

## Annex 1

# Research into inadvertent roaming

## Sampling points

AREA 1	n
Portstewart	120
Limavady	35
Ballycastle	13
Portrush	10
Castlerock	4

AREA 2	n
Londonderry	127
Strabane	47
Castlederg	9
Eglinton	6
Artigarvan	4
Sion Mills	4
Clady	2
Ballymagorry	1

AREA 3	n
Enniskillen	136
Belcoo	7
Pettigoe	6
Rosslea	6
Newtownbutler	6
Derrylin	5
Belleek	3
Garrison	3

AREA 4	n
Armagh	138
Fivemiletown	6
Keady	5
Ballygawley	4
Middletown	4
Aughnacloy	1
Augher	1
Clogher	1
Caledon	1

AREA 5	n
Newry	217
Warrenpoint	17
Newtownhamilton	2
Kilkeel	1
Bessbrook	1
Cullaville	1

## Diary study home locations

Agharahan	1	Dungiven	1	Middletown	2
Armagh	3	Eglinton	3	Monea (nr Derrygonnelly)	1
Arney (nr Enniskillen)	1	Enniskillen	13	Moy	1
Ballygawley	1	Feeney (nr Dungiven)	2	Mullnaburtlan (nr Lisnaskea)	1
Belcoo	1	Fivemiletown	3	Newbuildings	1
Belleek	1	Forkhill	2	Newry	17
Bessbrook	3	Greysteel	1	Newtownbutler	2
Brookeborough	1	Inishmore (Fermanagh Lakelands)	1	Park (nr Claudy)	2
Burnfoot (nr Dungiven)	1	Jonesborough	4	Pettigoe	1
Caledon	1	Keady	1	Plumbridge	2
Camlough	1	Lackaghboy (nr Enniskillen)	1	Portrush	3
Castledearg	3	Leighan (nr Derrygonnelly)	1	Portstewart	6
Clady	1	Letterbreen (nr Trillick)	1	Rosslea	1
Coleraine	7	Limavady	3	Rossory (nr Enniskillen)	2
Cullaville (nr Crossmaglen)	3	Lisbellaw	1	Rostrevor	1
Derrylin	3	Lisnaskea	2	Strabane	8
Downpatrick	1	Lisnarick	1	Tempo (nr Enniskillen)	2
Drumcullion (nr Lisbellaw)	1	Londonderry/ Derry city	16	Warrenpoint	14
Drumcully (nr Belcoo)	1	Magilligan (nr Castlerock)	1		

## Questionnaire

HP586 OFCOM INADVERTENT ROAMING  
NOVEMBER 2006

### INTRODUCTION:

Hello, my name is ... from CARD Group, an independent market research agency. We are conducting a special survey on behalf of Ofcom, the UK communications regulator about mobile phone use in Northern Ireland, and would appreciate it if you could spend approximately 5 minutes answering some questions. Your opinion is very important to us; if you qualify would you be willing to take part?

If necessary: This is a genuine market research study and no sales call will result from our contact to you.

The answers you give will be held in strictest confidence; they will be presented to our client as statistical summaries only.

The interview will be carried out in strict accordance with the Market Research Society's Code of Conduct, and as part of our quality control process some interviews will be verified by telephone or post.

### SCREENER

QS1 RECORD LOCATION

#### Area 1:

Ballycastle .....	1
Castlerock .....	2
Portstewart .....	3
Portrush.....	4
Limavady .....	5

<b>Area 2:</b>	
Londonderry .....	6
Eglinton .....	7
New Buildings .....	8
Ballymagorry .....	9
Artigarvan .....	10
Strabane .....	11
Sion Mills .....	12
Clady .....	13
Castlederg .....	14
<b>Area 3:</b>	
Pettigoe .....	15
Belleek .....	16
Garrison .....	17
Belcoo .....	18
Rosslea .....	19
Derrylin .....	20
Newtownbutler .....	21
Enniskillen .....	22
<b>Area 4:</b>	
Aughnacloy .....	23
Ballygawley .....	24
Augher .....	25
Clogher .....	26
Fivemiletown .....	27
Keady .....	28
Caledon .....	29
Middletown .....	30
Armagh .....	31
<b>Area 5:</b>	
Newry .....	32
Bessbrook .....	33
Newtownhamilton .....	34
Cullyhanna .....	35
Crossmaglen .....	36
Cullaville .....	37
Forkhill .....	38
Jonesborough .....	39
Warrenpoint .....	40
Kilkeel .....	41

**Minimum Quotas: 15% in each area**

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QS2 Firstly, please can you tell me, do you, your family or close friends work in any of the following industries?

