

# SLR

## **Regulation of Electronic Programme Guides**

Response to consultation

Service List Registry

November 2023



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## Executive summary

This response to the consultation on extending the number of regulated **Electronic Programme Guides** in the United Kingdom proposes an alternative solution to address the stated regulatory requirements, including the availability, prominence, and accessibility of public service media. The Service List Registry has developed this approach, in close consultation with regulators such as Ofcom, to offer an international standards-based solution to the problems of regulation in relation to service discovery.

Rather than extending regulation to an increasing number of regulated Electronic Programme Guides, this submission proposes a simpler, more effective approach to meet the stated objectives. This approach involves establishing a **Regulated Service List** of national, regional and local audiovisual media services and revising the Ofcom *Code of Practice on Electronic Programme Guides* to regulate these listed services, *however they are accessed*.

The Regulated Service List will include **Designated Channels** and services as directed by the Secretary of State. Inclusion in a Regulated Service List will require the relevant licence from the regulator Ofcom. Any product or service that provides access to a service included in such a Regulated Service List will be subject to regulation through the revised Ofcom **Code of Practice**. This will include provisions for **Appropriate Prominence** and priority of the Designated Channels and services of public service media providers, determined with respect to their ordering in the Regulated Service List.

This system will provide Appropriate Prominence of public service media providers, consistent regulation for competing services, clarity for consumers through consistent and coherent presentation of broadcast and online services, and a level playing field to support innovation in an open and competitive market.

A similar system known as the Public Value List has been agreed by media authorities in Germany and is already in operation. This demonstrates that it would be practical to establish a Regulated Service List system in the United Kingdom within 12 months, although it is likely that a grace period would then be required for technical implementation to achieve conformance.

This response is presented in three sections:

- The first section outlines the challenges facing regulators, media providers, consumer electronics companies, and consumers. It explains the operation of an Electronic Programme Guide and the distinction between Service Information data and its presentation through a User Interface.
- The second section provides formal responses to the questions raised in the consultation. It explains why simply extending regulation to an indefinite number of Electronic Programme Guides is not an appropriate or practical approach to the problem of regulation.
- The third section provides specific recommendations for Regulated Service List system with a revised Code of Practice to be developed and implemented by Ofcom. These recommendations are designed to provide regulatory clarity an objective system to facilitate implementation.

Separate annexes explain the role of the Service List Registry, describe a national numbering plan model developed in response to a separate consultation, and provide an index of services and current channel numbers for existing regulated platforms for comparison.

The Service List Registry would welcome the opportunity to work with government and regulators to develop these proposals in more detail.

## Recommendations

In order to address the requirements raised in this consultation, the Service List Registry proposes the following recommendations:

- Regulation should continue to apply to existing regulated **Electronic Programme Guides**, namely those of Freeview, Freesat, YouView, Sky, and Virgin Media.
- Existing regulations should apply to **Designated Channels** in relation to **Appropriate Prominence**. This should also apply to the online services and associated online applications of public service media organisations, namely the BBC and those providing Channel 3 services, Channel 4, Channel 5, and S4C.
- As the relevant regulator, Ofcom should in consultation with stakeholders draw up a **Regulated Service List**, including Designated Channels and online services and the licensed audiovisual media services of any other media providers that wish to be included the list. The Regulated Service List may apply to specific services nationally, regionally, or locally.
- Ofcom should in consultation with stakeholders develop a revised **Code of Practice** relating to the presentation and accessibility of services in a Regulated Service List, with specific reference to the Appropriate Prominence and priority of Designated Channels.
- Any product or service that provides a **User Interface** to facilitate access to any audiovisual media service listed in a Regulated Service List must comply with the revised Code of Practice.
- Under the revised Code of Practice, any service listed in a Regulated Service List must have a relevant licence from Ofcom.
- Any Designated Channel in a Regulated Service List must be made available on a must-offer and must-carry basis subject to any reasonable contractual carriage conditions.
- Any Regulated Service List must specify default channel numbering and genre classification, assigned by Ofcom according to the revised Code of Practice.
- Any Designated Channels in the relevant Regulated Service List must be presented within a User Interface with Appropriate Prominence with respect to the priority and numerical order defined in the list according to the nation or region of the user.
- A User Interface will not be obliged to use numbers to identify services but those that do should adopt the default numbering and ordering scheme for the relevant Regulated Service List as far as practical.
- Ofcom should be required to develop and publish the Regulated Service List and a revised Code of Practice within 12 months and products and services should have 18 months from publication to comply with its provisions.
- Any exemptions from compliance with the Code of Practice for practical or operational reasons should be administered by Ofcom on a case-by-case basis.

## Preface

As Chief Executive of the Service List Registry, I welcome this opportunity to contribute to the United Kingdom government consultation on the regulation of additional Electronic Programme Guides.

Based on internationally implemented open web standards, the Service List Registry provides a federated global platform to enable audiovisual media service providers to announce services and support service discovery by any compatible device or display. It also provides consultancy services on how best to implement service discovery for audiovisual media services.

The Service List Registry supports the open DVB-I industry standard developed by the DVB Project, an industry-led consortium of the world's leading media and technology companies working together to design open technical specifications for digital media delivery.

Central to this specification is the concept of a Service List that allows media providers to announce services and devices and displays to discover them. The DVB-I specification also includes provision for a national or regional Regulated Service List, enabling national regulatory authorities to authorise ordered lists of services with logical channel numbers and ensure appropriate prominence for public service media. In the context of the United Kingdom, the relevant competent authority is the communications regulator Ofcom.

The suggestions in this response are based on observations of best practices and international experience. They are intended to be compliant with the latest revision of the Ofcom *Code of Practice on Electronic Programme Guides* and the anticipated provisions of the *Draft Media Bill* applicable to Television Selection Services and Radio Selection Services.

Beyond compliance with relevant regulations and competition requirements, our primary concern lies with the interests of the consumer. We seek to enable an open market for compatible devices and displays, allowing viewers to access a wide range of services in a way that offers them choice, convenience and control.

There is therefore the opportunity to create a coherent, consistent, compatible, and above all logical channel numbering scheme that serves the interests of media providers and their viewers.

I trust that the government, policy makers, regulators, and other readers will find this response to be a constructive contribution to the issues around the regulation of audiovisual media services and how they are discovered, selected and accessed by users.

The Service List Registry would be pleased to work with representatives of the government and the regulator to discuss further how the ideas presented in this response could be readily implemented in practice.

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## About the author

As Head of New Media Operations at the BBC, Dr William Cooper helped to enable the launch of the Freeview digital terrestrial television platform and operationally supported numerous online and interactive service across multiple channels and platforms.

As the founder of the independent consultancy informtv, William has since advised on broadcast and broadband convergence around the world, including Freeview in Australia. He has also advised the European Commission on matters of transfrontier television and advised other leading management consultancies on television and video services.

With a background as a broadcast journalist, William gained a doctorate for his research on video literacy and how audiences appreciate television. He has a particular interest in viewer experience and user interface design. His weekly *Connected Vision* newsletter has been a regular read for thousands of executives around the world for almost two decades. He has chaired or produced over a hundred international conferences and is a regular judge of industry awards.

William is Chief Executive of the Service List Registry and is responsible for its development.

## Service List Registry

The Service List Registry is a federated online directory of audiovisual media services, based on open standards. Registered regulators, media providers, and distributors can manage lists of offerings available online and through traditional broadcast networks. This enables compatible devices, displays and applications with different capabilities to discover and access relevant services from multiple sources, offering users choice, convenience and control, on any screen.

Supporting the open DVB-I standard for service discovery, developed by the international DVB Project that is responsible for standards used to deliver television services across Europe and around the world, the Service List Registry is committed to enabling a competitive market that supports the requirements of users, media providers, manufacturers of devices and displays, and national regulators.

[www.slrdb.org](http://www.slrdb.org)



## 1. Background

Television is an important medium that continues to inform, educate and entertain millions of viewers, contributing to our sense of national identity and culture.

With the development of digital television, the **Electronic Programme Guide** or EPG provided by devices and displays has played a key role in offering access to services and presenting information about programmes. It has evolved from a simple grid guide based on broadcast **Service Information** to a rich **User Interface** that may make use of a network connection to offer interactive services.

Broadcast channels face increasing competition from online services that can offer viewers more choice and flexibility in viewing.

Average daily television viewing times have fallen to around 40 minutes a day for children and young adults, and to about five-and-a-half hours a day for those aged over 65 with more time available to view. Average viewing of broadcast programming across all individuals, at time of transmission and on-demand, is over two-and-a-half hours a day.

Despite the availability of online video services from broadcasters, they still only account for a minority of viewing. The BBC iPlayer accounts for 14% of all BBC viewing, or around 8 minutes a day per person, while ITVX represents only 7% of ITV viewing, or an average of just 2 minutes a day per person.

Meanwhile, two-thirds of households have access to an online video subscription service like Netflix, Amazon Prime Video, or Disney+. Across the population these are collectively viewed for an average of approaching 40 minutes a day, although among young adults it is getting closer to an hour a day.

While digital terrestrial television, transmitted from tall towers and received through a rooftop antenna, remains the most popular way of receiving broadcast channels in the United Kingdom, it is in long-term decline. The same can be said for satellite services. The future of audiovisual media delivery is increasingly online.

Any platform, device or display that does not integrate online services, including free and subscription services, is destined to be left behind as consumers adopt alternatives that offer choice, convenience and control.

There is an urgent need to facilitate the migration of viewers from legacy platforms to next-generation services, while still providing access to existing channels.

### Television platforms

Television services are available in the United Kingdom through different digital platforms that have evolved separately.

Everyone TV promotes itself as the custodian of free television platforms in the United Kingdom. It is jointly owned by the BBC, ITV, Channel Four, and Channel Five, which are designated as public service broadcasters. Everyone TV has no statutory authority but is subject to the regulatory requirements of the communications regulator Ofcom.

- Freeview is a brand name for a digital terrestrial television service in the United Kingdom and is now operated by Everyone TV.
- Freesat is a brand name for a digital satellite television service that is now operated by Everyone TV.

- YouView has the same shareholders as Everyone TV, with the addition of BT and TalkTalk, that also provide services under their own brands.
- Sky has historically delivered a pay television platform in the United Kingdom by satellite. More recently it has offered services over the internet to support its Sky Glass, Sky Stream, and Now products.
- Virgin Media O2 has historically operated a cable television platform but now also offers an online television service with its Stream proposition.

Everyone TV recently announced plans for a next-generation platform, to be called Freely, which will be delivered online.

The television environment is now very different to the one in which Freeview was originally launched over twenty years ago in 2002.

The early success of Freeview coincided with the introduction and adoption of digital television and the availability of a wider range of free channels. A key factor was that it worked with virtually any retail television because it is based on internationally adopted open standards.

While digital terrestrial television remains an important platform, it now operates in a much more competitive market.

The urgency to address the issue of Appropriate Prominence for public service broadcasters is recognised. However, they have been contributing to this problem for over 20 years, in some cases as the shareholders of platforms that they control, by pursuing a strategy of separate apps, with many missed opportunities to create a consolidated offering.

Freely may or may not provide a suitable solution but it is unlikely to address the requirements of the whole market.

Meanwhile, none of the public service broadcasters in the United Kingdom has a published plan for migrating away from digital terrestrial television transmissions.

### Online services

The ability to deliver audiovisual media services at high quality over the internet is transforming the television and video environment.

- Television channels can be delivered over the internet without the need for a traditional broadcast network.
- Broadcaster video-on-demand services like the BBC iPlayer, ITVX, 4 and My5 from public service broadcasters are widely enjoyed by viewers.
- Online video subscription services like Netflix, Amazon Prime Video, Disney+, and Paramount+ have gained significant market share.
- Free advertising-supported streaming television channels are also available online, including services from Samsung and LG, and standalone services like Pluto TV.

While such services offer increasing choice to viewers, the navigation of services is becoming increasingly complex and the distinction between traditional television channels and online video services is becoming blurred.

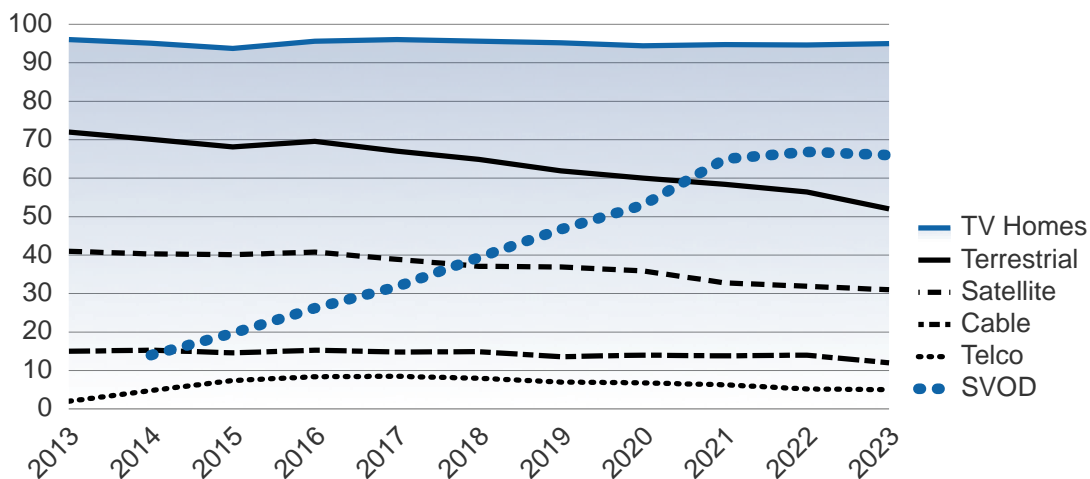
More than 500 hours of video are uploaded to YouTube every minute globally. While the laws of the land may apply to such material it is virtually impossible to regulate.

### Service adoption

The Ofcom *Communications Market* report provides an annual breakdown of households in the United Kingdom by television platform based on BARB Establishment Survey data.

