



WORLD DAB Newsletter

International News and Strategic Analysis on Digital Sound Broadcasting

WorldDAB Roll-Out Programme Progresses at Speed!

The WorldDAB roll-out support programme (RSP), initiated by the Steering Board, has shown its first results. The RSP team, co-ordinated by WorldDAB's Special Projects Officer Andreas Maurer, has been investigating the status of Digital Radio in Germany. The first phase, which has now been completed, involved contact being made with key players concentrating mainly on the broadcasters, regulators, media politicians and network operators.

The key findings to-date have been that Digital Radio will happen in all 16 Länder (Federal States) though the progress will take place at very different speeds in the individual States. However, WorldDAB will continue to work in close co-operation with local players to overcome some of the last remaining stumbling blocks and ensure a successful launch of DAB in Germany on a national level.

The second phase of the Programme is going to involve close work with receiver and car manufacturers as well as with retailers. As part of its ongoing commitment to the Roll-Out Programme, WorldDAB will support the marketing efforts being carried out by Digital Radio network operators and programme and service providers, who are required to actively promote DAB as part of their licence obligations.

The RSP will also co-operate closely with the European receiver manufacturers' association EACEM.

With Germany being a key market for the successful launch of DAB in Europe with 80 million people, 38 million households and 42

million cars, it was important to share the first results of the roll-out programme with other players. The RSP met with Swisscom and SRG in Switzerland and with the French DAB-Plattform "La Radio Numérique DAB" to give them confidence that the German situation is now making progress.

By sharing successful DAB implementation strategies and drawing advice from its members' experiences, WorldDAB will focus initially on Germany as well as on France, the U.K. and other countries which are key to the successful implementation of DAB services in Europe.

For further information on the RSP, please contact: Andreas Maurer, Tel. +49 231 8390513, e-mail: maurer@worlddab.org

4th International DAB Symposium: Sale of Proceedings

The Proceedings of the 4th International DAB Symposium are now available on CD-Rom from the WorldDAB Project Office at a cost of US\$150.

The speeches given at the Symposium cover a wide variety of topics ranging from the reality of broadcasting in DAB to the practical availability of receivers.

Anyone wishing to purchase the Proceedings should contact Julie Unsworth at the Project Office by e-mail (unsworth@worlddab.org).

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Spectrum Lobbying Committee

As part of its on-going work to fulfil the WorldDAB 1999 Strategy, a Spectrum Lobbying Committee (SLC) has been established. This small Committee, which is made of some of WorldDAB's leading experts on Spectrum issues, is being Coordinated by Mr Percy Pettersson of Teracom in Sweden. The Committee's main tasks will be to address the issue of spectrum availability to allow full implementation of DAB as the successor to FM broadcasting.

It is currently recognised that there is a shortage of available frequencies for the development of T-DAB in Europe. Therefore the SLC will actively lobby for more frequencies to be made available for T-DAB in Europe. In order to accomplish this, the SLC's priority will be to establish where the frequency problems for DAB lie and with the results, will prepare a comprehensive report suggesting ways of resolving the problems.

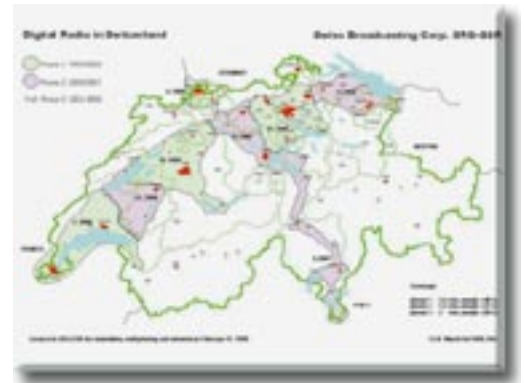
The Committee's progress will be recorded in the Newsletter - so watch this space for more information!

Historic Day

On 17th February 1999, SSR, the Swiss public broadcaster received a DAB licence from its Federal Government. Although SSR believes that it may take them 10 years to cover the whole country, the Government's decision is a little short of a landmark: it shows a firm intention to push Switzerland to the forefront of radio technology, and to keep up with more DAB-advanced European countries like Germany, France, Sweden and the UK.

