Nations' 2030 Agenda.

TECHNICAL CHALLENGE

The automatic classification of audiovisual and radio content based on the SDGs is a technically complex challenge, as they encompass a wide range of topics. This required the development of robust, flexible, and constantly evolving ontologies – formal descriptions of knowledge as a set of concepts within a domain and the relationships that hold between them – capable of capturing the diversity of expressions and synonyms.

We determined from the start that the analysis should rely on the subtitles of the programmes, accessible via an API – application programming interface – on the RTVE website. This would demand highly sophisticated semantic analysis tools capable of understanding context and interpreting content.

The project was approached in two phases: the first involved applied research with the Universidad Carlos III (Madrid) and RTVE's in-house team leveraging its expertise in NLP. The second phase was conducted through a public tender, with a proposal from the Salvador Soler-Mundo Justo Foundation (PW-FSS) winning



What are the SDGs?

The Sustainable Development Goals (SDGs) are common, universal goals for member states of the United Nations to transform the world into a fairer, more prosperous and peaceful society by 2030. They balance the economic, social and ecological dimensions of sustainable development, encompassing goals such as ending poverty, achieving gender equality, improving health and education, making cities more sustainable, combatting climate change, protecting forests and much More. See: <https://sdgs.un.org/>

due to its solid solution for both analysis and visualization.

A key to the success of this project was the early establishment of a multidisciplinary working group composed of engineers and experts from RTVE's corporate social responsibility directorate. Once the project was awarded, representatives from the PW-FSS joined the group, holding regular meetings to enrich the project with diverse perspectives.

Another fundamental aspect was the creation of a quality control procedure based on weekly reviews of a sample of the system's results. Cases where human reviewers disagreed with automatic classifications were discussed by the entire team to enhance and update the folksonomies (user-generated ontologies). Additionally, a panel of experts from various disciplines was consulted when needed.

DATA VISUALIZATION

Once content is classified, clear and accessible visualization of

the results becomes essential. For this purpose, an interactive web platform was developed, open to the public, allowing users to intuitively explore the data (<https://rtve2030.rtve.es/>).

Using filters and searches, users can generate visual representations of SDG coverage over time, by programme, channel, or topic. If interested, users can access the analysed television show on the RTVE website with a single click.

Publishing this data improves RTVE's transparency by providing detailed information to audiences and regulatory bodies, fostering greater public awareness of the SDGs, and reinforcing RTVE's role as a leader in promoting sustainability.

This project marks a significant milestone in the use of technology to measure the social impact of media. By quantifying the coverage of the SDGs and their targets, RTVE not only fulfils its commitment to the 2030 Agenda but also sets a new standard for the audiovisual industry.

Less budget, more content: public media goes smart

How can public broadcasters deliver more diverse content across expanding platforms while working with the same resources? Smarter production is the key, says ORF's **Harald Kräuter**.

Digitalization and AI have led to increased competition for public service media. A bigger range of content needs to be produced and distributed across multiple channels and platforms – all while keeping costs low and maintaining consistent quality. Efficiency is key. The shift towards digital is undeniable, where content must be accessible anytime and anywhere, and it needs to be different from linear formats. Meeting these requirements is only possible using innovative technologies and production techniques. In short, smart production is necessary.

EFFICIENCY THROUGH INNOVATION

Central to ORF's smart production strategy is the idea of modern content-lifecycle

management. Every piece of content is strategically designed for multi-platform distribution from inception, carefully tailored for specific audiences across linear television, streaming platforms and social media. This cross-media approach allows us to produce more flexibly and efficiently, helping ORF to expand its audience reach. This also requires updating our technical infrastructure, using advanced IT and network-based technologies, and transitioning to cloud and remote production.

Smart production revolutionizes the traditional production model by empowering editors and producers with more autonomy. The deployment of easy-to-use equipment such as mobile cameras, laptops, or powerful smartphones allows editors to work independently. This applies not only to the production process itself but also to editing, which can now be done remotely and at any time. A prime example of this flexibility is the use of the LiveU app, which enables mobile live broadcasts directly from smartphones.

FLEXIBLE EMPLOYEES

Success hinges on cultivating the right mindset across the organization. We need editors who are interested in technology and technicians who are programme-minded. While smart production challenges traditional roles and requires additional skills from production teams, the focus remains on fostering collaboration between technical and editorial departments.