Television ownership has remained consistent over the last ten years at around 95% of homes in the United Kingdom. The biggest decline has been the share of homes using digital terrestrial television, which has fallen from 72% to 52%, while the share of homes with online video subscription services has grown from 14% to 66%.

**United Kingdom television homes by platform**  
%



All television sets in the home.  
Source: BARB Establishment Survey / Ofcom

- Just over half of households in the United Kingdom (52%) have digital terrestrial television in their home and just over a third (34%) only have digital terrestrial television, which is approaching 10 million homes.
- Three out of ten (31%) of homes have digital satellite television, which is approaching 9 million homes, with 27% of homes subscribing to Sky and 4% using free to view satellite services. Freesat is the main television service in fewer than a million homes.
- 13% of homes have digital cable television, of which Virgin Media O2 is the primary provider, with about 3.4 million television subscribers.
- 6% of homes have a television service from BT, Plusnet, TalkTalk, or YouView, which is around 1.6 million households.

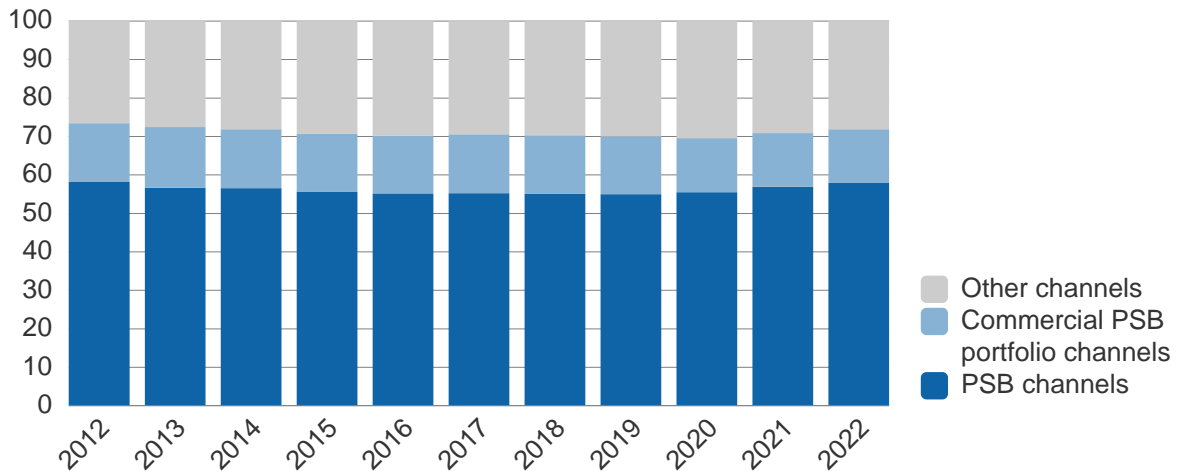
After 15 years, Freesat has achieved a market penetration of 3%, while YouView has less than 1% in 10 years. This experience suggests that delivering and deploying a next-generation television platform is far from a guaranteed success. The prospects for Freely in addressing the whole market are therefore limited.

The risk for broadcasters is that they will end up as an app on a restricted range of devices and displays, leaving limited opportunities for users that are reliant on existing terrestrial and satellite transmissions to migrate to online services over time, with catastrophic consequences for the viewing of previously pre-eminent broadcasters.

### Channel usage

The Ofcom *Media Nations* report provides an annual breakdown of broadcast television viewing in the United Kingdom. This is based on BARB viewing panel data, across all individuals, as viewed on a television, live or recorded, measured over a 28-day period.

**United Kingdom television viewing by channels**  
%



28-day consolidated viewing, all individuals aged 4+, on television sets  
Source: BARB / Ofcom

While overall viewing of broadcast television has declined, especially among younger viewers, the relative share of public service broadcasters has remained remarkably consistent, only fluctuating by a few percentage points over recent years.

- Public service broadcasters, comprising all the BBC channels, Channel 3, Channel 4, and Channel 5, account for 57.7% of all broadcast television viewing.
- The portfolio channels of public service broadcasters, including their +1 time-shift channels, contribute a further 13.9% of broadcast television viewing.
- The remaining 28.4% of broadcast television viewing is accounted for by channels from other broadcasters.

This implies that any perceived lack of prominence of public service broadcasters is not as significant a problem as some may suggest. Furthermore, it implies that the availability of these public service channels, which make up most television viewing, is more important to viewers than those with competing products and service might imagine.

With public service broadcasters and their portfolios constituting over 70% of UK television viewing, the remaining viewing is shared across numerous other channels and different viewers are likely to have their own favourite services among them.

Audience research suggests that many homes and individuals tend to use a small selection of channels regularly. Although they tend to watch the most popular channels, beyond that they may each watch a slightly different selection of services that form a long tail of viewing options. Ensuring easy navigation is paramount for viewer satisfaction.

## Electronic Programme Guides

With the advent of digital television came the Electronic Programme Guide or EPG that provides lists of available channels, information about the present and following programme, and typically a grid view of the programme schedule over the next seven days.

An Electronic Programme Guide depends on one or more sources of Information and the Presentation of that data through a User Interface. This is an important distinction as the data and the user experience may be provided or defined by different parties.

### Information

The data for an Electronic Programme Guide in a digital television system has traditionally been provided in Service Information that is broadcast as part of the transmitted signal in a form based on international standards.

Service Information included in the transmitted signal provides technical data about the channels accessible to the receiver. This is used by any compatible consumer device or display to tune to, decode and present the channel. The Service Information is generally aggregated by a terrestrial, satellite, or cable platform operator as part of a platform proposition such as those provided by Freeview, Freesat, Sky, or Virgin Media. It can be used to determine which channels are available to a user, based on their location or any subscription package. Service Information includes data describing each channel, including its name and Logical Channel Number, which determines the numerical order in which channels are presented.

Programme Information provides a description of the present and following programme for each channel. Information may also be provided about the channel schedule over a longer period, typically up to seven days in the future. This is currently broadcast in encrypted form for Freeview and Freesat channels. The keys to facilitate decryption of this data are made available to manufacturers free of charge under licence, provided they comply with certain technical specifications, including provisions to restrict copying of high-definition programming.

Several third-party companies can also supply Programme Information sourced from media providers, often augmented with additional descriptive meta data, including programme listings, categories, credits and associated images.

With the introduction of connected devices and displays, it becomes possible to provide Service Information and Programme Information over an internet protocol connection. This enables hybrid platforms, such as Freeview Play, Freesat Freetime, YouView, Sky Q, or Virgin TV to provide a more comprehensive illustrated guide. It also enables the integration of audiovisual media services that are delivered directly over the internet protocol connection. In some cases, such as Sky Glass or Sky Stream, or Virgin Media Stream, the service may be delivered primarily or exclusively over an internet protocol connection.

Unlike digital terrestrial, cable or satellite transmissions, there has so far been no standardised format for Service Information for online services. Consequently there has been no industry standard way by which they can be announced by service providers or discovered by devices and displays.

### Presentation

The presentation of Service Information, whether delivered as part of the broadcast signal, over an internet connection, or some combination, is through a User Interface with which the viewer can interact, typically through a remote control. This is the visual manifestation of the Service Information and may include associated branding of the service provider.

The User Interface provides a means of Service Selection, which may be through direct channel number entry, selection with channel up or down buttons, or some other form of navigation, such as voice control, or programme recommendations. This provides an important touchpoint for

viewers as the main means of selecting programming. It receives a great deal of attention from users and in some cases is used to present commercial advertising. Access to prominent positions for applications may also be negotiated with medias providers on commercial terms.

The User Interface has implications for the accessibility of services, both in terms of the prominence with which they may be presented and support for access services such as subtitles, audio description or signing. It can contribute to the accessibility of navigation and services to users with different forms of impairment, for instance by providing a mode with larger text and high contrast for the partially sighted. The navigation model can also have implications for the cognitive capacity and the motor skills required to use the service.

## Integration

In vertically integrated platforms, such as those of subscription television services like Sky, Virgin TV, YouView, BT TV, or TalkTalk, the provision of the Service Information, Programme Information, and the presentation through a User Interface is managed by the platform operator and forms an important part of the brand proposition. In the case of Sky Glass, the platform provider makes this proposition available directly to the consumer through a display that it rents or sells to a subscriber.

In a horizontal retail market, with platforms such as Freeview or Freesat, the Service Information and Programme Information are managed by the platform operator. A consumer electronics company may license a User Interface defined by the platform, provide its own form of channel selection, based on open standards, or offer its own User Interface through which services can be navigated, accessed and presented, including online channels that are not available through the broadcast platform. As a result, the provider of the device or display may have influence over the prominence and accessibility of services available through the User Interface.

There has been a proliferation of User Interfaces and operating environments on which they are based. These include systems developed by manufacturers and in some cases licensed to others. There are also operating systems like Android TV, which is promoted by Google, and Fire TV, which is promoted by Amazon. Collectively, such User Interfaces have far more users than any single designated Electronic Programme Guide.

Where access to a platform is provided through an external device that is connected to the display, the user may be able to select and access different programming either through the User Interface of the connected device or through the User Interface provide by the display. This leads to a competitive tension between service providers that are available through an external input and any services that are available directly through the display.

It is therefore not unusual for a household to have access to more than one User Interface available through a single display, often with overlapping offers of programming. The choice of which to use at any one time may be determined by exclusive programming, ease of use, or force of habit.

## Regulation

As a result of the perceived importance of the Electronic Programme Guide in determining the availability of channels, effectively making them gatekeepers to broadcast channels, certain platforms have been designated to come under statutory regulation.

The *Communications Act 2003* introduced provisions for the designation of certain guides, with a requirement for them to conform to a *Code of Practice on Electronic Programme Guides* managed by the communications regulator Ofcom.

The legal definition of an Electronic Programme Guide is given in section 310(8) of the Communications Act 2003 as a service which consists of:

*(a) the listing or promotion, or both the listing and the promotion, of some or all of the programmes included in any one or more programme services the providers of which are or include persons other than the provider of the guide; and*

*(b) a facility for obtaining access, in whole or in part, to the programme service or services listed or promoted in the guide.*

A regulated Electronic Programme Guide is essentially defined in section 211A of the Communications Act 2003 as one designated by the Secretary of State that is “used by members of the public in the United Kingdom as a facility for obtaining access to television programme services” or with a view to providing such a facility.

Currently, the regulation extends to the Electronic Programme Guide provided on Freeview, Freesat, Sky, Virgin Media, and Youview, including the enhanced internet guides for Freeview and Freesat. These are all effectively platform providers.

With the proliferation of propositions provided by a range of aggregators, service providers, and consumer electronics companies, there may be a requirement to extend the way in which the Electronic Programme Guide is regulated.

The challenge is that this would potentially extend the designation of Electronic Programme Guides to an indefinite number of device and display manufacturers, including global consumer electronics companies and technology providers.

With changes to the law following the departure of the United Kingdom from Europe in the Broadcasting (Amendment) (EU Exit) Regulations 2019, any television service that appears on a designated Electronic Programme Guide needs to be licensed and regulated in the United Kingdom.

Regulation of an Electronic Programme Guide is therefore seen as potential regulatory mechanism to achieve the licensing of services that are available through such a system.

While it may be desirable to maintain provisions around currently designated Electronic Programme Guides, it is open to question whether extending this to a proliferating number of guides from multiple providers will achieve the intended outcome.

Consideration should be given both to the Service Information that specifies the services that are available and to the User Interface through which they are presented.

Service Information can be used to define services that are licensed and any designated services that must be made available, together with their Logical Channel Number that can determine order and priority.

The User Interface may be regulated with respect to services specified by the Service Information, with minimum requirements for the Appropriate Prominence and accessibility of these services and possibly regulations regarding the availability through the same User Interface of services that are not licensed.

### **Channel numbering**

There is a long historical tradition of associating television channels with numbers. This goes back to the inception of analogue television channels that were originally selected using physical buttons and later using remote controls with number buttons, when there were relatively few channels from which to choose.

The main public service channels in the United Kingdom are strongly associated with the numbers 1, 2, 3, 4, and 5. Apart from the Channel 3 licence, which operates under the ITV, STV or UTV

brands, these numbers are integral to the identity of the channels BBC One, BBC Two, Channel 4 and Channel 5.

There is therefore a strong mnemonic association between the channel brand and its number for certain channels.

Beyond the United Kingdom, some channels also strongly associated with numbers, such as TF1 in France or Das Erste in Germany. This can lead to inevitable conflicts when coordinating channel numbers across international services. This is a particular issue in Europe, where there is an assumption of transfrontier television and service portability.

Not all territories have adopted an incremental channel numbering scheme. In Australia, the commercial networks Seven, Nine and 10 have brands that were established according to the VHF transmission channel assignments of stations and have adopted these as their channel numbers. There is no Channel 1 in Australia, with 10 occupying the first position, succeeded by national broadcasters ABC and SBS.

### Logical channel numbers

With the introduction of digital television came the ability to map a broadcast channel to a Logical Channel Number. These Logical Channel Number associations are transmitted in Service Information as part of the digital signal.

The mechanism for associating a Logical Channel Number with a broadcast service is part of the digital television standards that are used for terrestrial, cable and satellite television in Europe and elsewhere.

The platform provider is responsible for the assignment and association of Logical Channel Numbers as part of the transmission arrangements.

### Designated channels

In the United Kingdom, certain services are defined as Designated Channels, as specified by the Secretary of State. This is codified by the communications regulator Ofcom, which published the latest update to its *Code of Practice on Electronic Programme Guides* on 31 July 2023.

The Designated Channels are currently all the BBC channels, Channel 3, Channel 4, Channel 5, S4C, local digital television programme services and simulcast local services.

These services must be given Appropriate Prominence in listings in Electronic Programme Guides. This is currently defined in terms of slot position in a list of channels, or an equivalent level of prominence.

