

General Assembly 2020 digital

3rd November 2020



Principal sponsor



Event partners













Principal sponsor

Xperi invents, develops, and delivers technologies that enable extraordinary experiences. Xperi technologies, delivered via our brands: **DTS**, **HD Radio**, **IMAX Enhanced**, **Invensas**, **TiVo**, and by our startup, **Perceive**, make entertainment more entertaining, and smart devices smarter. Xperi technologies are integrated into billions of consumer devices, media platforms, and semiconductors worldwide, driving increased value for partners, customers and consumers around the globe.

Xperi's automotive technologies, **DTS AutoSense**, **DTS Connected Radio** and **HD Radio** are designed to improve the in-vehicle experience, making it safer and more enjoyable. **DTS AutoSense** comprises occupant and driver monitoring vision solutions, implemented at the edge. **HD Radio**, which resides in more than 70 million automobiles, is the most successfully deployed digital radio system in autos worldwide. **DTS Connected Radio**, built on the largest and deepest data set of broadcast and music metadata, combines over the air broadcast with IP-delivered content for a robust, richer, more personalized in-cabin infotainment experience.

A world leader in smartphone apps for radio stations and visual radio broadcast systems, Xperi's **All in Media** is dedicated to creating innovative technology solutions for broadcasters and their listeners, delivering leading radio experiences in the vehicle, on mobile devices, and in connected devices for the home.

www.xperi.com





Welcome

Dear colleagues

Welcome to WorldDAB's first virtual General Assembly.

2020 has been a challenging period – with remote working and constrained social lives becoming dominant factors for us all. On top of this, COVID has had a significant impact on many organisations within the WorldDAB family – not least commercial radio and the automotive sector, but none of us is unaffected.

Against this background, it is remarkable how much progress is being made in the world of DAB radio. In part, this reflects the central role which radio plays in the lives of listeners – especially in times of crisis. It is also evidence of the momentum driving DAB+ across a growing number of international markets.

In Europe, significant events include the launch of a second national multiplex in Germany, Swiss plans for FM switch-off and the continued roll-out of DAB+ in France. The European Electronics Communications Code comes into force in December and, in Italy, we have the first country to require all new radio receivers to have DAB+.

Interest in DAB+ is also growing outside of Europe – in particular, in Africa & the Middle East and the Asia Pacific region. Unprecedented numbers of participants attended our recent webinars for those regions – organised respectively with our partners, the Arab States Broadcasting Union and the Asian Broadcasting Union.

This year's General Assembly will be quite different from those with which we are all familiar. This year, there is no grand dinner. That said, I know that Bernie, the Project Office team and all our speakers have made an enormous effort to make this year's event as engaging and informative as possible. My thanks go to all of them.

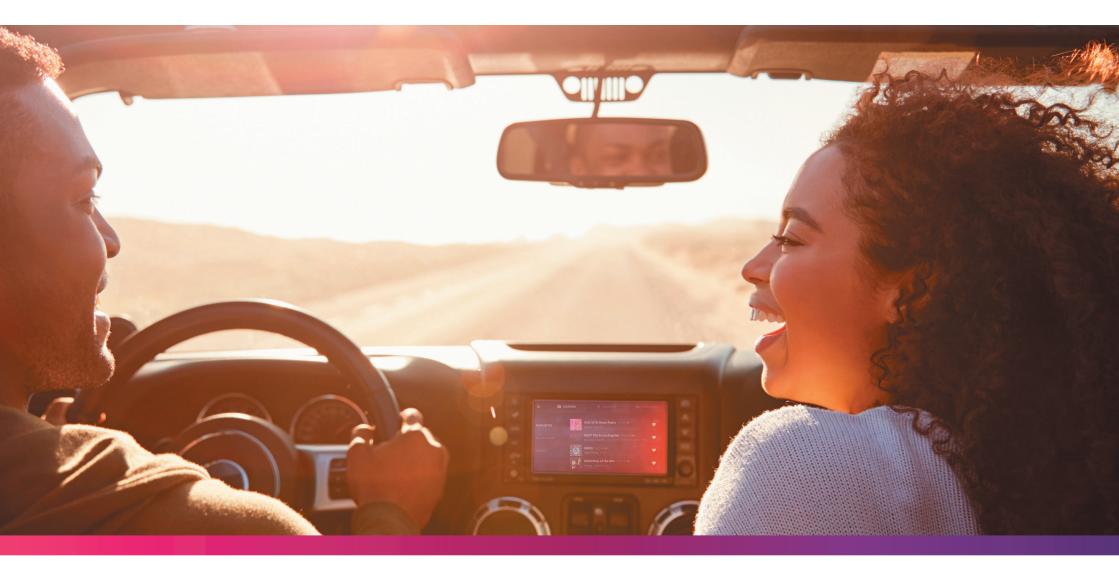
I hope you enjoy the occasion.