SINGLE CODE

Marketing .....	1 (Thank & close)
Market research .....	2 (Thank & close)
Telecomms .....	3 (Thank & close)
None of these .....	98 (Continue)

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QS3 Record Gender  
SINGLE CODE

Male..... 1 (Continue)  
Female ..... 2 (Continue)

**Quotas: Male – 48%, Female – 52%**

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QS4 Do you own a mobile phone?  
SINGLE CODE

Yes ..... 1  
No..... 2 (Thank & close)

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QS5 Which of the following age groups do you fall into?  
SINGLE CODE

Under 16 ..... 1(Thank & close)  
16-24 ..... 2(Continue)  
25-34 ..... 3 (Continue)  
35-44 ..... 4 (Continue)  
45+ ..... 5 (Continue)  
Don't know ..... 96 (Thank & close)  
Refused..... 97 (Thank & close)

**Quotas: Under 25 – 22%, 25-44 – 44%, 45+ – 34%**

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QS6 And what is the occupation of the Chief Income Earner in your household?  
(That is the person with the largest income whether from employment, pension, state benefits,  
investments, or any other source?) WRITE IN:

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

QS7 DO NOT ASK - RECORD SOCIAL CLASS USING MRS OCCUPATION CATEGORIES

AB..... 1  
C1..... 2  
C2..... 3  
DE ..... 4

**Minimum Quotas: ABC1 – 46%, C2DE – 54%**

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○ QS8 Are the running costs of your mobile phone paid for by?  
○ SINGLE CODE

○ Yourself ..... 1  
○ Family or friends..... 2  
○ Your company/employer ..... 3  
○ Someone else ..... 4

- 
- QS9 Do you use your phone for?
  - SINGLE CODE
  - 
  - Personal use ..... 1
  - Business use ..... 2
  - Both ..... 3

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QS10 What type of mobile phone package do you have?  
READ OUT. SINGLE CODE

- A 'pay as you go' phone or prepay where you buy the handset and top-up as needed..... 1
- A handset with a contract where you receive a monthly bill for the subscription and any call charges ..... 2
- A mix of contract and pay as you go where your monthly bill is fixed and if you need more talk time you top up like pay as you go ..... 3
- Or another type of payment scheme – please specify..... 4

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QS11 [ASK RESPONDENTS WHO CODE 2 OR 3 AT QS10]

How often do you check your mobile phone bill?  
SINGLE CODE

- Every month ..... 1
- Most months..... 2
- When the bill seems high..... 3
- Never..... 4
- Don't receive a bill..... 5
- Don't know ..... 6

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QS12 Which of these is your MAIN network provider?  
SINGLE CODE

- Vodafone UK..... 1
- O<sub>2</sub> UK (Cellnet / BT Cellnet)..... 2
- Orange ..... 3
- T-Mobile (One2One) ..... 4
- 3 ..... 5
- Vodafone Ireland (Eircell)..... 6
- O<sub>2</sub> Ireland (ESAT Digifone) ..... 7
- Meteor ..... 8
- 3 Ireland ..... 9
- BT Mobile ..... 10
- Tesco..... 11
- Virgin Mobile ..... 12
- Other (Please specify.....) ..... 13
- None..... 14
- Don't know ..... 15

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QS13 On average, how many calls do you make each day on your mobile phone?  
SINGLE CODE

- 0 ..... 1
- 1 – 2 ..... 2
- 3 – 5 ..... 3

6 – 10 .....	4
11 – 20 .....	5
20 or more .....	6
Don't know .....	7

**MAIN QUESTIONNAIRE**

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This short questionnaire is about a problem that exists when you use your mobile phone within NORTHERN IRELAND, but pick up a REPUBLIC OF IRELAND mobile network. I'd like to ask you a few questions about this problem.

QA1 Before today, how aware were you of this problem?  
SINGLE CODE

I've never heard of this .....	1
I'm aware it happens, but that's all.....	2
I've heard a lot about this .....	3
I fully understand this topic .....	4
Don't know .....	5

QA2 Have you ever picked up a REPUBLIC OF IRELAND network on your mobile handset when in NORTHERN IRELAND?  
SINGLE CODE

Read out: You might notice this happening by the network name changing on your mobile phone handset and/or receiving an automatically sent text message from a REPUBLIC OF IRELAND network.

Yes .....	1
No.....	2
Don't know .....	3

**[NOTE TO INTERVIEWER – IF RESPONDENT ANSWERS YES, THEY ARE ELIGIBLE FOR THE ROAMING SECTION]**

QA3a Before today were you aware that if your mobile handset picks up a Republic of Ireland signal while you are still in Northern Ireland you may have to pay to **receive** calls?  
SINGLE CODE

Yes .....	1
No.....	2
Don't know .....	3

QA3b Before today were you aware that if your mobile handset picks up a Republic of Ireland signal while you are still in Northern Ireland you may have to pay **more than your normal rate** to make calls?  
SINGLE CODE

Yes .....	1
No.....	2
Don't know .....	3

**COSTS AND TARIFFS**

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QA4 [ASK TO RESPONDENTS WHO HAVE PICKED UP A REPUBLIC OF IRELAND NETWORK AT QA2]

