

## WorldDAB General Assembly 2015

## A vision for the future of radio

3 – 4 November 2015 London, United Kingdom

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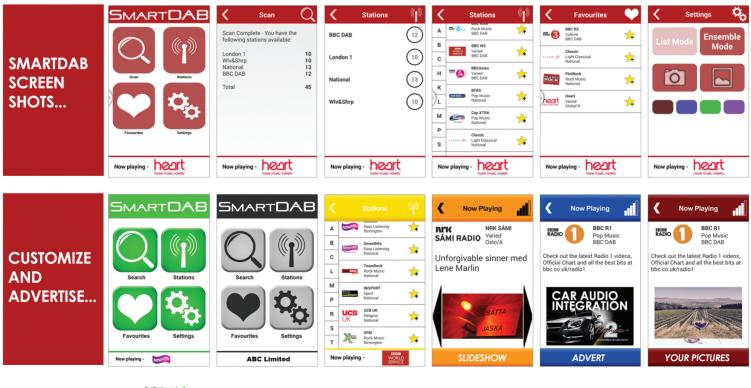
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#### Welcome to the WorldDAB General Assembly 2015



#### Dear colleagues

#### Welcome to the WorldDAB General Assembly 2015 & International Digital Radio Symposium

This year's event will have three key themes:

- 1. The international development of DAB digital radio
- 2. The opportunities provided by DAB for commercial radio
- **3.** DAB in cars and mobile phones

The last 12 months have seen a number of important developments for digital radio. Norway is the first country to set a date (2017) for Digital Switchover, with Switzerland following closely (2020–24). In Germany, the ARD has made clear its long term commitment to DAB+, backed by strong government support. Across Europe, we now have a solid core of countries with national DAB / DAB+ coverage (UK, Germany, Norway, Switzerland, Netherlands, Denmark and Italy). Our goal now is to create a European vision for digital radio. To achieve this goal, WorldDAB is engaging with multiple stakeholders, including other industry associations, EU Member States and the European Commission and Parliament. The General Assembly in London is an opportunity for us all to send a clear message about our commitment to this vision.

Beyond Europe, interest in DAB is growing in several regions with countries such as Turkey, South Africa, the Gulf States, Thailand, Malaysia and Indonesia being the most advanced. Australia, of course, continues to go from strength to strength.

Our second area of focus is commercial radio. This year's event sees our strongest ever line-up from the private radio sector. As digital radio markets develop, the commercial opportunities become ever clearer. We will hear first-hand about experiences from Europe and Australia. This section of the programme promises to be one of the highlights of the event.

Our third area of focus will be cars and mobile phones. In the last year, digital radio has become a standard feature in many vehicles in the UK, Norway, Switzerland and Australia. We need to build on this success by extending this progress into other territories. Progress towards this goal will be aided by our European vision. DAB in mobile phones is at an earlier stage of development. However, it is a strategic priority for many broadcasters and discussions with handset manufacturers are looking increasingly promising. A key factor in these discussions is the radio sector's ability to create promotional packages to incentivise the players in this sector.

Before I sign off, I would like to thank the Project Office, our speakers and our sponsors for making this event possible. In particular, I would like to thank Bernie O'Neill, Rebecca Keene, Katherine Stephens, Rosemary Smith, and Louise Kohl on loan to us from Danish Radio, for their considerable efforts over the last several weeks.

I look forward to seeing you in London.

Kind regards

hand thanks

Patrick Hannan President, WorldDAB

#worlddabga

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### PROGRAMME AT A GLANCE

#### DAY 1: TUESDAY 3 NOVEMBER 2015

09:00	11:30	Digital Radio UK event – Radio's Digital Countdown
12:30	13:30	WorldDAB General Assembly 2015 – Registration and networking lunch
13:30	13:40	Opening welcome – WorldDAB President
13:40	13:50	European Broadcasting Union (EBU)
13:50	14:00	North American Broadcasters Association (NABA)
14:00	14:10	Asia-Pacific Broadcasting Union (ABU)
14:10	14:20	Southern African Digital Broadcasting Association (SADIBA)
14:20	14:40	Panel session
14:40		COFFEE
15:10	16:00	General Assembly meeting of WorldDAB (Member Only Session) Report from the WorldDAB Committees
16:00	16:10	WorldDAB election results
16:10	16:20	Presentation of WorldDAB Award for Outstanding Service
17:15	18:30	Tour: BBC Broadcasting House (you must have pre-registered to join this tour)
19:30	22:30	WorldDAB networking drinks and gala dinner

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#### DAY 2: WEDNESDAY 4 NOVEMBER 2015

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08:30	09:00	Registration
09:00	09:15	Opening address – Digital radio – delivering the vision
SESSION	N 1 - Keyn	ote speeches
09:15	09:30	Digital radio in Norway
09:30	09:45	Public radio in Germany
09:45	10:00	Digital radio in the UK
10:00	10:15	Digital radio in the UK – Government perspective
10:15	10:30	Digital radio in Germany – Government perspective
10:30		COFFEE
SESSION	<b>V 2 – Upd</b> c	ate on mature, developing and emerging markets
10:50	11:40	Mature markets – Denmark, Italy, Netherlands, Switzerland Developing markets – Belgium, Czech Republic, France, Poland
11:40	11:50	Emerging market: Thailand
SESSION	N 3 – Visioi	n for commercial radio broadcasting
11:50	12:05	Why digital radio: view from a European commercial radio group
12:05	12:20	Italy: an update on digital radio
12:20	12:35	Digital radio: view from the European commercial radio association
12:35	12:50	Steps to monetising DAB+ digital radio
12:50	13:10	Panel discussion
13:10	14:00	LUNCH
SESSION	N 4 - On th	ne move
14:00	14:05	Overview
14:05	14:20	Ford and radio in the car
14:20	14:30	The UK's journey of getting digital radio into the car
14:30	14:40	How Norway plans to go 100% digital
14:40	14:50	Catering for the automotive aftermarket
14:50	15:00	BBC: innovation and digital radio
15:00	15:10	Panel discussion
15:10	15:30	COFFEE
	N 5 – Resea	arch and innovation
15:30	15:45	GfK update on radio receiver sales
15:45	16:00	Impact of the UK's new national multiplex on the UK radio industry
16:00	16:15	A digital future for small scale broadcasters
16:15	16:25	Q&A
16:25	16:30	Closing remarks

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Deutschlandradio

#### DAY 1 - TUESDAY 3 NOVEMBER 2015

09:00	11:30	Digital Radio UK event – Radio's Digital Countdown
		6 months to D2 launch, completion of BBC network build-out, Digital Radio Tick Mark
		WorldDAB General Assembly 2015
12:30	13:30	Registration and networking lunch
13:30	13:40	Opening welcome
		Patrick Hannon, President, WorldDAB and Vice President Corporate Development, Frontier Silicon
		Regional Broadcasting Union updates
		Chairperson: Joan Warner, CEO, Commercial Radio Australia
13:40	13:50	European Broadcasting Union (EBU)
		Graham Dixon, Head of Radio, European Broadcasting Union
13:50	14:00	North American Broadcasters Association (NABA)
		David Layer, Senior Director, Advanced Engineering, National Association of Broadcasters, US
14:00	14:10	Asia-Pacific Broadcasting Union (ABU)
		Amal Punchihewa, Director of Technology, ABU
14:10	14:20	Southern African Digital Broadcasting Association (SADIBA)
		Lynn Mansfield, Chairman, SADIBA
14:20	14:40	Panel discussion:
		What is the current vision for digital radio around the world?
14:40	15:10	COFFEE

