



**MuxCo Wales Limited**

**An application to Ofcom for the  
North Wales local DAB digital radio multiplex**

**Part A – Public Section**

**May 2008**



## Executive summary

Please provide a summary of your application, of no more than four pages in length.

### MuxCo Wales Ltd

1. MuxCo Wales Ltd was created to establish local DAB digital radio in an efficient and cost effective manner across Wales. It was awarded the multiplex to serve Mid & West Wales in March 2008, and seeks to operate the North Wales in a similar manner.
2. The shareholders behind MuxCo Wales are:
  - Town & Country Broadcasting Ltd ('T&C') 70%
  - MuxCo Ltd 30%
3. The company's ethos is to provide DAB in a cost and operationally efficient manner to enable as many organisations as possible to broadcast. Through its various applications, MuxCo has already demonstrated its commitment to offer a wide range of broadcast options to make DAB as economical as possible. We believe this will encourage more stations to join the platform and provide compelling propositions for digital radio listeners.
4. Analogue stations will be provided an opportunity to broadcast to help ensure a consistent DAB focused message is broadcast to existing radio listeners and will help create cross-promotional opportunities for radio's digital platform. The new multiplex also provides opportunities for established local services to increase revenue and to grow their businesses by broadcasting to a wider area.

### The multiplex

5. The multiplex has been advertised to cover the counties of Gwynedd, Anglesey/Sir Ynys Mon, Conwy and Denbighshire/Sir Ddinbych – an area of 311,000 adults.
6. MuxCo Wales will provide opportunities for existing analogue services to broadcast in stereo and for a range of new services that collectively will broaden listener choice, cater for local tastes and interests and expand the number of providers in the market.
  - Coast FM
  - Champion FM
  - BBC Radio Wales
  - BBC Radio Cymru
  - *Wales Live* - a station playing classic hits music and providing a high level of speech focusing on local news and information.
  - *UCB UK* – a Christian music and speech service
  - *Traffic Radio* - traffic and travel services
7. In addition, we will carry a local Podcast Service providing opportunities for niche services to cater for a diversity of passions, interests and communities. Downloadable podcasts will include news, local information, specialist music downloads, as well as locally produced content.

8. The additional and complementary services that DAB can offer, such as EPG, music downloads, traffic and travel services, DABverts and slideshow, are important components in the next stage of DAB's development, and capacity has therefore been allocated for the provision of these services, with all radio services able to utilise DLS and EPG from launch.

## **Meeting the Award Criteria**

### ***Our proposed coverage***

9. We propose to launch using 2 transmitters and to enhance coverage during the licence term by the introduction of additional transmitters. The launch transmitters will provide 'outdoor coverage' of 50% of adults, and 'indoor coverage' of 42%.

### ***Our timetable to achieve coverage and launch of services***

10. It is our intention is to launch within 2 years of award.

### ***Our ability to establish and maintain the service***

11. The shareholders behind MuxCo Wales have considerable analogue and digital radio experience. T&C operates a number of analogue services in Wales, and is an investor and service provider on a number of other MuxCo multiplexes. MuxCo has substantial digital radio experience and interests in a number of local multiplexes. Both shareholders are committed to digital radio and are well-resourced companies that can support the multiplex throughout the licence term.

### ***Catering for local tastes and interests and broadening choice***

12. We have undertaken local research to underpin our application. This has included population profiling and analysis of existing radio listening habits, as well as a comprehensive survey of local tastes and interests. Our research supports the simulcasting of local analogue services (helping promote digital radio and drive listeners from analogue to digital) and for the proposed new services.

### ***Demonstrating local demand and support***

13. RAJAR provides strong evidence of demand and interest in the simulcast services, whilst our specially commissioned consumer research supports our RAJAR analysis and enables us to measure local demand for our proposed digital only services.

### ***Being fair and effective***

14. We have established fair and transparent policies for negotiations with potential programme and additional service providers, and maintain full records of any contacts and discussions which take place, in whatever form, prior to, during and after the application process. We have engaged with potential service providers in an open and non-exclusive manner allowing operators to ensure a digital future, whoever is awarded the licence.



## Summary

15. We believe that MuxCo Wales will be the most credible operator for the multiplex.
- We will deliver robust local DAB coverage through a prudent roll-out.
  - Our understanding of the market coupled with our comprehensive and specially commissioned research will help ensure that the local multiplex will be able to relate to the needs of local citizens and consumers.
  - The shareholders have strong track records in operating local stations, and their management expertise will be invaluable to the multiplex, as well as assisting the development of new programming streams.
  - The multiplex is well resourced, in terms of both management and finance, and will be led by a management team with an unparalleled track record in applying for and successfully operating local multiplexes.
  - MuxCo Wales will deliver a cost effective local DAB solution, collectively benefiting all service providers and ensuring a long-term commitment to DAB digital radio.



## General information

### 1. Name of Applicant, Address, Telephone and Fax Nos., E-mail address

This must be a single legal entity: either a body corporate or a named individual person. If the former, a copy of the certificate of incorporation must be included with the application.

MuxCo Wales Ltd

Registered Number            05937209  
Address:                         Newby House, Neath Abbey Business Park, Neath SA10 7DR  
Telephone (daytime):         020 7739 7879  
E-mail address:                info@muxco.com

### 2. Main Contact (For Public Purposes)

Please nominate at least one individual to deal with any press or public enquiries, stating:

Name:                             Gregory Watson  
Telephone (daytime):         07917 413700  
Address:                         96a Curtain Road, London EC2A 3AA  
E-mail address:                gregory@muxco.com

### 3. Main Contact (For Ofcom Purposes)

Please nominate one individual to whom questions of clarification and/or amplification should be sent.

As above.

## Section 51(2)(a) and (b): Extent of proposed coverage area and timetable for coverage roll-out

### 4. Summary of coverage proposals

Provide a summary, fully consistent with the more detailed information about transmission sites supplied separately (see Q.6 below), of the coverage areas proposed to be achieved by the applicant's technical plan, and an estimate of the adult (aged 15+) population which will be served by this local radio multiplex service. For the avoidance of doubt, Ofcom's assessment of coverage, and the concomitant roll-out obligations applied in the licence, will be based solely on the transmission data supplied in response to Q.6 of the application.

16. The transmission proposal is designed in conjunction with NGW to provide optimum population coverage across the licensed area, taking into account urban areas and the main road networks. The plan also takes into account the footprints of the existing analogue services. Careful consideration has also been given to the design requirement to maximise received field strength within the licensed area.
17. In planning the proposed network, NGW has assumed the following service levels:
  - 58dBuV/m outdoor mobile.
  - 65dBuV/m indoor portable.
  - 76dBuV/m indoor handheld.
  - Where Interference Limited coverage is stated, this has been calculated using the interfering transmitter data and ERPs as stated in the Ofcom advertisement for the multiplex.
18. Ofcom has advertised the licence with an identified population coverage of 311,146. NGW calculates a potential adult (aged 15+) population of 340,982 within the TSA, on which percentage coverage's are based.
19. At launch, our proposals will provide outdoor coverage to 170,232 adults 15+ (equating to 50% of the licensed area) and indoor coverage to 140,630 adults (42%). To deliver this noise limited coverage, we propose to use two transmitters:

#### **Moel-y-parc**

A medium power transmitter using a directional antenna to provide:

- Robust indoor coverage to most of Rhyl, Denbigh and Ruthin.
- Outdoor mobile coverage to most of the transport corridors including the A55, and A494.
- Mobile devices coverage in a large proportion of key settlements.

#### **Great Ormes Head**

A medium power transmitter utilising a directional antenna to provide:

- Robust indoor coverage to the Llandudno, Colwyn Bay and Conwy.
- Outdoor mobile coverage to fill a large unserved section of the A55 and sections of the A470 towards the Betws-y-coed.
- Mobile devices coverage in a large proportion of key settlements.

20. It is our intention to launch an additional transmitter at Arfon during the licence period, which would increase outdoor coverage to 76%:

**Arfon**

A medium power transmitter using the existing National DAB antenna providing:

- Robust indoor coverage to most of Anglesea, the Llyn Peninsular, Caernarfon Bay and Tremadoc Bay.
  - Outdoor mobile coverage to most of the transport corridors including the A5, A55 and A487.
  - Mobile devices coverage in a large proportion of key settlements.
21. Other candidate sites for additional development include Betws-y-coed, Ffestiniog, Dolgellau, Bala and Holyhead. We do not have any firm plans to implement any further transmitters. However, we will review the opportunities to launch additional transmitters to enhance and expand coverage in an efficient and commercially prudent manner.
22. Coverage predictions, with percentages based on NGW population estimates, are:

Initial Transmitters	Outdoor Coverage (58 dB)		Indoor Coverage (65 dB)	
	Adults '000	% Covered	Adults '000	% Covered
Noise Limited	170,232	49.9%	143,630	42.1%
Interference Limited	121,959	35.8%	113,546	33.3%

Initial plus Arfon	Outdoor Coverage (58 dB)		Indoor Coverage (65 dB)	
	Adults '000	% Covered	Adults '000	% Covered
Noise Limited	259,147	76.0%	220,740	64.7%
Interference Limited	208,446	61.1%	189,338	55.5%

**Standalone Coverage**

23. The following table shows the coverage (Interference Limited) of each individual site, demonstrating the considerable overlap between transmitters which will ensure a reliable signal to a significant proportion of the licensed area, even should any one be on reduced power or have failed.

Transmitter Site	Standalone Coverage: Outdoor		Standalone Coverage: Indoor	
	Adults '000	Percentage Licence Area	Adults '000	Percentage Licence Area
Moel-y-parc	61,661	18.1%	58,987	17.3%
Great Ormes Head	61,345	18.0%	54,967	16.1%

**Cumulative Coverage**

24. The table below shows how coverage (Interference Limited) is achieved up through the use of a network of transmitters.

Transmitter Site	Cumulative Coverage: Outdoor		Cumulative Coverage: Indoor	
	Adults '000	Percentage Licence Area	Adults '000	Percentage Licence Area
Moel-y-parc	61,661	18.1%	58,987	17.3%
Great Ormes Head	121,959	35.8%	113,546	33.3%

**Network Resilience**

25. The following table shows the impact (Interference Limited) from the loss of one transmitter at a time, demonstrating its contribution to the overall network.

Transmitter Site	Cumulative Population Loss: Outdoor	Percentage Lost	Cumulative Population Loss: Indoor	Percentage Loss
Loss of Moel-y-parc	60,614	17.8%	58,579	17.2%
Loss of Great Ormes Head	60,298	17.7%	54,559	16.0%

**5. Timetable for coverage roll-out**

Outline the timetable in accordance with which the coverage proposed at Q.4 would be achieved, and the technical means by which it would be achieved. This should also be fully consistent with the more detailed information provided confidentially in response to Q.6.

26. We propose to launch within 2 years of award of the licence (i.e at the latest in summer 2010). This will ensure that we miss DSO air-works planned for Moel-y-parc and Arfon during 2008/9. Nearer the time, when the impact of DSO in terms of power reductions and certainty of dates is clearer, we would discuss with Ofcom the optimum time to bring the licence on air.

**Antenna Systems and Combiner**

27. Arqiva will be the owner of the required antenna system on their Moel-y-parc site and NGW will be the owner of the antenna system at Great Ormes Head. Discussions on all the antenna systems have taken place between NGW and Arqiva Network Access, and we are advised that no obstacles are expected to meeting the timetable for launch other than the impact of DSO discussed above.

**Transmitter systems**

28. NGW propose to use transmitters from Rohde & Schwarz (R&S) with whom they have a Frame Agreement. R&S has confirmed their ability to provide the necessary transmitter systems and installation services within the required timescales.

**Distribution**

29. The distribution between the multiplex centre and the transmitters will be contained on NGW SHF link circuits. NGW confirms that it is able to install the new SHF link infrastructure within the timescale of the transmission roll-out.

**Accommodation and Power Requirements**

30. NGW Network Access have confirmed that it can provide suitable accommodation and power supply at its site and has negotiated new accommodation and power supply agreements with Arqiva Network Access re Moel-y-parc.

## 6. Detailed coverage proposals

Provide, in an electronic text file, details of the technical plan, which should consist of the following components: assignment details, implementation table, and implementation data.