Have you ever to your knowledge ever had extra costs on your mobile phone bill (or credit deducted from your account if you are on a pay as you go tariff) that relate to either incoming or outgoing calls whilst your mobile phone is picking up a REPUBLIC OF IRELAND tariff?  
SINGLE CODE

- Yes ..... 1
- No..... 2

**[NOTE TO INTERVIEWER – IF RESPONDENT ANSWERS YES, THEY ARE ELIGIBLE FOR THE ROAMING SECTION]**

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QA5 How do you feel about the costs associated with inadvertent roaming?  
[ASK RESPONDENTS WHO HAVE EXPERIENCED EXTRA COSTS AT QA4]  
SINGLE CODE

- Far too high ..... 1
- A little too high..... 2
- About right ..... 3
- Too cheap ..... 4
- Far too cheap ..... 5

QA6 Are you aware of any special tariffs available from your operator to deal with the problem?  
SINGLE CODE

- Yes, I am aware of all the tariffs offered by my network operator ..... 1
- Yes, I am aware of some of the tariffs offered by my network operator ..... 2
- No, I'm not aware of the tariffs offered..... 3

QA7 [ASK RESPONDENTS WHO ARE AWARE OF ANY SPECIAL TARIFFS AT QA6]  
Do you use one of these special tariffs?  
SINGLE CODE

- Yes ..... 1
- No..... 2

QA8a [ASK RESPONDENTS WHO USE A SPECIAL TARIFF AT QA7]  
What kind of tariff is it?  
[Record verbatim answer]

.....  
.....

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QA8b [ASK RESPONDENTS WHO DO NOT USE A SPECIAL TARIFF AT QA7]

Why don't you use one of these special tariffs?

MULTICODE

Too complicated to understand.....	1
Not affected often enough by the issue to make it worthwhile.....	2
They are too expensive.....	3
Don't know how to sign up.....	4
Too much bother/ hassle.....	5
Not interested.....	6
Other (Please specify.....)	7
Don't know .....	8

[NOTE TO INTERVIEWER - IF RESPONDENT HAS NOT ROAMED OR INCURRED COSTS AT QA2 OR QA4 PLEASE CONTINUE TO DIARY SECTION.]

**ROAMING**

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REMAINDER OF QUESTIONNAIRE SHOULD ONLY BE ASKED TO RESPONDENTS WHO HAVE EXPERIENCED ROAMING AT QA2 OR QA4.

QB1 Can you tell me where you have been when you have picked up an ROI network on your mobile phone??

[NOTE TO INTERVIEWER – OBTAIN TOWN NAMES WHERE THIS HAS HAPPENED]

MULTICODE

**Area 1:**

Ballycastle .....	1
Castlerock .....	2
Portstewart .....	3
Portrush.....	4
Limavady.....	5

**Area 2:**

Londonderry .....	6
Eglinton .....	7
New Buildings .....	8
Ballymagorry .....	9
Artigarvan.....	10
Strabane.....	11
Sion Mills.....	12
Clady .....	13
Castledearg.....	14

**Area 3:**

Pettigoe .....	15
Belleek .....	16
Garrison .....	17
Belcoo .....	18
Rosslea .....	19
Derrylin.....	20
Newtownbutler .....	21
Enniskillen .....	22

**Area 4:**

Aughnacloy .....	23
Ballygawley .....	24

Augher.....	25
Clogher.....	26
Fivemiletown .....	27
Keady .....	28
Caledon.....	29
Middletown .....	30
Armagh.....	31
<b>Area 5:</b>	
Newry .....	32
Bessbrook .....	33
Newtownhamilton.....	34
Cullyhanna .....	35
Crossmaglen .....	36
Cullaville.....	37
Forkhill.....	38
Jonesborough .....	39
Warrenpoint.....	40
Kilkeel.....	41
Other (Please specify.....)	42
Other (Please specify.....)	43
Other (Please specify.....)	44
Other (Please specify.....)	45
Other (Please specify.....)	46

QB2 How often does this occur? (Ask this separately for each town mentioned at QB1)  
SINGLE CODE PER TOWN/LOCATION

	• Every day	• 2-3 times a week	• Once a week	• Less often
Ballycastle	• 1	• 1	• 1	• 1
Castlerock	• 2	• 2	• 2	• 2
Portstewart	• 3	• 3	• 3	• 3
Portrush	• 4	• 4	• 4	• 4
Limavady	• 5	• 5	• 5	• 5
Londonderry	• 6	• 6	• 6	• 6
Eglinton	• 7	• 7	• 7	• 7
New Buildings	• 8	• 8	• 8	• 8
Ballymagorry	• 9	• 9	• 9	• 9
Artigarvan	• 10	• 10	• 10	• 10
Strabane	• 11	• 11	• 11	• 11
Sion Mills	• 12	• 12	• 12	• 12
Clady	• 13	• 13	• 13	• 13
Castlederg	• 14	• 14	• 14	• 14
Pettigoe	• 15	• 15	• 15	• 15
Belleek	• 16	• 16	• 16	• 16
Garrison	• 17	• 17	• 17	• 17
Belcoo	• 18	• 18	• 18	• 18
Rosslea	• 19	• 19	• 19	• 19
Derrylin	• 20	• 20	• 20	• 20
Newtownbutler	• 21	• 21	• 21	• 21
Enniskillen	• 22	• 22	• 22	• 22
Aughnacloy	• 23	• 23	• 23	• 23
Ballygawley	• 24	• 24	• 24	• 24
Augher	• 25	• 25	• 25	• 25

