Communications Market Report

Annex 1: Methodology and Glossary
Contents

Section

1. Research sources (internal and external) 1
2. Stakeholder data 7
3. Other third-party sources 9
4. Glossary 10
1. Research sources (internal and external)

**Ofcom Technology Tracker**

The technology tracker is a face-to-face survey run once a year with c. 3,750 adults. It provides us with continuous understanding of consumer behaviour in the UK communications markets, helping us to monitor change and assess the degree and success of market competition. The data collected are weighted to the profile of UK adults, so the data are representative of adults aged 16+.

The Technology Tracker provides data on:

- Take-up of devices
- Take-up of telephony and broadband services
- Activities conducted on mobile phones and the internet
- Take-up of pay-TV services
- Use of video-on-demand services
- Take-up of digital radio

**Ofcom Residential Postal Tracker**

The residential postal tracker survey is run throughout the course of the year with a sample of 5,776 UK adults (2017) and reported on a quarterly basis. The main objective is to help Ofcom to keep abreast of the UK postal market and to help us to quickly identify and react to any changes in attitudes and behaviour among residential postal consumers.

**Ofcom SME Postal Tracker**

The business SME postal tracker survey is run throughout the course of the year on a sample of 2,000 SMEs (businesses with 0-249 employees) and reported annually. The main objective is to help Ofcom keep abreast of the UK postal market and to help us to quickly identify and react to any changes in attitudes and behaviour among SME postal consumers.

**Ofcom Media Tracker**

The media tracker survey is run throughout the course of the year to counter potential seasonality issues and is reported on an annual basis on a sample of 2,386 adults including 1,100 face-to-face respondents (54%) and 1,286 online respondents (46%). The research provides Ofcom with a valuable source of information on consumers’ attitudes and helps inform Ofcom’s work on broadcasting standards.

**Ofcom Adult Media Literacy Tracker**

The Adults Media Literacy Tracker is a face-to-face survey run once a year between October-November, among c.1,900 adults aged 16 and over. The objective of the survey is to provide
detailed evidence on media use and understanding among adults aged 16+. The data are weighted to the national UK profile.

**Ofcom Mobile Research App**

The Ofcom Mobile Research app was created to gain insight into the consumer experience of using mobile phones. A panel of mobile users downloaded the application on to their Android mobile phone. The app collected information about how they used their device, measured the performance of app services used, and asked the user about their perception of the quality of the connection. This research was part of a wider programme of work by Ofcom to research and provide information about mobile quality of service. The analysis of the Ofcom Mobile Research app data for Ofcom’s *Communications Market Report* (CMR) 2018 focused on how consumers use their Android smartphones. The findings analysed were collected from panellists who had the Ofcom mobile research app downloaded for at least seven days during the second fieldwork period. Panellists were included in the analysis if they had valid demographic details; such as age, gender and location, were users of the EE, O2, Three or Vodafone networks and had access to 4G mobile technologies. The overall panel that matched these criteria comprised 5,315 users who were distributed as follows:

- by mobile network
  - 1,761 users on the EE network
  - 945 users on the Three network
  - 990 users on the Vodafone network
  - 1,619 users on the O2 network
- by nation
  - 4,327 panellists with a home postcode in England
  - 195 panellists in Northern Ireland
  - 310 panellists in Wales
  - 483 panellists in Scotland
- by rurality
  - 813 panellists with a home postcode in a rural area
  - 4,502 panellists in urban areas

The demographics of recruited panellists were close to being nationally representative, so we were able to include nearly all panellists in the analysis with some weightings applied. The data for the CMR were weighted by gender and age.

The second fieldwork reporting period for this research includes data collected from 23 September until 23 December 2017. During this time, more than 43 million rows of anonymised data were collected.