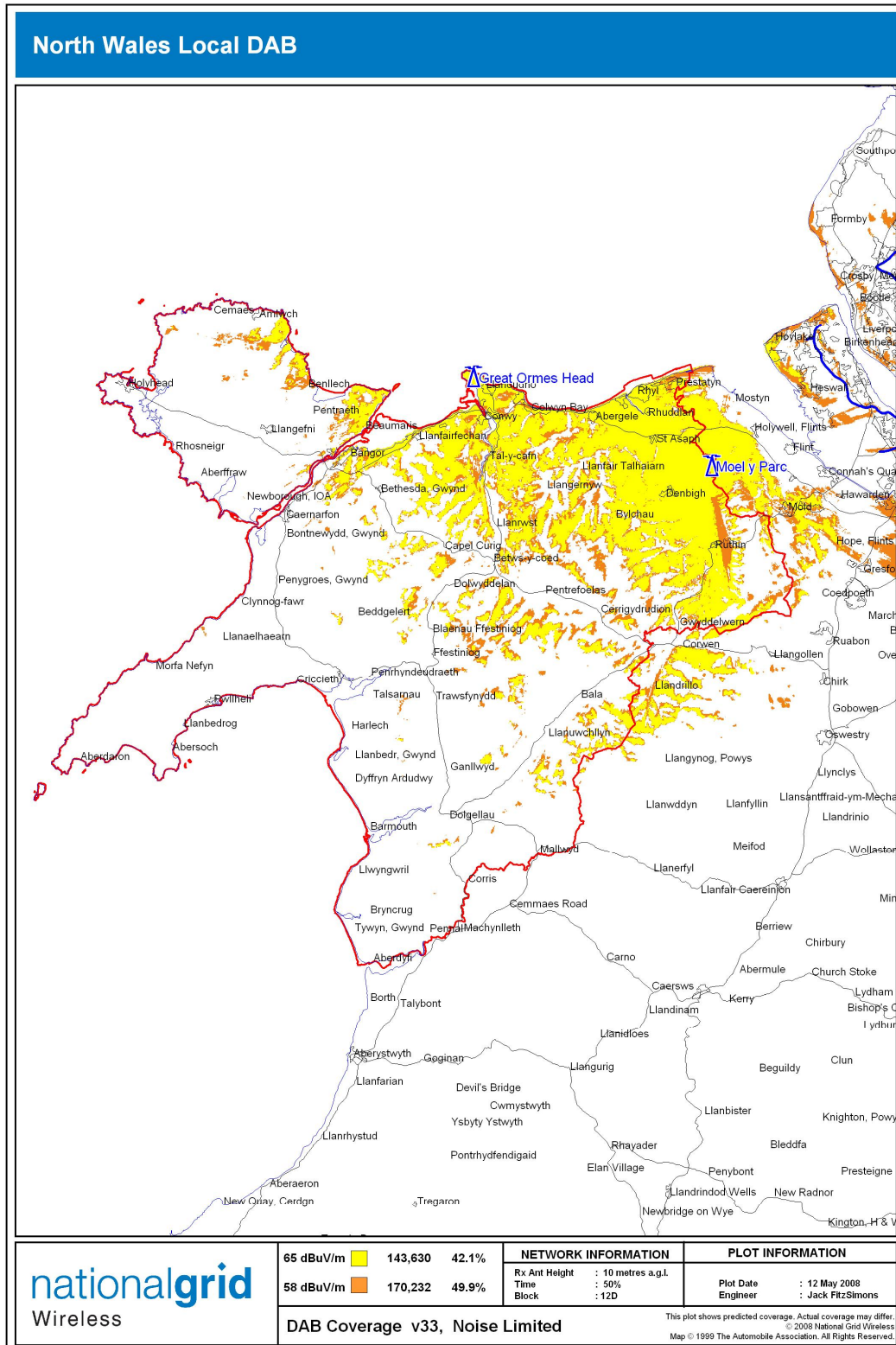
a) The first part of the technical plan is an electronic file of assignment details. This gives the relevant technical detail of each transmitting station which the applicant is undertaking to provide as part of its network. It will be used to enable Ofcom to estimate the coverage which will be achieved by the applicant, on a basis consistent with other applicants. It will also enable confirmation of the plan's compliance with Ofcom's various technical requirements. If more than one Technical Plan is proposed, a separate file should be submitted for each one. Each file of assignment details must be submitted in the data format specified at <http://www.ofcom.org.uk/radio/ifi/rbl/dcr/>. All files must be supplied in flat text format. This is the data format in which all transmitter co-ordination requests to Ofcom have been supplied to date, and is based upon ASCII97 defined by the European Radiocommunications Office – the Wiesbaden 1995 Plan management body.

31. The assignment details accompanying this application are provided under separate cover as an electronic text file.

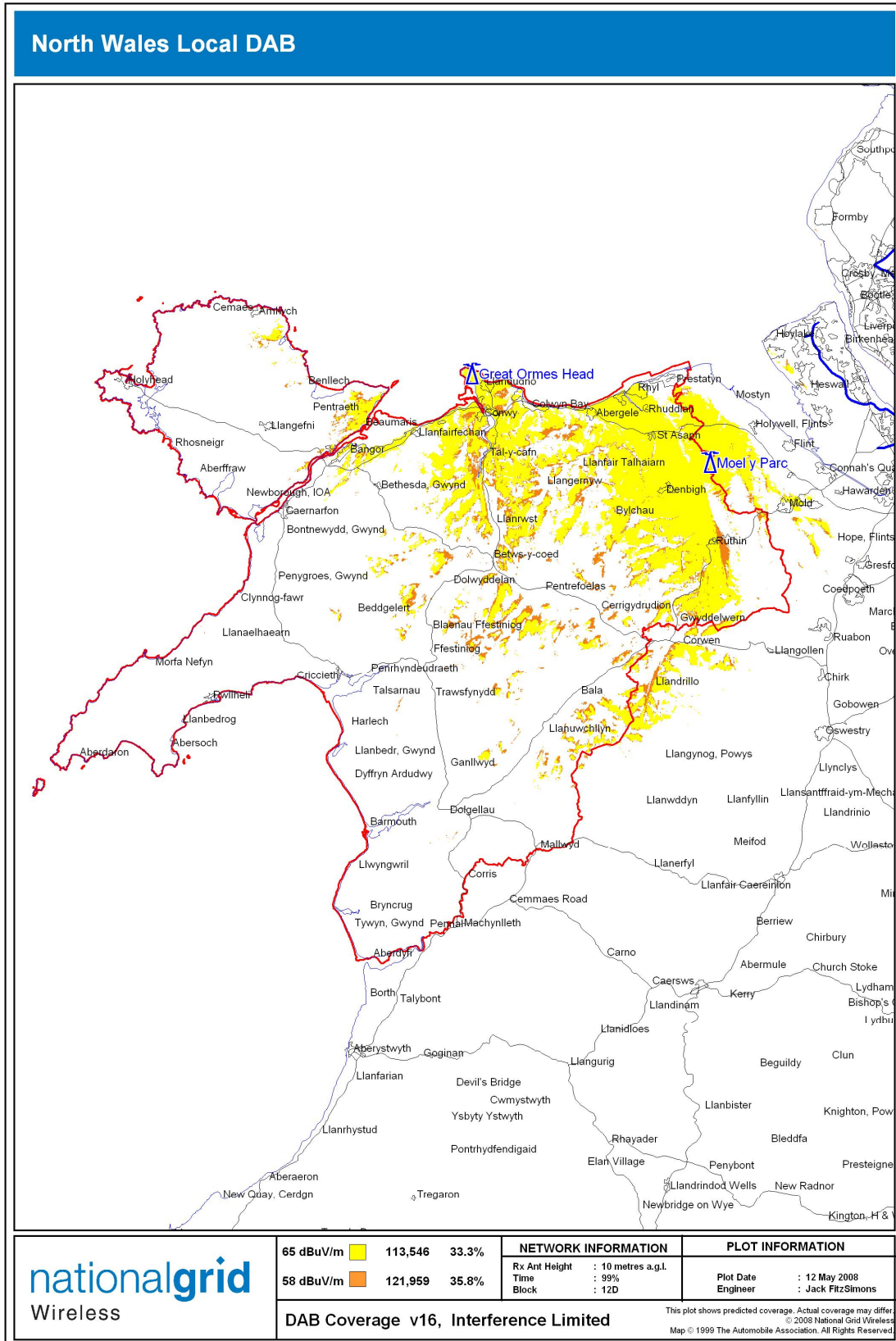
b) A separate table, the implementation table, should also be provided for the technical plan. This should list, for each proposed transmitter, the date of implementation promised with the parameters promised in the transmission plan, the owner/lessor of aperture space on the mast/tower, and any relevant accompanying notes. If it is proposed to introduce a transmitter with different parameters (typically lesser power or height) for an interim period, then on both lists there should be one entry for the initial assignment, and a second entry for the one which replaces it, with a note stating which transmission assignment is replaced.

Site Name	NGR	Date of Implementation	Owner/lessor of aperture space on mast/tower	Antenna height (metres)	Notes
Moel-y-parc	SH 47600 49350	2 years after award	Arqiva	80 m	Arqiva Network Access has offered to install new Cardioid antennas at this site.
Great Ormes Head	SH 76683 83369	2 years after award	NGW	30 m	NGW Network Access has offered to install 2 tiers of new 3 element yagi antennas at this site.

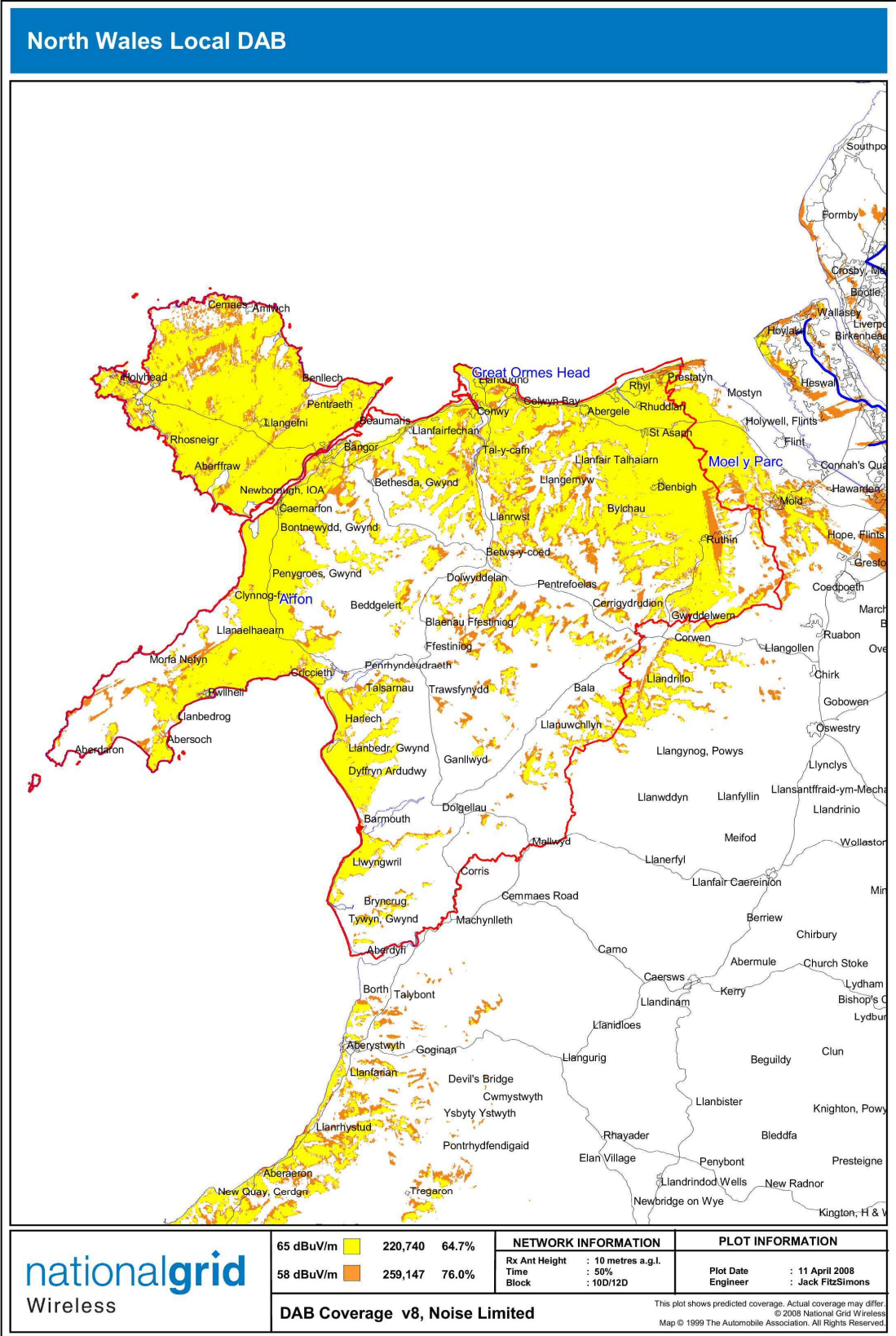
32. The following map details noise limited coverage at launch.



33. The following map details interference limited coverage at launch.



34. The following map details noise limited coverage with the addition of Arfon.



- c) Each transmission assignment should also be represented by site implementation data, specific to each transmission site (only one set of data for each site should be submitted). This detail is intended to elicit the practicability of the technical plan. For each site name (corresponding to assignment details and implementation table):
- i) If existing aerials are to be used, this needs to be stated and an explicit reference made. If not, then applicants should provide a sketch diagram (or set of diagrams), approximately to scale, of the portion of the supporting structure on which the radiating aerials are to be mounted. Show the radiating aerials, and the aerials of other services mounted immediately above, below, and at the same level as, the radiating aerials of the applicant's service.
  - ii) Provide details of the building at the site in which the transmission equipment is to be housed.
  - iii) Provide confirmation from each of the relevant parties that they have seen and agreed the applicant's proposals (to the extent that this includes new works) in respect of:
    - aerial mounting on the supporting structure, as proposed in the sketch
    - diagram;
    - running of feeder cable from transmission system to aerial(s);
    - sharing of aerials and insertion/use of combiners, where relevant;
    - siting of transmission equipment;
    - supply of power;
    - building works (if any).
- The relevant party in each case, namely whoever controls the infrastructure (mast, cableways, building, power), should be named explicitly.
- iv) State whether and if so how the transmission arrangements are expected to change due to the TV digital switchover programme.

Note: submission of this information does not imply that Ofcom will validate the design of the aerial system. The licensee will be required to adhere as far as is reasonably practicable to the antenna pattern proposed in the assignment details, and in all cases to limit the maximum radiated power in any given direction as may be required by Ofcom.