The SSR broadcasts in the country's four official languages: German, French, Italian and Romansh. Under current proposals, coverage will begin in Berne, Zurich and the Bassin L'Émanique, the French speaking part comprising Geneva and Lausanne, during the course of 1999/2000 and will spread to St Gallen, Fribourg and Basel in the 2nd phase during 2000/2001. The extra capacity provided by DAB will allow SSR to provide a better service to minority groups in each linguistic area. For example, the Swiss German Station DRS will for the first time be able to broadcast in the whole area of the Bassin L'Émanique: up to now it has been limited because of overcrowding on the analogue frequencies. SSR will also be able to introduce into their current selection a new Swiss German youth programme to be broadcast on Satellite and on DAB.

Although SSR was involved in tests using the L-Band during the pilot project in Bern-Oberland, for economic reasons it has decided that it will only broadcast DAB in Band III. This decision has thrown up some controversy. On a technological level, there are fears that military facilities in neighbouring France may be affected once full coverage begins in the Bassin L'Émanique and the Basel region. Then there is the commercial dimension, with private broadcasters expressing their disquiet at being "forced" onto the less economical L-Band. The Government has indicated that it will only begin licensing for the commercial sector



Coverage map graphic courtesy of Swisscom

in Band III in December 2002 and until that time commercial broadcasters, keen for a slice of the DAB pie, will just have to wait or apply for L-Band licences.

Even after licensing begins for the commercial sector, another Channel in Band III will have to be allocated to DAB if SSR is to continue using up Channel 12 for all its services as is currently the case. Partly, this situation arises for legal reasons: Swiss law prevents commercial broadcasters from covering an entire linguistic region so the Government may perceive the L-Band as ideal for them as they intend to cover rather smaller areas. There is some concern that the Government's decision on licensing effectively puts the public sector at an unfair advantage, but there is a plus side for the private sector as well, in that it will have the whole of the L-band to itself. This brings with it a number of advantages: first, the L-Band can accommodate a large number of broadcasters; it is also ideal for local coverage in a small country like Switzerland; and the L-Band is less susceptible to interference with installations in neighbouring countries.

DAB's future in Switzerland is promising, and the next 18 months should be an interesting time. Insiders predict that all the key players will be working to increase coverage and to convince manufacturers that they should flood the consumer market with receivers at low enough prices to stimulate market growth.

DAB takes off in Germany

**Regular Service begins in Saxony Anhalt:
99% coverage on 1 April!**

The first licences for the operation of DAB networks and multiplexes in Germany were awarded in February by the Federal Regulatory for Telecommunications and Post (RegTP). Frequencies were awarded to Deutsche Telekom AG in Brandenburg, Saxony, Saxony Anhalt and Thuringia.

The Saxony Anhalt media authority announced the launch of regular operational Digital Radio services on 1 April. In the Central German Bundesland, more than 90% of the area (representing more or less 100% of the population) will immediately be covered by a DAB signal.

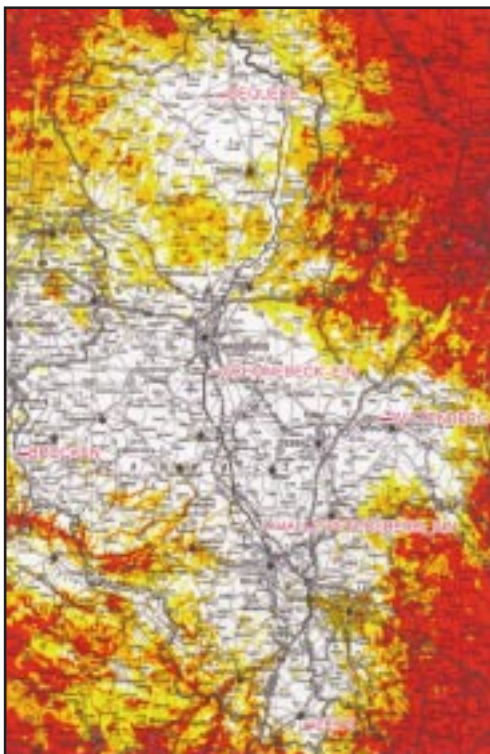
The licensing of Digital Radio in Germany is divided into two sections; telecommunications and content. Now that the advertising has been completed for the multiplex, the final decision as to which commercial broadcasters will be included in the Multiplex is expected to be taken by 14 April.

Initially, the two nation-wide public service programmes from DeutschlandRadio will be on air in Saxony Anhalt as well as up to four commercial stations.

The three other States (Thuringia, Saxony and Brandenburg) expect to go operational progressively by this summer. RegTP is also expected to assign DAB frequencies to Bavaria and Berlin during the next couple of weeks.