- BBC 1, BBC 2, Channel 3, Channel 4 / S4C, and Channel 5 must be listed in the first five slots of an electronic programme guide.
- The national channels BBC 3 and BBC 4 must be listed within the first 24 slots.
- The news channels BBC News and BBC Parliament must be in the first 8 slots in the relevant genre section or relevant channel grouping.
- The children's channels CBBC and CBeebies must be in the first 8 slots in their relevant section or grouping.

Any regulated Electronic Programme Guide or television selection service must be compliant with these and other requirements of the Ofcom Code.

There is no specific requirement to employ either Logical Channel Numbers or genre categories, providing Appropriate Prominence is maintained.



There are requirements for arrangements to be managed in a way that is fair, reasonable and non-discriminatory, including publication and compliance with an objectively justifiable method of allocating listings.

### Television selection services

The *Media Bill*, published in draft on 29 March 2023 and introduced by the Government on 8 November 2023, includes provisions for Appropriate Prominence of public service media on Television Selection Services and the availability of United Kingdom radio services through Radio Selection Services.

The Bill includes provisions for Ofcom to determine Designated Internet Programme Services associated with Public Service Broadcasters that are within scope of the prominence regime. This would potentially include the BBC iPlayer, or a service provided by another public service broadcaster, or a person associated with a public service broadcaster.

There has been some debate about whether the provision for Appropriate Prominence should be replaced with Significant Prominence. The problem is that both terms are inherently subjective. An objective means of determining prominence and priority is with respect to ordering in a list of regulated services.

The planned legislation also establishes the definition of a Television Selection Service and the definition of a Regulated Television Selection Service that is used by a significant number of users in the United Kingdom.

The Bill also defines a Radio Selection Service and a category of Regulated Radio Selection Service that applies to the selection of internet radio services by spoken commands.

Responsibility for regulation of Television Selection Services and Radio Selection Services is delegated to Ofcom that is charged with issuing a Code of Practice to ensure compliance.

### Illogical channel numbering

The ordering of some channels on legacy platforms has become disorganised over time. With the introduction of additional channels from public service broadcasters in the United Kingdom, the association of channel brand and channel number has broken down and can appear quite arbitrary to viewers.

### Portfolio channels

The introduction of digital television provided the opportunity for public service broadcasters to introduce additional services, often referred to as portfolio channels. The numbering of the portfolio channels of public service broadcasters is particularly confusing on Freeview.

- BBC Three is currently number 107 in high definition except in Wales, and on channel 23 in standard definition except in England where it is in high definition.
- BBC Four is on channel 106 in high definition and channel 9 in standard definition.
- ITV 2 is currently on channel number 6, while ITV 3 is on channel 10 and ITV 4 is on channel 26.

This requires a conscious act of memory on the part of the user. While some users may develop a cognitive association or muscle memory to select a favourite channel, this is often despite any system of numerical organisation.

This has arisen partly because of the way in which Freeview and other platform operators have historically managed the allocation of Logical Channel Numbers.

Competitive pressures have resulted in gaming the system to achieve strict compliance with the regulatory requirements for prominence and fair dealing that have resulted in unintended consequences and undesirable outcomes for viewers.

The poor performance of some portfolio channels may be partly attributable to their disorganised presentation in the channel list.

An alternative approach would be to allow a service provider to group all their channels together in a family if they so wish, preferably in a logical order, so that BBC 1, BBC 2, BBC 3, and BBC 4 could appear together, as could ITV 1, ITV 2, ITV 3, and ITV 4, and so on.

The apparent problem precluding this is that the main Designated Channels must appear in a specified sequence, which necessarily interrupts their own numerical order.

A solution to this conundrum is through tagging. This would allow a user interface to present related channels.

For instance, channels effectively tagged as 'BBC' could be viewed and navigated as a coherent set of services. Similarly, channels tagged as belonging to 'Channel 3' could be viewed as a set, as could those of 'Channel 4' and 'Channel 5'.

Such an approach would encourage viewers to explore related channels, while maintaining the strict requirements for Appropriate Prominence of Designated Channels.

### Time-shift channels

Time-shift channels, often termed "+1 channels," present broadcasts that are delayed by an hour from their parent channel. However, their current arrangement on some platforms often lacks logical consistency.

On Freeview, Channel 4+1 is on channel 15. ITV 1+1 is on channel 35, while ITV 2+1 is on channel 29. There is no logical or mathematical order to such an arrangement.

It is therefore surprising that such channels find an audience, or more accurately that the audience can find them.

In contrast, Sky employs a system where many +1 channels are assigned a channel number that is 100 greater than their parent channel. This approach offers a degree of predictability.

The value of timeshifted channels should in any case diminish given the capabilities of connected services to offer restart and catchup options. They may become irrelevant and redundant on a next-generation platform.

### Value of numbering

Logical Channel Numbers still play a key role in allowing viewers to select channels directly.

- Single-digit numbers allow direct selection with a single button press. This makes them particularly valuable. However, this only accounts for nine channels, disregarding zero.
- Two-digit numbers provide a range of a further 90 numbers, which is adequate to cater for the most popular channels.
- Three-digit numbers are used by cable and satellite platforms in the United Kingdom, starting at 101. There are almost 900 three-digit numbers in this range, which is more than the number of channels currently carried on most digital television platforms.
- Four-digit numbers provide a further 9,000 available numbers, which would be sufficient to cover every channel currently available in Europe.

### Favourite numbers

Allowing users to assign services to custom numbers based on their personal preferences enhances usability and accessibility. This approach mirrors the convenience of using contact lists on mobile phones, eliminating the need to remember or enter long numbers. Similarly, bookmarks in browsers simplify the storage and access of web addresses.

This must be balanced against the requirement for users to assign such numbers, the importance of preserving Appropriate Prominence for designated public services, and the desire of service providers to use specific numbers.

The solution adopted by Sky exemplifies this balance by reserving the numbers 1-99 for user favourites, while employing Logical Channel Numbers starting with Designated Channels at 101.

### Grouping numbers

Grouping ranges of numbers by category or genre can be useful when navigating many channels.

Platforms such as Sky have historically classified channels under a set of genres, although they now combine channel grouping with filtered views. Freesat and Virgin also use channel category grouping. The current Freeview Play service does not use rigorous genre categorisation, although it does group some categories of service, such as news and programmes for children.

Grouping channels thematically provides structure to an otherwise arbitrary numeric address space. Using round numbers like 300, 400 or 500 as landmarks for categories has value in helping viewers to navigate a numeric system.

It may be useful for channels to be grouped sequentially and thematically through some association to allow up and down navigation between related channels.

Some channel providers may consider the adjacency of channels with similar themes beneficial, enabling them to attract viewers from direct competitors.

Providers with a portfolio of channels may consider it is important to present an association between their channels to retain viewers within their offering.

It is useful to separate certain kinds of channels, such as those aimed at children, from those that are aimed specifically at adults. The use of numbering ranges may prevent inappropriate juxtapositions of channels, but it does not inherently limit their selection. There may be better ways to manage the presentation of such channels, such as modes limiting navigation to channels suitable for young children or inhibiting access to channels intended for adult viewers, which could be enabled or disabled through a mechanism such as a personal identification number.

### Alternatives to channel numbers

Logical Channel Numbers provide a convenient means of direct selection through a conventional remote control.

There is empirical evidence that many viewers simply use up and down channel selection and scrolling through lists of channels to identify them by name or logo rather than attempting to select them directly.

Some remote controls no longer use number buttons. They simply use directional navigation and visual feedback.

Some user interfaces also provide alternative forms of navigation through lists, using a pointer, touchpad, or scroll wheel, which can provide fast and smooth scrolling through lists.

Voice control systems allow direct selection services by name, although users may still prefer a manual means of control.

There are ways of presenting service information that do not require Logical Channels Numbers, including grouping services by genre or category tags, families of related channels, favourite channel numbers, personalised recommendations based on usage, prioritisation according to prominence values, or simply alphabetic listing.

There is nevertheless a need to consider the natural order of items in a list, so a system of numbering remains useful.

### Channel mapping

With devices and displays that are connected to the internet, there is no longer a direct dependency on the Logical Channel Numbers that are broadcast as part of the transmitted signal.

Service Information can now also be delivered online and associated with both broadcast channels and online audiovisual media services.

This means that connected devices and displays can potentially use a different numbering scheme to the broadcast service. The ability to map channel numbers in this way introduces several advantages.

For example, there is no need to have different numbers for standard or high-definition versions of a channel. The device or display can present the most appropriate version based on its capabilities.

A service can have multiple service instances, which can be delivered using different distribution technologies, which can be prioritised by the media provider. The device or display can select the appropriate instance according to which distribution networks are available, or even fail over from one network to another.

Broadcast channels can be seamlessly integrated with online services, including applications with libraries of on-demand programming. This can avoid the need for users to switch between different modes of viewing or navigate between different apps.

Consequently, broadcast services can co-exist with those that are delivered online, using a consistent and coherent numbering scheme. This could facilitate a long-term migration to online delivery, while maintaining existing broadcast transmissions.

This capability is now part of an open standard known as DVB-I, which complements existing DVB standards used for the delivery of traditional digital television services. It is also expected to support other delivery systems, including 5G mobile networks.

Central to DVB-I is the concept of a Service List that is used to announce available services and provide mappings to service instances, which can be transmission network identifiers or internet addresses.

The DVB-I specification also provides for a Regulated Service List for use in a particular territory or jurisdiction. This is intended to identify services that are approved by the relevant regulatory authority.

### Network neutrality

It is important that any system of service ordering is network neutral, rather than reflecting the inherent limitations of any one delivery system or platform provider. For too long, separate policies and numbering schemes have emerged based on differences between platforms.

The result has been consumer confusion. Channel numbering may differ from home to home or even from room to room or from screen to screen. It is also more difficult for service providers to promote their services, either on screen, online, or offline, when they need to announce or promote multiple numbers for different platforms.

## Regionalisation

There is a requirement to support regionalisation at multiple levels. Differences may be required at the level of nations and regions, for instance to support different services for Scotland and Wales. Public service broadcasters offer different services at a regional level, for the purpose of local news programming or advertising. Local services may be offered at a city level. This essentially means that the same slot or Logical Channel Number may be used for different services depending on location.

Historically, digital terrestrial television regions have been established according to transmitter coverage and regional topology rather than actual administrative areas. The boundaries used also vary between different broadcasters, with overlaps between them.

With online delivery, the location of transmitters and the propagation of radio waves over terrain is no longer a factor and regions can be designated by administrative areas, like post codes, or distances from a location. Users can potentially be offered a choice of which service region they wish to be in.

There is a case for a standard approach to regionalisation to provide consistency between service providers and platforms and to reduce the cost of implementation. There is also a case for this to come under the administration of the regulator rather than an industry organisation with competing shareholder interests.

## Co-ordinated approach

A coordinated channel numbering system offers tangible benefits to consumers beyond just fulfilling the prominence requirements for Designated Channels of public service broadcasters.

Furthermore, it should not be left to public service media providers to determine the ordering or placement of competing services. That is fundamentally anti-competitive. It makes sense for the coordination of any Regulated Service List and associated channel numbering to be determined by an independent regulator such as Ofcom.

An example of such co-ordination can be found in telephone numbers. Imagine the confusion if every telecom operator had a unique telephone numbering system. There are clear consumer benefits in a common framework for telephone numbering. This is provided at an international level by the International Telecommunication Union, an agency of the United Nations, and on a national level by Ofcom, which manages the UK National Telephone Numbering Plan.

While expecting subscription television providers to universally adopt a single numbering system might be optimistic, achieving greater alignment in service numbering across various platforms is a realistic goal. This alignment becomes particularly feasible when we consider the necessity to adhere to prominence regulations.

Given that some aspects of ordering are likely to be commercially contentious, this would require a process of independent assessment and arbitration. Rather than relying on an industry body with conflicting shareholder interests, the ultimate arbitrator should be the communications regulator Ofcom.

## Summary

- Television remains a nationally important medium. Traditional television channels remain the main way in which people watch television. The channels and portfolio services of public service media organisations still account for over 70% of all broadcast television viewing.
- Viewing of broadcast television is in secular decline and is being challenged by the emergence of online video services. The adoption of the online services of public service broadcasters is not compensating for their overall loss of viewing.

- The Electronic Programme Guide has been seen as the gatekeeper to broadcast channels, leading to the regulation of the Electronic Programme Guide on certain television platforms. This position is being eroded by the availability of audiovisual media services through applications and user interfaces that are not regulated.
- It is important to distinguish between the Service Information that identifies services and the User Interface through which they are accessed.
- Channel numbers provide an important means of navigating services. Legislation and regulation include provisions to ensure the Appropriate Prominence of public service media in regulated electronic programme guides and television selection services by means of Designated Channels.
- Television platforms have implemented channel numbering and genre classification in different ways that are compliant with these requirements but lack overall consistency. There is an opportunity to learn from this and devise a numbering scheme that is more consistent and coherent.
- There is a role for the communications regulator Ofcom in encouraging a more co-ordinated approach that could achieve greater consistency and alignment in numbering across various platforms.
- Regulation of one or more Regulated Service Lists, including the Appropriate Prominence of Designated Channels within them, may provide a more productive approach than attempting to regulate a proliferation of Electronic Programme Guides.

## 2. Consultation

The government is considering whether and how to use existing powers that allow it to update which Electronic Programme Guides are regulated in the United Kingdom. This could result in more consistent protections for audiences and level the playing field with traditional broadcasters, who are already required to follow Ofcom regulation. The government is consulting on the impact of regulating additional Electronic Programme Guides and a proposed approach for defining which Electronic Programme Guides should be regulated.

There are currently five regulated Electronic Programme Guides. The government has identified four times this number of Electronic Programme Guides that are unregulated. There could be more, and the number is likely to grow.

In response to this consultation, the Service List Registry proposes an alternative and simpler approach to regulation that could be achieved through changes to the *Ofcom Code of Practice on Electronic Programme Guides* and appropriate designations by the Secretary of State under existing legislation and the proposed Media Bill.