Best wishes

Patrick Hannon, President, WorldDAB



Committed to the success of broadcasters everywhere, large and small.





CONNECTED CAR

Meeting OEM and

listener expectations.





DAB/DAB+ Systems from Germany





Event partner

MAGIC AE1 DAB+ Go Audio Encoder



Audio Encoder

MAGIC AE4 DAB/DAB+

MAGIC DABMUX Go Ensemble Multiplexer



MAGIC DABMUX plus Ensemble Multiplexer



MAGIC EEC ETI/EDI Converter



MAGIC SDC ETI/EDI Switch



DABRF RF/EDI Analyser



DAB-XPlorer ETI/EDI Analyser



MAGIC TBR Tunnel-Break in





www.avt-nbg.deinfo@avt-nbg.de

AVT Audio Video Technologies was founded in 1996 in Nuremberg as a manufacturer for professional audio equipment.

Today, AVT is a leading manufacturer of DAB technology offering reliable hardware and software solutions for small, cost effective setups as well as scalable, fully redundant head ends.

By tailoring individual solutions aimed at the changing requirements of a developing market, AVT equips its partners with the technology necessary to shape the media landscape of tomorrow.

While steadily developing new systems to connect digital infrastructure and broadcast, we also make sure to continuously improve our existing products by implementing new features to enable sustained use. All our hardware systems are DSP based to offer highest reliability for a prolonged lifecycle.

AVT has more than two decades of comprehensive audio knowledge and offers more than just DAB products. As one of the leading manufacturers of telephone hybrid systems and audio codecs, we are also able to realise cross-system integrations. The AVT systems, which are developed and manufactured in Germany, are deployed worldwide via national distributors. This gives us the opportunity to monitor global developments in broadcast and provide comprehensive solutions.

www.avt-nbg.de





C

Event partner

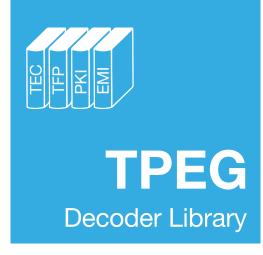
WEcanTPEG.com

Consulting









bmt is a competence centre for the realisation of projects within the scope of digital broadcasting. For years, bmt has been active in the specification and implementation of DAB and TPEG (Transport Protocol Expert Group) services. This includes both consulting services and products like TPEG ON AIR, TPEG Analyser, TPEG Editor and TPEG Library. The Bayerische Medien Technik (bmt) offers professional-grade technical expertise in the IT field, especially as regards digital broadcast media.

Given the constellation of its ownership, the bmt represents an ideal partner for public and private broadcasters, as well as device makers and service providers. The standard catalogue of services is built around the latest technology, with an additional portfolio of interfaces, data conversation and data service provisioning through its specialized departments.

The bmt supports the traffic computer system for Bayerischer Rundfunk and delivers traffic telematics data on the internet, over digital radio and more.

www.wecantpeg.com







- HTTP/HTTPS for configuration
- **SNMP** for supervision
- NTP for synchronization











Event partner

Founded in 2005 DIGIDIA has emerged as one of the leading companies for digital radio transmission equipment with digital radio systems deployed all over the world in three technologies: DAB/DAB+/DMB, SynchronousFM and DRM30/DRM+. For DAB we provide end-to-end solutions for broadcast and test applications. The broadcast transmission range encompasses DAB/DAB+ head ends (multiplexers, encoders), IP gateways for EDI & ETI and road tunnel transmission/break-in products. The monitoring range includes professional RF receivers and EDI/ETI/RF monitoring devices. All products are provided for both industrial PC and virtual platforms. DIGIDIA leads the way with straightforward software and hardware designs that are innovative, flexible, and compact. All products are IP based and contain the latest COFDM and Software Defined Radio technology on state-of-the-art PC and GPP/FPGA/DSP platforms.

www.digidia.fr







Event partner

GatesAir (formerly Harris Broadcast) has been an innovator in over-the-air broadcasting for nearly 100 years, and today offers the industry's broadest portfolio with the most energy-efficient TV & Radio transmitters to help broadcasters deliver and monetize content around the globe.