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#### General Assembly meeting of WorldDAB (Member Only Session)

15:10	15:20	Report from the WorldDAB Steering Board
		Patrick Hannon, WorldDAB President and Vice President Corporate Development, Frontier Silicon
15:20	15:30	Report from the WorldDAB Technical Committee
		Lindsay Cornell, WorldDAB Technical Committee Chair and Principal Systems Architect, BBC Future Media
15:30	15:40	Report from the WorldDAB Asia Pacific Committee
		Joan Warner, WorldDAB Asia Pacific Committee Chair and CEO, Commercial Radio Australia
15:40	15:50	Report from the WorldDAB Regulatory and Spectrum Committee
		Hanns Wolter, WorldDAB Regulatory and Spectrum Committee Chair and Technical Director, Club DAB Italia
15:50	16:00	Report from the WorldDAB Finance Committee
		Phil Laven, WorldDAB Treasurer, European Broadcasting Union
16:00	16:10	WorldDAB election results
16:10	16:20	Presentation of WorldDAB Award for Outstanding Service
17:15	18:30	Tour: BBC Broadcasting House
		(you must have pre-registered for this tour to join)
19:30	22:30	WorldDAB networking drinks and gala dinner
		The Hallam
		44 Hallam Street
		London
		W1W 6JJ

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#### Tour of BBC Broadcasting House (for delegates with a reservation)

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BBC Broadcasting House is a 5-minute walk from the Cavendish Conference Centre. The tour will begin at 17:30 and you will be expected to be there at least 15 minutes before the tour begins. On arrival at the BBC main reception, you will be issued passes and shown to the café for refreshments. From the café, there will be an opportunity to look at the newsroom before your guided tour.

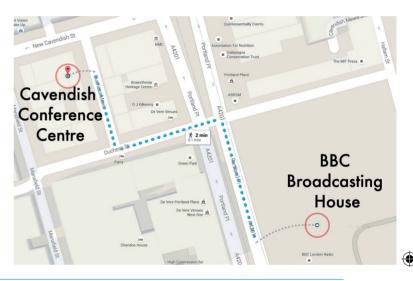
#### 17:15 - 18:30

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#### BBC Broadcasting House, Portland Place, London W1A 1AA

#### The tour of BBC Broadcasting House in Portland Place,

**London** is an opportunity to see and hear what goes on at the BBC, the world's oldest national broadcasting organisation. On the tour, some of the things you're likely to experience include a camera's eye view via their big screen into some of the studios broadcasting to the nation, including television and radio news studios, as well as hearing about the rich history of the building and the BBC. Guests will get to view the state of the art newsroom and get the chance to have a look at the newly restored Radio Theatre where Radio 2 concerts and popular radio comedy have recently been recorded.



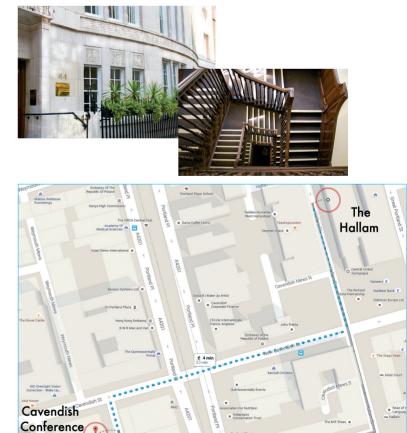
#### Networking drinks and gala dinner

## This year, the Networking Drinks and Gala Dinner will take place at The Hallam.

The Hallam is a Grade II listed Edwardian building, originally built by the General Medical Council between 1914 and 1918 and designed by the South African architect Eustace Frere. It is a 3-minute walk from the Cavendish Conference Centre.

The dinner will take place in the prestigious oak-panelled Council Chamber. The Council Chamber was used as a courtroom to practise cases involving GPs. Often there was a flurry of reporters outside the entrance when high profile cases were being heard and there was a secret passageway whereby the accused could leave the building unseen.

19:30 - 22:30 The Hallam, 44 Hallam Street, London W1W 6JJ



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Centre

#### DAY 2 - WEDNESDAY 4 NOVEMBER 2015

08:30	09:00	Registration
09:00	09:15	<b>Opening address – Digital radio – delivering the vision</b> Patrick Hannon, President, WorldDAB and Vice President Corporate Development, Frontier Silicon
		SESSION 1 – Keynote speeches
		In April this year, Norway became the first country in the world to set a firm date for digital switchover and is now focused on completing this task. In the UK, digital radio continues to make good progress – coverage has been increased, new services launched and DAB penetration of the automotive sector has grown rapidly. At the same time Germany is setting out clear plans for digital radio development through stronger collaboration across the industry. This session looks at these three markets' vision for the future of radio.
09:15	09:30	<b>Digital Radio in Norway</b> Ole Jørgen Torvmark, CEO, Digitalradio Norge
09:30	09:45	<b>Public Radio in Germany</b> Willi Steul, President (Intendant, Director General), Deutschlandradio
09:45	10:00	Digital Radio in the UK Ford Ennals, CEO, Digital Radio UK
10:00	10:15	Digital Radio in the UK – Government perspective Ed Vaizey MP, Minister of State for Culture and the Digital Economy, UK Government Department for Culture Media and Sport
10:15	10:30	Digital radio in Germany – Government perspective Dorothee Bär, Parliamentary State Secretary, MdB, Federal Ministry of Transport and Digital Infrastructure (BMVI)
10:30	10:50	COFFEE

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	SESSION 2 – Update on mature, developing and emerging markets					
10:50	11:40	Moderator: Patrick Hannon, President, WorldDAB, Vice President Corporate Development, Frontier Silicon				
		UK, Norway, Switzerland, Denmark, Germany, Ne	gital radio is making significant advances across Europe with national and local services established in the K, Norway, Switzerland, Denmark, Germany, Netherlands and Italy. This session provides a round-up of w developments and DSO status in these and other markets around Europe:			
		Mature markets	Developing markets			
		Denmark – Lars Kierkegaard, Teracom A/S	Belgium – Francis Goffin, RTBF			
		Italy – Hanns Wolter, Club DAB Italia	Czech Republic – Karel Zýka, Czech Radio			
		Netherlands – Jan Westerhof, NPO	France – Matthieu Beauval, Radio France			
		Switzerland – Thomas Saner, SRG SSR	Poland – Krystyna Kuhn, KRRIT, Poland			
11:40	11:50	Emerging market: Thailand				
		Thailand is currently developing a policy for digital radio and working on the technical aspects in orde plan licensing and network build-out. This presentation will outline ongoing planning for a digital radio challenges faced, and the outlook for digital radio in Thailand.				
		Colonel Dr Natee Sukonrat, Vice Chairman of the National Broadcasting and Telecommunications Commis (NBTC) of Thailand and Chairman of the National Broadcasting Commission				