The States of Rhineland Palatinate, Baden Wurttemberg and Saarland Deutsche Telekom AG, along with some public and private broadcasters, have joined forces to set up new DAB network operating companies. These Länder will probably be requesting for the licensing procedure, undertaken by the Regulatory Authority, to begin in the next couple of weeks.

In North-Rhine Westfalia and in Northern Germany talks between the public broadcasters and Deutsche Telekom to set up joint ventures to create independent network



Above: In Saxony Anhalt, Deutsche Telekom has achieved virtually full DAB area coverage with 6 transmitters on block 12 C. Coverage map graphic courtesy of Deutsche Telekom AG.

operating companies are on-going but no agreement has yet been reached. The frequency advertisement issued by RegTP stipulates that all Länder requesting DAB frequencies must do so before the end of 1999.

In response to the requirements set out in the licencing agreements issued by RegTP, Deutsche Telekom and other network operators have announced that they will be vigorously marketing the roll-out of DAB receivers in Germany. The World DAB Forum will support these activities within its Roll-Out-Support Programme (RSP).

For more information on the situation in Germany, please contact:

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Getting Digital Radio On-Air

The Regulatory Framework in Germany

There has been world-wide concern over the past few years that the slow progress in launching regular DAB services in Germany could threaten the very existence of this wonderful new technology.

After several years of testing DAB, we are now seeing operational DAB services coming on air.

The main reason for this paradox is the complicated regulatory framework which currently exists in this country which represents 80% of the European Consumer Electronics market. In Germany, all telecommunication activities (frequencies, transmitters, networks) are regulated on the Federal level by the Regulatory Authority for Telecommunications and Post (RegTP). On the other hand, all decisions relating to audio content (radio programmes), are independently taken by the 16 individual Länder (States). Non-broadcasting services do not normally need a licence, but an exception has been created for DAB making it necessary for the Länder to assign specific capacities within the Multiplex for NPAD services. Anyone wishing to launch Digital Radio services in a Länder has to first get the Länder Government to make a formal request for DAB frequencies from RegTP. Once this application has been received, the Regulatory Authority then has to advertise frequencies for this Länder and select a network operator.

The Länder Government then has to divide the transmission capacities between the public and private broadcasters and possibly also NPAD services. At this point the State Media Authorities (Landesmedienanstalten) must begin an additional tendering process for DAB programmes on behalf of the Private Broadcasters.

The network operator that is finally selected by the Regulatory Authority (RegTP), is put in charge of operating the joint Multiplex for both the private and public broadcasters. If any extra capacity has been reserved for non-broadcasting services, the network operator can sell these to third parties.

As we can see, the regulatory process and broadcasters are now gearing up for operational services!

RAI Interactive multimedia trials via DAB/GSM



Above: Home page of the experimental MEMO service

On the 20th and 21st October 1998 the RAI Research Centre carried out technical and service trials on interactive multimedia applications via DAB/GSM in the framework of the European ACTS "MEMO" (Multimedia Environment for Mobiles) Project. A variety of multimedia information such as tourist, local and regional events, weather forecasts, etc. were stored in a data server accessed via GSM. Other multimedia applications, both associated and independent from the audio programme, were conveyed within the DAB multiplex.

The DAB chain included: generation of the bouquet at the RAI Research Centre premises (7 audio programmes with PAD and NPAD services), transport of the ensemble to the Torino-Eremo DAB transmitter (500 W ERP, channel 12) via digital radio link (ETI-NA), reception in the car equipped by a MEMO receiver. The return channel was implemented via Internet/GSM connection.

The whole MEMO chain was set up and tested both in the laboratory and in the field. A capacity of 192 kbit/s was allocated to NPAD multimedia services, including the MEMO information.

The trials were carried out in mobile reception in the service area of the transmitter, covering the city of Torino, surrounding areas and part of Piemonte.

The results proved the efficiency and reliability of interactive access to a multimedia server and over-the-air retrieval of the information in a moving car driving within urban and suburban areas.

The MEMO trials were also attended by a crew of the RAI scientific programme "TG3 Leonardo" which produced a documentary for the 3rd TV network (RAITRE) highlighting the advanced DAB features provided by the MEMO Project.

Norway ~ Contract for the digital radio has been signed

NRK, P4 and Norkring have reached an agreement concerning the development of a digital radio network in Norway. The new DAB network, which will replace the present FM network, will reach about half the Norwegian population as early as Autumn 1999.