Clogher	• 26	• 26	• 26	• 26
Fivemiletown	• 27	• 27	• 27	• 27
Keady	• 28	• 28	• 28	• 28
Caledon	• 29	• 29	• 29	• 29
Middletown	• 30	• 30	• 30	• 30
Armagh	• 31	• 31	• 31	• 31
Newry	• 32	• 32	• 32	• 32
Bessbrook	• 33	• 33	• 33	• 33
Newtownhamilton	• 34	• 34	• 34	• 34
Cullyhanna	• 35	• 35	• 35	• 35
Crossmaglen	• 36	• 36	• 36	• 36
Cullaville	• 37	• 37	• 37	• 37
Forkhill	• 38	• 38	• 38	• 38
Jonesborough	• 39	• 39	• 39	• 39
Warrenpoint	• 40	• 40	• 40	• 40
Kilkeel	• 41	• 41	• 41	• 41
Other (Please specify.....)	• 42	• 42	• 42	• 42
Other (Please specify.....)	• 43	• 43	• 43	• 43
Other (Please specify.....)	• 44	• 44	• 44	• 44
Other (Please specify.....)	• 45	• 45	• 45	• 45
Other (Please specify.....)	• 46	• 46	• 46	• 46

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QB3 Have you ever complained to anyone about this?  
SINGLE CODE

- Yes ..... 1  
No..... 2

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QB4 [ASK RESPONDENTS WHO HAVE COMPLAINED AT QB3]  
Who have you complained to?  
[PROMPTED LIST]  
MULTICODE

- My mobile network operator..... 1  
Other network operator (i.e. the network whose signal your phone picked up)..... 2  
Local MP/ MLA..... 3  
Ofcom..... 4  
Comreg ..... 5  
A consumer group..... 6  
Citizen's Advice Bureau ..... 7  
Media..... 8  
Other (Please specify.....) ..... 9  
Don't know ..... 10
-

QB5 [ASK RESPONDENTS WHO HAVE COMPLAINED AT QB3]  
 When you made your complaint, how satisfied were you with...  
 SINGLE CODE PER STATEMENT

	• Very dissatisfied	• Dissatisfied	• Neither satisfied nor dissatisfied	• Satisfied	• Very satisfied	• Don't Know
a) The response and process overall	• 1	• 2	• 3	• 4	• 5	• 6
b) Understanding of the issue	• 1	• 2	• 3	• 4	• 5	• 6
c) That the advice you were given meant that you could deal with the problem	• 1	• 2	• 3	• 4	• 5	• 6

QB6 Are you aware of any information about the problem from your network operator from any of the following sources?  
 MULTICODE

- Text messages..... 1
- Leaflets..... 2
- Information in mobile phone shops..... 3
- Information on recorded message ..... 4
- Information from other sources (Please specify.....) ..... 5
- None of these..... 6
- Don't know ..... 7

QB7 Do you consciously check your mobile phone screen to check that you are on a UK network before using your phone?  
 SINGLE CODE

- Yes ..... 1
- No..... 2

QB8 Have you ever done any of the following things to avoid paying extra charges when you pick up a Republic of Ireland network?  
 MULTICODE

- Turn your mobile to 'manual' and lock onto your own network..... 1
- Avoid making calls ..... 2
- Avoid receiving calls..... 3
- Asked your mobile network operator to removes the roaming facility ..... 4
- Purchased a Republic of Ireland mobile phone or SIM card ..... 5
- Other (Please specify.....) ..... 6
- None of these..... 7
- Don't know ..... 8

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QB9 If you know you are on a REPUBLIC OF IRELAND network and there is an incoming call, would you answer it?  
SINGLE CODE

- Yes always ..... 1  
Yes, most of the time ..... 2  
Yes, if the call was important ..... 3  
No, never..... 4  
It depends ..... 5  
Don't know ..... 6

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QB10 If you know you are on a REPUBLIC OF IRELAND network and you wanted to make an outgoing call, would you make it?  
SINGLE CODE

- Yes always ..... 1  
Yes, most of the time ..... 2  
Yes, if the call was important ..... 3  
No, never..... 4  
It depends ..... 5  
Don't know ..... 6

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**DIARY OPTION**

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QC1 Would you be willing to be take part in further research on this topic. We are conducting “diary” style interviews, which will record occurrences and details of inadvertent roaming. This exercise will last a week.  
Respondents who complete this study will be entered into a prize draw to win either a Hewlett Packard nx6325 Laptop or a Playstation 3.  
SINGLE CODE

- Yes ..... 1 (Go to QC2)  
No ..... 2

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QC2 Please be assured that you will only be contacted again for genuine market research on this topic and no sales call will result from CARD group’s contact with you.