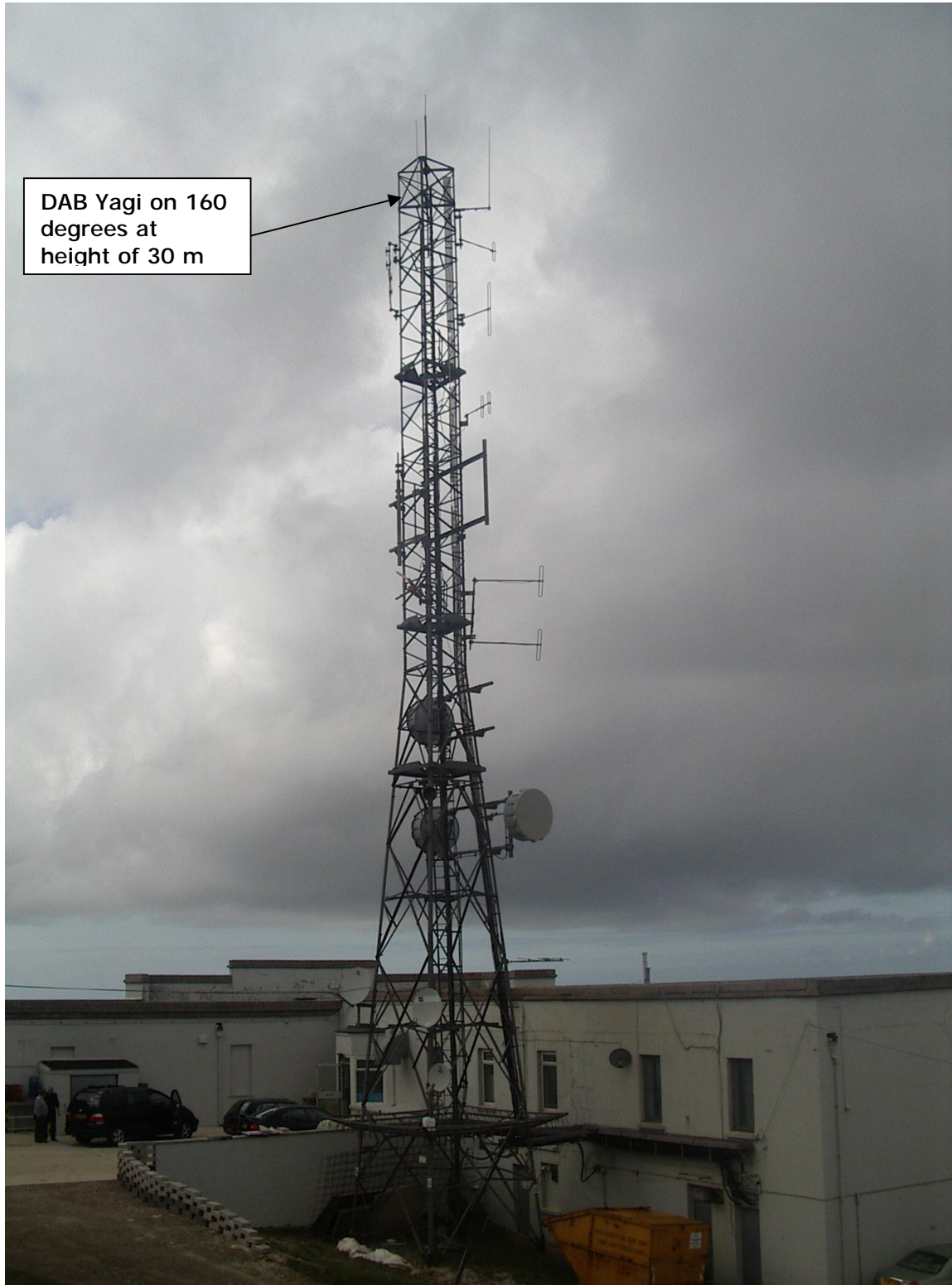
i) Diagrams

35. Drawings of each of the new proposed antenna at the transmitter sites are shown below in this document. All existing antennas are not shown as details are already known.

Moel-y-parc



**Great Ormes Head**



**ii, iii & iv) Transmitter Accommodation Antenna Systems, Power, and Building Works**

36. The Network Access supplier has confirmed that the designs of the existing and new antennas and feeder systems are suitable for use at the powers indicated in the Assignment Details, and that the sites can be made available for the proposed transmitter systems. Electrical power is available. Minor building works are required in a small number of cases and the Network Access supplier has confirmed that it will undertake these.

Site Name	Antenna System	Antenna Height (m)	Antenna Owner Permission	Accommodation Permission	Power Supply	Impacted By DSO
Moel-y-parc	New 2 tiers of Cardioid Antennas	80m	Arqiva Network Access.	Arqiva Network Access are providing new accommodation in the existing NGW Area.	To be provided by Arqiva Network Access	See Note 1
Great Ormes Head	New 2 tier Yagi Antenna	30m	NGW Network Access.	NGW Network Access is providing accommodation in the existing NGW managed Area.	To be provided by NGW Network Access	No UHF TV on site

**Note 1**

The DSO (Digital Switch Over) program for Moel-y-parc is still being agreed. However the impact is expected to be:

**2008 works**

- There will be mast strengthening work during 2008. This is not expected to majorly impact the new DAB multiplex

**2009 works**

- To facilitate the DSO UHF antenna works, a small number of short periods of quarter power working are expected.

d) Provide the following details regarding transmission arrangements:

i) Any transmission contracts that have been agreed

37. In the event of winning the licence, NGW will undertake the provisions for transmission and multiplexing.

ii) The status of these agreements

38. Initial agreements exist with NGW to put the proposed contracts in place.

## 7. Other technical proposals

- a) Supply a network diagram, with associated tables and labels as necessary, showing in terms of functionality and (in principle) location: the source of each proposed digital sound programme service, digital additional service or television licensable content service, the point(s) of multiplexing, the point(s) of control of the elements of the multiplex (both FIC and MSC) and the distribution circuits to the transmitters. State the nature of the bearer circuit in each case, and its possible provider.
- b) For each of the data services proposed in Q.11(d) and Q.12, show: the transport mechanism within the multiplex on which it would be carried; whether stream or packet mode; the average net data rate (including any protection or encryption bits additional to those provided for in the ETS 300 401 specification); the range of data rates which might apply in any one transmission frame in support of the service, both net and (specifically attributable to the service concerned) gross; the protection mechanisms applying to their effective transmission (with reference to the options available in the ETS 300 401 specification, quantified where the specification provides for different numerical values to afford protection); whether it should be regarded as an additional service, a television licensable content service or an ancillary service; whether encrypted or not, and the encryption system envisaged; the use to which the data service would be put, including a justification for the multiplex capacity required. Outline how compliance will be achieved with the requirement that no more than the statutory proportion of the total multiplex capacity will be devoted to non-programme related data services; the figure excludes Synchronisation, MCI and SI). See also Q.20, about audio services.
- c) With reference to the response to Q.20, supply a diagram showing the relationship between the following elements of the multiplex: services; service components; transport elements (MSC sub-channels: dedicated, and X-PAD; FIDC).
- d) List any of the services in the multiplex which it is proposed be susceptible to interruption by announcements common to more than one service. If announcements are to be made on a geographically-selective basis, describe how this is to be achieved within the provisions of the ETS 300 401 specification.
- e) Describe how it is anticipated that the features of the ETS 300 401 will be used, if at all, in consideration of continuity of a programme service, or the offering of an alternative service, to listeners who lose reception of the multiplex signal, particularly in vehicles.

*The response to this question should be submitted in confidence.*

39. Our response to this question is submitted in confidence in Part B.

## **Section 51(2)(b): Timetable for commencement of services**

### **8. Commencement of services**

If it is envisaged that any of the digital sound programme services or their related ancillary services will not begin broadcasting from the start of the radio multiplex licence period, provide details of which service(s) will not commence from the launch of the radio multiplex service, the reason(s) for this, and an indication of the expected timescale for the commencement of the service(s).

40. It is envisaged that all services will broadcast from the start of the multiplex licence period.

## **Section 51(2)(c): Ability to establish and maintain proposed service**

### **9. Ownership and control of company which will operate the licence**

#### **(a) Board of Directors**

- i) Provide the name, occupation, other directorships, other media interests, background and relevant media experience of each director (executive and non executive), including the proposed chairperson.
41. Please see the following pages. It is proposed that the chair will rotate between the directors.
- ii) If there are firm plans to appoint any further directors, provide information (with details of any specific individuals in mind). This information may be submitted in confidence.
42. See confidential answer to this question.



## Jason Bryant

Occupation:  
Chief Executive, Town and Country Broadcasting

Other directorships:  
Haven FM (Pembrokeshire) Ltd, Dee 106.3 Ltd, Champion FM Ltd, Town and Country Broadcasting Ltd, JB Consolidated Ltd, Bridge FM Radio Ltd, Swansea Bay Radio Ltd, Radio Hampshire Ltd, MuxCo Northeast Wales & West Cheshire Ltd, MuxCo Hereford & Worcester Ltd, MuxCo Gloucestershire Ltd

Other Media Interests:  
None

Jason is a well-known and highly regarded radio entrepreneur with a rare mix of expertise across analogue and digital radio. He has a successful track record in launching and developing innovative and successful local commercial radio services, and has built Town and Country Broadcasting into the leading Welsh-based media company, which is profitable and with an annual turnover of over £3m.

Jason started his career at BBC Radio Solent where he worked across news and programmes, before moving to London's LBC as a producer and editor on a number of high-profile shows. He moved to television as a producer, working with Sir David Frost and GMTV, before returning to radio as a producer and editor at London's BBC GLR. In 1994, Jason moved to Scotland as the launch Programme Director for Scot FM, before heading back South to join Talk Radio, where he became Programme Director. He left the station in 1997 to work as a consultant with the management team at BBC Radio 5 Live.

Following Kelvin MacKenzie's acquisition of Talk Radio in 1998, Jason returned as Development Director, and subsequently Managing Director to re-launch the service as talkSPORT. He was subsequently appointed Managing Director of Development at talkSPORT's parent company, TWG plc, where he oversaw a rapid growth in the company's activities, including several successful DAB multiplex licence applications in London and Scotland. Jason joined SMG plc in February 2003 to lead its radio development projects and develop its DAB digital radio brands.

In 2000 Jason assembled the successful application team for the Pembrokeshire local radio licence and three years later repeated the success in Carmarthenshire. Notably Radio Pembrokeshire has the highest audience reach of any station in the UK, and Radio Carmarthenshire has recently been confirmed as the number one station in its area. Radio Pembrokeshire won the prestigious Arqiva/CRCA Station of The Year award in 2005 and 2006, and has also won a Silver Sony Radio Award for 'Station of The Year'. In November 2006, Town and Country launched Swansea Bay Radio and in the same year acquired 106.3 Bridge FM (giving the group continuous coverage from the Pembrokeshire coast to Cardiff). Under T&C's ownership, Bridge FM has moved to become the market leading station in its area. In July 2007 T&C expanded again when it acquired the Southampton FM licence which was subsequently re-launched as 107.8 Radio Hampshire (and is T&C's first DAB service, broadcasting on the South Hampshire multiplex).



## **Mike Franklin**

Occupation:  
Finance Director, Town and Country Broadcasting Ltd

Other directorships:  
The UK Radio Business Ltd, Town and Country Broadcasting Ltd, Radio Hampshire Ltd

Other Media Interests:  
None

Mike has extensive business and operational knowledge of the UK radio market and joined Town and Country Broadcasting in 2006 as Finance Director to guide it through its re-structuring and subsequent growth. His expertise encompasses national and local analogue stations and also multiplex management, having launched several multiplexes already.

Mike qualified as a chartered accountant in 1984 with Arthur Andersen. A year later he took up an appointment with Gresham House plc, a UK venture capital provider, where he worked as financial controller and company secretary at their main investment, Greenwich Communications plc. The business was focused on developing a cable television network, domestic satellite equipment supply and event promotion.

In 1989 Mike was appointed Finance Director and Company Secretary of Southern Radio plc a group operating independent radio stations in Hampshire and Sussex. Mike was a member of a four-man management team that successfully restructured and expanded the group; this included the reverse take-over of Invicta Radio, the neighbouring station for Kent.

In 1993 Mike was appointed Finance Director and subsequently Managing Director of London's LBC Radio. At the time the station had been acquired by The Chelverton Group. LBC was then purchased by Reuters in July 1994, with Mike remaining with the Chelverton Group and becoming involved in its property development business, including a new office development in Poland.

In 2000 Mike was appointed Operations Director and subsequently Managing Director of talkSPORT, the national commercial sports commercial radio station. He was also involved in launching and running a number of DAB digital radio multiplexes in London, Wales and Scotland.

When talkSPORT was acquired in June 2005 by UTV plc Mike became a business consultant, working with clients including Highbury House plc, Radioworks, high-profile community radio licensee Resonance Radio and DAB and online media company, Colourful Radio.



## **Gregory Watson**

Occupation:  
Managing Director, MuxCo Ltd

Other directorships:  
Reception Media Ltd, Folder Media Ltd, MuxCo Ltd, MuxCo Northeast Wales & West Cheshire Ltd, MuxCo Hereford & Worcester Ltd, MuxCo North Yorkshire Ltd, MuxCo Gloucestershire Ltd, MuxCo Lincolnshire Ltd, MuxCo Surrey & Sussex Ltd, MuxCo Somerset Ltd, Radio Academy, Radio Academy Trading Ltd, Children's Radio UK Ltd, Children's Radio UK (London) Ltd

Other Media Interests:  
None

Gregory graduated from the University of Exeter in 1986 with a degree in Accountancy studies, and commenced his career with KPMG Peat Marwick as a trainee accountant, where he qualified as a Chartered Accountant in 1990.

In 1991, he moved to the Radio Authority as Deputy Head of Finance. In this role his responsibilities were split between the management of the day-to-day financial operations of the Authority, the licensing and regulation of commercial radio and analysis of the radio and related media industries.

In 1998, Gregory joined GWR Group plc as Head of Special Projects, with responsibility for looking at all new analogue and digital opportunities. In this capacity, Gregory was involved in the submission by Digital One for the application to run the national digital radio multiplex, and played a significant role in the pre-operational period of that multiplex prior to its launch in November 1999. Gregory also oversaw the development of GWR's local multiplex network, NOWdigital, and of the consortia multiplex businesses of DRG London, South West Digital Radio and NOWdigital East Midlands.

In 2001, Gregory was promoted to Group Corporate Development Director; a role under which he oversaw GWR's strategic development in new media alongside the development of local and regional analogue and digital radio licences. Gregory played a central role in the merger of Capital Radio plc and GWR Group plc which led to the formation of GCap Media plc in May 2005.

Gregory has always been passionate about commercial radio broadening its horizons and developing new commercial opportunities. In 2005, Gregory orchestrated the establishment of Children's Radio UK Ltd as a joint venture between GWR Group, HIT Entertainment and Susan Stranks. The company launched FUN radio as the UK's first (and still only) radio station dedicated for pre and primary school children and their parents and carers.

In 2007, recognising that a significant proportion of the radio industry was being left behind by digital advancements, not because they were unable to take an active role but often were not encouraged to do so, Gregory left GCap Media to provide digital media advice to a number of independent radio and media companies, and to create MuxCo.

Gregory is a Trustee of the Radio Academy, and is Chairman of Radio Academy Trading Ltd. Gregory takes an active role in the development of the radio sector, and in the past has sat on the RadioCentre's Public Affairs Sub-Committee and ad-hoc committees. In 2007 Gregory was appointed a Public Member of Network Rail.