P4's General Manager and Managing Editor, Kalle Lisberg, and Tor Fuglevik, Director of Radio at NRK said, "The new agreement is a breakthrough in the work to secure radio's position as a powerful medium in the future".

Lisberg explained that this new agreement signifies that P4, a Commercial Broadcaster, has staked its claim in the future radio market. The agreement will be valid until 2013, with the option for further renewal after that date.

NRK has been allocated two-thirds of the capacity in the national ensemble, and P4 one sixth. Both NRK and P4 have been broadcasting digital programmes for several years in a very successful pilot project. Regular broadcasts started as early as 1 February 1999, and the intention is that digital broadcasting will replace FM broadcasting over the next 10 years in Norway.

According to the agreement between Norkring and the broadcasters, central Norway, where the listening audience is the largest, will be covered by Autumn 1999. The Sami areas of northernmost Norway will also have coverage which will mean that around half the Norwegian population will be able to receive DAB transmissions in this first phase.

Norkring will finance and own the digital network and the agreement reached between the 3 parties will ensure that NRK and P4 benefit from the digital capacity for another 13 years.



With 70% of the Norwegian population tuning into radio daily in Norway and listening for an average of around 2 hours and 39 minutes, it is imperative that Norwegian Broadcasters move into the digital age to ensure their listeners are well served by radio in the future.

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CeBIT '99, Hannover, 18-24 March 1999

TerraTec to launch combined PCI DAB/sound card

By Andreas Maurer,
Special Projects Officer

The hot topics at CeBIT 99 were the internet, wireless networks and mobile telephones, I am pleased to announce that there was also some very interesting Digital Radio news to be found at this important Consumer Electronics fair.

The German PC card manufacturer TerraTec announced the release of its combined PCI bus DAB receiver/sound card "DAB2PCI" which will be available on the consumer market in May this year. The PC card offers VHF and L band reception, PAD/DLS, NPAD/MOT 2.4. It also offers hard disk recording in MPEG layer 2 and WAVE format as well as MP3 recording directly from DAB programmes.

Robert Bosch Multimedia, which is conveniently based only a few kilometres away from the Exhibition grounds, in Hildesheim, offered a glimpse of their next generation DAB receiver module and also showed their Blaupunkt D-Fire car receiver.

A delegation from the BBC, DIGITAL ONE and WorldDAB met with representatives of the Matsushita corporation (Panasonic/Technics)

from the UK, Japan and the USA to discuss their current DAB roll-out plans in Europe and also to find out more about Matsushita's commitment to DAB. This fact finding mission was very positive as the delegation learnt that Technics plan to launch a combined DAB/FM Hi-Fi tuner in July this year.

For further information on any of the products mentioned above, please contact:

TerraTec Electronic GmbH
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Fax +49 2157 8179-22
e-mail info@terratec.de

Robert-Bosch-Multimedia GmbH
Robert-Bosch-Str. 200, D-31139 Hildesheim
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Matsushita Electric Europe
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Multi Media Promotion Office
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New Members

BLM

In January 1999 BLM joined the World DAB Forum and nominated Mr Rainer Muller, Head of Technology, to be their representative.

BLM is the licencing authority for private broadcasters in Bavaria and one of its roles is to Chair DAB activities for all licencing authorities throughout Germany.

With particular emphasis being put on Germany for the successful roll-out of DAB in Europe, it is most encouraging to know that BLM will from now on participate in the success of DAB and in the core business of the Forum, including the on-going work on Regulation and Spectrum issues for DAB.

Norsk Aller

Norsk Aller is a subsidiary of the Danish company Carl Allers Etablissement A/S, which is the largest publisher of weekly magazines in Scandinavia. As part of its extensive business interests it owns leading magazine names in Denmark, Sweden, and Norway.

Since the early 1800's Norsk Aller has been an extensive publishing business in its own right and is now also heavily committed to local radio in Norway owning Radio 1 Norge AS.

The WorldDAB contact for Norsk Aller is Mr Alf Lande who is an advisor to the Board of Managers.

