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DOSSIER: DAB

DAB
Digital Audio Broadcasting

DAB and Nordic countries

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*Nordini**, the Nordic countries lobby organization informs and promotes DAB.

In comparison to other European countries the Nordic region comprises the buying power of 25 million people. The Nordic region is often perceived as one common market because of similar culture, language, social and economic status, and – when it comes to introducing new technology – its very advanced infrastructure. The reality is different: each of the five different countries is very different especially when it comes to legislation and politics involved in digital issues.

Both Norway and Sweden are geographically large countries. Public service broadcasters NRK and SR have invested heavily in building DAB networks since the mid-'90s. Finland has a DAB network but is also contemplating using its DVB-T network for digital radio. Denmark and Iceland are rather small countries: Iceland has less than 300,000 people and has just recently decided to test DAB; Denmark decided to speed up DAB in 2002 and it did not take long or cost a lot to cover the whole country, thus making Denmark the first European country with virtually 100% coverage for DAB reception.

Consequently. Nordini defined 'Year Zero' as being the right time to expect any consistent response from the market.

Year Zero

The Year Zero concept has been defined by UK standards, i.e. legislation is clear to all interested parties, networks and transmitters are in place (with an over average coverage), programmes are available and digital radio receivers are available in shops. Only then can there be consumer awareness and a willingness to buy.

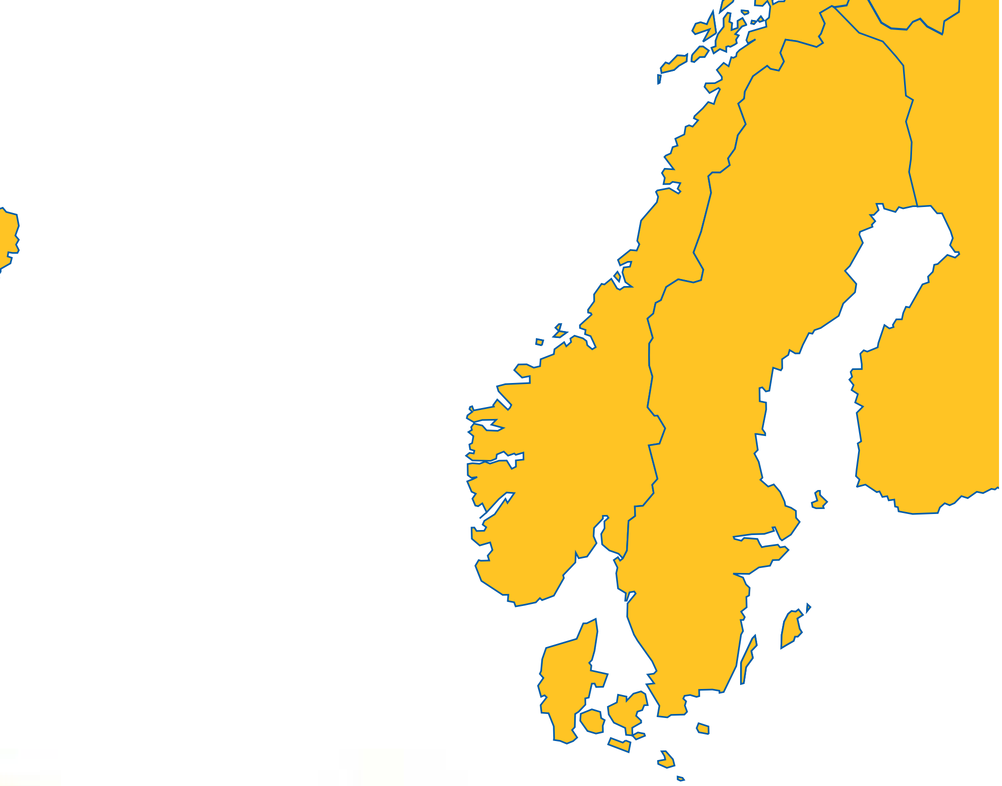
The DAB market has been very slow to catch on. The technology is 10–15 years old, and though it can be said that DAB is perhaps the most talked about technology, it can also be said that DAB has perhaps put itself into a corner.