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	SESSION 3 – Vision for commercial radio broadcasting
	Moderator: Ole Mølgaard, Digital radio expert, Denmark
	Commercial radio plays a key part in digital radio development. Commercial broadcasters have, in the last few years and as markets mature, started to see the benefits of DAB/DAB+. This session gives a clear overview of these benefits as seen by commercial broadcasters and associations, and gives a view from the largest commercial broadcaster association in Europe of the problems faced by this sector today.
11:50 12:05	Why digital radio: view from a European commercial radio group Digital radio offers the chance to grow audiences, curate content, build brands and drive revenue. Hear Bauer Radio Group explain why they are committed to a DAB future in the UK. Dee Ford, Group Managing Director, Bauer Radio Group, UK
12:05 12:20	<b>Italy: An update on digital radio</b> Italy is on the road to digital, and there is no going back. The steady increase of DAB+ network coverage, the increasing number of local network operators, all-digital content, on-air campaigns and social media, marketing partnerships between the radio industry, retailers and automotive brands: all these factors have contributed to the viral development of digital radio. Eugenio La Teana, Head of Research and Development, RTL 102.5 Hit Radio
12:20 12:35	<b>Digital radio: view from the European commercial radio association</b> European radio markets differ across Member States in relation to DAB. Nonetheless, AER and WorldDAB cooperate on spectrum issues and EC policy in order to establish a "friendly regulatory framework" for radio. This presentation investigates areas of common interest, particularly in relation to collaboration with the automotive industry. Julia Maier-Hauff, Secretary General, Association of European Radios (AER)
12:35 12:50	Steps to monetising DAB+ digital radio Utilising all the features of DAB+ digital radio – text and slideshow – offers new ways to monetise radio. Improved data facilitates audience measurement, sales and projections, while the future looks bright with the further opportunities that will be available thanks to hybrid functionality. Joan Warner, CEO, Commercial Radio Australia
12:50 13:10	Panel discussion: Kenneth Andresen, P5, Norway Knut Henrik Ytre-Arne, NRK, Norway Julia Maier-Hauff, AER Joan Warner, Commercial Radio Australia Eugenio La Teana, RTL 102.5 Hit Radio, Italy
13:10 14:00	LUNCH

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		SESSION 4 – On the move
14:00	14:05	Moderator: Gunnar Garfors, President of IDAG and Advisor on radio distribution at NRK Norway
		Radio faces new competition for share of ear in the car. This session focuses on the experiences of a manufacturer going digital, how a country organisation has worked with the automotive sector to ensure digital radio becomes a standard feature, a leading aftermarket device manufacturer and a look at some of the innovations in car and on mobile.
14:05	14:20	Ford and radio in the car Ford is one of the leaders of the digital radio roll-out in the UK, and now also in other markets. Ford has a clear strategy with regard to digital radio in the dashboard. This presentation will focus on where Ford is now with its digital radio development in the UK and how it got to this point. Chris Muers, Marketing Manager, Ford UK

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14:20	14:30	The UK's journey of getting digital radio into the car The goal is to have digital radio as standard in cars across Europe. This presentation looks at what are the critical success factors for supporting growth of DAB/DAB+ as standard in new cars, and the next steps for the development of digital radio in the car. Laurence Harrison, Technology and Market Development Director, Digital Radio UK
14:30	14:40	How Norway plans to go 100% digital With Norway's DSO just around the corner, promotion of DAB to the consumer is now mission critical – in particular related to in-car listening. Hear about Norway's marketing strategy for fast-tracking the integration of DAB in all vehicles in time for the big switch-off. Jarle Ruud, Marketing, Digital Radio Norge
14:40	14:50	<b>Catering for the automotive aftermarket</b> Leading aftermarket solution provider Connects2 introduces a self-fit DIY product, retailing at under £100, offering full digital content via smartphone. Graham Johnson, Business Development Manager, Connects2
14:50	15:00	<b>BBC: innovation and digital radio</b> The BBC has a distinctive approach to DAB content innovation. This presentation will look at product innovation for a smarter radio experience, bringing DAB and IP together for a hybrid future. Mark Friend, Controller, BBC Radio & Music Multiplatform
15:00	15:10	Panel Discussion: Chris Muers, Ford UK Laurence Harrison, Digital Radio UK Jarle Ruud, Digitalradio Norge Graham Johnson, Connects2 Mark Friend, BBC
15:10	15:30	COFFEE

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		SESSION 5 – Research and innovation
		<b>Moderator:</b> Lindsay Cornell, Principal Systems Architect, BBC Digital and Chairman, WorldDAB Technical Committee
15:30	15:45	GfK update on radio receiver sales In the radios market digital makes further gains, while sales of analogue radio receivers continue to decline. Research shows that even when DAB prices decline, they still command a significant premium versus analogue. This session will look at the increased sales of audio hi-fi products generally, and specifically digital radios sales. Nick Simon, Account Director Consumer Electronics, GfK
15:45	16:00	Impact of the UK's new national multiplex on the UK radio industry When DAB was first launched commercially in the UK drivers for its success were limited. Next year will see the launch of the second national commercial DAB multiplex and this session will explore how the market has changed and the impact this might have on listeners and the commercial sector. Gill Hind, COO, Enders Analysis
16:00	16:15	A digital future for small scale broadcasters To date DAB has not proved to be ideal for small radio stations due to high costs and large coverage areas. Ofcom is testing a new low-cost, low-power solution for such stations. Ten trials are now under way across the UK, which will be used to inform a new licensing regime. Peter Davies, Director of Content Policy, Ofcom, UK
16:15	16:25	Q&A
16:25	16:30	Closing remarks Patrick Hannon, President, WorldDAB and Vice President Corporate Development, Frontier Silicon

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A market-leading and innovative British company, **Pure** was established in 2002 as part of Imagination Technologies, one of the world's top three suppliers of semiconductor intellectual property). Imagination's technology is in over 80% of digital radios on the market. Having shipped over 5 million digital radios globally, Pure has established itself as a leading consumer electronics business in its own right. See www.pure.com

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**Syes** has been successfully manufacturing and providing equipment, systems and solutions for broadcasting for over 30 years. Syes operates worldwide with a lean structure and keeps key functions in-house, focusing on R&D. In addition to multiple standard high efficiency broadcasting transmitters (air/liquid cooled) and antenna systems, Syes has developed and released a complete line of DAB+ transmitters

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**DABmotion** was created by Celsus in 2013 for the company's in-vehicle digital radio (DAB) retrofit conversion and IMI / TICK MARK accreditation solutions. DABmotion ROLA was launched to bring a number of improvements to the award-winning DAB1001. DABmotion ROLA is 'Tick Mark' approved and available throughout Europe. Enjoy the journey.

#### Exhibitors



With more than 35 years of hands-on experience, **ALDENA** is one of the leading antenna manufacturer and services in the broadcasting industry. ALDENA has developed new antennas for radio/television digital transmissions suitable for medium/high power antenna systems along with a full range of high performance RF accessories and added value services (frequency and coverage planning consultancies, on-field activities, in-factory tests). The company is involved in different projects for new DAB/DVBT2 networks all over the world. EMLAB software – developed by ALDENA – is an all-in-one software solution for advanced antenna array design, coverage calculation and network planning. It is used worldwide by broadcasting operators, Telecommunication Authorities and system integrators.