GatesAir is the only company to support all digital radio standards (including DAB/DAB+), and our over-the-air customers rely on our networking and transmission solutions to maximize new revenue opportunities. Our innovative and expanded solutions will help you achieve the outstanding sound quality and reception required to attract, retain and grow your audience share while delivering low total cost of ownership.

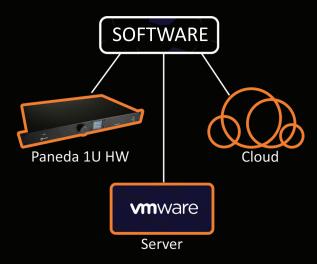
GatesAir's Intraplex solutions give broadcasters bandwidth-rich solutions for moving content over IP networks, with visibility into stream and network performance. We continue to innovate robust and reliable solutions for traditional RF STL connections that can also accommodate IP traffic. In larger transmitter networks, Simulcasting technology ensures all GatesAir transmitters are time-locked for synchronous, overthe-air content delivery.

www.gatesair.com





DAB HEAD-END SYSTEMS



The Paneda DAB multiplexer system utilizes the most modern system on the market and is developed with the very latest technology. The Paneda multiplexer system offers several unique features:

- -Paneda SMART content aware switching
- -Virtual providers enables sharing platforms.
- -Unique audio source redundancy with seamless switching.
- -Highest level of security, using SSL, trusted certificates, A+ ranked.
- -PFT synhronization and time shifting



Event partner

Paneda offers innovative and cost-effective DAB solutions: safety systems, broadcast networks and broadcast systems. Nearly 200 tunnels in Norway are equipped with Paneda systems. Many local and public European broadcasters are using Paneda DAB Head-End systems with a complete range of products including multiplexing, audio encoders, data insertion and content management.

www.paneda.no





Media partner



Media partner

Radio World is the leading news and career resource for today's global, multiplatform radio professionals.

Audio is hot, and radio is audio. In fact the radio industry is morphing into the leading segment of the broader and fast-growing audio universe. As consumer demand for news, music and other audio content soars, the executives, engineers and other technologists who run radio/audio organizations need relevant information to drive their careers and guide their business strategies.

Led by Editor in Chief Paul McLane, Radio World, which is now in its 44th year, is dedicated to serving these readers around the world with relevant compelling content, real journalism, practical tech coverage and commentaries by opinion drivers. We aim to keep these broadcast professionals informed about emerging technologies, regulation and consumer trends.

Our comprehensive coverage includes resources such as eBooks, webcasts and Buyer's Guides, along with the Radio World Engineering Extra, published six times annually and including white papers, digital radio tips and commentary by engineers, for engineers.

www.radioworld.com



RedTech Tribe is a business and technology publication and platform for the international radio and digital audio industries. With a weekly newsletter and a bimonthly print issue, RedTech covers the latest trends and developments impacting the global radio and audio sectors. The publication reaches executives who manage and operate radio stations, networks, sales houses, music production companies, and more.

As an international publication and community for the professional radio and audio industries and with contributors located in every corner of the universe, RedTech Tribe is built upon the philosophy of informing, connecting and exchanging.

We connect the global radio and digital audio industries at a local level.

www.redtechtribe.com





MoIN



Audio over IP codec

IP-4c

four-channel

2wcom's

Multimedia over IP **Network Server**

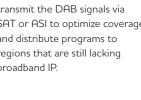
Separating the audio part from Installed on a server, a VM, or the DAB multiplexing system as a cloud service, the MoIN provides independence for software enables to receive all network sites. The device the signal transmitted by the supports all main standards IP-4c. Besides, it allows signal or protocols for Audio over IP adjustment depending on which interoperability as well as all source is used for distribution. qualities of audio algorithms. regardless of whether it is DAB, In addition, an outstanding IP. or Satellite. transmission robustness ensures 24/7 broadcast operation,



high density EDI<>ETI converter

The high-density converter is an expert in dealing with special challenges. Besides its core function, the device allows to transmit the DAB signals via SAT or ASI to optimize coverage and distribute programs to regions that are still lacking broadband IP.