**Rather than extending regulation to an indefinite number of Electronic Programme Guides, this response recommends that a Regulated Service List be adopted and managed by Ofcom and that all means of accessing services in a Regulated Service List be subject to the provisions of a revised Ofcom Code of Practice. This would include a requirement that all channels a Regulated Service List are acceptably licensed, with provisions for the Appropriate Prominence and accessibility of Designated Channels.**

By analogy, public highways are regulated through a combination of primary legislation and the Highway Code. This generally applies to all road users, although there are provisions for different types of road user. Nevertheless, certain rules apply to all users, not just to designated manufacturers or models of motor vehicles.

### Regulation of additional EPGs

**Question 1.** Should the government capture additional EPGs under regulation in the UK?

Please explain your reasoning and provide any relevant evidence.

#### Response 1

**No. Rather than seeking to regulate specific Electronic Programme Guides, the government should require Ofcom to maintain a Regulated Service List and a Code of Practice that applies to the User Interface of any product or service that accesses services in the list.**

Currently, only the Electronic Programme Guides of specific service providers are designated as regulated in the United Kingdom. These are Freeview, Freesat, Sky, Virgin Media, and YouView. While these currently account for most of the television platform market, they do not account for the increasingly varied ways in which viewers access television channels and other forms of audiovisual media service programming.

Under the current regulatory regime, each of these platforms has evolved its own organisation and numbering of services. This has resulted in a fragmented market, with inconsistencies of services across different platforms.

To an extent this is inevitable, as service providers will have different service propositions, with the numbers and types of channels varying between free and paid services. Yet there is not even consistency of numbering of the first five channels that have been designated positions of Appropriate Prominence.

This system has not served the consumer well and extending it to an increasing number of Electronic Programme Guides, each able to determine its own numbering policy, will not improve the situation.

Regulation should continue to apply to these regulated Electronic Programme Guides, but a revised approach should be used to regulate the prominence, availability, and accessibility of audiovisual media services, particularly those of public service media providers.

The designation of specific named Electronic Programme Guides does not account for the rapidly evolving market or changes in service propositions.

- Everyone TV, which operates Freeview and Freesat, has announced its proposed next-generation platform Freely and has incidentally consulted on a new Logical Channel Numbering scheme that would be independent of Freeview or Freesat.
- BT and TalkTalk, which are shareholders in YouView, each have separate propositions in BT TV and TalkTalk TV. EE, which is a part of the BT Group, has announced a new proposition EE TV, which will ultimately replace BT TV.
- Sky has several propositions in the market, including its Sky Q product, separate Sky Glass and Sky Stream online services, and its standalone Now product.
- Virgin Media O2 has a Stream online product that is separate from its traditional cable television platform.

Given the relatively limited market adoption of Freesat and YouView, there is limited optimism about the prospects for Freely, which faces considerable competition and currently has no announced support from television manufacturers.

Most viewers view such services through a television, which typically offers its own ways of accessing services, often through a native Electronic Programme Guide. Televisions that are connected to the internet also offer access to online channels in addition to those offered through traditional platforms.

Then there are many different devices and dongles that can serve as inputs to a television display, many of them with their own interfaces and Electronic Programme Guides, which may or may not offer access to traditional television channels.

Furthermore, television services can be received through apps on phones and tablets, often with their own Electronic Programme Guides that may complement other platforms or differ from them in some respects.

The government suggests that there are at least 19 currently unregulated Electronic Programme Guides that viewers can access through televisions. There may well be more, and they are likely to proliferate.

In many ways, the traditional Electronic Programme Guide in the form of a channel grid schedule is a legacy feature that is being superseded by new models of service discovery and navigation, including more visual forms of presentation and voice interaction.

The current focus of regulation of Electronic Programme Guides is on the platform operator or service aggregator, whether the platform provides a paid subscription service, such as those from Sky or Virgin Media, or a free-to-air proposition such as Freeview.

In practice, any television device or display fundamentally needs to provide a native means of service selection, even if it is used in conjunction with a service provider.



The market share of some major consumer electronics manufacturers exceeds that of a particular platform with a regulated Electronic Programme Guide. The leading brand has a market share of around 40% of televisions sold in the United Kingdom.

Consequently, consumer electronics companies and other service providers, including global technology corporations, have recognised the opportunity to offer their own methods of service selection. These include access to channels that may not be licensed in the United Kingdom.

Notably, the current definition of an Electronic Programme Guide does not extend to those that only offer access to the services of a single provider. It does not capture user interfaces provided by apps like the BBC iPlayer, ITVX, 4, or My5, which only offer access to their respective programming. Equally, it does not apply to services like Pluto TV, which its owner Paramount is planning to combine with My5.

This is leading to a further fragmentation of the viewing environment, much to the frustration of viewers.

**The model of regulating specific designated Electronic Programme Guides may be fundamentally flawed.**

The concentration on the Electronic Programme Guide, rather than the services to which it provides access, appears to be an inappropriate solution to the problem of regulating audiovisual media services and providing Appropriate Prominence to public service media.

The proposed Media Bill introduces the concept of a Television Selection Service and a corresponding Radio Selection Service. This is more capable of formal and legal definition than an Electronic Programme Guide.

**The solution proposed by the Service List Registry proposes the definition of a Regulated Service List. A revised Code of Practice could then be applied to any product or service that accesses such listed services.**

A Regulated Service List could apply to specified services nationally, regionally, or locally to cater for national language services, regional variations, and local services. A Regulated Service List would include Designated Channels as directed by the Secretary of State. It could also include associated online services provided by public service media organisation, such as the BBC iPlayer. Other media service providers could apply to be included in a Regulated Service List, subject to being appropriately licensed.

The concept of a Service List extends the principles of Service Information that is currently transmitted as part of a digital television signal and provides similar signalling online.

The Service List concept is embodied in the DVB-I specification developed by the DVB Project of the European Broadcasting Union for service information and programme metadata.

The DVB-I specification introduces the concept of a Regulated Service List, comprising ordered lists of audiovisual services, which may include traditional broadcast channels and online services or applications.

This international standard has been developed collaboratively by members of the DVB and is published as an open standard by ETSI, a European Standards Organization that deals with telecommunications, broadcasting and other electronic communications networks and services.

Service Lists are not limited to DVB standards used in Europe and elsewhere in the world. They can also interoperate with other standards, including those for 5G mobile networks.

It should be emphasised that such a system of regulation need not depend on the implementation of any specific technology or the deployment of compatible products.

A Service List can be expressed in easily consumed textual formats like XML and JSON, which can be read by both machines and humans. It can be readily transformed into other proprietary formats if required. Ultimately, a Service List represents an ordered lists of services that can be expressed and rendered in many forms, including proprietary formats used by specific platforms and even paper specifications.

A platform or product can be compatible and compliant by presenting services in a manner that is consistent with the intent of the Service List, without the requirement to implement a particular technology standard. This approach can therefore be applied to legacy platforms and products.

The real benefit of a standardised Service List format lies in the ability for third parties to develop new products and services that can work over diverse digital networks, maintaining consistency and compatibility with an agreed regulatory framework.

This will also facilitate any long-term migration from traditional broadcast platforms to online delivery, as and when appropriate, while maintaining consistent numbering and prominence for services.

**The Service List Registry has been established to implement the DVB-I standard, which can be applicable globally.**

The Service List Registry aims to provide a global federated platform to enable audiovisual media service discovery. It does not seek to determine or regulate the inclusion or ordering of specific services in a particular Service List.

The composition of any Regulated Service List would normally be delegated to a competent regulatory authority. In the case of the United Kingdom this would be Ofcom as the national communications regulator.

The Service List Registry has been informally liaising with Ofcom on this for some time and indeed Ofcom contributed substantially as a member of the DVB Project to the commercial requirements of the DVB-I standard on which the Service List Registry is based.

The benefit of this approach is that it allows regulation to be applied to a Regulated Service List of audiovisual media services, including provisions for Appropriate Prominence of public service programming, nationally, regionally, and locally.

This approach is much more amenable to legislation and regulation, since a Regulated Service List, and a set of polices by which it is constituted, can be objectively and formally defined in a Code of Practice.

An ordered list is unambiguous in terms of priority in terms of promoting prominence. It can also indicate the provenance of a service and the target territory, which can identify the appropriate jurisdiction for regulation.

The use of Service Lists also enables the harmonisation of service organisation and logical channel numbering across diverse devices and displays, while allowing essential freedom for different parties to innovate at the level of presentation.

This allows for the regulation of services that are included in a Regulated Service List, irrespective of their mode of delivery, whether by broadcast or online network, from a licensed channel or an international provider.

Any use of such a Regulated Service List by a device or display should be compliant with the relevant regulatory requirements, including prominence and accessibility, imposed through a Code of Practice, reducing the compliance burden and providing regulatory clarity and certainty for those adopting such lists.

This has a clear benefit for consumers, who will appreciate consistency in the ordering of services across different devices and displays, within their homes and elsewhere.

In response to the recent consultation by Everyone TV on the Logical Channel Number arrangements for its proposed Freely platform, the Service List Registry has developed an outline model of how such a Service List arrangement might be applied to the market in the United Kingdom.

The model developed attempts to resolve several issues and seeks to be as consistent as possible with practice established by leading platforms, while anticipating the requirements for prominence as proposed in the Media Bill.

Notably, the model establishes a proposed Logical Channel Number scheme according to a series of simply applied business rules, meaning that it can be implemented according to a written policy or regulatory Code of Practice.

The assumption is that this numbering scheme would be applied by Ofcom to a Regulated Service List and that Ofcom would be responsible for any consultation or arbitration involved in its implementation.

This is consistent with the way in which the national telephone numbering scheme is implemented for the benefit of all parties. While it would be technically possible for multiple service operators or providers to have their own numbering systems, it is rationally sensible to have a single national scheme.

This approach, applying regulation to a Regulated Service List, is inherently preferable and more maintainable than attempting to apply and enforce regulation to the specific implementations of a proliferation of Electronic Programme Guides. It provides an appropriate and proportionate approach to regulation that does not impose a high burden to achieve compliance and works in the interests of the consumer.

## Impact

**Question 2.** Do you agree with the benefits of statutory regulation of additional EPGs outlined in this consultation and that the statutory regulation of EPGs has benefits for audiences? Do you have any evidence to contribute relating to the extent of these or any other potential benefits?

Please provide figures where possible.

## Response 2

**No. The Service List Registry recognises the benefits of statutory regulation of audiovisual media services. This should be achieved through the regulation of services by means of a Regulated Service List.**

Regulation can be applied best through a Regulated Service List, rather than attempting to regulate the various ways in which these might be presented through multiple Electronic Programme Guide implementations. This regulation should apply to any User Interface that provides access to services in a Regulated Service List.

There is a benefit to consumers in establishing a Regulated Service List that specifies the priority, ordering and numbering of certain services such that this can be applied consistently and coherently across any compliant product, service or platform.

As the experience of the last two decades has shown, the current system of regulating Electronic Programme Guides, which has changed little in over two decades of digital television, has led to divergence in approaches and consumer confusion.

### *Regulation of channels*

Historically, television channels have been licensed based on broadcast regulation. As we move to online delivery and asynchronous distribution of audiovisual programming, this model of licensing and regulation becomes more difficult to define.

The linear presentation of programming is no longer limited to licensed broadcast channels. Virtual channels can be delivered online at low cost. This has resulted in a proliferation of online channels, which can be organised around a specific theme or even a particular programme brand.

Furthermore, the delivery of programmes is no longer restricted to linear channel schedules. Programmes can be delivered on demand.

The regulatory status of such online services, and any associated advertising, is often ambiguous, at least to the average viewer.

### *Consistent regulation*

The ambiguity and inconsistency of regulation of audiovisual programming can be resolved by regulating services, either linear channels or on-demand services, with respect to their inclusion in a Regulated Service List.

It will be clear to citizens and consumers that services that are included in a Regulated Service List are appropriately licensed for use in the relevant territory and they can have confidence that the programming and any advertising or sponsorship they present meets certain expectations, and they can have recourse to complaint to the licensing body in case of concerns.

This will provide consistency of regulation of services included in a Regulated Service List, irrespective of the mode of distribution or consumption.

### *Prominence for public service content*

A key benefit of a Regulated Service List is that it can inherently order and optionally numerically identify certain services that are considered a priority for the provision of public services with Appropriate Prominence.

The services of public service media organisations, including those of the BBC, ITV1, STV, Channel 4, Channel 5, S4C and local television services, can be accorded prominent positions in a Regulated Service List, which will be reflected in any compliant presentation of these services.

Notably, this principle can be applied not only to traditional linear channels but also to associated online audiovisual services of such organisations, which are increasingly important to viewers.

This can be achieved without complicated and contentious definitions of the visual prominence or discoverability of specific services or applications. They will always be accessible at the appropriate position in an ordered list.

### *Accessibility for those with disabilities*

The accessibility of services, not only for those with disabilities but for those of even average cognitive competence, is particularly important for all services, but especially for public service media.

The use of a Regulated Service List can provide simplicity of service navigation for those that may find other forms of navigation too complex or confusing.

Notably, a Regulated Service List can support not only numeric navigation, which has proven to be very effective, but also simple up and down selection, which is often also appreciated by viewers.

A self-describing Regulated Service List can be supported by assistive technologies, such as screen readers, and is very amenable to voice navigation and other forms of automation.

### *Fair, reasonable and non-discriminatory treatment*

The current system of regulation of a designated Electronic Programme Guide relies upon the *Ofcom Code of Practice for Electronic Programme Guides*. This requires an objectively justifiable method of allocating listings.

The current Code of Practice does not stipulate how the method of allocation is achieved, provided it is fair, reasonable and non-discriminatory.

This has allowed a divergence of implementations across designated Electronic Programme Guides, resulting in a lack of consistency of organisation and numbering across platforms.

There is not even consistency of numbering of the designated public service media channels across free and paid platforms.

This situation has arisen as a result of historic differences, diverging business rules, the evolution of service offerings, trading of positions, and competitive practices.