Please provide the following details so that we can contact you for further research on this topic.

Full Name:  
Phone Number:  
E-Mail Address:  
Postcode:

[Note to interviewer: Respondent does not have to give these details]

## Diary Study Record Sheet

### HP586 – OFCOM INADVERTENT ROAMING DIARY QUESTIONNAIRE

Thank you for taking part in our survey on mobile phone use in Northern Ireland, which we are conducting on behalf of Ofcom, the UK communications regulator.

We are interested in finding out about more about the difficulties that people living and working along the border experience with their mobile phone roaming to a network on the other side of the border. This often leads to the user incurring international charges when making or receiving calls.

During the next 7 days, please use the chart below to keep a record of all occasions when you make mobile phone calls in Northern Ireland but your handset is picking up a Republic of Ireland network. We understand that when you receive a call you may not always have noted which network you are on but, where possible, we would ask you to look at your handset after receiving a call to see if it has roamed to a Republic of Ireland network.

When you have completed this survey please post it to the address given using the envelope provided:

Date of call	Time of call	Location (town) where call was received/made	Duration of call	Type of call – Made or Received.	Network roamed to (the name should appear on your mobile phone screen)	Did you receive a roaming text message from ROI operator beforehand? <sup>14</sup>  Yes or No?

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<sup>14</sup> When your mobile network first roams to a Republic of Ireland network, you should receive a welcome text message.

## Annex 2

# Base sizes for Ofcom's communications tracking survey

Ofcom runs its communications tracking survey on a quarterly basis. It is modular, which means that not all questions were asked of respondents in every quarter of 2006.

The table below indicates the number of people who indicated they had the services listed.

**Figure 5.90 Numbers of respondents indicating they had the listed services**

	<b>UK</b>	<b>England</b>	<b>Scotland</b>	<b>Wales</b>	<b>N. Ireland</b>		<b>UK Urban</b>	<b>UK Rural</b>	
Fixed line at home	8269	6430	654	587	598		7058	1211	8269
Mobile in household	8038	6215	672	572	579		6913	1125	8038
Internet at home	4048	3153	341	286	268		3439	609	4048
Broadband at home	3059	2374	266	212	207		2643	416	3059
Have multichannel TV	6800	5234	580	542	444		5906	894	6800
Listen to radio	1222	953	81	85	103		1056	166	1222

# Glossary of terms and definitions

**2G** Second generation of mobile telephony systems using digital encoding. 2G networks support voice, low speed data communications, and short messaging services.

**2.5G** In mobile telephony, 2.5G protocols extend 2G systems to provide additional features such as packet-switched connections (GPRS) and enhanced data rate.

**3G** Third generation of mobile systems. Provide high-speed data transmission and supporting multimedia applications such as full-motion video, video-conferencing and Internet access.

**Access network** Electronic Communications Network which connects end-users to a service provider; running from the end-user's premise to a Local Access Node and supporting the provision of access based services. It is sometimes referred to as the local loop or last mile.

**ADSL** Asymmetric Digital Subscriber Line. A digital technology that allows the use of a copper line to send high bandwidths in downlink direction and a lesser bandwidth in the uplink.

**AM** Amplitude Modulation. Type of modulation produced by varying the strength of a radio signal. This type of modulation is used by broadcasters in three frequency bands: medium frequency (MF, also known as medium wave: MW); low frequency (LF, also known as long wave: LW), and high frequency (HF, also known as short wave: SW). The term AM is often used to refer to the medium frequency band (see MF below).

**ATT** Analogue Terrestrial Television. The television broadcast standard that all television industries launched with. Most countries in this study are planning to phase out ATT in the next ten years.

**BARB** Broadcasters Audience Research Board. The pan-industry body which measures television viewing.

**Bit-rates** The rate at which digital information is carried within a specified communication channel.

**Bitstream** A service providing transmission capacity between an end-user's premise and the point of interconnection made available by the incumbent to a competitive provider of electronic communications services.

**Bluetooth** Wireless standard for short-range radio communications between a variety of devices such as PCs, headsets, printers, mobile phones, and PDAs.

**Broadband** A service or connection generally defined as being "always on" and providing a bandwidth greater than 128kbit/s.

**BSC** Broadcasting Standards Commission, whose functions transferred to Ofcom on 29th December 2003.

**CDMA** Code Division Multiple Access. The basis for the primary 2G technology; and the later evolution of mobile technology in the US and related markets. A technology that allows

a band of spectrum to be shared by multiple concurrent users. Rather than subdividing the spectrum (FDMA) or determining usage on a round robin basis (TDMA), unique codes are used to differentiate subscribers so they can simultaneously use the same spectrum.