**Sampling methodology**

This is Ofcom’s first mobile research app, downloadable from Google’s Play Store. The research app was advertised on the Ofcom website and through social media. Although recruitment for the research app was primarily crowd-sourced, the research project is panel-based, with sampling targets for each of the four mobile networks (EE, Three, O2 and Vodafone) and for different demographic and geographic groups. In addition to the crowd-sourced panellists, 3,000 additional
panellists were recruited by BDRC Continental on Ofcom’s behalf. Further details on this are described in the statistical methodology for the Consumer Mobile Experience Report.¹

**Metrics and analysis methodology**

For the CMR, the following metrics were analysed:

1. **Always on: the connected consumer**
2. Proportion of app use by app category, selected app, gender and age
3. Proportion of app users, by selected app, gender and age
4. Average daily number of app sessions per user, by gender and age
5. Proportion of app use (%) by selected app, time of day and technology
6. Average length of sessions by selected apps, technology, gender and age

A very large number of readings were collected during the fieldwork period. The number of panellists contributing readings to each metric was checked to make sure that the sample size was large enough to be statistically robust. For all the metrics, the sample size for the smallest sub-group analysed was at least 100.

**1. Always on: the connected consumer**

This metric looked at the location of each app usage record in comparison to the home location of the user to see how often mobile phones were being used at home and not at home. This was to investigate the proportion of out-of-home use.

Statistically significant differences (tested using two-tailed statistical tests at the 5% level) are presented for in-home and out-of-home (on the move). Within that data, access technology comparisons (mobile vs. wi-fi, 3G vs. 4G) are also shown.

**2. Percentage of app use by app category, selected app, gender and age**

The percentages of app usage records by selected app categories and apps were compared to an overall total to see which the most popular apps and app categories were. Gender comparisons and comparisons between age groups were also looked at to see if there were any differences.

A two-tailed test (at the 5% level) comparing the percentages was carried out to see if there were any statistically significant differences between different apps or app categories, by gender and by age groups.

**3. Percentage of app users, by selected app, gender and age**

The proportion of users who used each app at least once during the fieldwork period was analysed for the total sample, then split by gender and age group. This metric shows the reach of each app among various demographic groups. The apps were ranked from highest to lowest reach, and the

selected apps were chosen based on their ranking once system apps (such as settings) were removed. The apps shown represent some of the highest-reaching apps in the research.

A two-tailed test (at the 5% level) comparing the percentages was carried out to see if there were any statistically significant differences by gender or age group.

4. **Average daily number of app sessions per user, by gender and age**

The average number of daily app session per user was analysed for all users and all apps, for selected apps, and by age and gender. The median (middle number of the range of results) was used as the measure of the average as the data were not normally distributed, so the mean was not a representative average.

A non-parametric independent samples median test was used to compare the average number of daily app session by age and by gender. Differences were reported if they were significant at the 95% confidence level.

5. **Percentage of app use (%) by selected app, time of day and technology**

The number of app sessions occurring in each hour of the day were analysed as a percentage of the total app session in a day for selected apps. This was analysed for all technologies, comparing wi-fi with mobile technologies.

6. **Average length of sessions by selected apps, technology, gender and age**

This metric shows the average length of time, in seconds, that users spent within each app when it was actively being used in the foreground. Each app usage session length, for every app, was recorded. The average (median) session length was compared by data access technology, by gender and by age group.

Statistical significance tests were carried out on the findings, and differences (by data access technologies, by gender and by age groups) were reported if:

- they were found to be significant by running a two-tailed 5% test of statistical significance
- if the 95% confidence intervals around the averages did not overlap

A 95% confidence interval means that if we repeated the research with a different sample, assembled in the same way, there would be a 95% probability that the median value would be in the range shown. Where there are larger samples and/or there is little variation within the sample, the confidence interval is much narrower than where we have smaller samples and/or large variation within the sample.

‘Always on’ – CMR 2018 Research

The ‘Always on’ research was commissioned specifically for the *Communications Market Report* 2018. It looked at how consumers are connected while they are on the move, including commuting to work or when out with friends and family. It also examined their views on digital etiquette, and
the impact of this increased connectivity on society. The research was run via Populus’s online omnibus and included 1,000 interviews. The data collected were weighted to the profile of UK adults, so the data are representative of adults aged 16+.