The operation of a Regulated Service List will allow alignment of the allocation of services, at least for designated public service media channels, and guarantee Appropriate Prominence of these and associated services.

Delegating responsibility for the allocation of services within a Regulated Service List to a competent regulatory authority such as Ofcom will ensure a level playing field for all participants.

The model developed by the Service List Registry in response to the Everyone TV consultation demonstrates that the method of allocation can be achieved through a simple system of rules that can be consistently applied.

In case of dispute, Ofcom can provide a process for arbitration and resolution that will be applicable to all participants.

**Question 3.** Do you agree with the costs of statutory regulation of additional EPGs outlined in this consultation? Do you have any evidence to contribute relating to the extent of these or any other potential costs?

Please provide figures where possible.

### Response 3

**No. There will be significant costs involved in the regulation of services listed in Electronic Programme Guides, but these can be minimised by adopting a standard approach. The provision and operation of a Regulated Service List system will lead to greater efficiency and a net reduction in the cost of regulation and compliance.**

### *Familiarisation for EPGs and channels*

There are inherent costs to programme providers, platform operators, consumer electronics companies and application developers in implementing any form of service discovery. These represent a small but significant cost of distribution in this domain.

A standard approach to defining and describing a Regulated Service List offers the potential for a considerable reduction in the overall net cost to the industry for achieving compliance.

Rather than requiring familiarisation with complex regulations, it will be readily apparent that compliance can be achieved through the operation of a Regulated Service List system. This has considerable benefits to consumer electronics manufacturers, many of which operate globally.

The availability of a machine-readable Regulated Service List also provides regulatory certainty. It is possible to automatically validate whether a device or display is compatible and compliant.

### *Compliance for EPGs*

The proposed model for funding the relevant regulation is that this should be covered through the licensing regime for a Regulated Service List.

Consequently, the cost will be recovered principally through the licensing of audiovisual media services and the allocation of services to a Regulated Service List.

It should be recognised that providers of retail products or even free applications may not have ongoing revenue streams to cover licensing costs associated with an Electronic Programme Guide in a particular territory.

The responsibility should therefore fall on legislators, regulators, and media providers to ensure that services within a given jurisdiction are made available to the public in such a way that the client device or application is not responsible for compliance. The provider of a client device or application should be responsible for conforming to technical standards that achieve this compliance.

### *Compliance for channels*

The proposed funding model will align the cost of regulation with the audiovisual media service provider, which benefits from announcing its service in a Regulated Service List and making it available to viewers.

In some cases, the audiovisual media service provider may also be a platform operator or service aggregator.

The cost should be associated with the licensing of an audiovisual media service and the allocation of the service to a Regulated Service List.

It is envisaged that Ofcom will charge an appropriate fee for recovering the applicable cost of managing the process and providing the necessary services.

The Service List Registry will separately offer its technical services on a rate card basis. In the case of services in a Regulated Service List it is assumed that this cost will be covered and collected by the relevant regulator through its licensing regime.

It is anticipated that the cost of licensing and registration will generally be nominal in comparison to the total cost of production, operation and distribution of an audiovisual media service.

It is reasonable that the cost should be sufficient to disincentivise providers from seeking to license and register numerous services. It should also be proportionate to the value of inclusion in the list to the service provider. This suggests that some form of tiered approach may be appropriate.

In any case, the cost of compliance should not be excessive if the relevant regulation is to be effective. Furthermore, it should not be borne by consumer electronics companies or providers of applications, which may be free or open source, with no associated revenue stream.

### *Removal of channels*

Even if the cost of licensing and inclusion in a Regulated Service List is relatively low, it may be sufficient to deter some providers.

A distinction may therefore be drawn between services that are included in a Regulated Service List that are recognised as licensed and those that may exist beyond the bounds of designation or in other service lists.

It seems inevitable, due to the global nature of the internet and business in general, that there will be services that are beyond national jurisdiction.

It is simply impractical for any jurisdiction to regulate all online services, although clearly there will be cases where other legislation may apply in cases of illegal material.

The most practical approach is therefore to designate clearly those services that society, through legislation, regulation, and Appropriate Prominence, considers licensed and compliant. This can be achieved through a Regulated Service List and identified ranges of numbers that are limited to licensed services.

### *Cost of administration*

The approach identified is intended to minimise the administrative burden on regulatory authorities including Ofcom and the Advertising Standards Authority.

The availability of new technologies, such as online distribution, is likely to result in an increase in the number of legitimate channels available. This has happened previously, with the introduction of multichannel television on cable, satellite, terrestrial, and telco platforms, facilitated by the efficiency of digital compression.

**Question 4.** Should the regulation of EPGs be restricted to those used by members of the public in the UK and accessed via a television set? Please explain your reasoning and provide any relevant evidence.

### *Response 4*

**No. The regulation of services should be achieved through a Regulated Service List rather than be defined by the type of device or display, such as a television. Regulation should apply to any screen on which these services are viewed in the United Kingdom, since a television device or display will become increasingly difficult to define.**

The focus of the current consultation is on the regulation of Electronic Programme Guides, which as outlined above may not be the most appropriate approach.

The consultation refers to section 211A(2)(c) of the *Communications Act 2003*. This applies to a regulated Electronic Programme Guide that falls within a description prescribed by the regulations.

The scope of this is limited to Electronic Programmes Guides that are used by members of the public in the United Kingdom as a way of accessing television programme services, where that access is by means of a television set. It is further proposed that the regulation should be targeted at Electronic Programme Guides that have a significant audience reach in the United Kingdom or are distributed via the Digital Terrestrial Television platform.

This proposed scope is problematic for several reasons that may limit the effectiveness of the anticipated regulation.

Firstly, while viewing by means of a television set remains the most popular way in which people watch broadcast programmes, it does not account for other forms of viewing. This could include screens that are not television sets, such as monitors, mobile phones and tablets. Leading display manufacturers are already marketing smart monitors that do not have a television receiver but offer access to online video services. Similar user interfaces are also available in some cases on tablets and phones.

Secondly, the definition refers to Electronic Programme Guides that are distributed via the Digital Terrestrial Television platform. This raises the question whether the guide is distributed via the Digital Terrestrial Television platform or whether certain metadata is distributed in this way and the Electronic Programme Guide is provided by some other means, such as a third-party application or software in a receiving device. It should also be noted that Service Information may be distributed separately by an internet connection that is not necessarily part of the digital terrestrial television transmission platform.

Thirdly, it is not clear why the scope should be restricted to the Digital Terrestrial Television platform, given that this is now only the main means of reception in a minority of homes and there is a general trend towards online delivery, not only from traditional cable and satellite providers but also from the organisation that is responsible for operating the terrestrial platform, which is currently only guaranteed to be available for a further ten years, or possibly less.

These issues of definition fall away if the focus is on the services that are made available rather than the technical means of delivery or presentation.

A Regulated Service List will apply to any device or display that is used to access or view services included in that list, whether they do so by technical reference to that list or some other means.

This would clearly define the scope to include contexts in which it applies rather than by reference to types of devices or displays.

If a product, service, or application allows a user to access or view a service that is included in a Regulated Service List it would fall within scope.

An application that offers access to such services on a phone or tablet would be in scope, but the phone or tablet would not otherwise fall within scope. This is reasonable, since anyone providing access to such services in this way would normally require a licensing agreement with the relevant regulated services.

This would not apply to popular applications that provide access to other audiovisual services, such as YouTube. However, if YouTube were to offer a service that offers access to traditional television channels, as it does in the United States, it would fall within scope.



## Scope

**Question 5.** Should the government use an audience reach threshold to determine which EPGs should be regulated? What are your views on the 2 options presented for a threshold of average monthly audience reach? If you are an EPG provider, does your organisation collect and hold this information and would your EPG be captured by either of these thresholds? Do you have an alternative proposed level at which this threshold should be set?

Please explain your reasoning and provide any relevant evidence.

## Response 5

**No. The regulation of an audiovisual media service should be determined by inclusion in a Regulated Service List rather than any threshold of audience measurement of either the service or the means by which it is accessed.**

The proposal to use an audience reach threshold to determine which Electronic Programme Guides should be regulated is inherently problematic and prone to measurement problems.

Currently, the regulated Electronic Programme Guide with the lowest audience penetration is YouView, in less than 1% of all television households, according to Barb Establishment Survey data from mid 2023. It should be noted that BT TV and TalkTalk, although shareholders in YouView, provide separate products. Even if these are all aggregated the total it only just over 6% of television households.

Alternatively, the government suggests that some well-known regulated channels have a monthly reach of 1% of the available audience. It should also be noted that there are examples of regulated channels that record negligible monthly reach and some that do not subscribe to Barb measurement because its panel-based estimates are unreliable for small audiences. Regulating an Electronic Programme Guide based on the reach of minor channels it offers makes little logical sense.

To the extent that availability is considered as a qualifying measure for regulation, a more appropriate measure might be the Barb Establishment Survey. This nationally representative quarterly research measures the availability of platforms by self-reported access and is used as the basic for calibrating industry audience measurement. It might require additional questions to be surveyed to include the brands of products including other devices and displays used to access television services. However, this is problematic as a brand might include different models with differing capabilities and consumer recall may not be accurate at this level.

Any criteria based on market penetration or audience size present problems for the introduction of new products and services. Initially these will inevitably have no measurable audience reach unless and until they are marketed, promoted and viewable.

The logical conclusion is that audiovisual media services should be regulated based on their inclusion in a Regulated Service List. This will include those services that are Designated Channels for reasons of prominence and those services for that service providers wish to be included in such a Regulated Service List.

If a service is included in a Regulated Service List, it will be because it is a licensed service that has been approved by the relevant regulatory authority. The user can therefore expect that it conforms to the relevant regulatory requirements and there will be a process to raise a complaint in case of any concerns. The regulatory authority will have the means to sanction the service provider as appropriate, including the provision to remove a service from a Regulated Service List.

The real issue is how to apply the proposed approach to the existing regulated Electronic Programme Guides of platform providers, which currently cover most of the market.

The pragmatic solution to this is to ensure that the proposed approach is generally aligned with the principles already observed by existing regulated Electronic Programme Guides and to provide a reasonable time frame for them to become conformant or compliant.

Initially, conformance of existing Electronic Programme Guides can be achieved by non-technical means by any adjustments to logical channel numbering and ensuring that any listed channels are appropriately licensed, which should already be the case.

Subsequently, providers of Electronic Programme Guides and other means of service selection may choose to implement technical means to use a Service List to drive their guides and maintain conformance.

Since the intention is to extend the scope of regulation to include other forms of Electronic Programme Guide, this can be achieved by providing adequate notice to existing and prospective providers of such guides.

**Question 6.** Should all EPGs providing access to services broadcast over DTT be regulated?

Please explain your reasoning and provide any relevant evidence.

### Response 6

**No. Given the importance attached to the Appropriate Prominence of public service broadcasters, regulation should apply to the means of accessing such services however they are delivered, whether over digital terrestrial television, satellite, cable, or telco networks, or over the public internet, either as scheduled channels or delivered on demand. This would include services currently delivered over digital terrestrial television, particularly Designated Channels.**

Such a definition would therefore include not only existing designated Electronic Programme Guides, but any means of service selection that includes access to Designated Channels or services in a Regulated Service List.

All services broadcast over the digital terrestrial television system are already regulated and Logical Channel Numbers are already regulated for Appropriate Prominence in the case of Designated Channels. The provision of a Regulated Service List can support regulation of audiovisual media services delivered over any network. Regulation should therefore apply to access to services that are included in a Regulated Service List.

Digital terrestrial television provides national infrastructure for the delivery of free-to-air television services with almost universal coverage. As such, it remains an important component of the delivery of television services in the United Kingdom.

According to the most recent Barb establishment survey research, digital terrestrial television is available in 54% of all households, although often in combination with other services. Only 14% of all households exclusively have access to digital terrestrial television, while 71% have access to online television and video services. 93% of households have internet access and 19% of households only have access to television or video through the internet, with no digital cable, satellite or terrestrial television.

Digital terrestrial television is therefore important, particularly for vulnerable viewers that rely on it for information, entertainment, and company.

However, online delivery of audiovisual services is prevalent. Over two-thirds of homes in the United Kingdom have access to an online video subscription service.

The current Freeview Play service is a hybrid platform, that combines broadcast television with services delivered over the internet, including elements of its Electronic Programme Guide.

Everyone TV, which manages and promotes the digital terrestrial proposition, is developing a next-generation platform to be known as Freely that will use online delivery.

The availability of digital terrestrial television in the United Kingdom is currently only guaranteed for another ten years, possibly less, although it may still be available for many years to come.

The relevance of digital terrestrial television is that it still largely defines a television receiver. A screen that can receive digital terrestrial television, even if it can receive other services, is recognised as a television and is marketed as such. A screen that is unable to receive digital terrestrial television is essentially not a television, even if it can display television and video services.

Practically every television sold in the United Kingdom can receive digital terrestrial television and has a basic Electronic Programme Guide that is independent of Freeview or Freeview Play. It can receive broadcast service information that enables it to tune to channels, offer them for selection, and display information about the present and following programme.

Manufacturers of televisions, which generally serve multinational markets, still need a mechanism to facilitate channel tuning and selection, irrespective of any decisions taken in the United Kingdom about platform provision or regulation.

In the case of digital terrestrial television in Europe and beyond, the channel tuning and selection mechanism has been provided through the DVB-T/T2 standards developed by the DVB Project. DVB-I aims to support these and other standards with Service Information and Programme Information metadata that can be delivered over the internet. This will support the dual operation of digital terrestrial television and online services.

The key is therefore to regulate a Regulated Service List that can be supported by existing standards such as DVB-T/T2 and newer standards like DVB-I, as well as proprietary platforms that are already in the market.

The issue is not the regulation of broadcast channels that are transmitted over digital terrestrial television. These are already subject to broadcast licences granted by Ofcom and covered by statutory legislation.