**Coders** The devices which convert a signal from one form into another, digital form. The input may be an analogue signal or it may be a digital signal coded in a form other than that desired for the particular purpose of communication required. In digital radio, the term generally refers to the devices which produce a digital sound programme service in a form suitable for acceptance by a multiplexer. The multiplexer combines it with the other services for transmission as a single, combined complex signal (see also Multiplex). A particular feature of digital radio coders is that they seek to avoid sending information that is not needed to recreate the sound in the receiver, thereby requiring less capacity (bit-rate) in the multiplex transmission. However, the more information is taken away from the signal, the greater the probability of imperfect reproduction of sound by the receiver.

**Communications Act** Communications Act 2003, which came into force in July 2003.

**Co-regulation** The sharing of regulation between a statutory body (e.g. Ofcom) and its licensees.

**Core network** Backbone network connecting the major nodes in the network, and linked to the access network (last mile) via the backhaul links (middle mile).

**CPS** Carrier Pre-selection. The facility offered to customers which allows them to opt for certain defined classes of call to be carried by an operator that has been selected in advance and has a contract with the customer. CPS does not require the customer to dial a routing prefix or use a dialler box.

**DAB** Digital Audio Broadcasting. A set of internationally accepted standards for the technology by which terrestrial Digital Radio multiplex services are broadcast in the UK.

**Data packet** In networking, the smallest unit of information transmitted as a discrete entity from one node on the network to another.

**DCMS** Department for Culture, Media and Sport

**Digital switchover** The process of switching over the current analogue television broadcasting system to digital, as well as ensuring that people have adapted or upgraded their televisions and recording equipment to receive digital TV.

**DMB** Digital Mobile Broadcasting. A variant of the DAB digital radio standard for mobile TV services, and an alternative to DVB-H (see DVB, below).

**Downlink speed.** Also downlink or download. Rate of data transmission from a network operator's access node to a customer, typically measured in Megabits per second.

**DSL** Digital Subscriber Line. A family of technologies generally referred to as DSL, or xDSL, capable of transforming ordinary phone lines (also known as 'twisted copper pairs') into high-speed digital lines, and of supporting advanced services such as fast Internet access and video-on-demand. ADSL, HDSL (High data rate Digital Subscriber Line) and VDSL (Very high data rate Digital Subscriber Line) are all variants of xDSL.

**DTI** Department for Trade and Industry.

**DTT** Digital Terrestrial Television.

**DVB** Digital Video Broadcasting. A set of internationally accepted open standards for digital broadcasting, including standards for distribution by satellite, cable, radio and handheld devices (the latter known as DVB-H).

**DVD** Digital Versatile Disc. A high capacity CD-size disc for carrying audio-visual content. Initially available read-only, but recordable formats are now available.

**EBITDA** Earnings Before Interest, Tax, Depreciation and Amortisation.

**EPG** Electronic Programme Guide. A programme schedule, typically broadcast alongside digital television or radio services, to provide information on the content and scheduling of current and future programmes.

**EBU** European Broadcasting Union. A professional association of public service broadcasters, representing their interests to the European institutions. It negotiates broadcasting rights for major sports events, operates the Eurovision and Euroradio networks, organises programme exchanges and coordinates co-productions.

**Fairness Doctrine** FCC regulation that applied to broadcasters in the US between 1949 and 1987 aimed at promoting controversial speech in news and informational programming and to ensure impartiality.

**Fibre-to-the-cabinet** Access network consisting of optical fibre extending from the access node to the street cabinet. The street cabinet is usually located only a few hundred metres from the subscriber premises. The remaining segment of the access network from the cabinet to the customer is usually a copper pair but could use another technology, such as wireless.

**FM** Frequency Modulation. Type of modulation produced by varying the frequency of a radio carrier in response to the signal to be transmitted. This is the type of modulation used by broadcasters in part of the VHF (Very High Frequency) band, known as VHF Band 2.

**Format** The type of programme service broadcast by radio stations. Also, the part of a radio station's licence which describes the programme service.

**FTA** Free-to-air. Broadcast content that people can watch or listen to without having to pay a subscription.

**GDP** Gross Domestic Product.

**GPRS** General Packet Radio Service. A packet data service provided over 2.5G mobile networks.

**GSM** Global Standard for Mobile Telephony. The most commonly used 2G mobile standard worldwide.

**HD Radio** Hybrid Digital Radio. A radio standard developed in the US for terrestrial broadcasters, offering high-quality audio.

**HDTV** High Definition Television. A technology that provides viewers with better quality, high-resolution pictures.

**HSDPA** High Speed Downlink Packet Access. An evolution of 3G mobile technology, often called 3.5G, which offers higher downlink speed.

