

# European Digital Radio

## On a roll, or another false dawn?

*Most comprehensive report ever published on the European digital radio market providing the latest information on the state of digital radio broadcasting and future prospects*

### Includes:

- A 30-page review of the state of DAB in 17 European countries. Multiple interviews carried out per country to provide the most detailed analysis and future plans for each country
- Comprehensive analysis and comparison of digital radio technologies: DAB, DRM, Digital Satellite Radio. What is the potential threat from other technologies such as DVB-H?
- Case study analysis of the DAB market in the United Kingdom. What impact is the success of DAB in the United Kingdom having on other European countries?
- A 20-page analysis of the data potential of DAB. Latest information on technical standards, data services, future data devices and applications. When will the first integrated DAB/mobile phone be launched?
- Radio as a multi-platform medium. Analysis of the radio listening via TV phenomenon in the United Kingdom. Could the same thing happen in the rest of Europe?
- Interviews with regulators in 17 countries providing the most up-to-date spectrum and regulatory picture for digital radio in Europe. Will DAB gain or lose at the forthcoming ITU spectrum re-planning meetings?
- A total of more than 125 interviews carried out in researching this report with: broadcasters; regulators; semiconductor manufacturers; transmission hardware providers; receiver manufacturers; content providers; satellite manufacturers and service providers; public organisations and institutions (European Commission, European Broadcasting Union); trade groups (WorldDAB, DRM, AER), etc.

As a latecomer into the digital world, radio has faced an uphill battle to compete against a plethora of digital delivery mediums. Networks have been rolled out but the growth of DAB has remained painfully slow.

Six years after its commercial launch, the right conditions for DAB to flourish are finally coming into place in several European markets. Last year turned out to be a watershed year for DAB in the United Kingdom.

Success in the UK market is changing European broadcasters' perceptions

about the future of DAB as a pan-European radio standard. Eureka Research's latest European DAB survey revealed positive developments in several European markets.



Eureka believes that 2004 could be a key year for DAB in continental Europe as spectrum and regulatory issues are finally addressed and as some of the biggest consumer electronics companies launch DAB receivers

The introduction of digital radio is set to revolutionise the way listeners listen to radio and will lead to the introduction of radio EPGs, radio-on-demand and other technologies and services allowing listeners to personalise their listening experience. Radio in Europe is about to undergo the biggest change in its history.

***“European Digital Radio – on a roll, or another false dawn?” is a non-commissioned, 210-page, independent report providing an objective analysis of digital radio in Europe during the next 6 years”***

#### **Some of the Key Business Issues addressed in this report include:**

- Will DAB become the dominant platform for the delivery of digital radio services?
- What are the prospects for more VHF spectrum for DAB?
- Will the popularity of radio via DTV continue in the United Kingdom?
- Will radio via DTV develop differently to radio via DAB?
- What are the consequences of insufficient spectrum for DAB in Europe?
- Could radio via DTV boost DAB in other countries?
- Will broadcasters build L-band networks?
- Why is DAB's success in the United Kingdom not being replicated in Germany?
- What are the prospects for data-only DAB multiplexes?
- How can digital radio increase income per listener for commercial broadcasters?
- Could DRM alleviate DAB spectrum demand?
- Is Nokia's "visual radio" concept a threat to DAB data services to mobile devices?
- Will DAB in France be developed in VHF or in L-band?
- Will Europeans pay for subscription-based digital satellite radio services?
- Will there be sufficient consolidation in the radio industry in order to maximise the opportunities offered by digital radio?
- When will DAB become mass-market?
- Should DAB's Layer-2 codec be replaced?
- Will all European countries adopt Layer-2 or will some opt for more spectrum-efficient codecs?
- Which countries are best-placed to benefit from increased DAB receiver availability during 2004?
- Could DVB-H replace DAB in some countries?
- When will DAB data services take-off?
- Can DAB and digital satellite radio flourish in the same markets?
- Are DVB-T and DVB-H a threat to DAB data services?
- Will mobile operators partner with the DAB industry?
- Will DAB pay-data services really pay?
- Will DRM be able to avoid the receiver supply problems experienced by DAB?