DAB+ EXCLUSIVE

82% OF POPULATION > OUTDOOR MOBILE COVERAGE 57% OF POPULATION ► INDOOR COVERAGE

5.300 KM OF HIGHWAYS COVERED



especially in WAN networks.



Session 1 09:00 - 10:10 GMT*

Building audiences with digital radio

President's overview

Patrick Hannon gives an update on the major DAB+ developments in in 2020, covering Europe, Africa, MENA and Asia Pacific regions. He outlines WorldDAB's priorities for the next three years, positioning DAB+ at the heart of radio's digital future, encouraging the uptake of DAB+ in new markets, and ensuring the widespread availability of DAB+ in cars and consumer receivers.

The future of radio

DAB+ is quickly becoming the platform of choice for listeners across the globe, from Europe to Australia. James Cridland shares his view on what the future holds for radio, in an increasingly multiplatform world with new listening habits and evolving audio content.

More choice on DAB+

Germany's second national DAB+ multiplex launched on 5 November, marking the beginning of a new era. Joe Pawlas outlines how DAB+ changes Germany's radio landscape and gives new impetus to the advertising market.

From FM to DAB+

The Swiss radio industry switches over from FM to DAB+ during 2022-2023.

Hear from Iso Rechsteiner, Bernard Maissen and Jessica Allemann about the DSO process, the latest listening figures and how the Swiss Confederation is supporting the radio industry in the FM switch-off.

Norway's DSO

Norway was the first country to switch off national FM in 2017 – but how does the radio listening landscape look today? Get the latest perspective from public broadcaster NRK and commercial radio group P4 with Ole Jorgen Torvmark, Cathinka Rondan and Kenneth Andresen.

UK radio and audio review

In the UK almost 60% of all listening is digital – which has prompted the launch of a Review of Radio and Audio. Yvette Dore gives an overview of the UK radio market and Ian O'Neill provides an update on the progress of the Government Review.

France national DAB+

France has a double celebration in 2021 – 100 years of radio and the launch of national DAB+. Nicolas Curien and François-Xavier Bergot from the French media regulator, the CSA, tell us about France's longer term plans for DAB+, and why it sits at the heart of France's radio strategy.

* All timings are approximate

10:10 – 10:20 GMT • Coffee break



Patrick Hannon President. WorldDAB



James Cridland Radio **Futurologist** and Editor of Podnews



Joe Pawlas Chief Executive Officer, Antenne Deutschland



Iso Rechsteiner Proiect Manager, DigiMig Working Group



Bernard Maissen Director. **OFCOM**



Worldwide

lessica Allemann Head of Research. DigiMig



Ole Jorgen Torvmark Head of Platform NRK Partnerships, Radioplayer



Cathinka Rondan Head of Radio.



Kenneth Andresen



Culture, Media

and Sport

Ian O'Neill Head of Radio: Head of Television. Department for



Yvette Dore Communications Board Member, Director, Digital Radio UK



Nicolas Curien



François-Xavier Bergot Deputy Head of Radio Directorate, CSA



Session 2 10:20 - 11:10 GMT*

Reaching the listener on DAB+

Marketing DAB+

Jacqueline Bierhorst, Chair of the WorldDAB Marketing Group provides an overview of how broadcasters in different markets are informing their listeners about DAB+, and how WorldDAB can help broadcasters develop their DAB+ marketing strategies.

Communicating for DSO

An overview of Switzerland's DSO communications strategy from **Iso Rechsteiner** and **Tobias Händler** at the agency commissioned to carry out the campaign and from **DABSY**, the voice behind the campaign.

Marketing for retail and e-tail

Ford Ennals joins us direct from London's Oxford Street to tell us about the UK's focus on educating consumers and retailers about the changing face of digital devices and stations – "Radio's Digital Revolution".