**(b) Proposed Investors and Shareholding Structure**

Full details of the proposed shareholding structure should be provided, including:

iii) Names and addresses of all existing or proposed shareholders.

Shareholder	Shares	% Shareholding	% Loan stock
Town & Country Broadcasting Ltd Newby House Neath Abbey Business Park Neath SA10 7DR	28,000	70%	70%
MuxCo Ltd 96a Curtain Road London EC2A 3AA	12,000	30%	30%

iv) Total number, class/classes of shares and issue price of shares (specify voting, non-voting, preference, other etc.).

43. 40,000 £1 ordinary shares issued at par.

v) All voting shareholders and holders of 5% or more of non-voting shares and loan stock should be named. State the number, class/classes and price of shares to be issued to each investor.

44. See above.

vi) Outline any shareholders agreements or arrangements which exist.

45. A shareholders agreement will be entered into after the award of the licence. The shareholders have agreed terms which cover key issues of governance relating to the company including shareholdings, board composition, funding, pre-emption and confidentiality.

vii) Where a corporate body other than a current Ofcom licensee will be providing 30% or more of the required funding, details should be given of its directors and main shareholders, and of its activities.

46. Not applicable.

viii) Ofcom may request additional information regarding the shareholders, or any other providers of finance, listed in the application.

47. We would be happy to provide any information as requested by Ofcom.



### **(c) Involvement of the Applicant in Specified Activities**

Details are required of the involvement by the applicant and its participants (including shareholders or other subscribers of more than 5% of the applicant's total funding requirements) in any of the activities listed below, and the extent of the interest. For these purposes, the applicant includes associates of the applicant (i.e. directors and their associates and other group companies).

i) Advertising agencies  
None

ii) Newspapers  
None

iii) Other broadcasting interests

#### **Town and Country Broadcasting Ltd**

T&C has interests in the following companies:

- Swansea Bay Radio Ltd (100%)
- Haven FM (Pembrokeshire) Ltd (100%)
- Radio Carmarthenshire Ltd (100%)
- Bridge FM Radio Ltd (100%)
- Dee 106.3 Ltd (27.17%)
- Radio Hampshire Ltd (75.5%)
- MuxCo Northeast Wales and West Cheshire Ltd (25%)
- MuxCo Hereford & Worcester Ltd (33.3%)
- MuxCo Gloucestershire Ltd (25%)
- MuxCo Wales Ltd (70%)

#### **MuxCo Ltd**

MuxCo has interests in the following multiplex companies:

- MuxCo Hereford & Worcester Ltd (33.3%)
- MuxCo North Yorkshire Ltd (40%)
- MuxCo Lincolnshire Ltd (49%)
- MuxCo Surrey & Sussex (50%)
- MuxCo Northeast Wales and West Cheshire Ltd (25%)
- MuxCo Gloucestershire Ltd (25%)
- MuxCo Wales (30%)
- MuxCo Somerset Ltd (33%)

iv) Bodies whose objects are wholly or mainly of a religious nature  
None

v) Bodies whose objects are wholly or mainly of a political nature  
None

vi) Local authorities  
None

vii) Other publicly-funded bodies  
None

## 10. Financial and business plan

### (a) Overall Financial Strategy

Explain how the applicant considers it is able to establish and maintain, throughout the licence period, its proposed service. This explanation should include an assessment of each of the following, but is not restricted to these factors:

- i) The network construction phase
- ii) The operational start-up phase
- iii) Marketing
- iv) Ongoing operation of the service

### The Strategy behind MuxCo Wales

48. The strategy is:

- To establish an efficient and progressive business that reduces the financial burden on service providers to broadcast on DAB
- To provide opportunities for existing analogue services to simulcast on DAB
- To create an environment that encourages businesses, both new and existing, local and national, to provide services that broaden choice and provide new commercial opportunities
- To re-emphasise local radio as an important part of radio's digital future
- To be part of the MuxCo Network and share best practice and future opportunities
- To provide a return on investment to shareholders

### The Shareholders and their Digital Strategies

49. **Town and Country Broadcasting Ltd ('T&C')** has an excellent track record establishing and maintaining local radio licences and is committed to bringing its creative, critical and commercial successes to digital radio. T&C aims to become the leading media group based in Wales. It has a strong commitment to local radio and whilst recognising the current difficulties that many local radio services face, has the confidence in the continuing value of localness.



50. Jason Bryant also has a strong track record in digital radio, having helped create the local digital radio businesses for The Wireless Group and developing SMG's digital brands. Jason recognises the importance of DAB for all stations, and the opportunities it can provide for companies such as T&C. In relation to digital, T&C's objective is to apply alongside MuxCo and partners for the new local multiplexes being advertised in and contiguous to Wales, and to develop a new local speech rich service that is distinctive and viable. T&C is a shareholder in three new MuxCo multiplexes, including Wrexham & Cheshire on which it will also broadcast Wales Live. The other multiplexes will carry a similar speech rich service. T&C is developing sales opportunities for new digital-only stations to be sold as a package to local and regional advertisers. Outside radio, T&C's strategy is to develop local media businesses that complement their traditional broadcast operations, including online local information sites and magazines. Through its participation in DAB ownership and its strong existing production resources, T&C is able to be more confident about the investment in digital service provision.



51. **MuxCo Ltd** was established to provide viable digital radio solutions to local radio companies and other parties interested in developing on DAB. The MuxCo management team has extensive experience as a multiplex operator at local, regional and national level. The team established and operated the NOWdigital network for GCap Media, and has managed local multiplexes owned by consortia in which GCap Media was a partner (CE Digital, DRG London, South West Digital Radio and Now Digital East Midlands). The Folder Media management team are currently managing UTV's multiplex network and building the new MuxCo network. MuxCo's strategy is to build a network of local multiplexes, working with local partners in each area, to ensure opportunities exist for all analogue operators to broadcast on DAB. Working with local partners helps encourage and make them more confident to take a more active role in digital radio, as part of the multiplex as well as being a service provider. Under this model, partners receive financial benefits of ownership which helps reduce their net cost of investment in DAB. MuxCo believes that there is a strong business model to be developed for local multiplexes - one that provides a range of interesting services demanded by local residents.



### **The Business Plan and its Objectives**

52. Our key objectives are:
- To operate a multiplex that offers a wide choice of live and on-demand programme services which address local tastes and interests, broaden choice and increase plurality
  - To promote and maximise take-up of digital radio receivers, by working with analogue and digital service providers and through membership of industry bodies, such as the DRDB
  - To operate in a manner ensuring fair and effective competition
  - To operate a sound financial business, with confirmed service providers helping to demonstrate viability
  - To ensure that digital radio is successfully established.
53. The shareholders believe that MuxCo Wales is well resourced technically as well as financially to support the needs of the service providers.
54. The Board, which meets quarterly, has the following responsibilities:
- The company's business strategy
  - Monitoring and reviewing trading performance
  - Appointing and contracting with service providers
  - Developing multiplex bandwidth policies
  - Developing pricing structures
  - Appointment and supervision of the Multiplex Manager
  - Regulatory compliance
55. Folder Media will provide multiplex management services. Folder Media has unparalleled experience in the day-to-day management of successful local multiplexes. It is currently managing UTV's local multiplex network, as well as the launch of other MuxCo multiplexes. It will ensure that changes and any requirements from the service providers can be enacted in a timely and cost-effective manner, and will ensure that the multiplex is responsive to the changing radio marketplace.

**(i) The network construction phase**

56. The network construction phase includes three stages – planning, building and testing. MuxCo Wales will contract with NGW to provide a transmission solution, and on the basis of this commitment, NGW will fund the capital expenditure and installation of the infrastructure.
57. **Planning** – the design of our transmission plan has taken into account the requirements of service providers, including the BBC, to ensure that key population centres and major roads are well covered, and local geographical issues are taken into account. A number of iterations have been produced before settling on a commercially prudent plan that maximises coverage and meets our planning criteria. NGW has provided strategic support during this stage and will liaise with Ofcom for transmission matters on behalf of MuxCo Wales.
58. **Building and Testing** – Following award, we will work with NGW to finalise our plan and prepare milestones to the launch of the multiplex. This will include international clearance, the build timetable and service provider installation. As an established and respected transmission service provider, NGW has considerable existing resource and the infrastructure to build the proposed transmission network.

**(ii) The operational start-up phase**

59. The operational start-up phase includes contracting with service providers, monitoring the installation of multiplex equipment at service providers' studios (for both audio and data services) and ensuring that the necessary testing is undertaken prior to launch; liaising with Ofcom over the build process; ensuring regulatory issues are followed, including the issuing of DSPS licences; and liaising with the DRDB and service providers on marketing activity, including ensuring the postcode checker is up to date with the new coverage and service information.

**(iii) Ongoing operation of the service**

60. As multiplex manager, Folder Media will be responsible to the MuxCo Wales board for the launch of the multiplex and its subsequent day to day operation; in particular:
- Overseeing bit rate variations, enhancements or projects required by service providers, such as EPG provision, temporary services and data developments.
  - Working with service providers and the transmission subcontractor to maximise multiplex functionality and efficiency.
  - Monitoring and fault reporting, ensuring that the output of all service providers is correctly logged and compliant with legislation and codes
  - Helping to develop new revenue streams.
61. NGW has considerable resource and infrastructure to support the multiplex and as such will provide 24 hour monitoring of the network. By using a secure remote control system, NGW will control multiplex re-configurations, something MuxCo Wales will have remote access to should the need arise to take direct control. Multiplex reconfiguration will be undertaken in line with our policies and contractual agreements with service providers.

62. Folder Media will provide ongoing management cover for the multiplex, including purchase and sales ledgers, IT, secretarial, legal, research, marketing co-ordination and technical support.
63. Through the MuxCo website, we will promote digital radio generically and the services specifically. The main aim of the site, as well as providing a conduit of information between MuxCo Wales and service providers, will be to help educate and inform listeners, advertisers and equipment retailers.

**(iv) Marketing**

64. There is still a significant DAB marketing campaign that needs to be undertaken at both a national and local level. We recognise that as a sole body, our voice will be too small and inefficient. We will therefore seek to join the DRDB (or any successor) and will actively support industry-wide generic promotion of digital radio. We also propose to co-ordinate our local marketing activity with 4 Digital Group.
65. The key objectives of our press and communications activity will be to:
  - Build interest and knowledge of DAB and specifically the radio services available
  - Build audience awareness and raise the profile of DAB and content offerings to the consumer
  - Build awareness amongst the trade audiences including advertisers and retailers
66. We will work closely with our service providers to help co-ordinate locally focused marketing of digital radio generically, as well as of the services on the multiplex, with advice provided where relevant by Folder Media.
67. Service providers are likely to undertake their own brand marketing highlighting their appearance on DAB. We will work with these service providers, particularly those that currently broadcast on analogue, to use airtime to promote DAB digital radio in a consistent manner across all MuxCo partner stations.
68. To fund membership of the DRDB, a contribution proportional to contracted capacity will be levied at cost from the month following the launch of the multiplex.
69. We believe that for listeners, multiplex owner identity is of little or no importance (and is potentially confusing). We will work with the DRDB to use a national through-the-line identity and graphic style that makes both digital radio and station brands the 'heroes'.

**(b) Funding**

Detail the sources of finance that will be used to fund the licence, under the following headings:

Source of finance	£
Share capital	Already Issued
Loan stock facility	40,000
Leasing/HP facilities (capital value)	0
Bank overdraft	0
Grants and donations	0
Other	0
<b>Total</b>	<b>£40,000</b>

Applicants should provide evidence that sufficient funds are available to each investing shareholder to cover their proposed investments.

70. Letters of investment are provided in Part B.

Applicants should also provide a copy of the most recent unabbreviated accounts for each investing shareholder.

71. The accounts for the shareholders will be provided to Ofcom under separate cover.

Where relevant, provide information on:

- i) Loan terms (e.g. interest rate, repayment terms, redemption/conversion terms);
- ii) Assets leased.

All of the funding identified above should be confirmed to the applicant. Explanation should be provided if this is not the case.

72. Loan stock will be issued interest free, as and when required. Loan stock will be repaid in a timely manner as permitted by the cash position of the company.

### **(c) Financial Projections**

The purpose of this question is to allow the applicant to demonstrate its understanding of the market. The forecasts should be based on reasonable assumptions, which are logically applied and justifiable.

The applicant should confirm in writing to Ofcom that:

- a) The projections contained in the financial model have been properly and accurately compiled on the basis of the assumptions listed and explanatory notes accompanying the projections
- b) That the policies adopted follow generally accepted UK accounting standards
- c) Such accounting policies have been properly and consistently applied.

Ofcom may request independent confirmation of the above, in the form of a letter from a firm of authorised UK accountants, addressed to the board of directors of the applicant.

The applicant should provide financial projections for the pre-operational period and on an annual basis for the subsequent 12 year licence period. The projections must include:

- i) Profit and loss accounts
- ii) Balance sheets
- iii) Cash-flow forecasts
- iv) Appropriate supporting schedules

The forecasts should be supplied on an Excel spreadsheet or similar and guidance notes should be provided. The applicant must also complete and submit the spreadsheet located at <http://www.ofcom.org.uk/radio/ifi/rbl/dcr/> using information from its business model. Guidance notes for completion of the Template can be found in Annex 3 to this Notice. This section must include a full listing of the underlying assumptions on which the financial projections are based.

The application should detail how revenue figures were derived, distinguishing between:

- i) access fees
- ii) fees based on audience or revenue shares
- iii) other fees (please specify)

Revenue forecasts should also distinguish between digital sound programme services, digital additional services and television licensable content services.

The application should clearly set out the fee structure for each service provider, and explain the reasons for any differences in fees paid between providers.

*The response to this question may be submitted in confidence.*

**73. Our response to this question is submitted in confidence in Part B.**

## (d) Audience Projections

Provide the following information:

- i) The projected adult (aged 15+) population of the Total Survey Area (TSA) within which it is intended to measure the audience of the digital sound programme services to be broadcast on this local radio multiplex service

74. The projected adult population of the multiplex TSA for the purpose of the application has been assumed at 305,000. We are aware that service providers may still elect alternative TSAs for RAJAR research purposes.