# Report Contents

## Executive Summary

### 1. Radio in Europe Today

*Overview of the radio broadcasting industry in Europe and challenges; trends in European listening habits; radio listening via new technologies: the Internet, digital television, mobile phones*

### 2. The Digital Challenge

*Why radio must go digital; implications of digitalisation: new value chains, business models, new entrants; competing in the converged digital marketplace*

### 3. The Technology Platforms

*Comparison of radio technologies – DAB, DRM, DSR, Web radio, multi-channel TV, mobile DTT and DVB-H; radio as a multi-platform media; growth of radio via DTV; will radio via DTV develop differently to radio via DAB?; local radio via DTV*

### 4. The Battle for Spectrum

*Analysis of DAB and DSR spectrum allocations; future needs; prospects of more VHF spectrum for DAB; revising the 1961 Stockholm Plan; conflict with DVB-T and DVB-H; micro-stations and data-only multiplexes*

### 5. The Opportunities for Broadcasters

*More programme choice and new formats; leveraging digital technology to enhance advertising; radio-on-demand; radio EPGs; visual radio and hyper-radio; the pay-radio opportunity; what can mobile operators offer DAB?; what can DAB offer mobile operators?; the emerging mobile music and video opportunity*

### 6. Review of DAB in Europe

*Analysis of DAB markets and regulatory conditions in 17 European countries; future roll-out plans; resolving the issues facing DAB in Europe; case studies: the UK, Germany; progress in other European countries; accelerating the transition to digital*

### 7. Data & Multimedia Services via DAB

*DAB data capability (PAD, NPAD, IP datacasting, interactive data); technical standards; data devices; existing DAB services; delivering DAB data services; data applications; pre-requisites for launching data services; data-only multiplexes in L-band*

### 8. DAB Receivers & Technologies

*DAB receiver architecture; DSP vendors; DAB receiver product range; bit rates and codecs; future devices and technologies: EPG-equipped receivers; interactive devices, music players & multimedia devices; Java-based receivers*

### 9. Prospects for Digital Radio Mondiale

*Benefits of DRM; audio quality and codecs; data over DRM; options for broadcasters; DRM development schedule; DRM receivers; challenges facing DRM; the case for DRM*

### 10. Mobile Digital Satellite Radio

*The fledgling DSR industry; the market for DSR in Europe; the player(s); DSR business models; the DSR consumer value proposition; the role of car manufacturers; the telematics opportunity; DSR receivers; facing the challenges; the case for DSR in Europe*

## Summary and Conclusions

**Companies and organisations discussed in this report include:** Alcatel Space; ARD; Bayern Digital Radio; BBC, Bosch/Blaupunkt; Coding Technologies; Denmark Radio; Digital One; EBU; Emap; ERTICO; Fraunhofer IIG; Freeview; Frontier Silicon; Harris Broadcasting; Imagination Technologies; MobileInvent; Modular Technology; mmo2; Nagra Futuris; Nokia; NOS; NRK; NTL Broadcast; Panasonic, PersTel; Philips; Pure Digital; RAB; Radio Digital Sud-West; RadioScape; RDP; RNE; Roberts Radio; Siemens; Sirius Radio; Sky Digital; Sony; SSR; Swedish Radio, TDF; Telenor; Terracom; Terratec; Texas Instruments; UBC Media; Unique Interactive; VDL; Virgin Radio; VRT; VT Merlin; WorldDAB Forum; WorldSpace Europe; XM Radio; Zoopad

## Who should buy this report?

Radio broadcasters; advertisers; multiplex operators; content providers; receiver and infrastructure manufacturers; software developers; mobile operators and mobile handset manufacturers; policy developers; regulators, etc. who want:

- the most detailed and up-to-date analysis of DAB deployment in Europe
- to understand the opportunities offered by digital radio technology and how the technology can be used to enhance the effectiveness of advertising and introduce new revenue streams
- to understand the data capabilities of digital radio and the synergies with other mobile technologies
- the complete spectrum and regulatory picture for digital radio in Europe
- to have the latest information on DRM and DSR plans and developments

## About Eureka Research

Eureka Research is a consulting and market research company specialising in digital broadcasting and mobile data services and technologies. Set-up by a number of ex-Gartner analysts it has a presence in Europe and in the United States.

An area of particular interest at present is that of datacasting of multimedia content via DAB DTT and DSR to mobile devices. Eureka will shortly publish an accompanying report to "European Digital Radio – on a roll, or another false dawn?" which will focus exclusively on the commercial prospects of using various broadcasting technologies for delivering content to mobile devices.

## About the Author

Gareth Owen is a Research Director at Eureka Research. Prior to setting-up Eureka he was an analyst at the Gartner Group for 6 years and specialised in mobile data and data broadcasting technologies and services. Prior to Gartner he worked for many years as an R&D engineer working on research contracts for the European Space Agency which culminated in a Research Fellowship at ESA's research and technology centre in Holland.

He has a combined B.Sc.(Hons) in Engineering and German, a Ph.D in Control Engineering and an MBA in Innovation, Strategy and Information Technology.

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