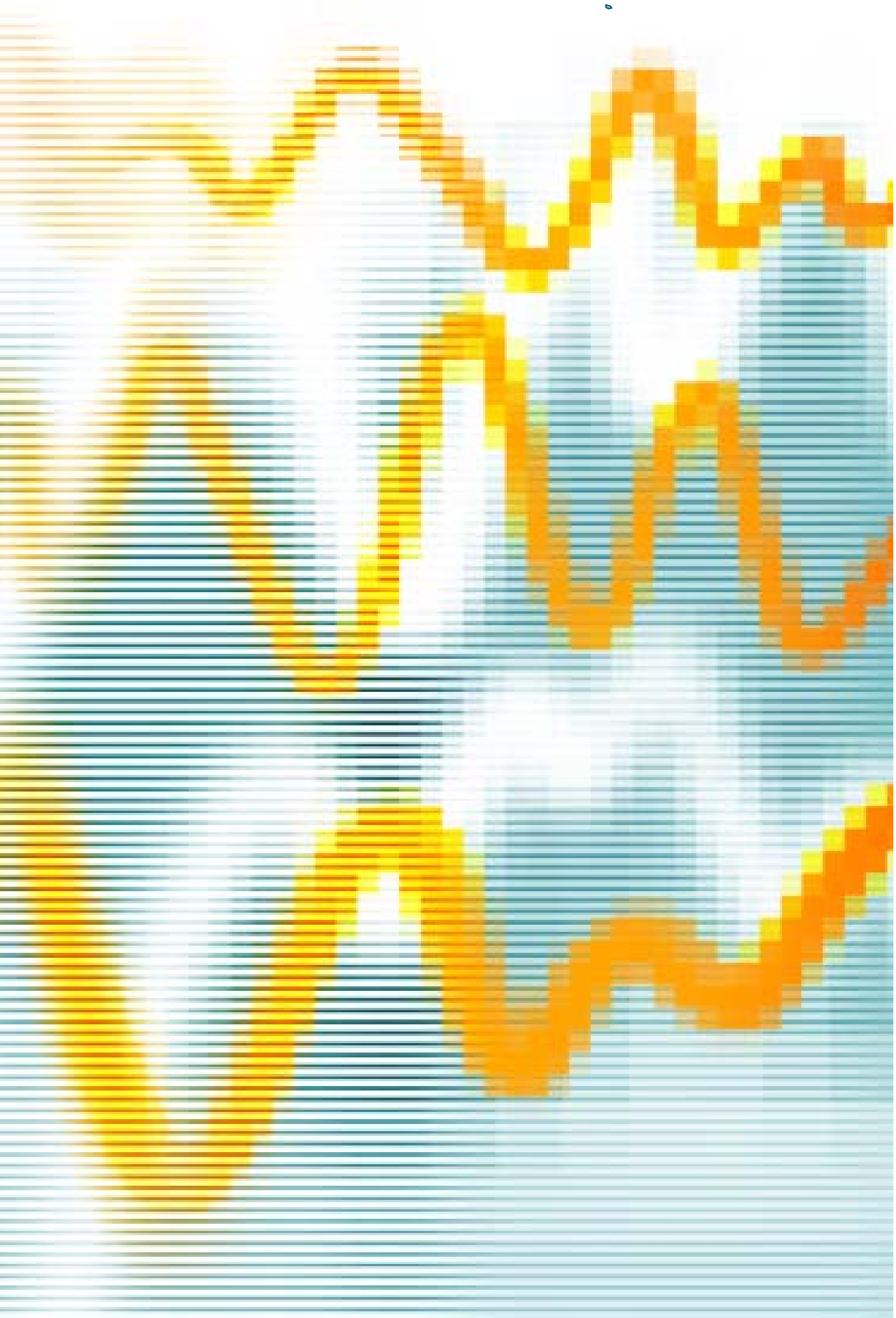
During the time it has taken to go from testing in the early 1990s to the marketing and production of the first mass-produced digital radio receivers in this millennium, a lot of other technologies have made the headlines in the digital transition awareness battle for the distribution of audio and radio.