A unique performance on DAB

A "first" has been achieved with the live broadcast of an opera from the Royal Theatre in Copenhagen which was subtitled on DAB using dynamic labels in PAD. 500 test listeners had the opportunity to lean back, turn up the volume and put their imagination in top gear to appreciate an evening at the opera house with the story evolving before them whilst they drank up the wonderful music of the libretto in the comfort of their own homes and their favourite arm chairs! What more could an opera lover ask for! The subtitles to Gaetano Donizetti's opera L'Elisir d'Amore was carefully conducted by Danish Radio's classical channel P2musik with signalling assistance - present in the Radio

House - from the Royal Theatre.

This first-ever type of broadcast was such a success that one test listener was impelled to acclaim: "Congratulations with the premiere on subtitling radio. It was a very successful broadcast from the Royal Theatre showing one of DAB's really exciting opportunities..."

This successful event must be kept fresh in the broadcasters minds so they can "push forward and offer added-value DAB services without neglecting the high sound quality which the system can offer as well", to quote Michael Harrit, DAB Technical Manager at the Danish Broadcasting Corporation.



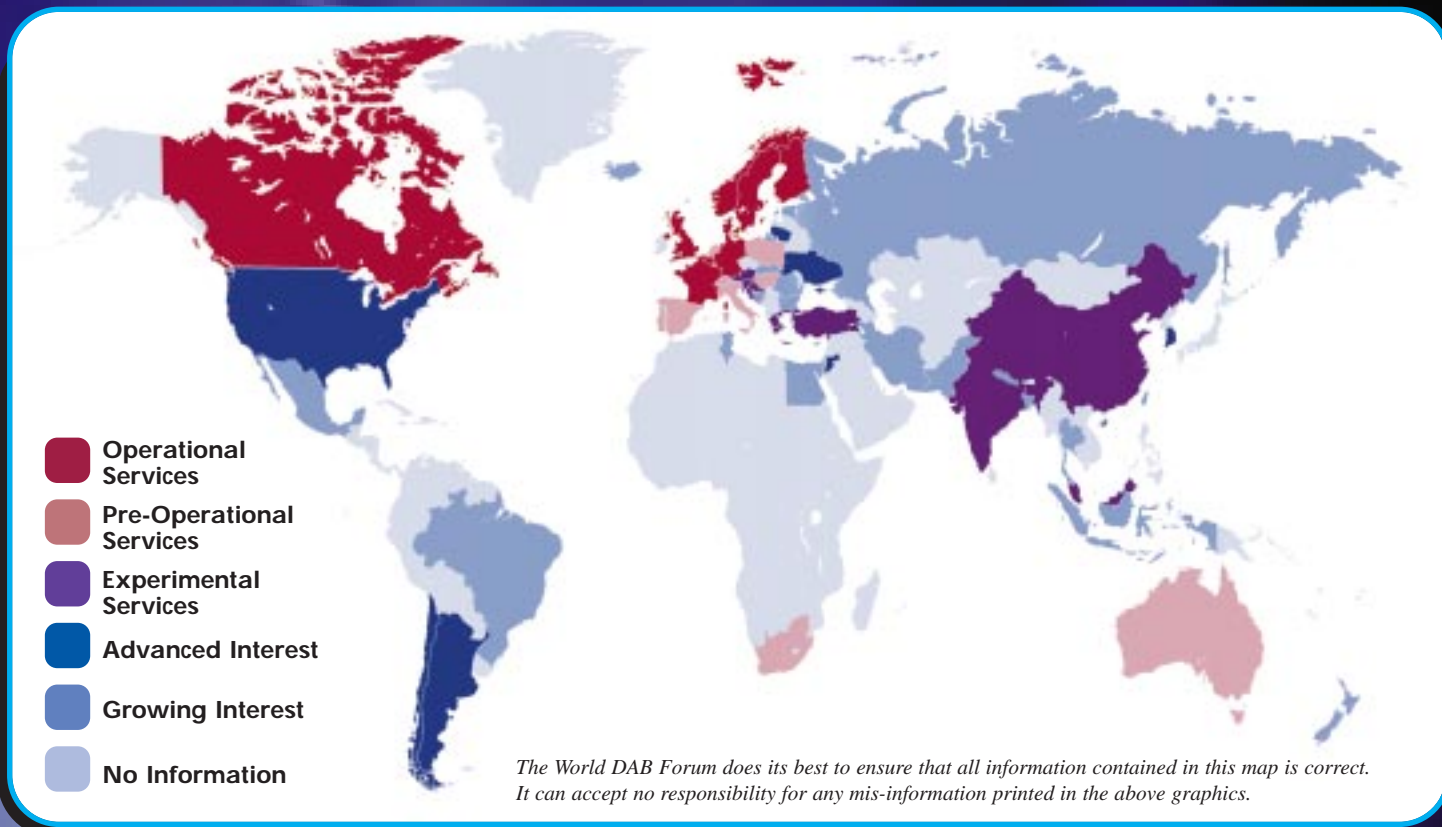
Above: "remote control" (Newton Message PAD from Apple) used in Bang & Olufsen pilot receivers. The subtitling on the screen says: "He drank just a drop of the potion and her stone heart immediately melted"

Michael Harrit is available on Tel. +45 35 20 56 06 for further discussions on this concept and any other which you feel you would like to address him with.