- ii) Projections for audience ratings (e.g. weekly reach, average weekly hours of listening) of the digital sound programme services to be broadcast on this local radio multiplex over at least the first four years of the service, with detailed demographic breakdowns as appropriate

75. The following table summarises our audience projections for the commercial simulcast services and digital only services.

	Year 1	Year 2	Year 3	Year 4
<b>Coast FM</b>				
• Weekly Reach %	14.3%	14.2%	14.1%	14.0%
• Ave Hours	8.8	8.7	8.6	8.6
• Total Hours '000s	384	377	370	367
• Digital Hours '000s	29	48	58	76
<b>Champion</b>				
• Weekly Reach %	10.6%	10.5%	10.4%	10.2%
• Ave Hours	10.2	10.1	10.0	10.0
• Total Hours '000s	330	323	317	311
• Digital Hours '000s	25	41	50	64
<b>Wales Live</b>				
• Weekly Reach %	2.5%	3.2%	3.6%	4.0%
• Ave Hours	5	6	6	7
• Total (& Digital) Hours '000s	38	54	66	79
<b>UCB UK</b>				
• Weekly Reach %	1.5%	2.0%	2.3%	2.5%
• Ave Hours	4	5	5	5
• Total (& Digital) Hours '000s	18	27	36	38
<b>Traffic Radio services</b>				
• Weekly Reach %	2.0%	2.4%	2.7%	3.0%
• Ave Hours	4	5	5	5
• Total (& Digital) Hours '000s	24	33	42	47

76. In relation to simulcast services, we have forecast their total hours across both analogue and digital platforms, and then apportioned digital hours.

- iii) Projections for the total weekly number of listening hours anticipated for all digital sound programme services (national and local) both in absolute numbers, and as a proportion of all radio listening hours per week as recorded by RAJAR or equivalent audience measurement research, over at least the first four years of the service

	Year 1	Year 2	Year 3	Year 4
Population 15+	305	305	305	305
All radio hours '000s	5,950	5,914	5,867	5,808
All digital radio hours '000s	1,111	1,498	1,680	1,844
All digital hours as % of all radio hours	18.7%	25.3%	28.6%	31.7%
MuxCo Wales multiplex hours '000s	133	202	252	304
MuxCo Wales multiplex hours as % of all radio hours	2.2%	3.4%	4.3%	5.2%

- iv) The basis on which the estimates above have been calculated, and any assumptions taken into account.

### Audience projections for programme services

77. In estimating audiences, we have based our assumptions on RAJAR within the combined Coast FM and Champion FM TSA - an area of 305,000 adults.

### Projections for the total weekly number of listening hours

78. Projections for existing services are based on RAJAR for each service within the TSA, and for the proposed new services on our consumer research.
79. In order to calculate projections for the total weekly listening hours for all digital programme services (national and local) both in absolute numbers, and percentages, we looked at the following factors to create a robust audience model:
- Population
  - Total radio listening
  - Digital share of listening
  - The relative market shares of:
    - BBC Network
    - BBC Local
    - INR
    - ILR listening to stations originating in the area
    - Out of area ILR
    - Other radio listening

## Population

80. Over the last 3 years, the adult population within the TSA has grown by 5.5% to stand today at 305,000. We have prudently held the population as a constant for the first four years of the licence period.

## Total Radio Listening

81. In the 12 month period to Q1 2008, 86.6% of adults in the TSA listened to at least one radio service, on average for 22.6 hours, delivering total radio listening hours of 5,962,000.
82. We believe that increased radio choice will help stimulate the total market, particularly time spent listening, a view confirmed by our consumer research. However, we believe it prudent to forecast some decline both in the penetration of all radio and total hours delivered, to counter the growth of new media choices, which are likely to have an impact, especially on younger listeners.
83. The following table summarises our projections of reach and total radio listening during the first 4 years of the licence.

	Year 1	Year 2	Year 3	Year 4
Reach %	86.5%	86.4%	86.3%	86.2%
Reach '000s	264	264	263	263
Ave Hours	22.6	22.4	22.3	22.1
Total Hours '000s	5,950	5,914	5,867	5,808

## Digital Share of Listening

84. To establish the potential share of listening attributable to digital, we have reviewed the DRDB's penetration forecasts, as well as other data as to the current and future take up.
85. Our forecasts are based on the DRDB's 5 year forecast, which we have up-weighted using the 2007 penetration data, and then carried forward the forecast growth on the basis of this new base.
86. We are comfortable with the DRDB forecasts:
- 7m DAB sets had been sold by the end of March 2008 (source DRDB).
  - 27.1% of adults live in a DAB household (source RAJAR Q1 2008).
  - 17.8% of all listening hours are on digital, with 10.8% on DAB
87. Our consumer research highlighted that 18% of the local population own a DAB digital radio, and that a further 11% can access a DAB radio.
88. Our long-term digital listening forecasts uses industry data, as well as work undertaken by NGW, whose forecasts for digital share of listening have been used as the starting point for calculating digital listening.

## The relative market shares of the radio sectors

89. We have analysed the radio sectors of BBC Network, BBC Local, INR (i.e. services broadcast on national platforms), ILR listening to stations broadcasting from within the area, out of area ILR and other radio listening.
90. The following table summarises our views as to how each of these sectors will change in terms of the numbers of services provided under each and their relative markets shares between today, 2011 (the first full year of the local multiplex) and 2014. This analysis enabled us to establish a view on the overall radio market within North Wales and the changes that each sector would experience.

	Analogue Stations 2008	Digital Stations 2008	Total Stations 2010	Relative share 2008	Relative share 2011	Relative share 2014
BBC Network	5	6	11	55.2%	56.1%	53.1%
BBC Local	2	0	2	18.4%	16.5%	15.1%
INR	3	1	16	7.0%	8.5%	11.0%
ILR (in area)	4	0	1	12.6%	12.5%	13.9%
ILR (out of area)	4	5	9	3.4%	3.7%	4.6%
Other	0	0	0	3.4%	2.7%	2.3%
<b>Total</b>				<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

## Section 51(2)(d): Cater for local tastes and interests

### 11. Proposed digital sound programme services

Provide, for each digital sound programme service for which capacity is to be allocated, a description of the service. This should include a short-form (no more than four or five words) description of the type of service (i.e. its 'format'), and should also include a summary of the type(s) of music and speech to be provided, together with a quantification of the proportions of these within the programme mix. The number of hours each day that the service will be broadcast, and details of any content unique to this local area (with trigger-points for when such content will be included if not from the commencement of broadcasting, as appropriate), must also be included. These format descriptions will form part of the licence. Therefore, questions of clarification may be asked prior to licence award and the wording amended to reflect this, if necessary. Examples of format descriptions included within existing radio multiplex licences can be viewed at: <http://www.ofcom.org.uk/radio/ifi/rbl/dcr/>.

#### Coast FM

Format	Classic Hits
Licence Description	A simulcast of Coast FM (licence AL152); a locally oriented pop (past and present) and information station for the North Wales Coast, with one-hour programmes in the Welsh language at least six days a week.
Local Content	Coast FM broadcasts local programming for at least 4 hours per day, including breakfast. Local new bulletins are provided hourly during peaktime weekdays and weekends (with at least two in Welsh).
Music to Speech	Minimum 85% music and 10% speech
Hours of Broadcast	24



#### Champion FM

Format	Current and Classic Hits
Licence Description	A simulcast of Champion FM (licence AL222); a bilingual music and information station centring firmly on the tastes and interests of the Caernarfon area, blending both English and Welsh throughout its music and speech output
Local Content	Champion FM broadcasts local programming for at least 10 hours per weekday (including breakfast) and 4 hours at weekends. Local new bulletins are provided hourly during peaktime weekdays and weekends.
Music to Speech	Minimum 85% music and 10% speech
Hours of Broadcast	24



#### Wales Live

Format	Full Service
Licence Description	A full service providing mainly current and classic hit music and talk. Speech will include news, traffic & travel, entertainment news, sport and listener interaction.
Fuller Description	A speech rich service providing UK and Welsh news, information pertinent to everyday lives, including traffic & travel and weather, and opportunities for local listeners and organisations to air their points of views. Other speech will include sport, entertainment and what's on.
Unique Area Content	A service shared with other Wales multiplexes, offering a broadening of speech choice.
Music to Speech	Minimum 50% music and 30% speech
Hours of Broadcast	24

## UCB UK

Format	Religious
Licence Description	A service providing contemporary Christian music and classic favourites, together with spoken features including news, Christian teaching and short features offering a Christian perspective on today's lifestyle.
Local Content	A network service broadening music and speech choice. There are currently no plans to introduce local content on this service.
Music to Speech	Minimum 60% music and 25% speech
Hours of Broadcast	24



## Podcast Service

Format	Varied
Licence Description	A wide selection of speech and music podcasts provided by a range of companies.
Local Content	Podcasts will include material of a local nature.
Music to Speech	Minimum 5% music and 5% speech
Hours of Broadcast	24



91. We are aware that the Highways Agency (which is responsible for Traffic Radio in England) is in discussion with the National Assembly for Wales and Traffic Wales for a Welsh Traffic Radio to be developed. The launch of a traffic and travel service is dependent upon approval of the National Assembly. However, following the recent appointment of Global Traffic Network as the new provider of Traffic Radio in England from July 2008, we are reserving in the application two 48 kbits channels for the provision of an English and a Welsh language service, which would broadcast on all DAB multiplexes in Wales. If this capacity is taken up, the following service descriptions would be adopted.

## Traffic Radio

Format	Traffic and Travel
Licence Description	Continuous traffic and travel information.
Local Content	An English language service providing information on Wales' road network, with a primary focus on the Welsh strategic road network. The service will also provide information about train, ferry and airport services.
Music to Speech	100% speech
Hours of Broadcast	24



## Traffic Radio

Format	Traffic and Travel
Licence Description	Continuous traffic and travel information.
Local Content	A Welsh language service providing information on Wales' road network, with a primary focus on the Welsh strategic road network. The service will also provide information about train, ferry and airport services.
Music to Speech	100% speech
Hours of Broadcast	24



Outline the expected target audience of each digital sound programme service to be accommodated on the multiplex, in terms of demographic profile (i.e. age range, gender, socio-economic background), ethnic composition, and/or any other relevant characteristics. To what extent will each of these services cater for local tastes and interests, general or particular?

<b>Coast FM</b>	
<b>Target Audience &amp; Demographic Profile</b>	<ul style="list-style-type: none"> <li>• 44,000 adults listen to Coast FM each week.</li> <li>• The station has a slight male bias</li> <li>• It has broad appeal amongst 15 to 54s</li> <li>• It delivers a C2DE profile.</li> <li>• Its strength as a local service is evident through RAJAR.</li> </ul>
<b>Local Tastes &amp; Interests</b>	Many tune to Coast FM for its local news, travel and information features, as well as its broad music repertoire. Coast FM provides at regular local bulletins during daytime, including bi-lingual bulletins containing local and national stories, sport, weather and entertainment news.
<b>Summary</b>	<p>Coast FM appeals to those with an interest in classic hit radio. It is a popular service, providing entertainment as well as local news and information. It will benefit from the transition to DAB, being able to maintain listenership amongst its audience as they travel across the wider area. Coast FM will play an important role in the promotion of digital radio.</p> <ul style="list-style-type: none"> <li>• Existing heritage service</li> <li>• Broad appeal</li> <li>• Promoter of DAB and encourages trial</li> </ul>

<b>Champion FM</b>	
<b>Target Audience &amp; Demographic Profile</b>	<ul style="list-style-type: none"> <li>• 32,000 adults listen to Champion FM each week.</li> <li>• The station has a broad appeal, particularly with 15 to 34s.</li> <li>• It has greater appeal among women.</li> <li>• Its strength as a local service is evident through RAJAR.</li> </ul>
<b>Local Tastes &amp; Interests</b>	Many tune into Champion FM for its local news (local bulletins are broadcast at least hourly during daytime), travel and information features, as well as its broad music repertoire.
<b>Summary</b>	<p>Champion FM will benefit from the transition to DAB, being able to maintain listenership amongst its audience as they travel across the area, as well as attracting new listeners from outside its analogue footprint.</p> <ul style="list-style-type: none"> <li>• Existing heritage service</li> <li>• Broad appeal</li> <li>• Promoter of DAB and encourages trial</li> </ul>

<b>Wales Live</b>	
Target Audience & Demographic Profile	<ul style="list-style-type: none"> <li>• The target audience for Wales Live is adults aged 30 plus.</li> <li>• Research highlights 28% of the population would be interested in the format, and that it would have broad age, but with a strength amongst 45 pluses.</li> </ul>
Local Tastes & Interests	The only mixed music and speech service broadcasting in the area, and the first commercial station with an objective to offer an all Wales speech rich commercial service. The 'Wales Live' brand is set to broadcast on the Wrexham & Cheshire multiplex, with sister service, Local Live, operating on a number of neighbouring multiplexes. Programming and resources will be shared between Wales Live and Local Live.
Summary	<p>A popular format with broad audience appeal. It would bring new listeners to DAB digital radio and attract an audience from the BBC.</p> <ul style="list-style-type: none"> <li>• New service</li> <li>• Distinctive service</li> <li>• Broad appeal</li> <li>• Excellent motivator for digital take up</li> <li>• Attractive to current BBC listeners</li> </ul>

<b>UCB UK</b>	
Target Audience & Demographic Profile	<ul style="list-style-type: none"> <li>• UCB UK targets all adults, although the research highlights main interest to be with those aged 35 plus and where in this market there is significant interest with 55 pluses.</li> </ul>
Local Tastes & Interests	UCB UK is a networked Christian radio station for the whole family. It will bring a unique service to the area, offering a rich alternative to existing provision. It will also provide a wide range of programming to inspire and transform the listening experience. The station is non-commercial, carrying no advertising other than for in-house services.
Summary	<p>UCB UK will appeal to listeners who want to hear programmes with religious themes or would like a station with a heavier speech to music ratio. It will also provide good commercial radio competition to the BBC and attract new listeners to DAB digital radio.</p> <ul style="list-style-type: none"> <li>• New service</li> <li>• Broad audience appeal, but delivering an older 55 plus profile</li> <li>• Attract audience from the BBC</li> <li>• Female bias</li> <li>• ABC1</li> <li>• Encourage DAB</li> </ul>

Traffic Radio	
Target Audience & Demographic Profile	<ul style="list-style-type: none"> <li>The target for the service is broad, appealing not just to business commuters, but also housewives and parents with children.</li> <li>Our research highlights very strong interest for a station broadcasting traffic and travel news and information.</li> </ul>
Local Tastes & Interests	An innovative service providing 24/7 traffic and travel information and focusing on Wales' major roads. Traffic Radio is a service to which drivers are able to 'dip-in' prior to or during a journey.
Summary	<p>The proposed service will help reduce congestion by informing motorists about major congestion problems, thereby enabling them to divert, delay or cancel their journey. The benefit of the service is not just to individuals, but also to business. Reducing road journey times will help deliver environmental benefits through reduced emissions and improved driver safety. With broad appeal, the service should have a significant benefit on the take up of DAB receivers.</p> <ul style="list-style-type: none"> <li>New service</li> <li>Broad interest</li> <li>Encourage DAB in-car listening</li> </ul>

Podcast Service	
Target Audience & Demographic Profile	<ul style="list-style-type: none"> <li>The service will include content of interest to all age groups, males and females.</li> <li>Interest is particularly strong amongst younger audiences</li> <li>Young men are more receptive to this functionality feature.</li> <li>The service will help promote DAB and DAB+ uptake.</li> </ul>
Local Tastes & Interests	The service will carry a wide range of material, ranging from music to speech, and from content that will have national interest to content with a particular focus on North Wales.
Summary	<p>The Podcast Service will enable the multiplex to cater for niche tastes and interests and small communities of interest, which would not otherwise be sustainable on a 24/7 basis.</p> <ul style="list-style-type: none"> <li>An innovative new service</li> <li>Strong youth appeal</li> <li>Encourage DAB uptake</li> </ul>

a) If agreement has been reached (either firmly or provisionally; state which) with particular providers of some or all of the digital sound programme services to be accommodated on the multiplex, identify these programme providers. For each one, state whether it has already been issued by Ofcom with a licence to provide a local digital sound programme service.