From a ubiquitous and ever pervasive existence, radio has taken on a new business perspective as a consequence of Internet and audio (plus video) streaming. Digital television on cable and satellite and terrestrial digital television (DVB-T) have matured into competing technologies.

Radio has not so much undergone a revolution during the past 5–10 years (in the sense of a traditional broadcast service) but more of an evolutionary change that has seen radio diversify into different genres: music, talk radio, news, sports, documentary, etc. There is also a tendency, especially with music, for niche channels, for example rock, jazz, classic, hip-hop.

In parallel to the digital *change-over* regarding infrastructure and transmission, the array of consumer





equipment to download, store, copy and replay audio and music runs into hundreds – almost any radio station around the globe can be listened to via the Internet and a PC.

S-curve

As with all new technology, 'the chicken and egg' situation has been used as an explanation – if not an excuse – for slow market penetration. But in reality market penetration is a very universal phenomenon, defined by the time it takes from the moment of introduction and use by the innovators to early adopters, to its 'unstoppable', i.e. 20%, presence in the mass market.

Generally speaking it takes new technology 10–15 years to reach this point, and even longer before it dominates the share of the market, producing what is know as the 'S-curve'. The S-curve can be applied to all previous infrastructure technologies, for instance the telephone, radio and television. Recent examples of a much faster S-curve penetration can be illustrated by the Internet and text messaging via mobile phones, which can only be characterized as disruptive technologies. A lot of other new digital devices such as digital cameras, DVD players, MP3 players can be viewed as fast S-curves mainly because they build on top of accepted functionalities already present in the market, in which a fundamental "what's in it for me" attitude is behind the development of equipment with more features, better performance, better price, service, etc.

The accelerated pace of change will affect the general perception of the media and in particular traditional broadcast media. The Internet has increasingly shown that 'always on' broadband access has changed the perception of 'broadcast' from traditional to on demand. New mobile phone devices with built-in camera, audio and video capabilities will take over much of news, sports

and music, etc. The bottom line: people – the consumers – will in the future need to be addressed in the context of time, place and mindset in which they will want to receive certain media services.

DAB-only strategies

The basic transition of analogue radio to digital radio goes beyond DAB.

Focusing on DAB as the digital solution for traditional radio broadcast, the Nordic experience is that the only way to sell DAB to the average consumer is to provide DAB-only niche channels. Both Denmark and Sweden have introduced DAB as digital radio with more choice, i.e. an additional 6–8 niche channels with, for example, 24/7 jazz, rock, soft, pop, news, literature, to make the consumers feel that they are getting value for money when they buy a digital radio. Most of the 60–70 different models and makes of DAB receivers are now both DAB and FM, thus eliminating the need to simulcast FM on DAB.

Once the production materials are in digital format they can be used on more than one platform. The cost for creating and compiling DAB-only channels is not that high when you stick to music or, for example, literature (putting aside copyright issues). The Nordic experience is that you can make a DAB-only music channel for €40–50,000, and use it for both DAB and, for instance, the Internet.

Consequently, this means that the previous, more technical argument that DAB is all about improved sound quality does not work. FM quality in the Nordic region is generally good and sound quality is not what the average consumer is concerned about.

However, more choice becomes a problem: DAB technology will give 6–8 new channels (on a frequency equal to an analogue TV channel, i.e. band III, and even though the L band will give additional bandwidth) but the total number of local, regional and national AM and FM channels will not be available on DAB in today's frequency pattern and capacity.

In combination with the GSM mobile network and the future UMTS network, DAB will provide a much cheaper distribution platform for data broadcast thus combining images, text and graphics, and audio, making it suitable to take over the traditional broadcast situation as well as the on-the-move context, e.g. car radio, portable radio, radio in trains, busses. However, legislation will have to be put in place to shut down analogue transmission (for both TV and radio) to make sufficient bandwidth available for digital transmission.