Messaging for more

How are Germany's broadcasters helping listeners tune into the exciting new DAB+ offering that is now available across the country? Hear from **Carsten Zorger** about an innovative partnership with a major DAB+ receiver manufacturer, inviting listeners to design their own DAB+ radio.

Device sales

An overview from **Max Templeman** on the latest data on DAB+ device sales, how Covid-19 has impacted the consumer audio devices market, and GfK's insights on which types of devices listeners are buying today.

* All timings are approximate

11:10 - 11:20 GMT • Coffee break



Jacqueline Bierhorst Project Director, Digital Radio Netherlands



Iso Rechsteiner Project Manager, Digimig Working Group



Tobias Händler CEO, Scholz & Friends



DABSY DAB+ media personality



Ford Ennals CEO, Digital Radio UK



Carsten Zorger Director, Digitalradio Büro Deutschland



Max Templeman Insight Director, Consumer Electronics GFK



Session 3 11:20 - 12:20 GMT*

What's happening elsewhere on DAB+

Australia

Commercial broadcasters in Australia are committed to DAB+. **Joan Warner** asks **Grant Blackley** why DAB+ sits at the heart of his radio distribution mix.

South Africa

This year saw the publication of a policy directive for the implementation of Digital Sound Broadcasting in South Africa. The media regulator ICASA must now prioritise licensing. **Lynn Mansfield** in conversation with **Dimakatso Qocha**.

Czech Republic

Czech Republic is a regional champion for DAB+, now with national coverage and an enriched radio offering for listeners. For **René Zavoral**, collaboration with local car manufacturer Skoda is a key element at the heart of the DAB+ rollout strategy.

* All timings are approximate

MENA region

While broadcasters in the MENA region face similar challenges to elsewhere, **Bassil Zoubi** explains how DAB+ is offering new horizons for radio broadcasters across the region.

Spain

DAB+ is back on the table for Spain. **Javier Sanchez Perez** outlines the motivation behind recent calls for a parliamentary debate on the urgent implementation of DAB+.

Italy

Giorgio Guana discusses why DAB+ consumer sales almost tripled in the first half 2020 following the introduction of rules requiring all receivers to have DAB+ from 1st January 2020.

12:20 – 13:00 GMT • LUNCH



Joan Warner CEO, Commercial Radio Australia



Grant Blackley CEO and MD, Southern Cross Austereo



Lynn Mansfield Executive Advisory, eMedia



Dimakatso Qocha Councillor, ICASA



René Zavoral Director General, Czech



Bassil Zoubi Director of Technology and Development, Arab States Broadcasting Union



Javier Sanchez Perez Head of Strategy, RTVE Innovation Centre



Giorgio Guana WorldDAB Italy



Session 4 13:00 - 13:50 GMT*

DAB+ energy and distribution

Energy saving

Chloe Fletcher considers the energy footprint of BBC radio services across various platforms, analysing current usage and how this may change over the next 20 years.

5G

The EBU project group 5G Deployments addresses technical and non-technical issues related to 5G. The project group chair – **Darko Ratkaj** – is ideally positioned to tell us about the status of 5G and what role it can play for broadcasters in the future – and critically when – taking into consideration business models and existing technologies.

DAB+ for community radio

Small-scale DAB is an innovative technology that provides a low-cost route to digital broadcasting for local commercial, community and specialist radio stations. A dual perspective from community broadcaster **Ash Elford** and network operator **David Duffy** on how small-scale DAB is helping community and local broadcasters in the UK reach their audience.

Regional expansion

Australia launched DAB+ by starting first with the five main metro cities. **Les Sabel** tells us how Australia is now expanding that coverage to the wider regional population. He outlines the approach taken, planning principals and how discussion and cooperation across stakeholders has resulted in a positive outcome

Nationwide

In Germany DAB+ now reaches 83.8 million people – 98% of the population. Network operator Media Broadcast sold their FM infrastructure in 2018 to focus on digital growth. **Verena Schmitz** outlines how they went about planning and building out Germany's two national multiplexes

* All timings are approximate

13:50 - 14:00 GMT • Coffee break



Chloe Fletcher Sustainability Data Scientist, BBC Research & Development



Darko Ratkaj Senior Project Manager – Technology & Innovation, EBU



Ash Elford Digital Development Manager, Angel Radio



David DuffyFounding
Partner, Niocom
Associates



Les SabelFounder,
S-Comm
Technologies



Verena Schmitz, Head of Strategy, Media Broadcast



Session 5 14:00 - 15:00 GMT*

Driving digital radio forward

EECC

The EU mandate that all new car radios should be able to receive digital terrestrial broadcasts has transformed the prospects for DAB+ in Europe. WorldDAB President **Patrick Hannon** gives an update on the status of the EECC implementation across Europe.