Antennentechnik Bad Blankenburg GmbH develops and manufactures antenna systems according to the highest technological and qualitative requirements and standards of the automotive industry, public authorities, distributive trades and specialised industrial operators. The company is well established and highly respected within the antenna industry. Antennetechnik was the first antenna manufacturer to get involved with DAB, attending discussions and conferences in the UK, following the progress and listening to the requests as well as the concerns of both aftermarket installers and automotive manufacturers, enabling us to develop the best solutions for car manufacturers who have started already fitting DAB as a standard option, but also intelligent converter solutions for retrofitting older car models.

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**AVT** manufactures high quality audio transmission products and provides complete solutions – also custom-made for you. Besides talk show systems in all variants AVT offers high-duty audio transmission systems and complete DAB/DAB+ head ends. Our systems are all 'Made in Germany'. The main focus is set on quality and innovation.

Calearo Group, established in 1957, is a global leader in antennas for automotive and other

DIGIDIA has emerged as one of the leading companies for digital radio transmission equipment

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broadcast signal chain from audio encoding, data insertion, multiplexing, distribution and multiplex management to supervision, monitoring and analysis, as well as an innovative voice break-in system

products for digital radio broadcasting. Factum-Radioscape products cover the full digital radio

Since 1997, the Innovationszentrum für Telekommunikationstechnik GmbH IZT provides

equipment for signal generation, receivers for signal monitoring and recording, transmitters for digital broadcast, digital radio systems and channel simulators. The DAB-specific product portfolio includes the IZT DAB ContentServer – a highly reliable professional broadcast system for DAB. It combines audio encoding, data service management and ensemble/service multiplex generation in one device. Its reliability has permanently been proven in numerous DAB head-end installations. In addition, the IZT's signal generators and RF monitoring receivers are powerful laboratory tools, for

with more than 300 digital radio models deployed all over the world. DIGIDIA can provide the complete end-to-end DAB transmission and receiving chain for broadcast and test applications. The DAB product range includes multiplexers, encoders, EDI/ETI IP gateways, monitoring equipment, professional receivers and tunnel break-in products. DIGIDIA leads the way with its straightforward

wireless communication fields. Calearo Group is the preferred partner for OEMs, aftermarket, special and luxury vehicles, and TLC players, whenever advanced telecommunications skills are required,

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Audio

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Innovationszentrum Telekommunikationstechnik GmbH





With a heritage of more than 80 years, and a reputation built on producing high-quality premium-brand radios for the consumer market, **Roberts Radio Limited** is the UK brand leader in portable radios with international sales in countries across the globe, including the USA. With a range of over 100 different DAB, analogue and internet radios and a commitment to constant improvement, Roberts leads the field in design, product development and innovation.

VQ is a unique British brand, designing and manufacturing DAB+ radios inspired by the fusion of Sound & Style. Our award-winning acoustic development ensures all our products feature the latest technology and unbeaten sound quality. Couple this technical excellence with our creative flair and our products don't just sound great, they look great too.

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example for DAB signal analysis or for the development DAB receivers.

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27/10/2015 16:16

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## **Connecting What's Next**

### **DAB-XPlorer — DABRF**

DAB test receiver with integrated modulator



#### Key features:

- Test receiver and modulator rolled into one
- RF recording with 1.6 MHz bandwidth
- Can be combined with software components of the DAB-XPlorer family
- COFDM modulator for simultaneous generation of up to four DAB blocks
- GPS receiver integrated
- Gigabit Ethernet interface

Range of applications:

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- Capturing of ETI files from on-air signals
- Coverage measuring
- SFN analysis
- COFDM modulator for receiver testing
- Core component for re-transmitters and tunnel break-in systems

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Ingenieurbüro Mulka

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### Speakers and Moderators

#### Kenneth Andresen, Director, P4 Group



Kenneth Andresen is head of Norway's largest commercial radio broadcaster, the P4 group. In addition to a national channel and several regional channels on FM, the group has six national DAB channels. The P4 group has a combined national market share of approximately 23%. Andresen started out in local radio in the mid-eighties and was involved in the start-up of P4 in 1993. He has held various management positions in P4 for over 15 years, many of them as editor of news and current affairs. Andresen also has experience from the public broadcaster NRK and the newspaper *Dagbladet*.

## **Dorothee Bär,** Parliamentary State Secretary, MdB, Federal Ministry of Transport and Digital Infrastructure (BMVI)



Dorothee Bär has been Parliamentary State Secretary to the Federal Minister of Transport and Digital Infrastructure since December 2013, and a member of the Bundestag since 2002. She carried out her high school studies in the US and Germany, and studied political science at the University of Political Science in Munich and at the Otto Suhr Institute of the Free University Berlinstag. She is married and has three children.

#### Matthieu Beauval, Head of Broadcast and Innovation, Radio France Digital



Matthieu Beauval works for Radio France, the French national public radio broadcasting service. As Head of Broadcast and Innovation, he works for the Digital Department on all the new technologies and innovations for both on-air and online broadcasting. Matthieu started his working life as a TV reporter and TV and radio programme maker. Before the Digital Department, he worked for France Info, the 100% news radio station of Radio France as Deputy Director and Head of Programming and production, and M6, a French national commercial TV network. He is involved in the European Broadcasting Union New Radio Group, and was in the Eurosonic as a delegate, then Vice Chairman.

#### Lindsay Cornell, Principal Systems Architect, BBC Digital and WorldDAB Technical Committee Chairman



Lindsay has worked for the BBC for more than 20 years, in a variety of engineering, editorial and leadership roles spanning radio, TV, and spectrum regulation. He has considerable experience of leading collaborative projects through his roles as Chairman of CEPT FM PT51, dealing with spectrum issues for programme making, and as Chairman of the WorldDAB and DRM Technical Committees, managing the stability and development of the respective standards. Lindsay brings a rare combination of scientific understanding, technical experience, project management and people skills to bear upon all his responsibilities. He is a frequent speaker at international conferences and events.

#### Peter Davies, Director of Content Policy, Ofcom, UK



Peter is Director of Content Policy at Ofcom, the UK's regulator for the radio, television and telecoms industries. He oversees the development of Ofcom's policies for content in the radio and television sectors and leads Ofcom's current Public Service Broadcasting Review. He is also working with Government on future planning for digital radio and is a member of the Broadcast Licensing Committee, which makes decisions on competitive licensing awards. Peter joined Ofcom in 2003. Prior to that, Peter spent nine years at the BBC, culminating in the role of Controller, Corporate Strategy. His previous roles within the BBC included three years as Head of Strategy for Nations and Regions, where he was responsible for helping to formulate the BBC's digital radio strategy.

#### Graham Dixon, Head of Radio, European Broadcasting Union



Currently Head of Radio at the European Broadcasting Union in Geneva, Graham Dixon was Managing Editor of BBC Radio 3 until 2015, having previously held editorial and production positions within BBC Radio. He has a PhD in research on Italian Baroque music from the University of Durham and an MBA with distinction in 2001, writing his dissertation on transforming radio organisations to meet the challenge of multiplatform delivery. He is a Fellow of the Royal Asiatic Society and the Royal Society of Arts.