Competition

The fastest growing business opportunity is *wireless*. There will shortly be a demand for home LANs as consumers will want to be able to easily exchange content from one network/platform to the other. Though some traditional features in the home such as the additional kitchen radio or the clock radio in the bedroom will remain in this context, gradually the hi-fi will be overtaken by surround sound and new flat screen displays, in-car audio systems will converge with GPS and displays for all-purpose use (probably fusing with DAB), and finally *on-the-move* will show a number of different devices combining audio and video with telephony.

The Korean development of DMB – Digital Multimedia Broadcasting – combines audio, video and mobile phone devices. Today, it is one potential – positive – disruption for digital radio.

DAB plays an important role in all of this. Already the acronym DAB is starting to mean: Digital *Anything*

Broadcasting. The Nordic countries have a track record for being frontrunners in the new technology race and this is particular true when it comes to mobile phones, broadband connection, DVDs and home theatres. They will also continue to be leaders in DAB and digital radio once Year Zero is announced across the region.

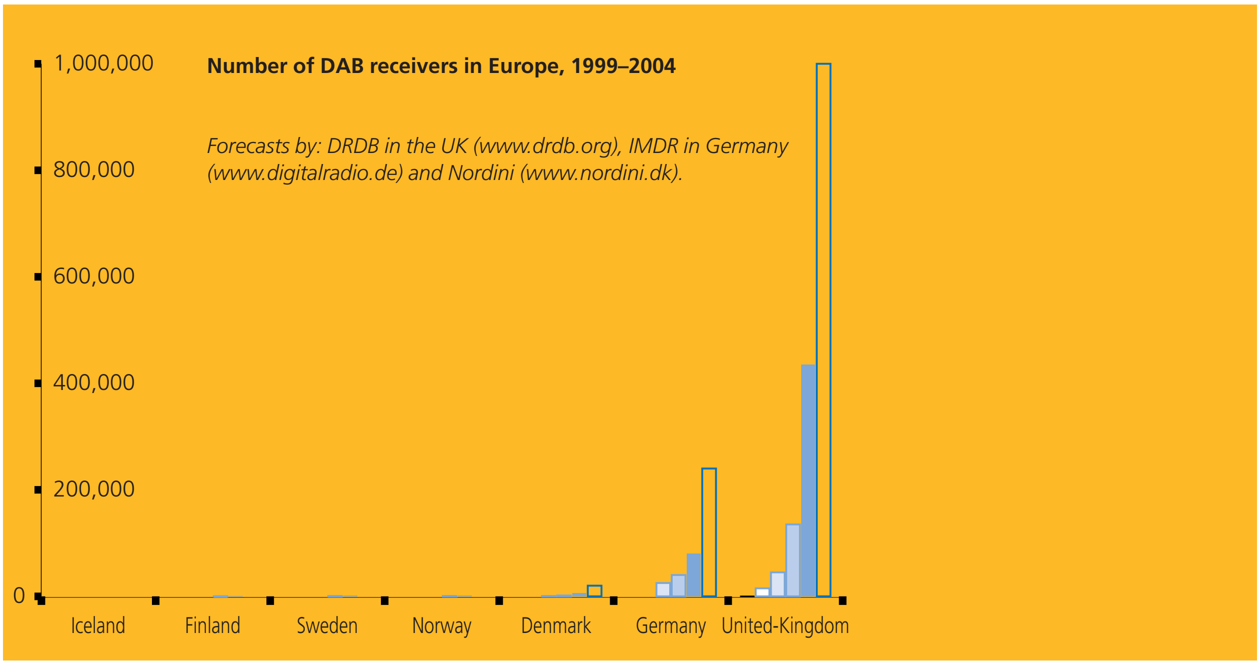
England is leading the way and has shown an impressive growth in sales of digital receivers since the Year Zero introduction of DAB and the multiplex operator Digital One in 1999.

Germany has renewed its commitment to DAB in 2003.

The Danes reached Year Zero late 2002 and campaigning throughout 2003 has produced results.

The other Nordic countries will use 2004 to get to a Year Zero situation. Sweden will re-announce digital legislation, and Norway will continue to build its networks.