Future auto trends

Roger Lanctot looks at the major issues facing the automotive industry today, and the trends that will affect radio in the coming years.

Android automotive

Xperi's **Joseph d'Angelo** and Google's **Guru Nagarajan** discuss what Android Automotive means for broadcast radio's future in the car, and how broadcasters can preserve radio's strong position in the dash.

VIDEO: Xperi

Metadata

Visual information plays an important role in providing a positive digital radio experience for drivers. **Laurence Harrison** explains how metadata can provide a richer experience for the driver.

$\hbox{*\,All timings are approximate}\\$



Patrick Hannon President, WorldDAB



Roger Lanctot Director Automotive Connected Mobility, Strategy Analytics



Joseph d'Angelo Senior Vice President, Broadcast Radio, Xperi



Guru Nagarajan Engineering Manager, Android Automotive OS Platform, Google



Laurence Harrison Chairman, WorldDAB Automotive Working Group



Rosie Smith Project Manager Automotive, WorldDAB



David Layer
Vice President,
Advanced
Engineering,
NAB



Lindsey Mack Senior Manager DAB & BBC Sounds External Affairs, BBC



Martin Koch
Head of
Development
Entertainment
& Car Functions.

Audi



Nick Piggott Project Director, RadioDNS



Håvard Wien NRK



Xavier Filliol COO, Radioline



Caspar Adriani

What the experts say

Part I of a quickfire session – WorldDAB's **Rosie Smith** asks the experts for their predictions on the future of audio in the car.

Measuring listening on DAB

Nick Piggott gives an overview of the recently launched RadioDNS open source project that will allow broadcasters to track and measure in-car listening across different platforms – analogue, DAB+ and streaming.

Service following

A good implementation of service following is crucial for both broadcasters and vehicle manufacturers – seamlessly linking from DAB to FM and FM to DAB. **Håvard Wien** look at the status of service following in key EU markets

VIDEO: WorldDAB Automotive Working Group - Aftermarket Devices

What the experts say - Part 2

Part II of **Rosie Smith**'s guickfire session on the future of audio in the car.

OUR UNIQUE IN-SERVICE TDR FOR YOUR DAB ANTENNAS

The VSWR/RL Degradation is the Right Information to be known in order to Prevent any kind of Failures

patented and innovative
Swiss company dealing with
RF Monitoring Systems.
Our Solutions are Meant to
Prevent from Failures due to
RF Degradation in your TV and
Radio Stations.







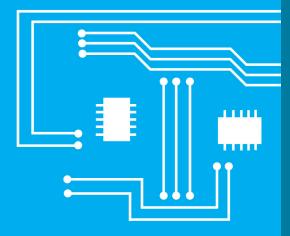




Thank you to all our speakers

GLOVANE

Forward in advance



Application: Radio, BT Speaker, etc.

Glovane makes the best DAB chipset



for Consumer





for Automotive







Now implemented in Audi, BMW, VW and Porsche vehicles in Europe and North America.

Our open technology standards combine broadcast radio and IP, and they're perfectly aligned with DAB+

Find out about how our open technology and usage standards can help you transfer metadata, content and analytics between radio stations and the connected car to enhance the experience of broadcast radio. **radiodns.org**



RadioDNS is the global not-for-profit membership organisation that promotes open technical standards for hybrid radio, with members from automotive, broadcast radio and technology providers.





General Assembly 2021



Looking forward to seeing you all next year in Prague



Leading innovation through digital radio

In broadcasting, the RYMSA brand is already playing an essential role in shaping the future of digital radio. To meet these greatest technological challenges we design and manufacture **filters**, **combiners and antenna systems**. SENER Aeroespacial, your unique partner in DAB!





WorldDAB Members

























































































Fraunhofer











































































































