**ILR** Independent Local Radio – the former name for local commercial radio in the UK

**Interconnection** The linking of one Public Electronic Communications Network to another for the purpose of enabling the persons using one of them to be able (a) to communicate with users of the other one; (b) to make use of services provided by means of the other one (whether by the provider of that network or by another person).

**International roaming** A service offered by mobile operators that allows customers to use their phone abroad. The home operator has agreements with foreign operators that allows customers to make and receive calls, send and pick up text messages, and use some of the other mobile services (such as access to voicemail or topping-up credit on pre-pay phones). The exact services available and the charges for their use vary between operators.

**Internet** A global network of networks, using a common set of standards (e.g. the Internet Protocol), accessed by users, typically with a computer via a service provider.

**IP** Internet Protocol. The packet data protocol used for the routing and carriage of messages across the Internet and similar networks.

**IPTV** Internet Protocol Television. The term used for television and/or video signals that are delivered to subscribers or viewers using Internet Protocol (IP), the technology that is also used to access the Internet. Typically used in the context of streamed linear and on demand content, but also sometimes for downloaded video clips.

**ISDN** Integrated Services Digital Networks. A standard developed to cover a range of voice, data, and image services intended to provide end-to-end, simultaneous handling of voice and data on a single link.

**ISP** Internet Service Provider. A company that provides access to the Internet.

**ITC** Independent Television Commission, one of the regulators replaced by Ofcom in 2003

**L-Band** A range of frequencies within which an allocation has been made in much of the world for broadcasting (1452 to 1492 MHz), generally by satellite, but in Europe for terrestrial digital sound broadcasting in the range 1452 to 1480 MHz. Some DAB digital radio receivers can tune to this range.

**LAN** Local area network. A network allowing the interconnection and intercommunication of a group of computers on a single site, primarily for the sharing of resources and exchange of information (e.g. email).

**Leased Line** A transmission facility which is leased by an end user from a public carrier, and which is dedicated to that user's traffic.

**LLU** Local Loop Unbundling. A process by which an incumbent operator's exchange lines are physically disconnected from their network and connected to a competing operator's networks. This enables operators other than the incumbent to use the local loop to provide services to customers.

**Local Loop** The access network connection between the customer's premises and the local PSTN exchange, usually a loop comprised of two copper wires.

**MF** Medium Frequency. The part of the spectrum between 300 kHz and 3000 kHz. The

broadcast part of this band (531 kHz to 1602 kHz) is often known as the medium wave (MW) or AM band (see AM above).

**MMS** Multimedia Messaging Service. The next generation of mobile messaging services, adding photos, pictures and audio to text messages.

**MPEG** Moving Picture Experts Group. A set of international standards for compression and transmission of digital audio-visual content. Most digital television services in the UK use MPEG2, but MPEG4 offers greater efficiency and is likely to be used for new services including TV over DSL and High Definition TV.

**Multichannel** In the UK, this refers to the provision or receipt of television services other than the main five channels (BBC ONE & TWO, ITV1, Channel 4/S4C, Five) plus local analogue services. 'Multichannel homes' comprise all those with digital terrestrial TV, satellite TV, digital cable or analogue cable, or TV over broadband. Also used as a noun to refer to a channel only available on digital platforms (or analogue cable).

**Multiplex** A device that sends multiple signals or streams of information on a carrier at the same time in the form of a single, complex signal. The separate signals are then recovered at the receiving end.

**MVNO** An organisation which provides mobile telephony services to its customers, but does not have allocation of spectrum or its own wireless network.

**MW** See MF and AM above.

**Narrowband** A service or connection providing data speeds up to 128kbps, such as via an analogue telephone line, or via ISD.

**NGN** Next Generation Network. A new type of network being considered or built by many telecoms operators to replace their existing infrastructure. Typically, they are packet-based, able to make use of many transport technologies and have service-related functions independent from underlying transport-related technologies. It is expected that the many separate networks run by most operators will be replaced by a single NGN.

**OECD** Organisation for Economic Cooperation and Development.

**Of tel** Office of Telecommunications, whose functions transferred to Ofcom on 29th December 2003.

**PACT** Producers Alliance for Cinema and Television, the UK trade association for independent film, television, animation and interactive media companies.

**PAYG** Pay-as-you-go.

**Pay-per-view** A service offering single viewings of a specific film, programme or event, provided to consumers for a one-off fee.

**PDA** Personal Digital Assistant .

**Peaktime** The period during which:

a radio station broadcasts its breakfast show and, on weekdays only, also its afternoon drive-time show;

a television station broadcasts its early- and mid-evening schedule, typically used by Ofcom to refer to the period between 18:00 and 22:30 each day (including weekends).

**PPC** Partial Private Circuit.

**PSB** Public Service Broadcasting, or Public Service Broadcaster. The Communications Act in the UK defines the PSBs to include the BBC, ITV1, Channel 4, Five and S4C.