The challenge is the availability of online services, sometimes referred to as FAST channels, that do not come under the same regulatory regime. Some television manufacturers are making hundreds of these channels available in addition to broadcast services.

Consumers may well benefit from the availability of these additional online channels, many of which are owned and operated in other territories.

The problems arise if or when such services are presented alongside traditional broadcast channels. Consumers may now know or care about the provenance of these services or how they are delivered.

Viewers may have reasonable expectations that they follow the same programming and advertising regulations as cover traditional licensed channels.

This also has a distorting effect on market competition, since traditional broadcasters may be operating under more constrained conditions. Ultimately, this may reduce the relevance of traditional broadcasters, including those providing important public services, and erode the revenue of those that rely on commercial advertising and sponsorship for much of their income.

A clear distinction should be maintained between those services for which the consumer may have expectations of a reasonable level of regulation, and other services that may be legal but do not necessarily maintain such standards.

This can be achieved through a Regulated Service List that specifies services that are licensed and appropriately regulated. Any device or display that makes such services available should, in time, ensure that they are presented with Appropriate Prominence and distinguished from other services.

**Question 7.** Should any other factors or metrics be considered in determining which EPGs should be regulated?

Please outline any alternative suggested metrics, how these would be measured, and your reasoning for suggesting this.

### Response 7

**No. A Regulated Service List can be used to regulate services and it can be a regulatory requirement that methods of presenting and selecting such services should be consistent with such a list under a Code of Practice.**

The focus should be on identifying and regulating those services that are licensed and regulated within a national jurisdiction and providing Appropriate Prominence to public service media.

In other words, the aim should be to regulate the services accessible through an Electronic Programme Guide, rather than implementations of the guide.

Within a Regulated Service List there is the opportunity to give prominence to some services based on ordering, group related services, and organise services by category or genre.

Where logical channel numbers are used, it is possible to use numeric organisation to group together particular types of service, such as news, programming for children, or programmes for adults. This is commonly employed in existing programme guides. There are many benefits to this for both programming providers and viewers. It allows Appropriate Prominence to be given to certain genres, logically organises the presentation of services, facilitates navigation between similar types of service, and avoids users unintentionally viewing inappropriate services, such as those intended for adult audiences.

This does not mean that services necessarily need to be presented in a classic grid guide schedule view. The same metadata can be used to drive rich graphical presentations of viewing options, organised in different ways. Indeed, using system of genre and classification tagging many forms of presentation become possible, facilitating service discovery.

A media provider should be able to categorise its service to facilitate application of the appropriate rules for inclusion in the relevant category of a Service List. In the case of dispute, the regulator licensing the service should be able to determine the genre or category allocation, with an appropriate process for appeal based on evidence. The genre or category allocated may also be used to determine regulatory matters in relation to scheduling, programming and advertising.

With the focus on regulating the Service List, other factors, such as ease of access, the number of channels listed or promoted, or the turnover or number of employees of the organisation presenting the Service List become irrelevant as criteria for regulation.

By analogy, a broadcast channel may be licensed in a particular jurisdiction to a particular broadcaster. It is irrelevant how many employees the television receiver manufacturer has or how many channels are available through its Electronic Programme Guide.

Similarly, the challenge is to provide an appropriate regime for licensing audiovisual media services irrespective of how they are delivered and to clearly identify those that comply. A Regulated Service List can achieve this.

**Question 8.** Do you consider the self-regulation of EPGs a robust and appropriate alternative to statutory regulation?

### Response 8

**No. A system of self-regulation is unlikely to be satisfactory or sufficient. Competitive pressures and cost avoidance will lead to further fragmentation and consumer confusion. A more appropriate and proportionate approach is through a Regulated Service List.**

The current system of self-regulation and a published Code of Practice has in many ways worked well. The major platforms have diligently applied the regulatory requirements.

However, there is evidence that the current system of regulation has limitations and needs to be re-evaluated.

Firstly, the Ofcom Code of Practice and the current requirement for fair, reasonable, and non-discriminatory implementation have led to a divergence of numbering schemes and classification schemes between major platforms.

Secondly, while strictly conforming to the rules, platforms may legitimately promote their own channels at the expense of competing channels.

Thirdly, although some platforms employ genre classification as a system of organisation, this is not consistently applied between services.

Where platforms are not currently subject to a regulated Electronic Programme Guide, they have tended to conform to similar conventions because they tend to serve in the interests of the viewer. They may adopt certain features for brand protection reasons.

Nevertheless, there is an inconsistency between different platforms. This presents problems for programming providers in promoting their services and is confusing for consumers, particularly if they regularly use more than one platform in their home or elsewhere.

### *Varying application of content standards for audiences*

Inconsistent application of organising principles and policies can lead to confusion of expectations among consumers.

While major platforms may have sufficient administrative capacity and the necessary contractual arrangements to provide a compliant Electronic Programme Guide, this may not be the case in the case of new entrants or multinational manufacturers or technology corporations.

There is an economic benefit in delegating some of the responsibility to a competent national regulator, such as Ofcom.

### *Lack of independent handling of audience complaints*

Where there is the possibility of consumer confusion between nationally licensed services and those from other jurisdictions it may not be clear where the responsibility for programming and advertising standards lies.

This matter of provenance is as relevant as prominence. Viewers should be clear about where they can direct complaints. This will be generally to the media provider, where they can be easily identified. In some cases, it may be appropriate to direct a complaint to a regulator such as Ofcom or the ASA. In our experience consumers will rarely complain to the receiver manufacturer.

### *Confusion for channels appearing on EPGs*

With the increasing complexity of distribution and aggregation arrangements, providers of programming have less visibility of how and where their services, channels, and programmes are presented.

In the absence of a more rigorous regulatory framework, some participants in the market, particularly recent entrants, may seek to exploit any inadequacies in regulation for their commercial benefit. This is almost an inevitable consequence of a competitive market.

If there are clear regulatory requirements to which all participants in the market must adhere and they can be reasonably implemented, the temptation to game the system is neutralised as it no longer provides a competitive advantage. Competitors will therefore differentiate in other dimensions, such as usability and performance, which will generally benefit the consumer.

A Regulated Service List fulfils this need, not only conceptually but in its ease of implementation. It reduces the need to interpret requirements and implement separate systems. It provides economies of scale, based on an open international standard. As it is self-documenting, it allows for automated verification and validation. It enables innovation in other areas of service discovery and navigation, supporting a dynamic and competitive market.

**Question 9.** If updates are made to the statutory regulation of EPGs, should the government include or exclude EPGs with their own systems of self-regulation within scope of any changes?

Please explain your reasoning and provide any relevant evidence.

### **Response 9**

**No. Any requirement to be consistent with a Regulated Service List should be applicable to any method of service discovery and selection.**

There are benefits to consistent application of a statutory regulation regime to the whole market. As described above, this can be achieved through a Regulated Service List.

Such an approach can be adopted by those that currently conform to the requirements of a regulated Electronic Programme Guide as well as those with their own systems of self-regulation.

The media authorities in Germany have already adopted a similar system with the Public Value list of channels and services that make a particular contribution to the diversity of opinion and offerings in Germany. They have published a recommended ordering of the channels and services as a guideline for user interface providers. This is available, in German, on the web site of the state media authorities at [www.die-medienanstalten.de/public-value](http://www.die-medienanstalten.de/public-value).

A pilot project is under way with German broadcasters to support the implementation of the Public Value list using the DVB-I standard.

**Question 10.** If you are an EPG provider that is currently unlicensed, would your service be captured by any of the proposed criteria for a regulated EPG set out in this consultation?

### Response 10

**Yes. The current legal definition of an Electronic Programme Guide is arguably ambiguous. The *Media Bill* introduces the definition of a Television Selection Service. A possible interpretation of this is that the Service List Registry could be considered to provide such a facility.**

The text of the *Media Bill* as introduced defines the meaning of a Television Selection Service as a service provided by means of the internet and in connection with internet television equipment, which consists of the presentation of the internet programme services included in the service and a facility that enables the user to make a selection between those services and to access the service selected.

The Service List Registry technical platform enables media providers to announce their services and allows compatible devices and displays to discover them. It provides service information about the availability of services on various networks. It does not present these directly to end users. Generally, the presentation and selection of services will be implemented in the User Interface of a client device or application made available to the end user by a third party.

The Service List Registry provides a secure federated platform that allows multiple service providers and regulators in different jurisdictions to administer Service Lists. The technology platform can also be used by a regulator such as Ofcom to manage the listing of services in a Regulated Service List and to enable these to be published in various formats including digital documents.

The Service List Registry welcomes the opportunity to work with the United Kingdom government and the regulator Ofcom to develop an appropriate regulatory regime and cost-effective implementation that meets the identified policy objectives and the needs of a competitive market.

**Question 11.** If you are an EPG provider that is currently unlicensed, how many channels does your service carry and would you expect the majority of these to seek a broadcasting licence if your EPG became regulated?

### Response 11

**The Service List Registry has yet to launch a service offering in the United Kingdom. It is anticipated that it could support any or all licensed broadcast channels available in the United Kingdom and potentially any number of services that are not currently licensed.**

The Service List Registry, and the DVB-I standard on which it is based, envisages both open and Regulated Service Lists. It is expected that each territory will have one or more Regulated Service Lists. It is anticipated that such Regulated Service Lists may have a similar number of services to those currently offered by major platforms, although there is the potential to support many more.

There is no practical limit to the number of services or channels that can be supported, although there are natural limits to the numerical range of Logical Channel Numbers available for a given number of digits.

**Question 12.** If you are a channel provider that is currently unlicensed, would you seek a broadcast licence if the EPG your channel appears on, or intends to appear on, were to become regulated?

### Response 12

**The Service List Registry is not a channel provider but seeks to support media providers that wish to register and become licensed for inclusion in a Regulated Service List.**

The Service List Registry aims to support media providers individually, through existing or prospective platforms, through new entrants to the market seeking to offer aggregated service, and through national and regional regulators.

### Implementation

**Question 13.** Do you think that the proposed implementation period of twelve months would give sufficient time for newly regulated EPGs to prepare to comply with the UK's broadcasting regulatory regime?

Please explain your reasoning and provide any relevant evidence.

### Response 13

**No. An implementation period of twelve months will not be sufficient or reasonable to achieve full implementation. However, a Regulated Service List could be established within that time frame, with an extended grace period for conformance to be achieved.**

Any change to technical systems, including software development for user interfaces, and deployment in products to consumers, will necessarily involve long lead times.

Manufacturers of consumer electronics products like television devices and displays are typically planning products 12-18 months before they are introduced to the market, with timing depending on annual cycles.

In any case, it is unlikely to be practical to apply regulation to products that have already been sold or are in the retail supply chain.

It would be practical to establish a Regulated Service List system within 12 months, assuming appropriate processes and policies are adopted.

It is likely that a grace period would then be required for technical implementation to achieve conformance.

This would effectively put participants in the market on notice of any changes that may be required to their User Interface, including those that may have product developments in the pipeline.

It is not believed that any changes would necessarily be required in primary legislation, although the introduction of the proposed Media Bill could provide such an opportunity.

The main change required would be a review of the Ofcom *Code of Practice on Electronic Programme Guides*, which would probably require a reasonable consultation period to gain stakeholder input before implementation.

In Germany the legislation required that the Public Value List be implemented on a User Interface within six months, although this followed a long period of consultation.



Implementing a Regulated Service List does not inherently require the introduction of any new technology. As can be seen in the case of Germany, it can be as simple as publishing a list on a web site for third parties to implement in their respective systems.

With respect to the digital terrestrial television platform using DVB-T/T2, there may be some configuration required by Everyone TV in conjunction with third parties like Arqiva to implement any required logical channel number assignment. This can be achieved with careful planning and will then be available to any digital terrestrial television receiver, including those already in homes, following as channel rescan. This is a process that is routinely required in their normal business.

The national numbering model proposed is intended to be as compatible as possible with the schemes adopted by Freesat, Sky and Virgin. Depending on the level of conformance required, it could be immediately applicable, or it could require some reassignment of logical channel numbers.

As far as User interfaces are concerned, they could require a simple software reconfiguration or a complete redesign. While it should not be difficult to order a list of channels, the complexity of this should not be underestimated.

In terms of technical implementation of the DVB-I standard, although it is not yet widely deployed, there is support for it in the latest version of HbbTV and several manufacturers have implemented support in devices and displays.

Product lead times for consumer electronics products tend to be at least a year, so it is likely that it would take some time for compatible and compliant products to reach the retail market. There would need to be a clear imperative and market requirement to drive adoption by manufacturers.

It will also be important to communicate changes to consumers, which is likely to require the involvement of industry, legislators and regulators.

A clear timetable with appropriate expectations will be necessary to achieve industry conformance. This will also serve to indicate regulatory expectations to all players well in advance of any deadline for implementation.

**Question 14.** Do you agree with the proposed process for coming under regulation set out in this consultation?

Please explain your reasoning and provide any relevant evidence.

#### Response 14

**No. Responsibility for setting out and communicating the requirements for the regulation of audiovisual media services ultimately rests with the government and the relevant regulator. This may require an industry awareness campaign and consumer marketing.**

Platform providers and other aggregators may be involved in advising media providers of these requirements and should be responsible for ensuring that any Electronic Programme Guide or User Interface that they provide are compliant.

It is unreasonable and impractical to expect a television manufacturer or other consumer electronics company to inform media providers that can be accessed by its retail product of the need for regulation or licensing of their audiovisual media services.

**Question 15.** Do you think that services should remain under regulation after hitting an audience reach threshold, regardless of future levels of reach? Alternatively, should there be a route to being removed from regulation if a service continually falls below an audience reach threshold after becoming regulated?

Please explain your reasoning and provide any relevant evidence.

### Response 15

**No. Measures of audience size by reach or otherwise each should not be criteria for regulation, which should be based on inclusion in a Regulated Service List.**

If a media provider wishes a service to be included in a Regulated Service List the relevant organisation should apply for and receive the appropriate licence to qualify for inclusion.