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#### Ford Ennals, Chief Executive, Digital Radio UK



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Ford Ennals is Chief Executive of Digital Radio UK (DRUK), who are responsible for leading the market and consumer transition to digital radio in the UK. DRUK represent the major commercial broadcast groups and the BBC and are responsible for digital radio communication campaigns and working with the vehicle industry to ensure digital radio is fitted in cars. They are working with the UK Government and media regulator Ofcom to plan a future digital radio switchover and achieving consumer listening and coverage criteria. Ford was CEO of Digital UK and developed the implementation and communication plan for the successful UK digital TV switchover. Previously, Ford was Managing Director at Universal Music Group.

## digitalradio √ Get the Digital Radio Tick Mark with DTG Testing

DTG Testing will provide a comprehensive test package to help your product achieve Digital Radio Tick Mark status first time, this includes:

- UKAS-accredited test house
- Real-time engineering support during testing
- Close collaboration with the Digital Radio Tick Mark body, DRUK, to provide a direct route for solving conformance testing questions
- A simplified tick mark application process using the DTG Testing report
- Clients may observe the testing process for their products

A complete tick mark testing package from DTG Testing costs just £600

#### Just £600

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- Testing and reporting is completed within 1 working day
- Test bookings can be arranged to suit your requirements and at short notice
- The DTG Testing report can be used to directly apply for the Digital Radio Tick Mark without completing any additional forms



#### Dee Ford, Group Managing Director Radio, Bauer Media Group (UK)



Dee Ford runs a multiplatform portfolio of over 60 commercial local and national stations in cities across the UK. Bauer Media (UK) has the biggest commercial digital radio audience, with 53% of total Bauer Radio listening taking place via a digital device (compared to the UK industry average of 40%). Bauer UK has recently expanded their radio operation into Europe, acquiring Nordic broadcaster SBS Radio. Bauer already operates significant radio businesses in Poland and Slovakia and is a shareholder in Radio Hamburg, Germany. Dee is highly respected within the industry for her many professional achievements; she is passionate about radio as a medium and the unique advantages that it offers its audience and commercial partners.

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#### Mark Friend, Controller, BBC Radio & Music Multiplatform



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Mark runs BBC Radio's digital services and music output across digital radio, desktop, TV and mobile platforms. This includes developing and running iPlayer Radio, major music events, listen again, mobile and tablet apps, visual radio, podcasts, social media, hybrid radio, archive and text and data services. Mark was previously the BBC's Controller of Strategy where he led the Charter settlement in 2005, developed the BBC's new services vision and helped launch BBC iPlayer and mobile services. Before joining the BBC, Mark spent several years launching and running new businesses at ITN and riding a motorbike halfway round the world across the former Soviet Union and USA.

## DABmotion | rola



#### **Digital Radio Integration | Antenna Solutions | Training Services**



#### Gunnar Garfors, President of IDAG and Advisor on radio distribution at NRK



Gunnar Garfors heads International DMB Advancement Group (IDAG), an organisation promoting digital radio via DAB+ and mobile TV via DMB, worldwide. He often presents or debates radio at media conferences around the world. Garfors is originally a journalist, but he has worked with media technology since 2001. The 40-year-old is an avid traveller and author, and he has visited all the world's countries and continents. That resulted in *198*, a book about the journeys. More on garfors.com or Twitter: @garfors.

#### Francis Goffin, Director General, RTBF radios



Francis is Director General of public broadcasting service for the French-speaking community of Belgium, RTBF radios. He has 23 years' experience in private radio, starting with the founding of a local pirate radio, to general management of private radio station Bel RTL. He created one of the first private Belgian radio networks, the press group Rossel's. For the past five years, he has devoted energy to federating the Belgian French-speaking radio industry's main players around an ambitious and collective project to ensure radio's digital migration and future (hybrid radio DAB+/IP). He is a member of the WorldDAB Steering Board, EBU Radio Committee, participates in the Smart Radio group and is active in the RFP (the association of the French-speaking public radios of France, Canada, Switzerland and Belgium) of which he is currently Vice President, after serving two mandates as President.

#### Patrick Hannon, Vice President, Corporate Development, Frontier Silicon and President, WorldDAB



Patrick Hannon is Vice President Corporate Development at Frontier Silicon, the leading provider of technology solutions for digital radio. He was elected President of WorldDAB in November 2013. His role is to work with policy makers, regulators and industry players (including public and private broadcasters, network operators, device manufacturers, retailers and automotive manufacturers) to ensure that digital radio is successfully rolled out in as many territories as possible. Before joining Frontier Silicon, Patrick was a strategy consultant focused on broadcast and digital media. Previously, he held senior strategy and commercial roles at the BBC and BBC Worldwide.

#### Laurence Harrison, Technology and Market Development Director, Digital Radio UK



Laurence Harrison is Market Development Director at Digital Radio UK (DRUK). His main responsibilities include working with the vehicle industry to ensure line-fit of digital radio and development of aftermarket equipment, managing the UK digital radio tick mark and minimum receiver specifications and working with manufacturers and retailers to help grow the market for digital radio. Laurence also manages the coordination of Digital Radio UK's public affairs activities and on building partnerships with similar European national organisations. Prior to joining DRUK Laurence worked for trade organisation techUK, representing radio manufacturers. Laurence was also a Director on the Board of Digital UK, the organisation that ran the digital TV switchover in the UK.

#### Gill Hind, Chief Operating Officer, Enders Analysis



Gill is Chief Operating Officer of Enders Analysis, one of the UK's leading independent research companies, focusing on the TMT sector. Gill heads up the broadcast team within Enders and has widespread knowledge of the TV and radio markets. Gill joined Capital Radio in strategic sales, and then held a variety of strategy and business development roles becoming Head of M&A, with responsibility for media regulation and competition issues, prior to the merger with GWR in 2005. Shortly afterwards Gill moved to Channel 4 to run the Channel 4 Radio strategy team. More recently, between 2009 and 2013 Gill was Operations Director at Freeview, before moving to Enders two years ago.

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#### Graham Johnson, Business Development Manager, Connects2, AutoDAB range of products

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For the last 30 years, Graham's background has been in automotive audio starting in Alpine Electronics of the UK for their Japanese parent company in 1986 and was responsible for bringing one of the original DAB tuners to the UK market. Working closely with the Society of Motor Manufacturers and Traders (SMMT), Graham chaired first the Car Audio Committee, which became the Car Multi Media Committee and is now Chairman of the current Digital Radio Committee. This group advised the Carter report and then looked after the automotive work streams identified under the Digital Radio Action Plan (DRAP).

#### Lars Kierkegaard, Head of Strategy and Business Development, Teracom A/S



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Lars has 17 years' experience with companies such as Ericsson, Terma and Anritsu and within broadcast, telecommunications and public-safety industries. Today, Lars is heading the business innovation department in Teracom with the responsibility of driving new growth initiatives including digital radio. Lars is board member of the Danish Consumer Electronics Association and advisory board member at Center for ICT Technologies at Aalborg University. He holds a Master of Science degree in Civil Engineering from the Technical University of Denmark and a Graduate Certificate in Business Administration from Copenhagen Business School.