Service	Service Provider	Confirmed	DSP Held
Coast FM	GCap Media plc	No	Yes
Champion FM	GCap Media plc	No	Yes
Wales Live	Town & Country Broadcasting Ltd	Yes	Yes
UCB UK	United Christian Broadcasters Ltd	Yes	Yes
Traffic Radio	The Welsh Assembly	No	Yes
Podcast Service	Folder Media Ltd	Yes	No

b) Give details of any programme-related 'data' or other services to be provided to enhance the audio elements of the digital sound programme services proposed to be provided. List separately those provided by the relevant digital sound programme licensees themselves (as 'ancillary' services) and those, if any, provided by other parties under a digital additional services licence.

92. The multiplex will support Dynamic Label Services ('DLS') and MOT carousel using simple, industry standard interfaces allowing service providers to use the "off-the-shelf" and well-supported software packages for generating content. From launch, all service providers will have access to **Scrolling text functionality** and an **Electronic Programme Guide**. As data technologies and standards mature, we will work with service providers to launch other data services (such as Broadcast SlideShow etc).

### **Scrolling text functionality**

93. Scrolling text functionality (Dynamic Labelling – 'DLS') provides an immediate point of difference between a digital radio and a traditional FM receiver. Consumers value the information provided unexpectedly highly and the industry has recently begun to develop DLS into a commercial opportunity, with advertisers recognising the value of DLS as an additional communications tool. We are supportive of recent extensions to the DLS spec, such as Pure Digital's IntelliText® technology, which stores the scrolling text to allow the user to navigate, by topic, straight to the news they want. Service providers can generate DLS very simply, using a range of software packages that integrate into their existing systems. DLS is transmitted in the XPAD.

### **Electronic Programme Guide**

94. Electronic Programme Guides ('EPG') are important in a multi-channelled environment – they allow listeners to find stations and programmes quickly, and enable functionality like "time-shifting" of stations. They enable service providers to promote their new services and programmes, and also allow the user to take advantage of features such as programme summaries, search by subject or channel, immediate access to the selected programme and also to set reminders for their favourite shows.

95. The EPG channel will be available to all service providers. The channel will conform to the ETSI TS 102 371 DAB EPG standard, currently broadcast by the two existing national multiplexes. We will encourage our service providers to use some of the more advanced features of the EPG, such as "series linking" and incorporating telephone, SMS, website and email addresses into the schedule data.

96. We have had detailed discussions with All In Media Ltd ('AIM') relating to the launch of an EPG channel on the multiplex and it is our intention to work with AIM to launch an EPG from the start of the licence term. The EPG will be transmitted in a dedicated packet data channel. We also believe an enhanced EPG will allow listeners to navigate the podcasts that are available from the multiplex.

### **Use of variable-XPAD**

97. From launch, service providers will be able to run programme-related data services within their short XPAD data capacity. Our data service provider, Folder Media, has substantial experience in launching data services. Examples of programme-related data services are:

#### **Tagging**

- Tagging a song on a mobile phone/device in order to download it later.

#### **Broadcast Slideshow**

- The ability to add visual content to make programmes and adverts more engaging.

#### **“Red button” functionality**

- **Competitions and Voting** - a listener could use the red button to vote on the next tune to be played or select the correct answer to win a prize.
- **Enhanced Advertising** - an advert for a new car could be visually demonstrated through a screen, with red button functionality sending information via a URL link to the external car dealer’s web site.
- **Rewards** – creating opportunities for listeners to get free content (perhaps music downloads) in return for responding to an advertiser’s call to action, or clicking through to the web page could generate redeemable loyalty points.

#### **Other services**

98. Folder Media, our data service provider, intends to provide a music download capability such as the new Instant Music Buying Service ‘Cliq’ from UBC, which will provide a value enhancing service for radio services, providing opportunities for listeners to access and acquire music on the go. Our general view is that we should encourage all types of data services to help organisations experiment with new DAB broadcast technologies.

c) If it is intended to use an encryption system, state that this is so, and make clear to which digital sound programme services it will apply, and how listeners will subscribe to the service.

99. It is not proposed that any services will be encrypted and none of the proposed service providers has indicated an interest in encryption.

## **12. Digital additional services and television licensable content services**

Provide details of any digital additional services and/or television licensable content services planned, other than programme-related data services (see Q.11(d) above), and the proportion of the total multiplex capacity which will be allocated to each of these.

*The response to this question may be submitted in confidence.*

*\* Applicants should note that this information is not relevant to section 51(2)(d), which relates only to digital sound programme services, but this question is positioned here for convenience.*

100. A response to this question is submitted in confidence in Part B.

## Section 51(2)(e): Broadening of local commercial DAB choice

### 13. Broadening of choice

Outline how the programming provided by the local digital sound programme services (other than BBC services) proposed will broaden the range of local digital sound programme services available in the area, and describe the extent to which the proposed local digital sound programme services will cater for tastes and interests different from those already catered for by local digital sound programme services already available in the area. If the licence applied for is the first local radio multiplex licence to be advertised in an area, detail the breadth of programming delivered by the range of local digital sound programme services to be provided on that local radio multiplex alone.

101. The North Wales multiplex is the first local multiplex covering its proposed area and for the majority of listeners will be their only local multiplex. The following table summarises our overall breadth of programming, which has been measured by the range of local digital services to be provided on the multiplex.

<b>Coast FM</b>	A local serving Bangor, Conway, Colwyn Bay and Rhyl, playing classic hit music, Coast FM provides a comprehensive local news and information service for its community, with news and information provided in both English and Welsh. As a sister service to Champion FM, some programmes are common between the two services. However, Coast FM is differentiated from Champion and the other services on the multiplex by its editorial focus.
<b>Champion FM</b>	Caernorfon's local service playing current and classic hits, Champion provides a comprehensive local news and information service for its local community, with bi-lingual news bulletins. As a sister service to Coast FM, some programmes are common between the two services. However, Champion FM is differentiated from Coast FM and the services by its editorial focus.
<b>Wales Live</b>	The only commercial speech-rich service on the multiplex, it will cater for the untapped demand for news and information. It will also provide an alternative source of news and speech to the popular BBC Radio Wales and Cymru.
<b>UCB UK</b>	A unique service targeting the Christian community with contemporary and classic Christian music, news, current affairs, teaching and a positive perspective on today's lifestyle. UCB UK will cater for the many listeners who would like a Christian perspective on the radio and enjoy a more speech-led radio experience. There will be minimal music overlap between UCB UK and other services on the multiplex.
<b>Traffic Radio</b>	A service providing regular and up to date traffic and travel information. While existing services provide traffic and travel bulletins, these are often limited in scope and only broadcast during peak programming.
<b>Podcast Service</b>	A mixture of music and speech content, serving a broad range of tastes and interests that will complement the full time services carried by the multiplex. The inclusion of a Podcast Service will bring additional listening choice to all, and especially younger demographics.

## Section 51(2)(f): Local demand or support

### 14. Audience requirements

Summarise the main findings of any original market research undertaken, or any analysis of existing audience research information, or any other form of evidence which demonstrates demand for the types of programme service and/or programme-related data or other data services proposed, or has otherwise influenced the applicant's proposals.

If original market research has been undertaken, please provide the following information for each piece of research:

- a) A statement of the key objectives of the research;
- b) The specific questions that the research sought to answer;
- c) How the research was conducted;
- d) The size and composition of the sample(s);
- e) When and where the research was conducted;
- f) A summary of the main findings from the research, showing how these demonstrate evidence of demand for the service proposed – this summary should represent a fair and accurate summary of the full results;
- g) A copy of any detailed audience research report or analysis, from which the summary provided in the main application document has been derived, full data tables for any quantitative research undertaken, and any questionnaire used (these may be submitted in confidence).

Please provide your responses to (a) – (e) in tabular format.

	Key Objectives	Specific Questions	How Conducted	Size and Composition	When
<b>Desk Research</b>	<p>To analyse the local market</p> <p>To get an up to date picture of the digital landscape.</p>	<p>To review population growth and change.</p> <p>To track digital penetration.</p>	<p>Analysis of Census 2001 data.</p> <p>Review of DRDB and relevant RAJAR data on digital audiences.</p> <p>Analysis of existing multiplexes.</p>	Not relevant	March 2008
<b>RAJAR</b>	To understand the local radio market.	To track the performance, strengths and weaknesses of existing services.	Using the Octagon analysis system and RAJAR data. Evaluating data within rolling 12 month periods ending Q1 in each year.	Not relevant	May 2008
<b>Consumer Study</b>	<p>To further understand the local radio market.</p> <p>To gauge consumer awareness, understanding and usage of DAB digital radio.</p> <p>To quantify interest in potential formats and data usage applications.</p> <p>To estimate audience levels, individually and collectively, for the proposed complement of services.</p>	<p>To investigate the performance, strengths and weaknesses of existing services.</p> <p>To identify the likely audience profiles for each planned service and to see how these services work collectively to enhance the total audience potential for DAB digital radio.</p> <p>To look at the propensity to listen and the impact that the new services collectively would have on the existing market.</p>	<p>Consumer survey conducted by Fieldvision.</p> <p>All interviews conducted face to face.</p>	<p>257 adults 15+ from across the PPA</p> <p>Sampling PPS Quota controls to known demographic profile.</p>	3rd to 10th January 2008

## North Wales population

102. The North Wales multiplex has been advertised to cover the counties of Gwynedd, Anglesey/Sir Ynys Mon, Conwy and Denbighshire/Sir Ddinbych.
103. The table analyses the potential adult population within the TSA, highlighting the relative demographic splits of the population, with comparison to the UK.

Q1 2008	North Wales	UK	Index on UK
15 to 24	15.4%	16.1%	0.96
25 to 34	12.1%	15.5%	0.78
35 to 44	15.7%	18.4%	0.86
45 to 54	15.4%	16.0%	0.96
55 to 64	17.0%	14.5%	1.18
65 plus	24.3%	19.5%	1.24
ABC1	53.8%	53.6%	1.00
C2DE	46.2%	46.4%	1.00
Male	48.5%	48.6%	1.00
Female	51.5%	51.4%	1.00

- North Wales has an older 55+ population profile compared to the UK average, although on par in terms of sex and socio-demographic profiles.

104. Through our research we sought to find out what issues local consumers felt were important; these being issues that could be reflected in the speech content of services.

	Issues
Employment	35%
Road and rail traffic links	34%
Health services	33%
Education for young children	28%
The economy	21%
Environmental issues	20%
Welsh language	20%
The ageing population	19%
Further education	18%
Immigration	17%
Tourism	16%
Don't know	5%

- Those aged 35 to 54 showed a greater interest in almost all issues, especially employment, the economy, education for children and road and rail traffic links.
- Those over 55 showed above average interest in issues surrounding health services and the aging population, while under 35s demonstrated above average interest in education for children and further education.

## Radio choice

105. Two local commercial and two 'nation' BBC services currently serve the area – Coast FM and Champion FM, and BBC Wales and Cymru. The commercial services are listened to by 76,000 (24.9%) of adults each week, and account for 12% of all radio listening.
106. No local multiplexes currently cover the area, although the Wrexham & Chester multiplex will overlap in the east. With regard to national digital radio, the national services of the BBC and commercial services carried by Digital One are audible.

## Current radio listening habits

107. The following table summarises RAJAR results over the last 3 years, using rolled 12 month periods to Q1.

	2006	2007	2008
<b>Population '000s</b>			
Reach %	86.0%	89.3%	86.6%
Reach '000s	248	261	264
Total Hours '000s	6,176	6,239	5,962
Ave. Hours	24.9	23.9	22.6

- Whilst reach has remained relatively constant over the period under review, at 86.6% it is lower than the UK average (90.0%).
- In addition, with declining hours spent listening, total hours have fallen 3.5% over the last 3 years.

108. Radio listening in the TSA has been reviewed against the UK to gauge how local listening compares. The following table summarises RAJAR performance for the 12 months ended Q1 2008 within the TSA and compares this with the UK as a whole.