Smart production is not embraced by everyone, as it demands more from producers, who are responsible for sound, image, distribution, or editing. There is also a requirement to provide effective training management and offer quick and uncomplicated support. Editorial and technical teams need to work closely and on an equal footing.

Smart production in public service media operates under a state of tension between innovation and quality standards. Smartphone productions are used, for example, in the news department or during international dispatches where costs would otherwise be too high. Content for the kids' channel is exclusively produced using smartphones. ORF has also converted a van into a smart broadcast mobile unit with an integrated compact live control room for smaller or medium-sized productions. Smart production techniques are also used in large-scale events such as the Vienna Pride Parade, a multi-camera production with live positions throughout Vienna. However, it is necessary that employees have time to experiment. Mistakes happen, but it is important to learn from them.

In the field of smart production, pragmatism is key. It is used where it increases efficiency without compromising quality. Strict boundaries cannot be drawn – rather than setting rigid limitations, each production undergoes evaluation to ensure it meets public service standards. Smart production becomes an important tool strengthening the future of public service media without compromising our fundamental values.



Harald Kräuter,
Director of
Technology and
Digitalization at
Austria's ORF



Solving the foundational challenge of streaming

The Streaming Video Technology Alliance aims to improve interoperability in the highly complex streaming ecosystem. CEO **Jason Thibeault** describes the challenges and how the SVTA is helping.

While there are tens of millions of users worldwide streaming content to a variety of devices every minute of every day, streaming is far from working as well as it could. To understand that, it's easiest to look at the evolution of streaming in phases. Phase 1 was the early, rough days of YouTube when we had lots of different approaches to delivering and watching content. The challenge in this phase was really, "how do I get this video out to users?" Phase 2 was the shift to more standardized approaches like DASH/HLS. The challenge was no longer about pushing out content but more about scaling it to millions of concurrent viewers on a variety of devices. Phase 3, where we are now, is about streaming to everyone (often live), in a way that is at least as good as cable or broadcast.

STREAMING CHALLENGES

The industry knows how to deliver VOD, but in this third phase of streaming, there is a huge demand for live and for ultra-low latency use cases like betting, which requires a different approach to streaming. Smashing all of this together, HD quality live streaming plus support for VOD, reveals three fundamental issues that streaming is being forced to address: scalability, resilience, and reliability. And these are challenges that terrestrial broadcast tackled years ago.

A large part of broadcast's success in addressing those three challenges is, in fact, streaming's shortcoming - interoperability made possible through industry-accepted standards. The streaming tech stack, while infinitely more malleable and flexible because it is based on software, suffers



Jason Thibeault, CEO, Streaming Video Technology Alliance

from a lack of interoperability. There are not only a myriad of ways to compress and decompress streaming video, but ad insertion, security, playback, measurement, and more can also be done in a variety of different ways, which can make it difficult to connect or change components within the stack. Take the idea of a user session, for example. In cable or IPTV, operators can see a single user session down to the box itself. Not so much in streaming. That's because there is no standard, required way for the different technology vendors to represent session ID in a stream.

The Streaming Video Technology Alliance (SVTA) was founded to tackle this issue of interoperability. With working groups across the entire streaming workflow, the SVTA is helping align technology

approaches. Back to that example of session IDs; the SVTA Measurement/QoE Working Group proved that they could apply the standardized "request tracing" implemented in networking equipment to the streaming video workflow. Their work demonstrated that when session ID is normalized across technology vendors, a single viewer session could be tracked down to the player, providing true observability. This was then picked up by the CTA-WAVE group for standardization as Media Request Tracing.

OVERCOMING FRAGMENTATION

But the fragmentation of the video tech stack is also indicative of a larger issue - the fragmentation of the streaming industry. In short, there are too many competing organizations and associations. With that in mind, the SVTA works with over a dozen of these other organizations, including the EBU and DVB, to coordinate efforts and ensure all of our work is complementary (see page 14). And, while mergers are not always a solution, sometimes they are the right fit and a logical step, such as the DASH-IF association joining with the SVTA in 2024.

Without a standardized approach to the tech stack, streaming video will continue to be plagued by those challenges - scalability, resiliency, and reliability - even while offering exciting and innovative streaming experiences. Thankfully, through the SVTA, over 130 video streaming technology brands, including heavyweights like Netflix and Disney but also small and innovative startups, have come together to improve interoperability.