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info@atbb.eu

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07422 Bad Blankenburg, Germany

#### Eugenio La Teana, Head of Research & Development, RTL 102.5 Hit Radio



In addition to his role at RTL 102.5 Hit Radio, Eugenio is actively involved with EuroDab Italia and on a Digital Radio Task Force, whose main objective is to coordinate the roll-out of digital radio in Italy. Since joining RTL 102.5 in 2002, Eugenio has worked on creating interactivity through television which became 102.5 Hit Channel and later worked on discovering new ways of integrating radio-tv-internet and mobile phone. Following this, Eugenio returned to radio, launching the Traffic Message Channel on the RTL network. Today Eugenio is one of the best known European experts on "Services over DAB network". He continues to work on the launch of Mobile TV over T-DAB (T-DMB).

#### Phil Laven, Treasurer, WorldDAB



Phil Laven has been Treasurer of WorldDAB since 2005. He is also Chairman of DVB which develops standards for digital TV. Between 1997 and 2007, he was Technical Director of the European Broadcasting Union based in Geneva, Switzerland. Before joining the EBU, he worked for the BBC in various senior posts including Chief Engineer R&D and Controller of Engineering Policy, thus playing a leading role in the development of the BBC's policy on many technical developments, such as the introduction of digital audio broadcasting and digital television.

#### David H. Layer, Senior Director, Advanced Engineering, National Association of Broadcasters



David H. Layer is Senior Director, Advanced Engineering at the National Association of Broadcasters (NAB). In this position, he is privy to leading edge technology and is involved in broadcast engineer policy decisions for the association. Layer is the primary NAB staff person on NAB's Radio Technology Committee as well as the National Radio Systems Committee, a technical standards setting body co-sponsored by NAB and the Consumer Electronics Association (CEA), along with being greatly involved in NAB technology projects, NAB Labs, and being a go-to guy for radio tech matters at the NAB.

#### Julia Maier-Hauff, Secretary General, Association of European Radios



Julia Maier-Hauff has been the Secretary General of the Association of European Radios (AER) since 2011 which represents the interests of over 4,500 private/commercial radio stations across the EU28 and in Switzerland. She is a lawyer, and has been in charge of European Affairs of VPRT, Verband Privater Rundfunk und Telemedien e.V. (Association of Commercial Broadcasters and Audiovisual Services) since 2001. She has been deeply involved in all major EU regulatory decision making processes concerning private media, especially the audiovisual media services, the Telecom Package, the Broadcasting Communication, texts dealing with data protection and copyright. She is a board member of the European Interactive Digital Advertising Alliance (EDAA), and a member of the WorldDAB Steering Board on behalf of AER.

## Lynn Mansfield, Chairman, Southern African Digital Broadcasting Association (SADIBA) and Executive Advisor, South African Broadcasting Corporation (SABC)



Lynn Mansfield joined SABC in 1974 as a learner technician. While gaining practical broadcasting experience he completed his studies at the Witwatersrand Technicon and obtained registration with the Engineering Council of South Africa as a Professional Technologist. His fields of technical endeavour included radio, television and broadcast transmission, with roles ranging from maintenance to design, to project management, strategic planning, and policy and regulatory environment. Lynn's last position at the SABC was General Manager of Distribution. He has served on various broadcast industry bodies and was the Chairperson of both the SADIBA and NAB Technical Committees.

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#### Ole Mølgaard, Digital radio expert



Ole Mølgaard is an expert in business development and media, with more than 20 years' experience in print, radio/ TV and internet, and is now involved in a number of businesses and organisations within and outside the radio industry. He has worked with both commercial and public service media and is deeply involved in the digitisation of radio in Denmark and the rest of the Scandinavian countries.

#### Chris Muers, Product Marketing Manager, Ford UK



Before becoming Product Marketing Manager for Ford of Britain, from 2004 Chris has held various roles within Ford UK's marketing function, including Small Car Product Manager and specialist positions such as Customer Relationship Manager and the UK's Advertising and Sponsorship Manager. Prior to this, Chris held several positions within Ford dealer and customer operations, operating as both a car and Fleet Zone Manager, Dealer Surveys Coordinator, Customer Satisfaction Manager and Marketing Planning Manager (Worldwide Markets). Chris holds a Bachelor of Science Degree in Management Science from University of Manchester Institute of Science and Technology.

#### Amal Punchihewa, Director ABU Technology, Asia-Pacific Broadcasting Union



Amal has over 30 years' experience working as a professional engineer in ICT, broadcast industries and academia. Having started his career as a computer engineer, he has worked in the broadcasting industry as a research engineer before moving to Head of Engineering for the national television broadcaster in Sri Lanka. Amal has gained a MEng and PhD in Digital Signal Processing. He is a Distinguished Lecturer of the IEEE-Broadcast Technology Society. Amal is a Chartered Professional Engineer – CEng of UK, Fellow of the IET-UK, Senior Member of IEEE-USA and a Fellow of IPENZ, New Zealand.

## Krystyna Roslan-Kuhn, Expert in the National Broadcasting Council, Poland and Advisor to the Vice President



Krystyna Roslan-Kuhn works as an expert and advisor involved in activities dedicated to the digital radio and television technological issues. During her professional career she held various positions in Polskie Radio, Telewizja Polska, the National Broadcasting Council, the Office of Electronic Communications and also as a General Manager in the Polish Chamber of Digital Broadcasting. Within this time she has gained experience in the field of digital radio and television broadcasting both on a national and international level. During the last five years she has been active in the Digitisation Working Group of radio broadcasting in Poland, which was established for preparation of the national digital switchover strategy.

#### Jarle Ruud, Marketing, Digitalradio Norge



Jarle has a background in consumer electronics, managing various product areas including audio products, small appliances, white goods and TV. Jarle worked with Norwegian and Swedish retailers, and was responsible for the TV category of Panasonic in all Nordic countries. Since 2008, Jarle has been responsible for marketing at Digitalradio Norge, setting up marketing activities with relevant partners in retail and the car sales industry.

## The best experience of digital radio in the car

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### Project Logo

Broadcasters worldwide are using RadioDNS Hybrid Radio to provide the digital assets (meta-data, logos) that allow manufacturers to design appealing and modern user interfaces for DAB/DAB+ radio in the connected car. And those same assets can also be used on smartphones and table top radios too.

Find out how you can get involved with Project Logo at http://radiodns.org/get-involved/project-logo

## RadioDNS combines broadcast radio and IP to create a seamless hybrid radio platform.

RadioDNS is the not-for-profit organisation supporting Hybrid Radio. Contact our project office for information on becoming a member of RadioDNS.