If a media provider no longer wishes a service to be included in a Regulated Service List the media provider should submit a request for the service to be removed from the relevant list.

It is important for clarity and certainty that the licensing of a service in a Regulated Service List should be unambiguous and not dependent upon any audience measurement criteria.

Many online services will have their own viewing metrics and may not subscribe to an industry measurement system such as Barb. Panel-based statistical estimates of viewing may be unreliable for smaller audiences.

### Conclusion

The regulation of access to television and other audiovisual media services is important to support the expectations of citizens, consumers and viewers to support public policy objectives.

Public service media should remain prominently available to ensure media plurality, provide access to sources of news and information, and bring people together for shared experiences, sporting events and other national occasions.

These audiovisual media services should not only be available users, but they should also be accessible to users of all abilities without discrimination.

Users should be able to identify the provenance or origin of such audiovisual media services and have recourse to complain if they do not meet acceptable standards.

The established system of regulation applied to broadcast media should apply to the same services when they are delivered online.

Where other services are presented in proximity to broadcast services, they should be subject to the same regulatory requirements however they are delivered, so that there is no possibility of consumer confusion regarding their status.

In other words, if it looks like television, it should be regulated like television and similar standards of programming and advertising should be applicable.

However, the user experience should not be overregulated in a way that could restrict innovation and competition.

There are many services available through television devices and displays that conform to different user expectations, like video sharing services.

It is impractical to regulate all material that can be seen on a television in the same way, even if there is a requirement for it to conform to national legislation.

While in some respects the existing system of regulating specific Electronic Programme Guides has benefited viewers, it has also led to a fragmentation of platforms and approaches. The role of the traditional grid guide has become less important as service providers develop new forms of navigation.

Although pay-television platforms were once seen as potential gatekeepers to television services, manufacturers of television devices and displays are now able to offer access to additional online services and potentially restrict access to public service media.

It is in the interests of all participants in the ecosystem to support the prominence of public service media, which still comprises most television viewing.

It is also important to consider the interests of manufacturers of devices and displays that provide the primary route to market for media service providers that otherwise have no ability to reach audiences.

Yet the television set is not the only means of accessing audiovisual media services, including the offerings of public service media organisations. Other screens, including handheld devices are likely to become increasingly important, so the regulation of television can no longer be defined with respect to the television set.

As television becomes less dependent on traditional means of transmission, many televisions will no longer be connected to a conventional cable, satellite, or terrestrial input. It may become difficult to distinguish a television technically from a very large tablet or mobile phone.

It is therefore ineffective to rely on the traditional Electronic Programme Guide for the regulation of television and similar audiovisual media services.

The User Interface should be defined and regulated with respect to the services to which it gives access. There should be specific provisions for the Appropriate Prominence of Designated Channels corresponding to public service media providers.

The primary consideration should be that the proposition to the viewer is coherent, consistent, and convenient. Any system that takes the perceived needs of the viewer as a priority will necessarily involve some element of curation.

Given that it needs to work in the interests of competing participants in the ecosystem, a coordinated approach is required, with an appropriate level of regulation from a competent national regulatory authority.

There is a need to support legacy platforms that use traditional transmissions and enable the development of new platforms that use fixed and mobile data networks.

It is important to adopt open industry standards for service announcement and discovery that are being implemented internationally. The United Kingdom is not a sufficiently large market for major multinational manufacturers to address specifically.

Ultimate responsibility for a national plan should rest with Ofcom as the communications regulator.

A Regulated Service List system serves the interests of all parties and will ensure a level playing field for all participants, encouraging market competition and innovation.

Such a system can provide for Appropriate Prominence of public service media and appropriate regulation for other services that can be selected in the same context as Designated Channels.

In addition, a common approach to Logical Channel Numbering will be of benefit to media service providers and their users in maintaining a degree of consistency between platforms.

The Service List Registry would be pleased to advise the government and regulator further on how the recommendations made in this response could be put into practice within the existing legislative and regulatory framework.

### Summary

- The requirement for regulation of Electronic Programme Guides and by extension the services that they present can be best achieved by a Regulated Service List system including Designated Channels, subject to a revised Code of Practice to be drawn up by Ofcom.
- Any product or service that provides a User Interface that allows access to services on the Regulated Service List would need to comply with the Code of Practice, including provisions for the Appropriate Prominence of Designated Channels carried in the order determined by the relevant Regulated Service List.
- If a service provider wishes a service, whether broadcast or online, to be included in a Regulated Service List, it will be required to be licensed and regulated by the relevant authority, in this case Ofcom, and be assigned to an appropriate genre or category. This provides clarity to consumers about the status of services within a Regulated Service List.
- This approach avoids the need to designate an extensive range of Electronic Programme Guides, with the risk of growing divergence between them resulting in consumer confusion.

### 3. Recommendations

In order to address the requirements raised in this consultation, the Service List Registry proposes the following recommendations:

- Regulation should continue to apply to existing regulated **Electronic Programme Guides**, namely those of Freeview, Freesat, YouView, Sky, and Virgin Media.
- Existing regulations should apply to **Designated Channels** in relation to **Appropriate Prominence**. This should also apply to the online services and associated online applications of public service media organisations, namely the BBC and those providing Channel 3 services, Channel 4, Channel 5, and S4C.
- As the relevant regulator, Ofcom should in consultation with stakeholders draw up a **Regulated Service List**, including Designated Channels and online services and the licensed audiovisual media services of any other media providers that wish to be included the list. The Regulated Service List may apply to specific services nationally, regionally, or locally.
- Ofcom should in consultation with stakeholders develop a revised **Code of Practice** relating to the presentation and accessibility of services in a Regulated Service List, with specific reference to the Appropriate Prominence and priority of Designated Channels.
- Any product or service that provides a **User Interface** to facilitate access to any audiovisual media service listed in a Regulated Service List must comply with the revised Code of Practice.
- Under the revised Code of Practice, any service listed in a Regulated Service List must have a relevant licence from Ofcom.
- Any Designated Channel in a Regulated Service List must be made available on a must-offer and must-carry basis subject to any reasonable contractual carriage conditions.
- Any Regulated Service List must specify default channel numbering and genre classification, assigned by Ofcom according to the revised Code of Practice.
- Any Designated Channels in the relevant Regulated Service List must be presented within a User Interface with Appropriate Prominence with respect to the priority and numerical order defined in the list according to the nation or region of the user.
- A User Interface will not be obliged to use numbers to identify services but those that do should adopt the default numbering and ordering scheme for the relevant Regulated Service List as far as practical.
- Ofcom should be required to develop and publish the Regulated Service List and a revised Code of Practice within 12 months and products and services should have 18 months from publication to comply with its provisions.
- Any exemptions from compliance with the Code of Practice for practical or operational reasons should be administered by Ofcom on a case-by-case basis.

## References

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## **Annexes**

The following documents are provided as separate annexes.

- **Service List Registry**
- **Service List Model**
- **Current channel numbers**

## Service List Registry

Our purpose is to make it easy for anyone to discover and access audiovisual media services over any network, on any screen.

We aim to become the *de facto* standard platform for audiovisual media service discovery worldwide, transforming the media market.

We will achieve this by providing the leading international service platform implementing the open DVB-I standard developed by the DVB Project, involving stakeholders across the sector.

- **Users** will benefit from choice, convenience, and control, with simple service selection on any screen.
- **Providers** of audiovisual media services will be able to announce their channels and services through an open platform.
- **Devices**, displays and applications will be able to discover and access audiovisual media services over any network.
- **Regulators** will be able to designate and authorise services to ensure appropriate prominence, provenance, plurality, accessibility, and availability of services.

Our innovative multiscreen index will support the provision of public service media and maintain an open competitive market for audiovisual media services. These may be traditional television channels or on-demand services, available free or through a subscription. The platform will be a key enabler for a multi-billion market, generating substantial and sustainable annual recurring revenues, with a long customer lifetime and significant potential for continuing growth.

### Values

- **Open** — We use open standards, freely available to all participants.
- **Equitable** — We are fair, reasonable, and non-discriminatory.
- **Accessible** — Our services are accessible to anyone.
- **Available** — Our platform provides the highest level of availability.
- **Transparent** — We always operate with clarity and integrity.

### Position

SLR is an independent and neutral platform for the provision of audiovisual media services over any network to any screen.

We enable providers of audiovisual media to create virtual packages of services that for the first time are independent of any physical cable, satellite, terrestrial or telco network infrastructure. This offers an open alternative to powerful aggregators and gatekeepers that otherwise threaten to foreclose the open distribution of audiovisual media.

We exist to enable the adoption and deployment of the DVB-I standard by multiple mutually competing players in the market.

### Problem

Navigating the rapidly evolving viewing environment is increasingly complex for both users and media providers, as competition for audience attention intensifies.



## Service discovery

We have more viewing choices than ever and so many more ways to watch, but it is still difficult to discover how to access audiovisual media services on different devices and displays.

Finding a particular programme can be frustrating, as we are often forced to fight our way through multiple menus and similar but separate user interfaces on various screens.

As viewing moves from traditional broadcast channels to online delivery, there has been no standard way for media services to advertise their availability or for devices and displays to discover and offer them to users.

Consumers are no longer satisfied by traditional broadcast services. They expect to be able to access audiovisual media services on any screen, over any network.

- **Users** typically need to navigate multiple applications to access services from different providers, which limits usability, accessibility, and availability. Traditional channels and online services are not necessarily integrated. Users need to switch between different inputs and apps and there is no common system of navigation. This creates confusion and frustration for consumers. It also presents accessibility problems for those with various sensory, cognitive, or physical abilities.
- **Devices** and displays do not have a standard way to discover, offer, and access non-broadcast services. Television manufacturers need to provide products that do not depend on a conventional cable, satellite, or terrestrial antenna connection. Phones and tablets can only access online services. This is leading to market fragmentation.
- **Providers** of media services need to negotiate distribution of their applications across multiple platforms. The fragmented market is eroding the prominence of previously pre-eminent public service media providers. Traditional broadcast channels are facing increasing competition and are losing audience share as viewing moves online.
- **Regulators** are seeking to maintain the prominence of public media services and regulate services that are no longer restricted to licensed radio frequency spectrum. Regulators also have a policy objective or a legal requirement to ensure the prominence, availability, and accessibility of public media services, which is becoming more difficult as the viewing environment fragments.

Current solutions either involve dedicated devices and displays, which do not address the requirement for universal availability, or individual applications that need to be developed for multiple operating environments.

Some aggregators are producing their own integrated hardware devices and displays, like Sky Stream, Sky Glass, Amazon Fire TV, or Roku TV. These competing platforms involve inefficient duplication of incompatible systems, with no one dominant solution in the market.

Audiovisual media service providers need to develop apps for many different types of devices and displays. These add-on solutions end up competing for positioning on products and for the attention of users.

The audiovisual media market is complex, with thousands of services competing for the attention of hundreds of millions of viewers. With billions at stake, the ability to connect viewers with programmes that they want to watch is the key to unlocking the multiscreen experience.

## Solution

We want to make it easier for everyone to find media services, offering choice, convenience, and control on any screen.

### Simple service selection

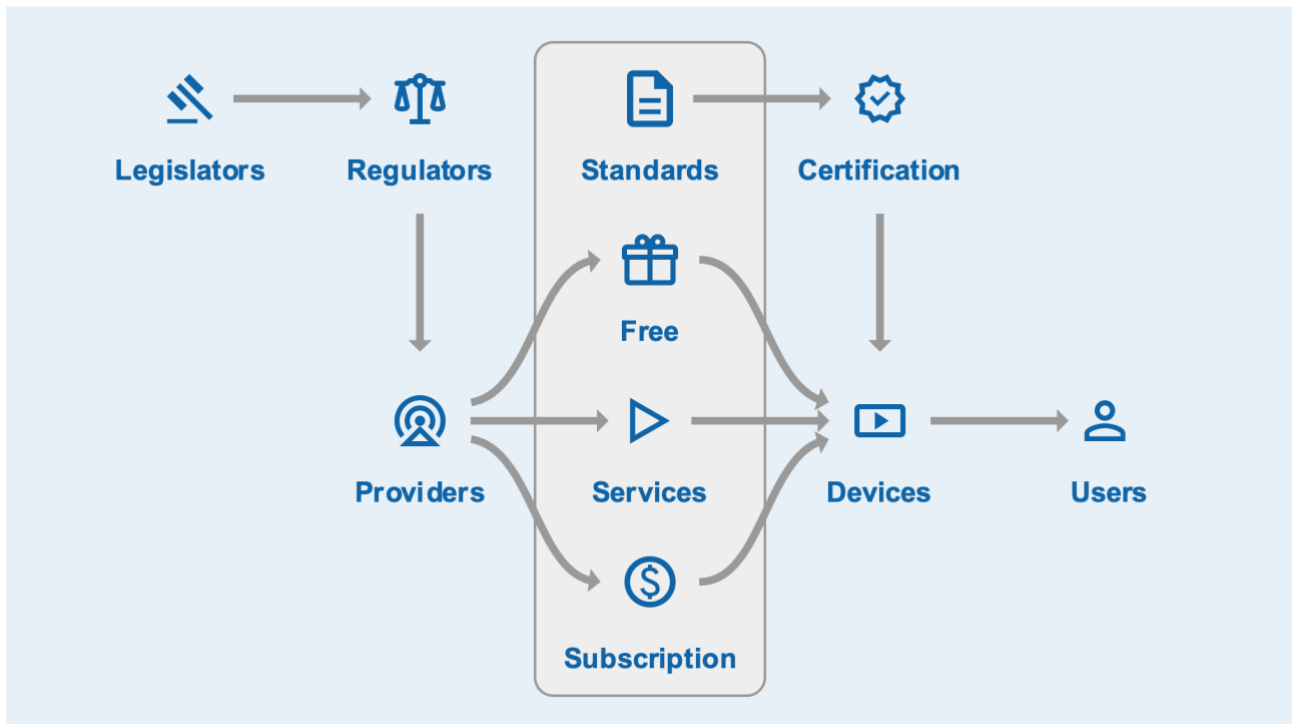
Our open platform enables different devices, displays and applications to discover available audiovisual media services and access them across the most appropriate delivery networks.