AI-driven search, super-fans and subscription fatigue – media trends for 2025

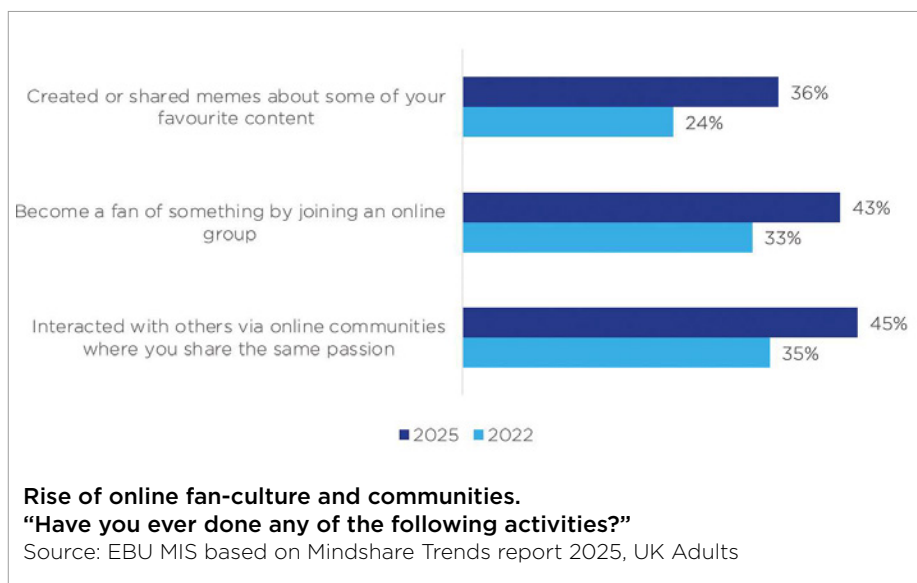
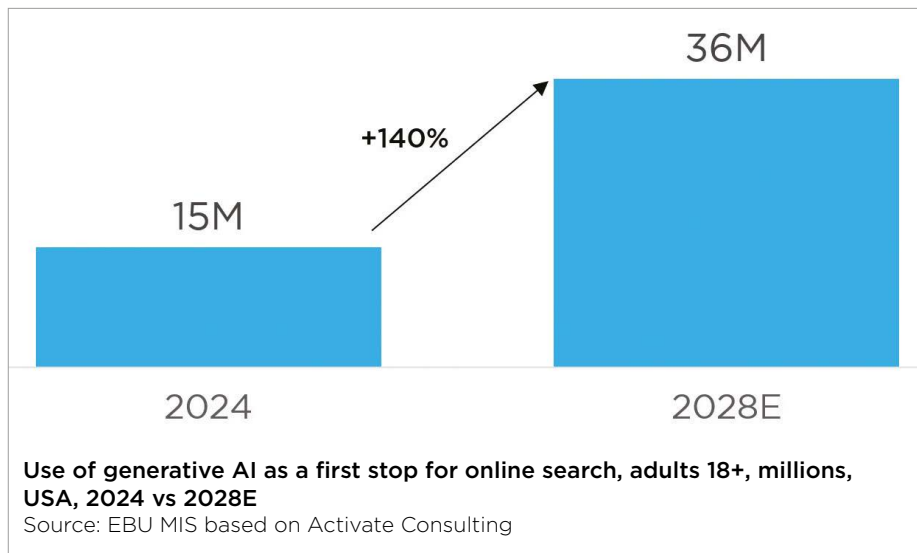
The EBU Media Intelligence Service has published its latest Hot Media Trends report. **Will Davies** identifies some of the common forecasts that emerged from the team’s analysis of a wealth of source material.

Every January, the EBU Hot Media Trends report compiles the trends and predictions that will shape the media landscape and broader economic and social dynamics across Europe over the 12 months that follow. The trends come from reports published by market research agencies, consultants, and industry experts including the likes of Kantar Media, Mindshare, Deloitte, and Ipsos, to name but a few.

One of the most prevalent trends highlighted across almost all the reports is the profound impact that artificial intelligence is projected to have on European citizens in 2025. While AI’s influence is widely acknowledged, there is a specific usage of AI that will be particularly significant for PSM and other traditional news outlets: the role of AI in search. Unlike Google’s traditional search function, which leads users to various sources through direct links – for example, to a news article on a PSM website – AI models such as ChatGPT, Google Gemini and the like, extract and synthesize information from articles to provide users with a comprehensive answer, therefore eliminating the need to actually visit the website and thus also removing some of the media’s traditional traffic streams.