Market Share	North Wales	UK	Index
<b>All BBC</b>	<b>71.6%</b>	<b>56.8%</b>	<b>1.26</b>
• BBC Network	54.1%	47.0%	1.15
• BBC Local	17.5%	9.9%	1.77
<b>All Commercial</b>	<b>27.9%</b>	<b>41.1%</b>	<b>0.68</b>
• INR	12.6%	10.7%	1.18
• ILR	15.3%	30.3%	0.50
Other	0.5%	2.1%	0.24

- The BBC dominates radio listening in North Wales, with strong performance amongst both its national and nation services.
- National commercial services (which includes digital services) perform above average in the area, hinting that additional radio choice is most welcome.
- ILR's performance reflects the low level of choice currently available.

109. The following table details the relative historical market shares between the BBC and commercial radio within the TSA for three key age groupings.

Market Share by Age	2006	2007	2008
<b>15 to 34</b>			
All Commercial	36.2%	43.4%	35.4%
All BBC	62.1%	55.4%	64.3%
<b>35 to 64</b>			
All Commercial	30.4%	28.4%	28.4%
All BBC	69.1%	70.8%	70.8%
<b>65 pluses</b>			
All Commercial	21.6%	14.5%	18.2%
All BBC	78.2%	85.2%	81.5%

Source RAJAR 12 mths ending Q1

- The BBC dominates radio listening amongst all age groups

110. The following table summarises the historical performance of each local service over the last three years.

	2006	2007	2008
<b>Coast FM</b>			
Weekly Reach %	16.1%	17.4%	14.3%
Total Hours '000	429	393	388
Market Share	6.9%	6.3%	6.5%
<b>Champion FM</b>			
Weekly Reach %	13.7%	12.5%	10.6%
Total Hours '000	496	469	329
Market Share	8.0%	7.5%	5.5%
<b>BBC Radio Wales</b>			
Weekly Reach %	8.9%	11.6%	10.2%
Total Hours '000	190	280	180
Market Share	3.1%	4.5%	3.0%
<b>BBC Radio Cymru</b>			
Weekly Reach %	20.5%	21.3%	15.3%
Total Hours '000	887	1,031	700
Market Share	14.4%	16.5%	11.7%

Source RAJAR rolled years ending Q1

- Apart from BBC Wales, all commercial and BBC local services have experienced declining reach and average hours. Whilst BBC Wales has experienced growing reach, its average hours have declined.
- BBC Cymru remains the dominant local service, highlighting a need and the opportunity for a more mature-targeted commercial service.

111. Our consumer research supports the RAJAR results:

- 74% of the population listens regularly to a BBC station, with 43% saying they only listen to the BBC.
- 44% listen to commercial radio regularly, with 36% saying they listen regularly to ILR.

### Uptake of DAB digital radio

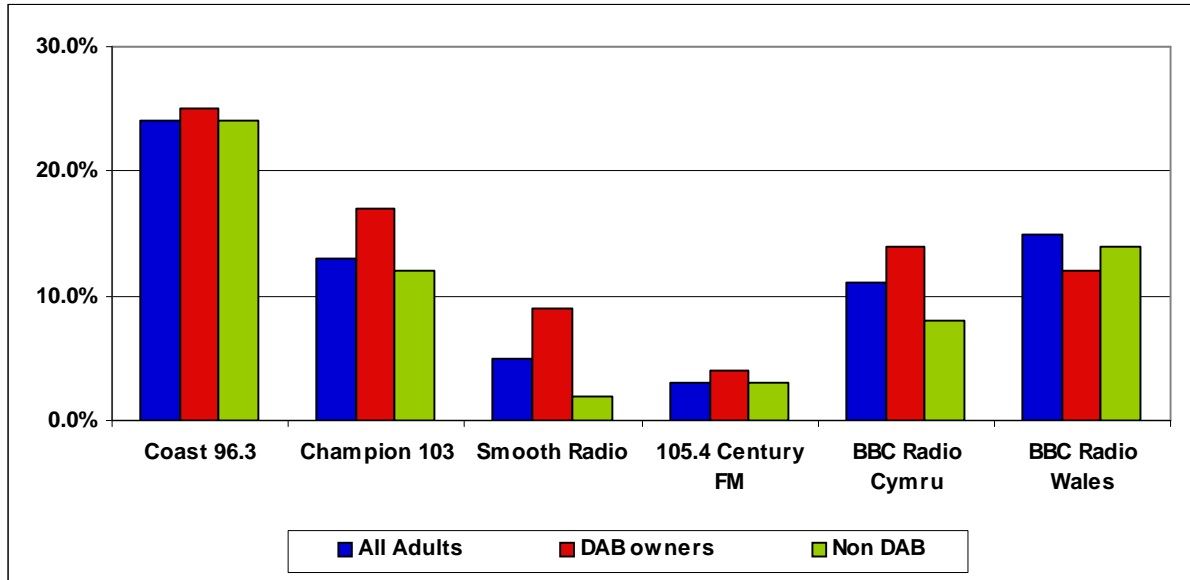
112. Adoption of DAB is strong, with over 7m DAB sets now sold in the UK. RAJAR Q1 2008 highlights that 27.1% of adults live in a DAB household.

- Since Q2 2007, it has been possible to quantify radio listening by platform through RAJAR.
- Currently, 17.8% of all radio listening is via digital platforms, and 10.8% is via DAB.

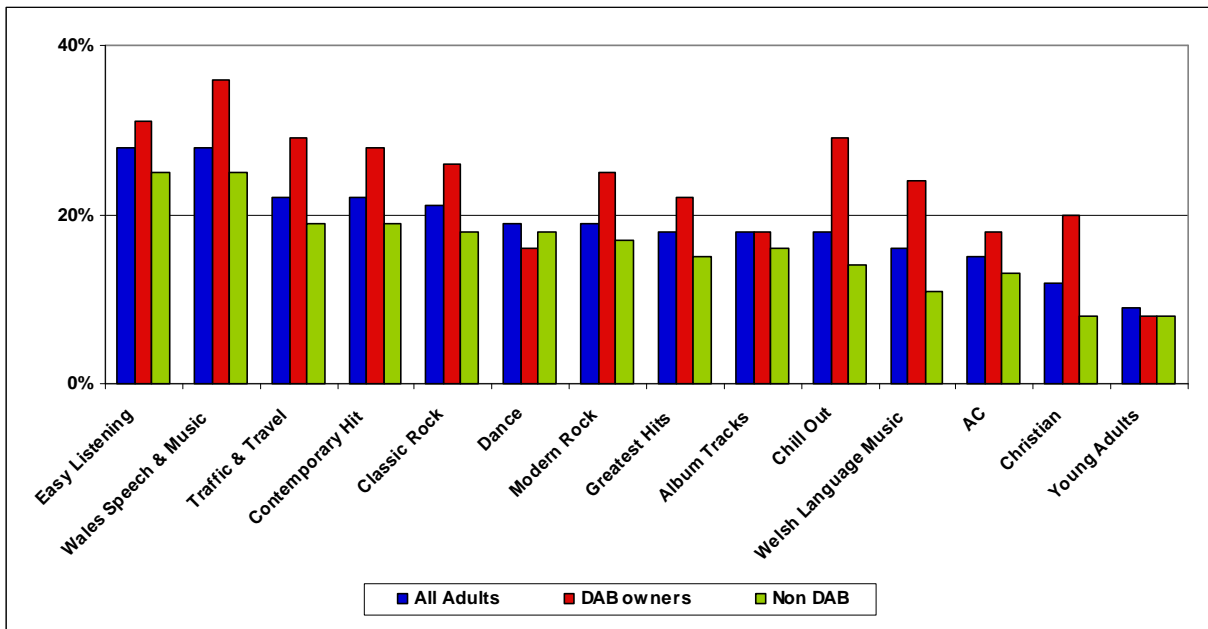
### What people would like from digital radio

113. Having reviewed existing radio listening habits through RAJAR and our local consumer research, the next stage of our research was to evaluate interest in accessing existing radio services, new formats and data services.

114. The following chart summarises the results for listeners to existing local services in digital quality.

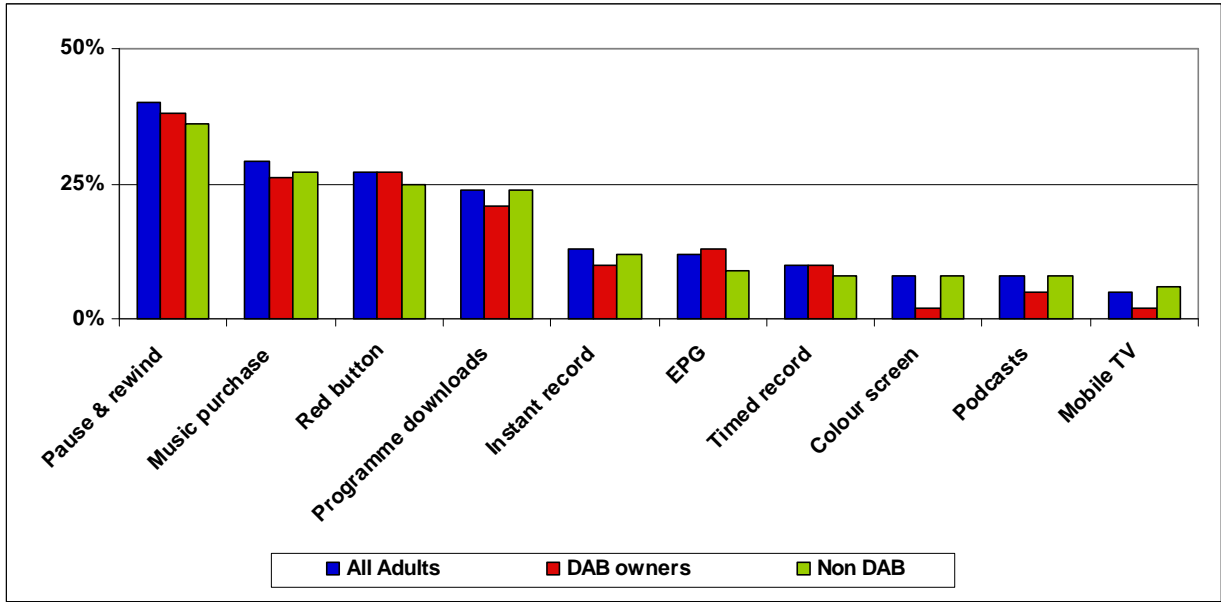


115. Our local consumer research also sought to gauge interest in a range of music genres and lifestyle genres. The majority of formats tested in the consumer research were ones for which we were confident that a service provider would be forthcoming, either at the time of the application or during the licence period. In addition, we felt that having consumer reaction to additional alternative format choices would be particularly relevant when expanding the choice of services in the future (either full or part time, or as Podcast services).



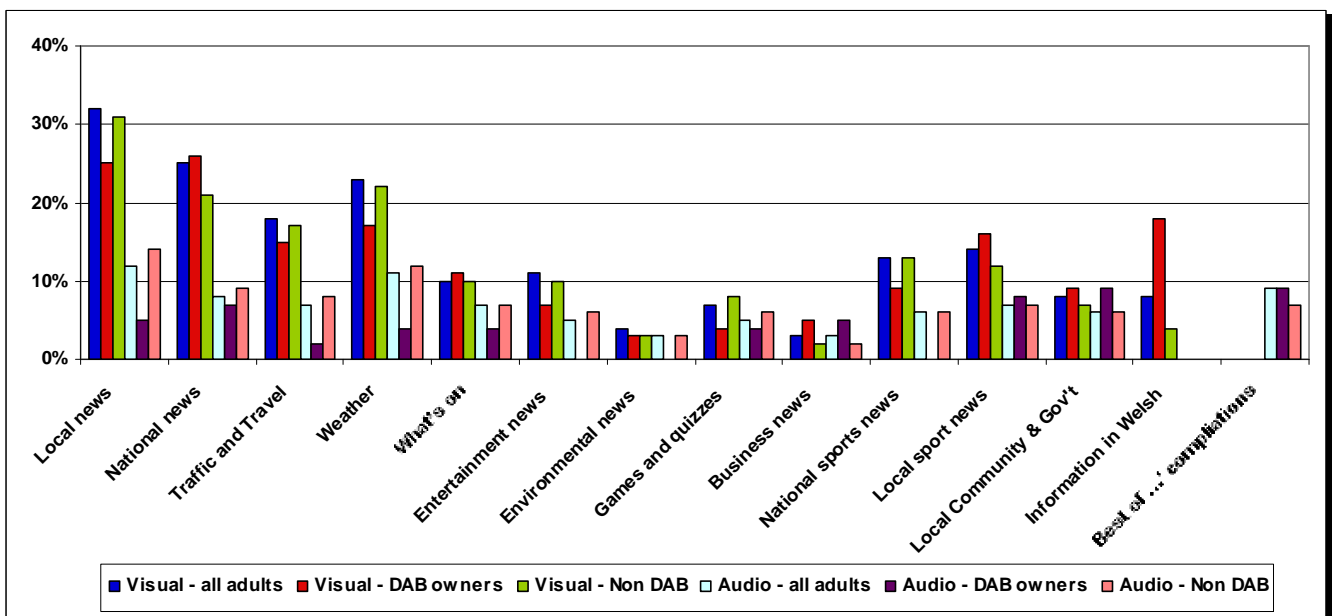
**Data Functionality and Services**

116. The opportunities for DAB to provide a range of data services that will complement radio services, or provide additional services, is an important aspect.



- Under 35s showed higher than average interest in each of the features presented, but especially in being able to purchase and save songs as they listen (45%) and red button functionality (42%).
- Commercial radio listeners generally showed more interest in embracing these additional features than their BBC counterparts.

117. The following chart summarises reaction to a range of possible services that could be accessed as a visual service through a screen on the radio or as an audio download.



- In relation to visual services:
  - o Younger age groups demonstrated higher than average interest in being able to receive almost all types of information via a screen.
  - o Those with DAB experience were more able to see the potential of these new services than those who had no prior contact with DAB.
  - o Commercial radio listeners showed above average interest in receiving these services, particularly those of a distinctly local flavour – news headlines, traffic and travel information and weather.
- In relation to visual services:
  - o Again, younger age groups showed above average interest in being able to download most types of information.
  - o Also, those with no direct experience of DAB and listeners to commercial radio, generally showed a higher degree of interest in a downloading capability.