**TouchPoints 2017**

TouchPoints is an annual survey commissioned by the Institute of Practitioners in Advertising (IPA). With a sample of approximately 6,000 adults 15+ across Great Britain, it uses a seven-day diary to capture media consumption and other daily activities every half hour. It also uses a self-completion questionnaire which includes attitudinal statements.

**BARB**

Broadcasters’ Audience Research Board (BARB) is a panel of approximately 5,100 homes providing the official broadcast TV measurement for the industry.

**RAJAR**

The Radio Joint Audience Research (RAJAR) is the official body in charge of measuring radio audiences in the UK and is owned and controlled by the industry. The overall adult 15+ sample is about 100,000 each year, with each respondent participating for only one week.

**UKOM (comScore)**

The UK Online Measurement Company (UKOM) was formed in 2009 with a mandate from the advertising industry to establish measurement standards for digital media. UKOM appointed comScore as its exclusive partner for online media audience measurement in the UK in 2012. We have used three of the comScore products:

1. For analysis of laptop and desktop computer internet activity only, we use comScore Media Metrix (MMX) which employs comScore’s Unified Digital Measurement (UDM) methodology, explained below.

2. For analysis of mobile internet and app activity only, on Android and iOS smartphones, iPads and Android tablets, we use comScore Mobile Metrix, which also employs comScore’s Unified Digital Methodology for Android and iOS smartphones and iPads. Android tablet use is captured on tagged entities.

3. For analysis of internet activity across platforms, we use comScore MMX Multi-Platform which provides metrics on desktop video.

ComScore’s Unified Digital Methodology (UDM) combines panel and census measurement techniques to obtain digital audience measurement statistics. UDM uses comScore’s global measurement panel to determine audience reach and demographics. Census-level activity is captured from publishers’ digital content, such as on websites, videos, and computer and mobile applications. ComScore combines census-level data with those captured from the panel to help provide a more accurate view of audiences and their consumption habits. This approach allows
comScore to capture more accurate consumption activity from publishers, and attribute this to audience demographics in a way that is not affected by cookie deletion, blocking, or rejection.
2. Stakeholder data

Broadcast (TV and radio)

Broadcast TV revenue, output and spend data are collected from all Ofcom-licensed channels that broadcast to the UK. This data are collected annually and relate to programming broadcast, and revenue generated, in each calendar year. We collect more detailed information on the PSB channels to support our duties relating to public service broadcasting.

Further information on the data we collect from TV licensees can be found at https://www.ofcom.org.uk/tv-radio-and-on-demand/information-for-industry/tv/tv-industry-data-collection.

Radio revenue data used in this report are sourced from holders of commercial radio licences, who are required to submit annual revenues data to us. Community radio stations are also required to make an annual return, setting out revenues, expenditures and details of how they are fulfilling their key commitments. Data on BBC radio services are sourced from the 2017-18 BBC Annual Report and Accounts.

Further information on the data we collect from commercial radio licensees can be found at https://www.ofcom.org.uk/tv-radio-and-on-demand/information-for-industry/radio-broadcasters/commercial-radio-industry-data-collection

Telecoms

Ofcom receives quarterly data from the UK’s largest fixed and mobile telecoms providers as part of its programme of regular industry data collection. These data are collected under the formal powers granted to Ofcom under the Communications Act 2003, and cover retail revenues, volumes and lines/subscriptions, as well as some wholesale services.

When compiling the fixed telecoms data, we adjust the figures to take into account those providers that do not submit returns. Summary quarterly Telecoms Data Updates are produced from the submitted data, and these can be accessed at: https://www.ofcom.org.uk/research-and-data/telecoms-research/data-updates.

Post

In line with the relevant provisions of the Universal Service Conditions, Ofcom receives data from Royal Mail throughout the year. We published a full list of the data we collect from Royal Mail in Annex A of our previous Annual Monitoring Update on the Postal Market 2016-17. 2

We collect revenue and volume data from the remaining largest parcels and letters operators in the UK on an annual basis. For parcels operators this includes those operators with UK-wide networks.