Several reports predict a rise in “super-fans” and “micro-communities” in the digital realm in 2025, as audiences seek deeper engagement with online creators. PSM, transitioning from a one-to-many broadcast model, face the challenge of building and maintaining their own online communities in order to preserve their relevance in the digital ecosystem.

A number of reports highlight that the streaming market is



approaching saturation, with growth in subscriptions slowing down and revenue per OTT video subscription expected to remain stagnant. With usage becoming fragmented across multiple platforms, mergers of streaming services are anticipated in 2025 and beyond.

Other forecasted trends include the increasing use of new technologies like AR (augmented reality), VR (virtual reality), and wearable tech, the growth of retail media on connected TVs,

and a focus on regulation and governance, as the use of AI expands.

Whatever happens throughout 2025, the Media Intelligence Service team will continue monitoring and updating EBU Members on the latest trends that will impact public service media in Europe.

EBU Members can download the Hot Media Trends 2025 report by visiting <https://ebu.ch/resources> and selecting Research.

EBU T&I videos on demand

A selection of recent additions to our rich library of videos from EBU Technology & Innovation events, available from our website and the tech-*i* app (<https://tech-i.ch/download.html>).



Transitioning from traditional broadcast equipment to software at CBC Toronto

François Legrand, Félix Poulin, Mathieu Rochon (CBC-Radio Canada)

EBU New Builders roundtable



How to become a data-driven, AI-enabled organization

Matthew Blakemore (AI Caramba!)

One of the most popular presentations at PTS 2025



Verification, fact-checking, and authentication

Ruth Kühn (Deutsche Welle)

The challenge of creating trust in digital media

IN THE SPOTLIGHT

Jürgen Grupp

Senior Information Architect, SWR, Germany

What are your current responsibilities?

As an information architect, I contribute to quite a few projects within SWR and Germany's ARD. For this, I rely on the knowledge and experience I have gathered on EBUCorePlus (as chair of EBU's metadata modelling group) and on application integration as well as business-IT-alignment issues. I'm also the co-chair of the EBU Integrated Enterprise Architecture group. Enterprise architecture has become a valuable approach for EBU Members to address and master transformation challenges. Our group provides opportunities for exchange on best practices as well as developing various practical frameworks.

What do you consider as your finest achievement so far in your career?

I have contributed to media archive software, to architectural models developed by EBU groups – such as the digital media value chain (Tech Report 041) and the business capability map (BPN126) – and to EBUCorePlus (<https://tech.ebu.ch/metadata/ebucoreplus>). I have enjoyed that work very much and I am proud of it, but I leave it to others to pick the finest achievement.

What are your predictions for media technology in the future?

Of course the most important trends are AI and the cloud, but AI will impact media technology faster and deeper. As a consequence, we will see a thorough personalization of content, both as highly individualized recommendations for a user's next selection and as individualized content streams, that do not require the user to take any action. AI will also support natural language services that let users talk to their device and even enable devices to actively engage in a dialogue with a user to find out what to play next.

What, for you, are the biggest challenges for EBU Members today?

The reputation, funding and independence of public service media are all under pressure. We need to withstand that pressure by building trust in an increasingly divided society. Trust is the most critical value of all. It grows from our capability of telling stories with which our audiences can emotionally engage and at the same time providing assurance that these stories are based on facts and evidence.

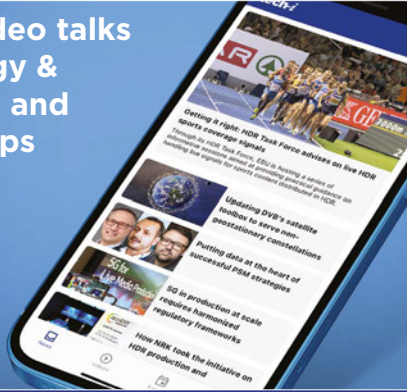
Tell us about some of your interests away from the workplace.

I like hiking, swimming and going out for dinner with friends. Whenever possible I pick up my guitar and strum a little just for myself or, more rarely, to sing along around a campfire or so. And quite often I go to concerts – last year, for example, I attended shows by AC/DC, Sting and Hot Water Music.



Join us and the industry's leading experts for technology updates, strategic insights and real-world use cases, plus demonstrations and networking.

News and expert video talks from EBU Technology & Innovation, 5G-MAG and DVB at your fingertips



tech-i app



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tech.ebu.ch/events/horizons2025