### What does the future hold for digital radio?

118. The new multiplex, with its proposed complement of existing and new services, will help increase the amount of time spent listening to the radio. Of those who would choose to listen to DAB:

I would spend more time listening to the radio in order to include some or all of these new digital stations in my weekly listening	54%
I would spend less time listening to some of my current choices of stations in order to include some or all of these new digital stations in my weekly listening	2%
I would stop listening to one or more of my existing choices of station in order to include some or all of these new digital stations in my weekly listening	1%

119. Finally, those who had claimed not to currently own a DAB radio were asked whether having heard about DAB and its possibilities, their radio listening habits might now change.

- 24% were quite interested in buying a DAB set
- 7% were very interested in buying a DAB set
- 4% were extremely interested in buying a DAB set
- 5% would definitely buy a DAB set
- Overall interest was highest among men, with 49% saying they would be interested in purchasing a digital radio.
- By age, interest was highest among those aged 25 to 44, of whom 52% now expressed interest in buying a DAB set.
- There was above average interest in going digital among current commercial radio listeners (50%), compared to BBC listeners (40%) or solus BBC listeners (38%).

## 15. Local support

Provide any evidence which has been gathered of local support for the provision of the proposed local radio multiplex service.

120. We believe that interest in the complement of services is best measured by the level of support for the services to be broadcast on the multiplex. We have assessed interest in existing services through RAJAR, and both existing and new through our commissioned research. Through this research (detailed in Q.14), demand for each format was evaluated, both individually and collectively on the basis of the chosen complement of services. Our research also evaluated interest in digital radio and the key drivers for the new technology, over and above pure choice of formats which will assist in the development of our local marketing activities.

### *Research*

121. We will undertake on-going consumer research. This, in the main, will be undertaken in association with service providers through bodies like RAJAR. Such 'RAJAR' style research will assist service providers to measure audiences and the level of take-up, with obvious benefits to the subscribers. However, there may be times when there is a need to undertake original research, such as to evaluate demand for further potential services or to assess the style and level of content in programmes for contractual reasons. This research may be undertaken through quantitative, focus groups or desk research.

### *Marketing*

122. We will also have a marketing role in generating awareness of digital radio both as a concept and, alongside the service providers, of the complement of services carried on the multiplex.

### *Internet*

123. MuxCo Wales will be served by a website at [www.muxco.com](http://www.muxco.com). Through the site, MuxCo outlines its proposals and plans to apply for local multiplexes and seeks interest from prospective service providers. A copy of this application and further information about MuxCo and the licence opportunity are provided on the site.

124. In addition, the site promotes DAB digital radio and links to other multiplex operators elsewhere in the country. The website will also provide a means of communication between the multiplex and service provider, in particular providing information on transmission issues and fault notices.

125. Whilst a local multiplex is a virtual company, what is not eliminated is the need to develop a relationship with the listeners about the services it carries. We will want to ensure that we understand the local population, their likes and dislikes, the market gaps and what other services it can provide. Therefore, although there is no wish to have a dialogue with the audience, there is a need to provide a means of access and communication.

## Section 51(2)(g): Fair and effective competition

### 16. Measures taken to ensure fair and effective competition

Detail the measures that have already been taken, and will be taken before and during the licence period, to demonstrate that "in contracting or offering to contract with persons providing digital sound programme services or digital additional services or television licensable content services, the applicant has acted in a manner calculated to ensure fair and effective competition in the provision of those services".

126. Our intention to apply for the licence has been documented on our website ([www.muxco.com](http://www.muxco.com)), which has provided an opportunity for prospective applicants to register their interests.
127. We have not advertised our proposals in local newspapers or the trade press, as our experience has identified that during the licence application process, such activity generates little response. Once operational, however, and with greater awareness of the multiplex in the locality, any new opportunities will be advertised in the trade press and local newspapers, as well as through the MuxCo website.
128. Following the advertisement of the licence opportunity, we contacted the identified local analogue licensees to discuss their digital aspirations and invite expressions of interest in providing programme services, as well as local community groups and organisations. We also contacted other radio groups who have known digital aspirations or operate digital service elsewhere.
129. All companies who registered expressions of interest were sent a Service Provider Questionnaire. They were advised that information received would be used alongside research to decide which formats would be included and therefore which service providers would be accommodated in the multiplex application. A summary of contacts is included in Part B.
130. Headline terms including approximate carriage costs have been supplied to the proposed service providers.
131. During the licence period a similar process will be adopted, with a standard questionnaire being used to assess applicants.
132. During the application process, we have engaged with all potential service providers in an open and non-exclusive manner.

### *Fair and Effective Competition during the Licence Period*

133. Each service provider will enter a Service Provider Agreement; the key terms of which will be identical for all service providers. All fees charged will be based solely on a 'cost plus' basis, pro-rata to capacity contracted by each service provider. No fees will be related to revenue.
134. We will establish a Service Level Agreement with service providers. This will set out our communications and work policies, especially those relating to planned work and emergency outage notification.

## **17. Contacts with prospective service providers**

Provide a comprehensive list of all prospective providers of digital sound programme services and/or digital additional services and/or television licensable content services with whom the applicant has had contact prior to and during the preparation of this application, at the initiative of either party, and in whatever form. Summarise the nature of the proposals discussed and, for each proposal which is not among those planned for inclusion on the multiplex (as per Q.11 and Q.12 above), state the reason(s) why the prospective provider and/or the service(s) proposed by that provider has not been included.

*The response to this question may be submitted in confidence.*

135. Our response to this question is submitted in confidence in Part B.

## **18. Contractual and other arrangements with service providers**

For each digital sound programme service provider and/or digital additional service provider and/or television licensable content service provider named in this application:

- a) Supply details of the terms of access, including financial agreements;
- b) To what extent are any or all of these terms of access conditional? Clarify and conditions that exist.
- c) In respect of each named service provider for which details of terms of access are provided, supply a letter from the service provider confirming its agreement with the account of the terms of access provided above, and in particular with the fees it expects to pay.

*The response to this question may be submitted in confidence.*

136. Our response to this question is submitted in confidence in Part B.

## Technical quality

### 19. Division of multiplex capacity

Show, by means of a pair of clearly-labeled tables, the proposed division of the available multiplex capacity into digital sound programme services and other services during all time periods. The tables should depict the proportion of the total available capacity (in kbits/sec) which it is proposed to allocate individually to each of the digital sound programme services listed in response to Q.11, plus any capacity reserved for expansion, inclusive of any which it is proposed to allocate to digital additional services and television licensable content services. Please also indicate what proportion of these services will be programme-related (see paragraph 4.35). One of the tables should refer to the capacity units taken by each service (i.e. inclusive of capacity used for error protection), and the other table should refer to the bitrate net of error protection capacity, together with the associated protection level (1 to 5) which it is proposed to use, in accordance with ETS 300 401.

137. Increased choice of popular quasi-national and more local brands is a strong driver for the purchase of DAB receivers. When allocating capacity, we have sought to achieve the optimum balance between existing and new services, quasi-national and local, ensuring that there is sufficient capacity to develop ancillary and additional data applications which will help place radio at the centre of a multi-media, multi-platform UK.
138. We are aware of a number of recent listening tests undertaken to evaluate the latest 'state of the art' MPEG 1 Layer II audio codec. These tests demonstrated that there was only slight degradation (1.7 points on the ITU scale).
139. The following tables detail the division of multiplex capacity by kbits and CUs between the proposed audio channels, data capacity and EPG.

Kbits Allocation	Service Type	UEP	6am to Midnight	Midnight to 6am
BBC Wales	MPEG1L2	UEP3	128	128
BBC Cymru	MPEG1L2	UEP3	128	128
Coast FM	MPEG1L2	UEP3	112	112
Champion	MPEG1L2	UEP3	112	112
Wales Live	MPEG1L2	UEP3	96	96
UCB UK	MPEG1L2	UEP3	64	64
Traffic Radio - English	MPEG1L2	UEP3	48	48
Traffic Radio - Welsh	MPEG1L2	UEP3	48	48
Podcast Service	AAC	EEP3A	16	64
Data	DATA	EEP3A	56	8
EPG	EPG	EEP3A	8	8
<b>Total</b>			<b>816</b>	<b>816</b>
<i>Allocated as % Total</i>			<i>71%</i>	<i>71%</i>
<i>Data as % Total</i>			<i>7%</i>	<i>7%</i>

CU's Allocation	Service Type	UEP	6am to Midnight	Midnight to 6am
BBC Wales	MPEG1L2	UEP3	96	96
BBC Cymru	MPEG1L2	UEP3	96	96
Coast FM	MPEG1L2	UEP3	84	84
Champion	MPEG1L2	UEP3	84	84
Wales Live	MPEG1L2	UEP3	70	70
UCB UK	MPEG1L2	UEP3	48	48
Traffic Radio - English	MPEG1L2	UEP3	35	35
Traffic Radio - Welsh	MPEG1L2	UEP3	35	35
Podcast Service	AAC	EEP3A	12	48
Data	DATA	EEP3A	42	6
EPG	EPG	EEP3A	6	6
<b>Total</b>			<b>602</b>	<b>602</b>

## 20. Basis of allocation of multiplex capacity

On what basis have technical decisions on the allocation of multiplex capacity to each of the proposed digital sound programme services been made?

How has the balance been determined between the number of services to be accommodated and the audio quality and robustness of reception which each will enjoy?

140. In allocating capacity between services, the following factors have been taken into account:
- A desire to increase listener choice and to provide a range of value enhancing data services
  - A need to provide a reasonable level of sound quality
  - To ensure robustness of reception
  - The wishes of individual service providers
  - The reserved capacity of the BBC
141. Our aim is to provide each service provider with the ability to broadcast in stereo. However, for smaller stations and new digital only services, a further decision that service providers need to make is the benefit of broadcasting in stereo, especially during the initial years of digital, versus the financial saving of broadcasting in quality mono. We confirm that the decisions on bit rate allocation are those of each service provider.
142. NGW has evaluated two different audio codecs at various different bitrates. They have found subjective differences that may lead to preferences for use of one codec over another, but dependent on the content and bitrate chosen. MuxCo Wales therefore intends to offer a choice of codecs to our service providers. At low bit rates of 64 kbits or below, we will consider the use of half rate coding at the request of our service providers.
143. We have chosen an error protection level of UEP 3 as it has been shown through widespread experience to give a good balance between CU allocation on the multiplex and robust reception.
144. We note that the WorldDMB Forum has now released the DAB<sup>+</sup> specification. This specification brings with it a significant improvement in spectrum efficiency over the existing standard, but raises a number of migration challenges. We believe that this technology offers an opportunity in the longer term to increase the choice of audio services and enhanced data services on our multiplex. We would like to work with Ofcom to manage the introduction of DAB<sup>+</sup> services.
145. In reaching agreement with service providers, we will seek to contract flexible capacity allocations that will reflect the expected listening patterns of their individual audiences. As audiences vary in size and their daily activity changes, we will seek to provide service providers with the opportunity to vary their capacity up and down to meet their particular requirements, by varying bandwidth to suit listening patterns. As the requirements of service providers develop, and enhanced data services are implemented, there may be increasing demand for regular multiplex re-configurations.

## 21. Audio characteristics

For each local digital sound programme service proposed to be provided, state whether it will be broadcast in 'stereo' or 'mono', and whether it will operate at 'full-rate coding' or 'half-rate coding'. The response to this question should be consistent with the proposed division of multiplex capacity set out in response to Q.20.

	Service Type	Stereo / Mono	Coding	Protection Level	Audio Sampling
BBC Radio Wales	MPEG1L2	Stereo	Full Rate	UEP3	48kHz UEP3 Stereo
BBC Radio Cymru	MPEG1L2	Stereo	Full Rate	UEP3	48kHz UEP3 Stereo
Coast FM	MPEG1L2	Stereo	Full Rate	UEP3	48kHz UEP3 Stereo
Champion	MPEG1L2	Stereo	Full Rate	UEP3	48kHz UEP3 Stereo
Wales Live	MPEG1L2	Mono	Full Rate	UEP3	48kHz UEP3 Mono
UCB UK	MPEG1L2	Mono	Full Rate	UEP3	48kHz UEP3 Mono
Traffic Radio - English	MPEG1L2	Mono	Half Rate	UEP3	24kHz UEP3 Mono
Traffic Radio - Welsh	MPEG1L2	Mono	Half Rate	UEP3	24kHz UEP3 Mono

146. The Podcast Service will be licensed under a DSPS licence. The nature of the downloaded content will define the format of the coded audio; files with a majority of music content will be in stereo but those with predominately speech content may be encoded as mono to conserve data capacity. The use of AAC audio encoders will, however, allow us to maximise the audio quality at lower bit rates by employing the Parametric Stereo and Spectral Band Replication options. The inclusion of an AAC based podcast service will also ensure that the new receivers that support it will be able to decode this codec, something that will likely make them capable of decoding DAB+ services when they come to the UK.



## Declaration

Applicants are required to conclude their submission by responding to the following question:

Do you confirm that, to the best of your knowledge and belief:

- a) the applicant is not a disqualified person in relation to the licence by virtue of the provisions of section 143(5) of the Broadcasting Act 1996 (relating to political objects);
- b) no director or person concerned directly or indirectly in the management of the company or the applicant group is the subject of a disqualification order as defined by section 145(1) of the Broadcasting Act 1996;
- c) no person involved in the application has been convicted within the past five years of an unlicensed broadcasting offence and that the applicant will do all it can to ensure that no person so convicted will be concerned in the provision of the service, the making of programmes included in it, or the operation of a radio station if the applicant is granted a licence; and
- d) any matters which might influence Ofcom's judgement as to whether the directors and substantial shareholders involved in the application are fit and proper persons to participate in a radio licence have been made known to Ofcom?

Applicants should note that Ofcom reserves the right to revoke a licence if at any time any material statement made is found to be false and to have been made by the applicant or any member or officer thereof knowing it to be false, and that in the circumstances of section 144 of the Broadcasting Act 1996, the provision of false information or the withholding of relevant information with the intention of misleading Ofcom could incur a criminal conviction and a disqualification from the holding of a licence.

147. MuxCo North Wales Ltd is not aware of any issues which would prevent the award of a licence to the company.