2 See Annual Monitoring Update on the Postal Market 2016-17
From 2017-18 we ceased collecting revenues and volumes data from those letters operators whose annual volumes are fewer than 2 million items.
3. Other third-party sources

The Communications Market Report examines the key market developments in the communications industry and aims to provide a holistic picture of the TV, radio, telecoms, post and internet sectors. To do this, Ofcom references publicly-available information and third-party data sources throughout the report. Third-party data providers cited in the CMR include:

ACast
Advertising Association/WARC
Apex Insight
Ampere Analysis
BBC Annual Report and Accounts
European Commission
GfK
IAB
JICMAIL
National Public Radio (NPR)
OC&C
ONS
PACT
PwC
Reuters
YouGov
4. Glossary

3G The third generation of mobile systems which provides high-speed data transmission and supports multimedia applications such as full-motion video, video-conferencing and internet access, alongside conventional voice services.

4G The fourth generation of mobile phone mobile communication technology standards, which provides faster mobile data speeds than the 3G standards that it succeeds.

5G The fifth generation of mobile phone mobile communication technology standards, which is currently in development and will provide faster mobile data speeds than 4G.

Access Allowing other companies operating in the postal market, or other users of postal services, to use Royal Mail’s facilities for the partial provision of a postal service.

Active audience The total number of people who visited any website or used any internet connected application at least once in a given month.

ADSL Asymmetric digital subscriber line. A digital technology that allows the use of a standard telephone line to provide high-speed data communications. Allows higher speeds in one direction (towards the customer) than the other.

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 also 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.

Broadband A service or connection generally defined as being ‘always on’ and providing a bandwidth greater than narrowband.

Bulk mail High volumes of mail sent in one posting, typically of the same format and weight and often sorted to a predetermined level before being handed to the operator.

CAGR Compound annual growth rate. The average annual growth rate over a specified period of time. It is used to indicate the investment yield at the end of a specified period of time. The mathematical formula used to calculate CAGR = (present value/base value)^(1/#of years) – 1.

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

Commercial radio The broadcasting of radio programming by organisations other than the BBC and community radio stations. The majority of organisations which hold commercial radio licences operate on a for-profit basis, generally funding their broadcasts via advertising and sponsorship.

Connected TV A television that is broadband-enabled to allow viewers to access internet content.

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.
**Delivery office** A facility serving a defined geographical area where postal packets are prepared for final delivery.

**Digital/online audience** The active audience across laptop/desktop computers and mobile phones.

**Digital switchover** The process of switching over the analogue television or radio broadcasting system to digital.

**Direct mail** Addressed advertising mail.

**Dongle** A physical device, attached to a PC's USB port or a TV's HDMI port, which adds hardware and connectivity capabilities.

**Drama** A TV genre that includes all drama including comedy, drama and TV movies but excluding soaps which are classified separately. Also includes docu-dramas, based on reality, telling the story of actual events.

**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, capable 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.

**DTO** A service which makes digital content available for purchase.

**DTT** Digital terrestrial television. The television technology that carries the Freeview service.

**DVR** Digital video recorder (also known as ‘personal video recorder’ or ‘digital television recorder). A digital TV set-top box including a hard disk drive which allows the user to record, pause and rewind live TV.

**End-to-end** Operators other than Royal Mail which provide a full postal service from collection to delivery.

**Entertainment** A TV genre that includes all forms of entertainment programme, including panel games, chat and variety shows, talent contests, quiz and game shows, pop music video shows and contemporary music (coverage of popular music events and performances, such as OB concerts or as-live studio-based shows).

**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.

**E-reader** An electronic, portable device capable of downloading and displaying text such as digital books or newspapers.

**Feature phone** A low-end mobile phone that has less computing ability than a smartphone, but more capability than the most basic handsets.

**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.
**Fibre-to-the-premises** A form of fibre-optic communication delivery in which an optical fibre is run directly onto the customer’s premises.

**First-run acquisitions** A ready-made programme bought by a broadcaster from another rights holder and broadcast for the first time in the UK during the reference year.

**First-run originations** Programmes commissioned by or for a licensed public service channel with a view to their first showing on television in the United Kingdom in the reference year.

**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.

**Fulfilment mail** Requested goods including tickets, brochures, packets and parcels.

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

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

**IP (internet protocol)** The packet data protocol used for routing and carrying 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 and network.