Status of DAB Services Around the World in 1999

This map of the World DAB Coverage is available on the WorldDAB Web site (www.worlddab.org).

Any updates should be sent to Rebecca Dorta, WorldDAB Project Office, dorta@worlddab.org



WorldDAB Delegation visits Bern and Paris.

The Swiss Government's decision to license SSR fell on the same day as a visit by WorldDAB representatives to Bern. The delegation was kindly invited to SSR to discuss global DAB roll-out and the future of DAB in Switzerland. The WorldDAB representatives, Franc Kozamernik, Andreas Maurer and Julie Unsworth made the most of their day in Bern by holding a separate meeting with Swisscom who also have their headquarters there. SSR is Swisscom's main customer, providing it with about 95% of its broadcasting business. This percentage is, if anything, set to increase with the introduction of DAB: latest news is that Swisscom has been awarded the contract to build SSR's DAB networks.

Following from the success of the trip to Switzerland, the same WorldDAB delegation were invited to Paris by the Steering Board of "La Radio Numerique

DAB" (formerly known as Club DAB France). On the agenda at the meeting was the future of DAB in France. There is lively debate among some of the members of the Radio Numerique DAB about the suitability of DVB-T for carrying Digital radio services. Mr Kozamernik, WorldDAB Project Director, was able to give some reassurance on the technical front. He explained that in fact the two systems are complimentary - one is an excellent technology for fixed reception and the other is better for mobile reception.

Mr Maurer for his part kept delegates abreast of DAB developments in Germany, which represents 80% of the European consumer Electronics Industry. Because of this lion's share, he explained, it is imperative for Germany to be on board and to have operational services, so as to ensure

DAB's success. Sufficient coverage of Germany will, amongst other things, bring down the cost of DAB receivers, and stimulate market growth. The manufacturers present in Paris - among them Bosch, Grundig, Pioneer and Philips, confirmed that some receivers had been sold in France but they flagged up problems with the regulatory policy which need to be ironed out in order for the broadcasters to attain greater coverage.

WorldDAB was particularly encouraged to see all the key players - regulators, private and public broadcasters, network providers and manufacturers - sitting round one table trying to overcome the final hurdles in DAB roll-out. La Radio Numerique is playing a key role in the implementation of DAB and its commitment, and that of its members, is bound to bear fruit.

Multimedia and Digital Radio ~ Vision into Reality

Multimedia and Digital Radio - Vision into Reality was the title of the first Module 5 conference which took place at the SWR Headquarters in Baden Baden on 10 and 11 March. This extremely successful conference was attended by more than 50 people from 10 different countries and centered on the work being carried out by DASDING. DASDING is SWR's multimedia youth programme. It is also the first new programme in Germany to run on DAB 24 hours a day.

After his visit to the Studios, Glyn Jones, Chairman of Module 5, commented that DASDING's use of state of the art equipment shows not only how DAB will transform the way consumers listen to radio, but also how it has transformed the production line.

The main topics of the day concentrated on Digital Radio in Germany with a specific look at the work being carried out by DASDING, the use of Multimedia in France, design possibilities of Digital Radios and Live Content Production.

Speakers included Mr Gerd Haedecke, former Deputy Director of SWR, Marcus Schuler, Project Manager of DASDING, Bruno Lenormant of Radio France, Nick Dorman of

the Fourth Room, Ragnar Schnell and Kjell Engstroem of Swedish Radio and Michael Harrit of Danmarks Radio.

All the speakers had a different approach to Multimedia Radio but all had the common goal of providing added value services to the consumer and to encourage the take-up of DAB.

In his Official Welcome, Mr Peter Voss, Director of SWR and Chairman of the ARD, said "All of us - programme makers, politicians, net providers and the industry - have to ensure that consumers will soon have enough reason to switch to mobile, digital radio. We have to work towards rapid DAB blanket-coverage in Germany".