[1] *Nordini was established in January 2003 as an association of the national public service broadcasters DR, NRK, SR, YLE and RUV; the commercial national broadcasters P4 and Kanal 5; network operators Teleonor/Norkring and Broadcast Service Denmark. Network operators in Sweden and Finland declined and no other national commercial broadcasters are yet present on the DAB platforms.*



Number of DAB receivers in Europe, 1999–2004

Forecasts by: DRDB in the UK (www.drdb.org), IMDR in Germany (www.digitalradio.de) and Nordini (www.nordini.dk).

Mark

Ian Dickens
Chief Executive, Digital Radio Development Bureau

Increasing the DAB digital radio market in the UK . . .

. . . is the goal of the Digital Radio Development Bureau (DRDB) set up in 2001.

Since the mid-'90s, broadcasters, both commercial and public, invested millions of pounds in new DAB radio stations, transmitter networks, and broadcasting infrastructure. But in 2001 only 14 manufacturers were making DAB products, all of which were either expensive in-car options or even more expensive hi-fi tuners. The sole exception to this trend was a tuner from Imagination Technologies (later to become PURE Digital) which went on sale in 2000 at the breakthrough price of £299.

The hi-fi tuner market in the UK represents just 0.4% of all audio products sold annually, so even at a 'low' price of £299, it was clear that pitching DAB digital radio to a small minority of the buying public was not going to produce a mass market in a hurry. Other form factors needed to be developed; prices needed to come down and that meant chips had to become smaller, faster and cheaper; consumers and of retailers, many of whom were still ignorant of the existence of DAB digital radio let alone its benefits, needed to be educated.

So it was the broadcasters who at all other times are rivals for listeners and advertising revenue sat down together to form the DRDB – a marketing group focused on introducing DAB digital radio to the mass market.

The DRDB is a small operation with limited funding. It is therefore important that it strictly adheres to the policy of "If it doesn't sell digital radios, we don't do it." It is staffed by a chief executive, a sales director, a product development director, a press and publicity manager, a market research executive and a project coordinator. The team is, by necessity, flexible and interchangeable.

As a marketing body, the DRDB is the central industry communicator on DAB digital radio. It works directly with broadcasters, manufacturers and retailers to encourage more and different products, heightened consumer and high-street awareness, improved understanding of DAB technology and coordination of brand usage.

It is also in regular contact with Government, specifically the Department of Culture, Media and Sport, and Ofcom, the new regulator that has radio under its remit.

And, finally, as DAB digital radio moves towards that mass market goal, the DRDB must communicate the message to potential advertisers and media buyers, so that broadcasters can begin to earn revenue from their long-term commitment to DAB.

The DRDB shares information on DAB developments with other interested parties not only in the UK but worldwide, including Far East manufacturers and international DAB proponents. It works with a wide variety of DAB supporters on communication and research initiatives designed to assist the successful evolution of DAB digital radio.

Sales leap

There are several reasons why the past 12 months (January–December 2003) have seen the number of DAB