**ISP** Internet service provider. A company that provides access to the internet.

**Large letter** This refers to Royal Mail’s definition Large Letter. A Large Letter is any item larger than a Letter and up to 353mm in length, 250mm in width and 25mm in thickness, with a maximum weight of 750g.

**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)** LLU is the process where the incumbent operators (in the UK it is BT and Kingston Communications) make their local network (the lines that run from customers’ premises to the telephone exchange) available to other communications providers. The process requires the competitor to deploy its own equipment in the incumbent’s local exchange and to establish a backhaul connection between this equipment and its core network.

**Local loop** The access network connection between the customer’s premises and the local PSTN exchange, usually a loop comprising two copper wires.
**Machine to machine (M2M)** A connection between devices, often wireless, where human input is not necessarily required. Commonly used examples of M2M are in smart metering (where the meter reports energy use back to a central billing database) or a burglar alarm, which may contain a SIM card to enable communication with monitoring offices.

**Mail centre** A facility serving a geographical area used for sorting postal packets.

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

**Multichannel** In the UK, this refers to the provision or receipt of television services other than the PSB channels. ‘Multichannel homes’ comprise all those with digital terrestrial TV, satellite TV, digital cable, or TV over broadband. Also used as a noun to refer to a channel only available on digital platforms.

**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.

**MW** See FM and AM above.

**Native advertising** Paid advertising that is cohesive with the page content, assimilates into the design and is consistent with the platform behaviour.

**Network/non-network programming** Network programming is shown by the PSB channels across the UK whereas non-network programming is made specifically for viewers in the nations and regions, and shown only in particular areas of the UK.

**Next-generation access networks (NGA)** New or upgraded access networks that will allow substantial improvements in broadband speeds. This can be based on a number of technologies including cable, fixed wireless and mobile. Most often used to refer to networks using fibre optic technology.

**Non-linear** Content that is delivered ‘on demand’ as opposed to linear, broadcast content.

**On-demand and streaming services** Services that provide access to audiovisual content exclusively via an internet connection. Examples include services that offer access to content libraries (online original, commissions and acquired) such as Netflix and Disney Life, and those that offer access to linear and live TV channels in addition to content libraries such as the BBC iPlayer and Amazon Prime.

**Over-the-top (OTT) video** Refers to audiovisual content delivered on the ‘open’ internet rather than over a managed IPTV architecture.

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

**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.

**Peak time** The period during which: a radio station broadcasts its breakfast show and, on weekdays only, also its afternoon drive-time show; when a television station broadcasts its early- and mid-
evening schedule, typically used by Ofcom to refer to the period between 6pm and 10.30pm each day (including weekends).

**Podcast** A way for digital audio files to be published on the internet, and then downloaded or streamed onto/via computers and transferred to portable digital audio players (including smartphones).

**Postal packets** A letter, parcel, packet or other article transmissible by post.

**Programmatic advertising** Programmatic ad buying is the algorithmic (rather than manual or direct) trading of ads powered by data (collected by cookies or through log-in data).

**PSB** Public service broadcasting, or public service broadcaster. The public service broadcasters in the UK consist of the BBC, ITV (including ITV Breakfast), STV, Channel 4, Channel 5 and S4C.

**PSTN** Public switched telephone network. The network that manages circuit-switched fixed-line telephone systems.

**PVR** See DVR

**Repeats** All programmes not meeting the definition of first-run origination or first-run acquisition.

**Royal Mail Wholesale** A business unit within Royal Mail Group that negotiates with any postal operator or user who applies for access to Royal Mail Group’s postal network.

**Same-day delivery** Parcel delivery scheduled for the same day that an order was placed.

**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.

**SIM (subscriber identity module)** A SIM or SIM card is a small flat electronic chip that identifies a mobile customer and the mobile operator. A mobile phone must have a SIM card inserted before it can be used.

**SIM-only** A mobile contract that is sold without a handset.

**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).

**Smartphone** A mobile phone that offers more advanced computing ability and connectivity than a contemporary basic ‘feature phone’.