The participants benefited from simultaneous interpretation into German and English and the Conference provided an excellent opportunity for delegates to exchange creative ideas on multimedia content for Radio and to see what others are doing during the experimental and pilot phase.

This very successful event will be followed shortly by a second conference on Multimedia which is impatiently awaited by all those with an interest in pushing radio into the multimedia age.

Heartfelt Thanks



Following the very sad news of Per Erik Selemark's death, members of the World DAB Forum responded with enormous spontaneity to his family. They have now asked for the following message to be printed in the Newsletter:

"Thank you for all the warmth, concern, letters, phone calls, flowers and donations that we received both during Per Erik's illness and passing. To have friends means so much at a time like this. A great thanks also to all of you who were able to come to his funeral, which is now a beautiful memory for our family. All of this is helping us look to the future and to go on, which is what Per Erik would have wanted.

Ingrid, Maria and Peter Selemark"

Corrections

We would like to correct some inaccuracies that appeared in the 11th Issue of the WorldDAB Newsletter (February 1999) in the article "Singapore Slings into the DAB Age".

We wrongly indicated that RCS announced the start of trial services during the DAB Symposium. What we described as the launch of trial services by RCS was in fact the trade launch of services. Information concerning the commercial broadcasters receiving licences within the next 6 months was also incorrect and the sentence should read, "Singapore's first commercial DAB licence was awarded to RCS on 13 January 1999 in conjunction with the DAB Symposium and RCS will begin full commercial DAB services in the next 6 months".

The Editor apologises for any inaccuracies which appeared in the Newsletter.

European Digital Radio Conference



Munich, 10-11 May 1999

Good news from Germany! Digital Radio is being implemented in this most important of European markets with the recent news that Bavaria will very shortly begin official services and that four other states have now been allocated frequencies.

This flurry of activity provides an excellent reason to hold a conference on Digital Radio with the participation of some of the most important players in the Digital Radio field - WorldDAB, Eureka 147 and Bayerische Medientechnik (BMT). The conference will bring together all major stakeholders in Digital Radio and, for the first time, a large contingency of dealers will also be present.

The Conference will take place in the Haus der Bayerischen Wirtschaft in Munich on 10th and 11th May 1999.

Some of the burning questions which will be brought to the table include: Are there enough receivers on the market? What new services will broadcasters pull out of their basket? Where does Digital Radio fit into the plethora of other new broadcasting technologies currently available on the market?

Participants will also be able to hear about the marketing strategies carried out by leading countries such as France, Sweden, Norway and the UK. They will be able to visit the large exhibition where all the big names in the industry will be presenting their products.

We look forward to seeing you in Munich! For further information, please contact:

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Combined List of WorldDAB and Eureka 147 Meetings in 1999

(Status April 1999)

Group	Date	Location
General Assembly Steering Board	28-29 October	Rome
	10 June	Geneva
Module 1	9 September	Amsterdam
	27 October	Rome
	14 December	London
	17-18 June	London
Module 2	14 (pm TF's)-15 October	London
	6 (pm TF's)-7 December	London
	26 (pm)-27 April	London
	6 (pm)-7 October	Stuttgart
Module 3	16-17 November (TBC)	Geneva
	2 (pm)-3 December	London
	1 June	London
	1 September	London
Module 4	8 December	London
	TBC	TBC
Module 5 Workshop European Affairs Comm.	TBC	TBC
	2 June	Brussels
Finance/Budget Committee Spectrum Lobbying Committee	23 July	Brussels
	1 October	Brussels
	26 November	Brussels
	10 June	Geneva
General Assembly Committee Roll Out Support Programme Funkschau/Eureka Workshop Eureka 147 General Assembly	27 April	London
	17 May	Milan
	11 June	Geneva
	17 May	TBC
	14 April	Munich
	10 -11 May	Munich
	12 May	Munich
	26-27 October	Rome
	10 May	Munich
	8 (pm)-9 June	Geneva
Eureka 147 Executive Committee	8 September	Amsterdam
	25 October	Rome
	13 December	London
	19-20 May	Stockholm
	6-7 July	Hildesheim
	28-29 September	London
	23-24 November	TBC
	15-16 April	FhG, Erlangen
	4 May	Brussels
	16 July	TBC

These meetings could be subject to changes. If this is the case all WorldDAB and Eureka Contacts will be given advance notice.

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