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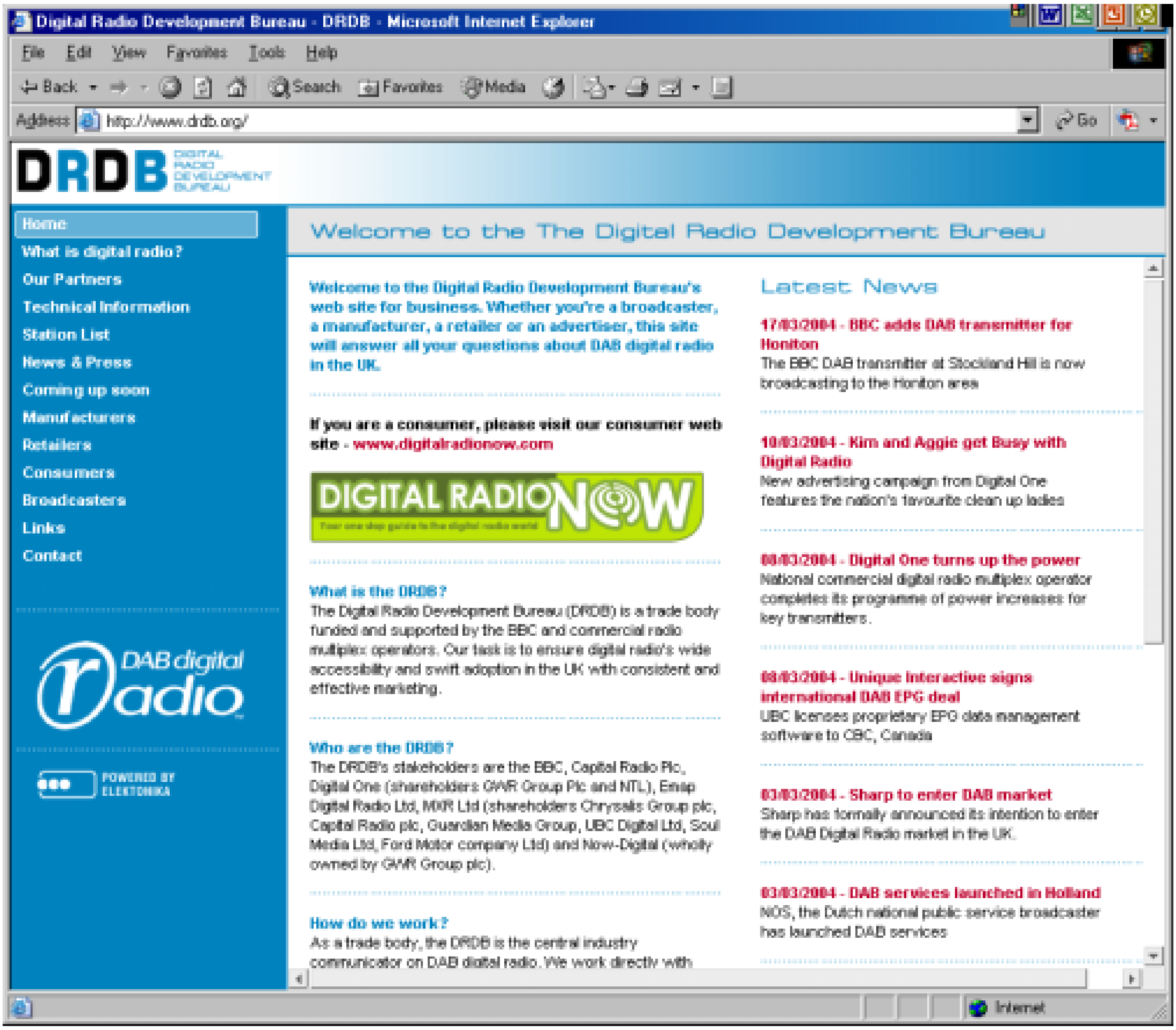
United-Kingdom



digital radios bought jump by 222%. Chief amongst these is a huge increase in the number of stations available with a DAB radio. Choice is proving to be the key driver to DAB for consumers.

- With a digital radio, listeners across the country can tune in to 19 national services (11 BBC and 8 commercial). Without a digital radio they can listen to eight.

- With a digital radio listeners in London can tune in to 52 services. Without a digital radio they can listen to 25.

- In most cities and towns, a DAB digital radio will double listening choice.

This increase in choice is the direct result of broadcasters' commitment to the diversity of DAB digital radio. The BBC launched five brand new national services and turned two existing services – BBC Asian Network and BBC World Service – into nationally available stations. It also simulcasts its existing national radio networks. Digital One, the national commercial multiplex operator, carries five unique national services and simulcasts the existing three national commercial stations.

Altogether there are 149 different radio brands broadcasting 362 services on DAB digital radio in the UK. This year, for the first time, there are more services that are only available with a DAB radio (and these include unique DAB stations, and stations which are DAB-only in a given area) than there are straightforward simulcasts of FM stations.

The fact that station choice is the number one reason for buying a DAB digital radio is supported by market research conducted by the DRDB. In a survey of more than 10,000 DAB owners, nearly 70% said they had bought their new radio specifically to receive new digital stations.