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#### Thomas Saner, Senior Advisor, SRG SSR



Thomas Saner is Senior Advisor at Swiss Public Broadcaster SRG SSR, responsible for technology strategies for the production, distribution and coordination of projects for radio, TV and online. Thomas is member of the Steering Board and Chairman of the technical group of the Swiss Digital Migration Project (DigiMig). His group designs and evaluates FM-DAB switchover scenarios for all radios in Switzerland. Until 2014 Thomas Saner was Head of Strategic Distribution Planning where he successfully introduced DAB and the subsequent successful migration from DAB to DAB+ in Switzerland. He was also on the Board of Directors of MCDT. Thomas holds an engineering degree from the Engineering School of Basel and a Bachelor of Business Administration degree from the Graduate School of Business Administration in Zürich. He is member of the Audio Engineering Society (AES), the Society of Motion Picture and Television Engineers (SMPTE) and elected member of the WorldDAB Steering Board and the Technical Committee of the European Broadcasting Union.

#### Nick Simon, Account Director, GfK



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After graduating from Oxford with a Modern Languages degree, Nick Simon spent two years with MRB International before joining the AGB Retail Audit team in 1987. Here, he gained exposure to the major and small appliances industries, before switching to the consumer electronics sector that has been one of his many consuming passions ever since. It was in this guise that he spent the first half of the 1990s in Italy, working for GfK and looking after the Consumer Electronics panel in Milan. Nick has enjoyed similar responsibility in the UK since 1995, while maintaining his international involvement with consumer electronics manufacturers and retailers.

#### Dr Willi Steul, President (Intendant, Director General), Deutschlandradio



Dr Willi Steul read anthropology, philosophy, theology and history at universities in Oxford, Paris, Frankfurt, Kabul and obtained his PhD in Heidelberg. He has worked as a field anthropologist in Afghanistan and subsequently as foreign correspondent for several newspapers and TV channels covering, amongst others, the Middle East and the Gulf War, before becoming President (Intendant, Director General) of Deutschlandradio in 1994. Dr Steul continues to publish articles on a variety of topics, covering politics and anthropology. He is President and founder of the European Youth Orchestra festival in Berlin, and advisor to several notfor-profit organisations (NGOs).

## **Colonel Dr Natee Sukonrat,** Chairman, Broadcasting Commission, National Broadcasting and Telecommunications Commission of Thailand

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Colonel Dr Natee Sukonrat has worked in the broadcasting and telecommunications sector for more than 20 years with a particular interest in broadcasting regulation. As Vice Chairman of the National Broadcasting and Telecommunications Commission (NBTC) of Thailand and Chairman of the National Broadcasting Commission, his main responsibility is the licensing, promotion and regulation of the broadcasting sector (radio and television) in Thailand. He has held senior posts during his career, including Qualcomm Inc., Directorate of Joint Communications Royal Thai Armed Forces Headquarters, CAT Telecom Public Company Limited in Thailand, and TOT Public Company Limited in Thailand. He has a Bachelor's degree of Science in Electrical Engineering (Gold Medal), Chulachomklao Royal Military Academy, Thailand, and PhD in Electrical Engineering, College of Engineering, University of South Florida.

#### Ole Jørgen Torvmark, CEO Digitalradio Norge



Digitalradio Norge is owned by the Norwegian radio industry, represented by P4 and NRK. DRN is the operator of one of the two national as well as several local DAB multiplexes. On behalf of the broadcasters DRN also has overall responsibility for information activities related to the digitisation of radio. Ole Jørgen Torvmark has worked with radio and digital media since 1992 and been the CEO of DRN since 2010. He has also worked for the telecom and music industries. Relevant companies are TeliaSonera Norway, IFPI, Aspiro (Wimp), Radio 2 Digital, Nordic Web Radio and Radio 1 Norway.

## Ed Vaizey MP, Minister of State for Culture and the Digital Economy, UK Government Department for Culture Media and Sport



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Ed Vaizey MP was appointed Minister of State at the Department for Culture, Media and Sport and the Department for Business, Innovation and Skills, with responsibility for digital industries on 15 July 2014. Ed was first elected as the MP for Wantage in 2005. He was re-elected in 2010, and on 7 May 2015. He was appointed Parliamentary Under Secretary of State for Culture, Communications and Creative Industries in May 2010. He was Shadow Minister for the Arts from 2006 to 2010. In 2004 he became a political speech writer. Ed was educated at Merton College, Oxford. After university he worked as a political researcher, before training and practising as a barrister. From 1996 to 2004 he was director of a public relations company.

#### Joan Warner, Chief Executive Officer, Commercial Radio Australia



As CEO of Commercial Radio Australia (CRA) Joan was responsible for the planning, roll-out and implementation of DAB+ digital radio in the five metropolitan capitals covering over 60% of the Australian population, and continues the DAB+ implementation for commercial radio broadcasters across regional Australia. She oversees the whole of industry marketing campaign, Radio Codes of Practice, audience survey contracts and industry copyright agreements. She is responsible for the annual National Commercial Radio Conference, Siren Creative Awards and Australian Commercial Radio Awards. She has worked at senior executive levels in the private and government sectors and holds four degrees including a Master of Business Administration and a Master of Education.

#### Jan Westerhof, Director Radio Programming, NPO



Jan Westerhof has been Director Radio Programming at Dutch public broadcaster NPO since 2007. Jan is responsible for the strategy and programming of the seven radio stations and associated online content. Jan has been working as a manager for Dutch public radio since 1999. He is Vice President of the Radio Committee of the European Broadcasting Union (EBU) in Geneva. In ancillary positions he advises cultural and journalist organisations. Jan has been an advocate of DAB for 12 years. He initiated the collaboration between the commercial and public radio organisations for the roll-out of DAB+ in the Netherlands.

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DAB BI2.0 DAB Tunnel Break In Product for up to 4 ensembles

**FlexiDAB** Multi Multiplexing and

Multi Multiplexing and Multi-Encoding Platform

**EasySPY** RF and EDI/ETI Monitoring Platform with SFN capability

#### **EasyDAB** Test Multiplexing Platform with multiple ETI/EDI or RF output (amplifiers and attenuators on demand)

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Profressional Receivers on USB or MiniPC platform with complete ETI and IQ Recording

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#### **E E E** Common Features:

HTTP Interface, SNMP, SFN Capability, NTP Server, EDI/ETI output/Input, RF output/Input

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#### Hanns Wolter, Technical Director, Club DAB Italia



Hanns has been working in the DAB world for over 15 years since joining Club DAB Italia as a Product Manager. In his current role as Technical Director, Hanns has worked on all issues regarding DAB, at both a national and international level. He is involved in network planning and spectrum issues and also works closely with hardware manufacturers for the deployment of a comprehensive DAB environment. He is responsible for the management of the ongoing roll-out of Club DAB Italia's network and all issues related to the creation, distribution and transmission of the multiplex.

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#### Knut Henrik Ytre-Arne, Head of Music, NRK



Knut Henrik Ytre-Arne has held the position of Head of Music at NRK since 2009, largely responsible for music content. He has been at NRK since 1994, mainly with youth radio as a presenter, Project Manager, and HR Manager. He has also worked as a special advisor on digital radio strategy for Mariuos Lillelien, Head of Radio at NRK.

#### Karel Zýka, Technical Director, Head of DAB switchover, Czech Radio



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Karel Zýka works as the Technical Director of Czech Radio. He has been the Head of the DAB+ implementation strategy in the Czech Republic, which has successfully started the process of digital switchover. Before joining Czech Radio, he worked as Director of regional TV network (part of MTG), as Director of Sales and Marketing at Czech Radio and as Managing Director of APA. He graduated from the Czech Technical University in Prague. Karel Zýka is also a member of the Operations Council of EBU.