**Smart speaker** A speaker with a built-in virtual assistant that enables voice interaction such as commands and questions (e.g. Amazon Echo, Google Home or Apple Homepod).

**Smart TV** A stand-alone television set with inbuilt internet functionality. Users connect to the internet via a broadband router or modem. Smart TVs are produced by consumer electronics manufacturers including Samsung, Sony, Panasonic and LG. The definition does not include television sets connected to the internet via a third-party device such as a set-top box, a games console or a laptop/PC.
**Smart watch** A wearable computer that provides features in addition to those to be expected of a watch. Typically, they are connected wirelessly to a mobile phone and display incoming messages, call status and provide some degree of control over the phone, including call answering and control of audio playback. Other features can include motion sensors, cameras and GPS.

**SME** Small to medium-sized enterprise. A company with fewer than 250 employees.

**SMS** Short messaging service, usually used to refer to mobile text messaging (see text message below).

**Soaps** A TV genre including drama programmes with a continuous storyline and fixed cast, normally with more than one episode each week and shown every week of the year and usually (but not necessarily) of 30 minutes duration.

**Social networking site (SNS)** A website that allows users to join communities and interact with friends or with others who share common interests.

**Socio-economic group (SEG)** A social classification, classifying the population into social grades, usually on the basis of the Market Research Society occupational groupings (MRS, 1991). The groups are defined as follows:

A. Professionals such as doctors, solicitors or dentists, chartered people like architects; fully qualified people with a large degree of responsibility such as senior civil servants, senior business executives and high-ranking grades within the armed forces. Retired people, previously grade A, and their widows.

B. People with very senior jobs such as university lecturers, heads of local government departments, middle management in business organisations, bank managers, police inspectors, and upper grades in the armed forces.

C1. All others doing non-manual jobs, including nurses, technicians, pharmacists, salesmen, publicans, clerical workers, police sergeants and middle ranks of the armed forces.

C2. Skilled manual workers, foremen, manual workers with special qualifications such as lorry drivers, security officers and lower grades of the armed forces.

D. Semi-skilled and unskilled manual workers, including labourers and those serving apprenticeships. Machine minders, farm labourers, lab assistants and postmen.

E. Those on the lowest levels of subsistence including all those dependent upon the state long-term. Casual workers and those without a regular income.

**Spectrum** A continuous range of frequencies of electromagnetic radiation (for example, radio waves).

**Sport** All forms of sports programming, including coverage of sporting events.

**Streaming** Audio or video files sent in compressed form over the internet and consumed by the user as they arrive. Streaming is different to downloading, where content is saved on the user’s hard disk before the user accesses it. Streaming can only be consumed online whereas downloaded content may also be viewed offline.
**Superfast broadband** Sometimes known as next-generation broadband, super-fast broadband delivers headline download speeds of at least 30Mbit/s.

**Tablet computer** A mobile computer which is included within a single panel with a touchscreen.

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

**Text message** A short text-only communication sent between mobile devices.

**Time-shifted viewing** Viewing of programmes recorded and subsequently played back on a television set within seven days of live broadcast, as well as viewing after pausing or rewinding live TV, as defined by BARB.

**Transactional mail** Business mail usually sent on a regular scheduled basis, often used in financial transactions, including statements, invoices and credit card bills.

**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 simpler 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.

**Hybrid DTT and IPTV services** Hybrid services that provide the bulk of their channels via the DTT platform, and offer additional channels and functionality through a broadband connection (such as access to online video services and programme recordings).

**UMA** Unlicensed mobile access, a technology that provides roaming between GSM and 802.11 wi-fi.

**Unaddressed mail** Also known as door-to-door and door drops, unaddressed mail is advertising mail with no specified recipient, usually distributed to all households within a targeted geographical area.

**Unique audience** The number of different people visiting a website or using an application.

**VCR** Video cassette recorder.

**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).

**VoIP** Voice over internet protocol. A technology that allows users to send calls using internet protocol, using either the public internet or private IP networks.

**Wireless LAN or wi-fi** 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.

**Within-the-hour-delivery** Parcel delivery scheduled for within a few hours of an order being placed.