More receivers

Remember those 14 manufacturers making high-priced DAB receivers in 2001? At the end of 2003 those 14 had become 31. And the number of different radio models in the marketplace had jumped from 19 in 2001 to 61 in 2003, including:

- kitchen portable radios
- hand-held portable radios
- clock radios
- boombox radios
- micro systems
- hi-fi tuners
- in-car radios

In two years the market went from expensive hi-fi tuners and in-car radios to products in every audio form factor, at prices starting as low as £69.

The first price breakthrough came in mid-2002 when PURE Digital launched the first portable kitchen DAB radio, the EVOKE-1, at a magic price point of £99. This was enabled by a new generation of chip, developed by the former Imagination Technologies, and supported by broadcaster Digital One. It's another example of the DAB 'chain' working together to drive the market forward.

Suddenly consumers not only have a reason to buy – more station choice – they also have more radios to choose from, and at prices they can afford.

The final piece in the drive towards mass market is the retailer. In 2002 there were just 600 retail outlets stocking DAB digital radios, limited to independent hi-fi dealers and one national department store chain. Today, digital radios are available all through the high street, in supermarkets, and even non-traditional outlets such as Boots (primarily a health and beauty shop) and WH Smith (known for selling books, stationery and music), along with popular catalogues and websites.

In fact, the number of retailers selling DAB radios in the UK has grown by more than 400% since 2002 and now stands in excess of 4,000 outlets.

Pass the message

All of this good news did not come about merely by chance. It is the result of a strategic communication campaign put together by the DRDB with the support and backing of broadcasters. Perhaps the most significant element of the DRDB's plan has been to produce meaningful market data on, among other things, what consumers want and how much they are prepared to spend. Armed with such data, the DRDB has been able to demonstrate to manufacturers

in the UK, Europe and Japan that there is an untapped market for digital radio.

But hand-in-hand with the job of convincing manufacturers to make affordable radios in a variety of form factors, and retailers to stock the product, is to tell consumers just what DAB can do for them.

The DRDB has various tools to accomplish this job: an airtime bank has been established to allow the DRDB to run on-air promotional campaigns across hundreds of commercial radio stations, both national and local, on a regular basis. This airtime is worth millions of pounds each year, yet is given freely by radio broadcasting groups in whose interest it is that DAB succeeds. This is yet another example of the cooperation between broadcasters that has been at the heart of DAB growth in the UK.

At the same time, the BBC has committed millions of pounds worth of airtime, not only on radio, but also on its national TV networks and 48 sheet poster sites, to promote its five unique DAB digital radio stations. The BBC regularly cross-promotes its DAB stations across all its analogue radio stations.

Another tool used by the DRDB to communicate the DAB story to consumers is a successful website on which potential buyers can find details of all the radio stations available to them using a unique pan-industry post-code checker.

www.digitalradionow.com also features all the products currently available, allows a local search for retailers, and has an up-to-date news section so listeners can find out when new multiplexes launch, or new transmitters come on line.

The last 18 months have seen steady growth in press coverage of DAB digital radio, rising from 45 articles in May 2002, to a high of 302 articles in December 2003, with the majority appearing in the popular consumer press and magazines, instead of the trade and technical journals of a few years ago.

Using promotional airtime, the consumer press and a consumer facing website has increased awareness of DAB digital radio in the UK from 16% at the end of 2001 to 43% in January 2004. And 43% of the population equates to 25 million people.

Christmas 2003

The work of the DRDB and the radio industry over the past few years is now beginning to pay off. Having sold a total of just 135,000 DAB radios in the four years to December 2002, in 2003 consumers went out and bought more than 300,000 units, with 133,000 of them sold in December 2003 alone.

Cumulative penetration of DAB radios in the UK stood at 435,000 at the end of 2003. Encouragingly, 7% are repeat purchases, which indicates the replacement of the five or so analogue radios per household in the UK has already begun.

And with at least 50 new products expected in 2004, from big brand manufacturers such as Sony and Philips, the growth trend looks set to continue. The DRDB confidently expects to end 2004 with over 1 million DAB radios in circulation.