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#### About WorldDAB

WorldDAB is the global industry forum for digital radio, facilitating the adoption and implementation of digital broadcast radio based on the DAB and DAB+ standards, from planning and technology right through to consumer marketing and everything in between.

WorldDAB has over 90 member organisations from 27 countries across all sectors of the industry – regulators, public and private broadcasters, network planners, receiver, chip, car and professional equipment manufacturers and national roll-out bodies.

Every year, WorldDAB organises events, conferences, tailored workshops and seminars bringing together industry stakeholders for information exchange and valuable networking opportunities. These include the annual WorldDAB General Assembly, automotive workshops in Europe and Asia Pacific and several digital radio workshops that are a part of the industry's major global events and exhibitions calendar. Through these events, we offer the opportunity for organisations to share best practice and promote their products and services.

As a WorldDAB member your organisation will have access to a network of industry experts that reflect the whole digital radio value chain.

#### Members also have access to:

#### Global contact database

- commercial and public broadcasters
- chip, receiver and equipment manufacturers
- network operators
- regulatory bodies
- automotive manufacturers (OEMs, Tier 1s, Tier 2s)

#### Market intelligence

- country roll-out plans
- coverage maps
- industry news
- Eureka! online magazine

#### Industry events

- free registration to WorldDAB events
- speaking opportunities
- free or discounted exhibition opportunities
- discounted admission to industry events
- opportunities to distribute promotional material

#### Support to broadcasters

- Advice on switching from analogue to digital radio regulation
- network build-out
- technical trials
- best business case scenarios
- licensing
- production of new digital radio content
- marketing

#### **Business development**

- advertise products in WorldDAB publications and at industry events
- sponsorship opportunities
- targeted networking opportunities

#### Technical information and support

- advice on regulatory and spectrum issues
- ETI files and guidance on trials and testing
- opportunities to shape the development of future applications
- automotive sector specific technical information

#### WorldDAB Committees

- attendance at Committee meetings
- access to all Committee documents
- opportunities to join Task Forces and influence the industry

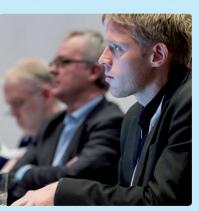
#### Resources

- ETI Library
- GfK Statistics quarterly/market growth
- presentation and document library
- exclusive member document sharepoint









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WorldDAB is the global industry forum facilitating the implementation of digital broadcast radio based on the DAB family of standards

Our goal is to promote the standard around the world by working with sound and data broadcasters, network providers, car, receiver, chip and equipment manufacturers, governments and official bodies to encourage international co-operation and a smooth, co-ordinated roll-out of services.

Through workshops, on-air demonstrations and on the ground technical support, we provide you with expertise to assist you with:

Regulation Licensing Technical trials Network build out Production of new digital radio content Marketing

## DAB+ is the digital radio standard of choice for broadcasters

The move from analogue to digital radio is important for:

- Building brands Providing long term transmission and network savings Creating new revenue opportunities
- Securing valuable spectrum for radio Future proofing radio in a digital world Allowing more content for your listeners



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Defining the future of digital radio

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## DAB Tunnel Break-in Rebroadcast System

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- Receiver/Demodulator
- Modulator output
- Replacement of all subchannels in case of emergencies
- DLS, Slideshow and prepared announcements
- Optional break-in via VolP



## We also provide your complete DAB+ Headend



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## Seamless **DAB** Integration

AutoDAB interfaces allow plug and play Digital Radio integration with your OEM head unit. Digital Radio can be controlled directly from the steering wheel controls or via the RF remote control.

### Features

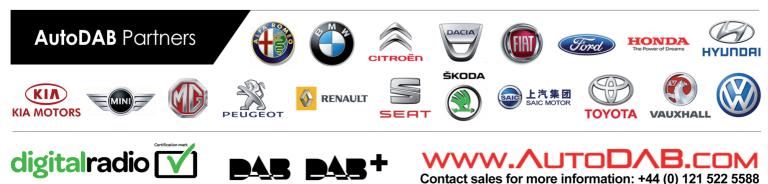
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- $\circ$  Plug and Play installation
- Stores favourite stations
- 100's of new radio stations
- No box on view
- No wires on view
- Fully integrated
- Maintains FM stations
- Controlled from Steering wheel controls
- Uses car's current display
- Voice prompt menu system
- Displays: radio text, song & artist information



Digital Radio receiver and display with integrated Bluetooth features. With compatibility across all vehicles the AutoDAB GO is the quick, easy, simple solution to get Digital Radio in your vehicle.

Features: Listen to unique stations in Digital Audio via 3.5mm Aux out, automatic tuning and selection by station name, effortlessly stream music via Bluetooth. AUTODAB CONNECT is an in-car audio adapter which upgrades your existing FM radio system to receive DAB and DAB+ digital radio services. With its inbuilt FM-RDS micro-transmitter, the AutoDAB Connect interface receives DAB wirelessly and eliminates the need for complex wiring, making installation as simple as it should be. The SMARIDAB connects to your smartphone to give Digital Radio in any car. It is a plug and play solution that you can fit yourself in minutes. The station logo, name, song and artist information is displayed on your phone. Digital music is played through your car stereo system via the 3.5 mm jack. Slide-show images are also displayed if transmitted by the radio station.



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WorldDAB Members					
AS	ABU	* * * AER association européenne des radios	Driving Nobile Media Invocation	ALPS	αιδιλα
Arab States Broadcasting Union League of Arab States		BR	BBC	BCASE	B Rayerische Landeszentrale für neue Medien
	BOSCH	clarion	CLUB DAB ITALIA	COMMERCIAL RADIO	connecting to the aftermarket
<b>Onfinental</b> ®	CSR Push every boundary."	Czech Radio	DAIMLER		Deutschlandradio
digitalradio 🔨		COPERATING EUROVISION AND EURORADIO.	ETRI		FACTUM radioscape
FIAT CHRYSLER AUTOMOBILES	Fraunhofer	FRONTIER SILICON	FUJITSU TEN	GATESAIR	global
Glovane	HARMAN	<b>Wirschmann</b> Car Communication	HYUNDRI	INTERNATIONAL DMB ADVANCEMENT GROUP	
🗏 Ingenieurbûre Mulke	Innovationszentrum Telekommunikations- technik GmbH	Institut für Rundfunktechnik		JVCKENWOOD	KeyStone Semiconductor
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		norkring	nederlandse publieke omroep	<b>NFK</b>	NP
Etheratorical Englandsetschaft Canterbrandsetsen Canterbrandsetsen Canterbrandsetsen Staterbrandsetsen Redeval Office of Communications OFCOM	Lyden av Norge	Panasonic	Parrot	PANEDA	PRAIS
PURE	Radio (INS)	radio trance	Radio.no	Radio România	STATIS RADIO
RONDE&SCHWARZ	RRI		SADIBA	SILICON LABS	SONY
SRG SSR	Life.augmented	sverigescadio	swisscom	*	TechniSat
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