**PSTN** Public Switched Telephony Network.

**PVT** Public Value Test. One of the two components that together form the Public Value Assessment (PVA) for any new BBC service. The second component is the Market Impact Assessment (MIA) undertaken by Ofcom.

**PVR** Personal Video Recorder (also known as Digital Video Recorder).

**Radio Authority** The statutory body responsible for the licensing and regulation of non-BBC radio services between 1990 and 2003. It was one of the bodies replaced by Ofcom.

**RAJAR** Radio Joint Audience Research – the pan-industry body which measures radio listening.

**Regulatory holiday** A commitment by a regulator not to impose regulatory measures on a given product or service for a specified period of time.

**RSL** Restricted Service Licence. A radio licence serving a single site (e.g. a hospital or university campus) or serving a wider area on a temporary basis (e.g. for festivals and events).

**Scrolling text facilities** The feature of digital radios which enables broadcaster-compiled text to be displayed. Limitations on physical space on the display leads to the messages being scrolled across the display so that they can be read.

**SDSL** Symmetric Digital Subscriber Line. Unlike ADSL, it offers the same fast data rate speeds in both directions.

**Service provider** A provider of electronic communications services to third parties whether over its own network or otherwise.

**Share (Radio)** Proportion of total listener hours, expressed as a percentage, attributable to one station within that station's Total Survey Area.

**Share (TV)** Proportion of total TV viewing to a particular channel over a specified time, expressed as a percentage of total hours of viewing.

**Simulcasting** The broadcasting of a television or radio programme service on more than one transmission technology (e.g. FM and MW, DAB and FM, analogue and digital terrestrial television, digital terrestrial and satellite).

**SME** Small or Medium sized Enterprise.

**SMS** Short Messaging Service.

**Telecommunications**, or 'Telecoms' Conveyance over distance of speech, music and other sounds, visual images or signals by electric, magnetic or electro-magnetic means.

**Timeshifting** The broadcasting of a television service on more than one channel with a

specified delay (typically an hour), to provide more than one opportunity for viewers to watch the service. Alternatively, the recording of programmes by viewers (using PVRs, recordable DVDs or VCRs) to watch at another time.

**Transmitter** A device which amplifies an electrical signal at a frequency to be converted, by means of an aerial, into an electromagnetic wave (or radio wave). The term is commonly used to include other, attached devices, which impose a more simple signal onto the frequency, which is then sent as a radio wave. The term is sometimes also used to include the cable and aerial system referred to above, and indeed the whole electrical, electronic and physical system at the site of the transmitter.

**TSA** Total Survey Area. The coverage area within which a radio station's audience is measured by RAJAR.

**TV over DSL/TV over Broadband** A subset of IPTV. A technology that allows viewers to access TV content – either in a linear programme schedule, or on-demand – using Internet Protocol via broadband services, either on a PC or (via a set-top box) on a TV set.

**TVWF** Television Without Frontiers. A range of provisions designed to achieve coordination of the legal, regulatory and administrative frameworks of European Union member states with respect to television broadcasting, adopted by the European Council in 1989 and amended in 1997.

**UMTS** Universal Mobile Telecommunications System. The 3G mobile technologies most commonly used in the UK and Europe.

**VHF** Very High Frequency. The part of the spectrum between 30 MHz and 300 MHz. FM radio is broadcast on part of this band (87.6 MHz to 107.9 MHz) and DAB digital radio is broadcast on another (Band III: 217.5 MHz to 230 MHz in the UK, and over a wider range, but shared with TV services, elsewhere in Europe).

**VCR** Video Cassette Recorder.

**VDSL** Very high bit rate DSL. This is currently the fastest version of DSL and can transmit very high data rates on short reaches of the local loop.

**VoB** Voice over Broadband. A technology that allows calls to be sent over the Internet, using broadband services.

**VoD** Video on Demand. A service or technology that enables TV viewers to watch programmes or films whenever they choose, not restricted by a linear schedule. Near Video on Demand (NVoD) is a service based on a linear schedule that is regularly repeated on multiple channels, usually at 15-minute intervals, so that viewers are never more than 15 minutes away from the start of the next transmission.

**VoIP** Voice over Internet Protocol. A technology that allows calls to be sent over the Internet, using either the public Internet or private IP networks.

**WAN** Wide area network. A network allowing the interconnection and intercommunication of a group of computers over a long distance.

**WAP** Wireless Application Protocol.

**Wireless LAN** or **WiFi** (Wireless Fidelity) Short range wireless technologies using any type of 802.11 standard such as 802.11b or 802.11a. These technologies allow an over-the-air

connection between a wireless client and a base station, or between two wireless clients.

**WiMAX** A wireless MAN (metropolitan area network) technology, based on the 802.16 standard. Available for both fixed and mobile applications.

**WLR** Wholesale Line Rental. A regulatory instrument requiring the operator of local access lines to make this service available to competing providers at a wholesale price.

**The definitions in this glossary are for general guidance purposes only and do not represent legal definitions.**

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