Imagine a machine-readable online directory that applications and products can use to look up lists of relevant services and offer them within their user interface.

- **Users** with compatible devices, displays or applications can simply select services from lists of familiar channels and online offerings in an integrated view, based on their location and the capabilities of their screen. All queries are anonymous, protecting personal privacy. The ordered service list responses facilitate simple accessible navigation, including numeric selection.
- **Devices**, displays and applications can use open web standards to request service lists and present the results in their own environment. Third parties retain the freedom to innovate and differentiate the user experience of their products in an open and competitive multinational market. This includes integration with intelligent systems, including personalised recommendations, voice control, and home automation.
- **Providers** of media services can publish lists of services available by region across various delivery networks. They can promote their brands and retain control of the distribution of their services, with the option to prioritise different modes of delivery and offer higher quality audio and video formats for compatible devices and displays.
- **Regulators** and legislators can designate and approve lists of services to maintain the prominence of public service media providers and ensure that they are universally available and easily accessible. This identifies the provenance of licenced services within their jurisdiction and facilitates the fulfilment of public policy objectives and plurality of media provision.

Encouraging collaboration between industry stakeholders across the ecosystem, our service discovery platform empowers media providers to extend the reach of their services efficiently and effectively. It simplifies the process of promoting and providing programming across different devices and displays, offering a smooth transition to delivery over any network to any screen.

## Value network



The solution is based on existing open standards and does not require any changes to current broadcast transmission systems. By using web technologies, the online service layer can be easily integrated with various client devices and displays, reducing barriers to adoption. This allows for a gradual migration as products are progressively upgraded or replaced. Employing a federated approach and distributed architecture, the system is designed to scale to serve a massive user base.

The core concept of a service directory is well established in computer science. It is widely used in software such as Microsoft desktop and enterprise products. So far, such a system has been absent in broadcast networks, which have assumed no connection between a client and a server. However, with the advent of devices and displays with network connections, such an architecture now offers advantages.

The unique innovation enabled by SLR is to allow the flexible aggregation of media services across multiple delivery networks without the requirement for additional investment in infrastructure. This is a business breakthrough as much as a technology innovation. Just as the development of the World Wide Web applied a new protocol to an existing internet infrastructure, the Service List Registry has the potential to transform the way we access audio and video services.

The SLR platform offers an addition to the industry ecosystem. It extends the reach of media services without requiring customers to change their existing distribution arrangements. It allows them to maintain legacy services while developing their online strategy. It does not require a step change investment but allows incremental enhancement of services. The cost to media providers is marginal and the risk involved is low.

## Foundation

The solution is based on the open DVB-I specification developed by the DVB Project, the member organization responsible for the development of digital broadcasting standards in use across Europe and around the world. This is in turn based on open web standards developed by the W3C World Wide Web Consortium.

A limited version of the proposed approach has already been adopted for the Freeview Play proposition in the United Kingdom, where it is known locally as Channel List Management and is based on a proprietary implementation.

The significance of the DVB-I specification is that it will bring the capability of service list aggregation to a much wider market, based on open standards that can be adopted worldwide.

### Innovation

The Service List Registry is an essential component of the ecosystem. It provides an index that devices, displays and applications can query to request available audiovisual media services with which they are compatible.

Although the DVB-I standard specifies the registry in terms of request and response syntax and semantics, the actual operation of the service platform is outside the scope of the standard, both in technical and business processes. It is simply assumed to exist. Reference implementations that have been developed are not suitable for production deployment.

The Service List Registry fills this market requirement and aims to provide an industrial-strength operational platform to support the international deployment of the standard. It achieves this through both technical innovation and its business model.

### Implementation

The technical implementation involves innovative features that enable the registry to meet the anticipated demand from devices, displays and applications. These proprietary approaches are more efficient than traditional relational database models that do not scale well.

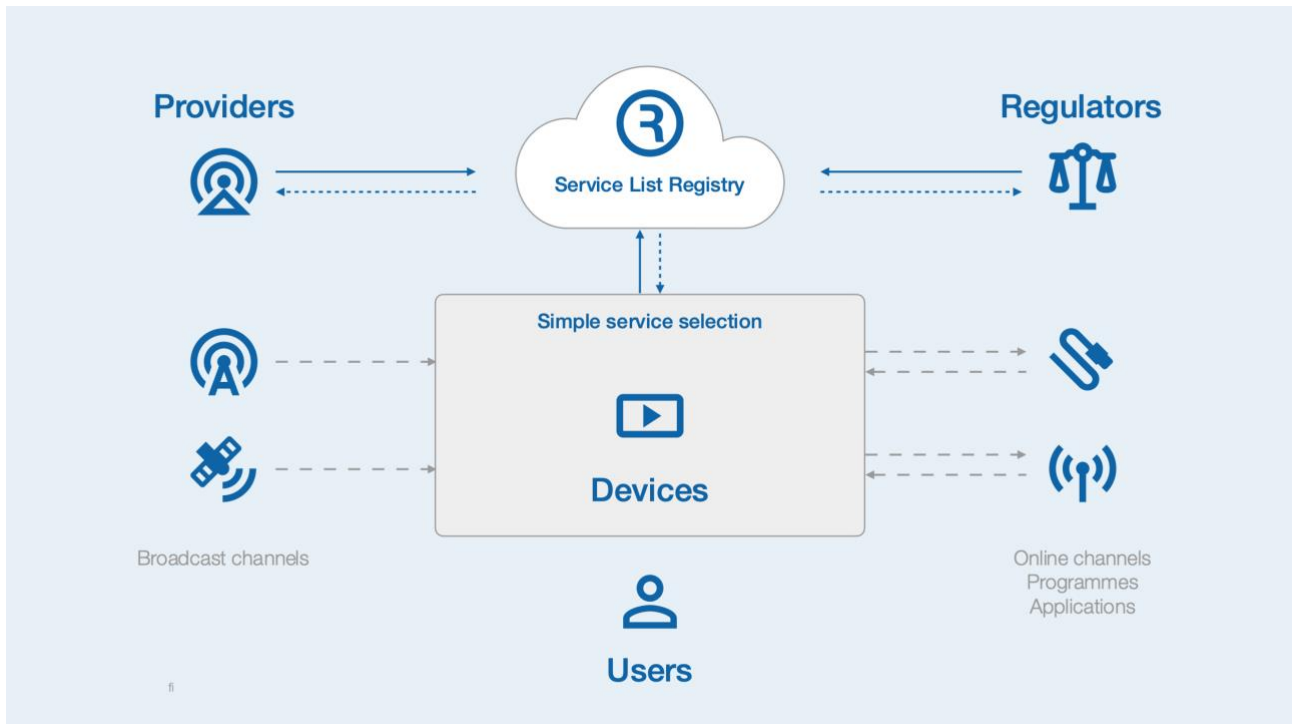
The business implementation includes a federated system that delegates the administration of services to authorized audiovisual media service providers, service aggregators, and regulators. This avoids the need for a central service registry, which would be politically and commercially contentious.

A comparison may be drawn to the DNS Domain Name System that allows any device to resolve a human readable domain name to an internet address. The distributed architecture allows third parties to register domain names and administer records without recourse to a central database. This system is fundamental to the operation of the internet and has successfully scaled to support billions of devices worldwide.

### Proposition

The Service List Registry enables the virtual aggregation of audiovisual media services across diverse delivery networks that can be accessed on any compatible device, display, or application.

## Data flows



The unique value proposition is that the Service List Registry enables media providers and service aggregators to announce linear channels and on-demand applications without being limited to conventional cable, satellite, or terrestrial transmission infrastructure. It enables online-only video services to co-exist with traditional channels. It also provides a way for traditional broadcasters to extend beyond those modes of delivery and migrate to online distribution over fixed or wireless internet connections.

Such a solution is urgently needed, as online viewing is increasing rapidly, and a strategic service platform is required to enable the long-term migration from traditional broadcasting.

There is no comparable open platform that is available to audiovisual media service providers internationally.

An international approach is necessary as no single territory, at least in Europe, has sufficient scale to support manufacturers that aim to address multinational markets with devices and displays. The main threat that national broadcasters face is from online video services that are multinational.

## Development

The DVB-I specification has been developed and published as an open standard by ETSI (TS 103 770 V1.1.1) as revised in DVB Bluebook DVB Document A177 Rev.5.

SLR has developed a proof-of-concept, and this was demonstrated to industry stakeholders at DVB World in May 2022 and the IBC trade show in 2023. SLR has also provided private workshops to broadcasters from Japan and Australia.

SLR has announced a Pilot Programme to enable early adopters to evaluate their requirements.

Closed pilot projects in progress with public and private broadcasters in Germany and Italy are moving to a second phase of trials to address the requirements for market introduction to the public in these territories.

SLR is in discussions with other broadcasters about other pilot projects. These include Freeview Australia, which represents all the major public service, commercial, and regional television broadcasters in Australia. They comprise more than 40 television channels with over 45 regional variations.

The SLR platform is currently hosted on AWS global network infrastructure that provides high levels of availability, integrity and security, necessary for supporting transmission critical services.

A simple online demonstration, showing how queries to the registry are constructed and providing example responses, is available at [slrdb.org/demo](http://slrdb.org/demo).

## Service List Model

To provide a concrete model of how the Service List model can be applied, this section shows a suggested application for the market in the United Kingdom. Market and regulatory requirements tend to differ by territory and jurisdiction, but the Service List model can be applied accordingly. The Service List Registry has provided proof of concept implementations for other markets.

### European context

There are 9406 television channels available in the wider European area as tracked by the European Audiovisual Observatory MAVISE database. 323 of these channels are categorised as targeting the United Kingdom. Table 1 provides a breakdown by the set of 14 categories recorded in the database.

**Table 1: Television channels in Europe by category**

Category	Europe		Targeting UK	
	Count	Percentage	Count	Percentage
Entertainment	762	8.1%	60	18.6%
Generalist	4273	45.4%	60	18.6%
Lifestyle / Leisure / Health / Travel	431	4.6%	8	2.5%
Film and TV Fiction	645	6.9%	40	12.4%
Music	458	4.9%	22	6.8%
Sport	822	8.7%	49	15.2%
Documentary	271	2.9%	10	3.1%
Cultural / Educational	199	2.1%	2	0.6%
News / Business	423	4.5%	13	4.0%
Parliamentary / Government / Administration	20	0.2%	2	0.6%
Children	309	3.3%	14	4.3%
Home Shopping	150	1.6%	3	0.9%
Religious	172	1.8%	1	0.3%
Adult	172	1.8%	8	2.5%
Other / Not Identified	299	3.2%	31	9.6%
<b>Total</b>	<b>9406</b>	<b>100.0%</b>	<b>323</b>	<b>100.0%</b>

Source: European Audiovisual Observatory / MAVISE

### United Kingdom model

The total number of television channels currently available on leading platforms with a regulated Electronic Programme Guide is shown in Table 2. This includes channels available as regional variations.

**Table 2: Channels by platform**

Service	Freeview	Freesat	Sky	Virgin
Number of television channels	159	143	469	239

The model for the United Kingdom was developed in response to a recent consultation by Everyone TV, the organisation jointly owned by the public service broadcasters in the United Kingdom that manages and promotes the existing Freeview and Freesat services. It is currently engaged in an initiative to develop a next-generation platform based on online delivery.

The approach adopted in developing this model was to seek to achieve alignment with existing platform providers, notably those that are currently covered by regulations with respect to Electronic Programme Guides: Freeview, Freesat, YouView, Sky, and Virgin Media. As these have developed separately within the current Ofcom Code of Practice requirements, there are inconsistencies between them, although they follow similar principles.

The model proposes a numeric organisation for services providing ranges for different genres and categories of service, as shown in Table 3. This is intended to provide an organisation that is logical, coherent, and consistent for users, and aligns well with other popular platforms.

**Table 3: Summary of suggested service numbering ranges**

LCN Range	Category	Slots	Notes
1-99	Favourite	100	Pre-assigned channels
100-199	Entertainment	100	Including Designated Channels
200-299		100	Time-shift and further channels
300-349	Movies	50	
350-399	Music	50	
400-449	Sport	50	
450-499	Documentary	50	
500-549	News	50	
550-599	Regional	50	Linked to parent service 555 for accessible EPG
600-649	Children	50	
650-699	Shopping	50	
700-749	Religion	50	
750-799	International	50	
800-975	Radio	175	
980-999	Adult	20	With parental controls
1000-9999	Other	9000	Non-broadcast services

This system is broadly consistent with the schemes adopted by the current regulated Electronic Programme Guides, although there are differences between them. These differences are summarised in Table 4, which show the extent to which they align.



**Table 4: Genre comparison with other leading platforms**

LCN Range	Category	Freeview	Freesat	Sky	Virgin
1-99	Entertainment		—	—	—
100-149					
150-199					
200-249		Children/ News	News	Time-shift	
250-299					Music
300-349	Movies		Movies	Movies	Time-shift
350-399	Music			Music	
400-449	Sport			Sport	Movies
450-499	Documentary				
500-549	News		Music	News/ Religion	Sport
550-599	Regional				
600-649	Children		Children	Children	News
650-699	Shopping	Adult	Religion	Shopping	
700-749	Religion	Radio	Radio	International	Children
750-799	International				Shopping
800-849	Radio		Shopping	SD	International
850-899					Regional
900-949				Adult	Radio
950-979			Regional	Regional	Adult
980-999	Adult		Regional		
1000-9999	Other				

Source: Platform listings.

The main difference is that Freeview does not use genre groups as it started with relatively few channels and has grown organically. Other platforms vary in the numbering of some genres.

The determination of the primary genre of a service will normally be self-evident but in case of dispute will be according to any categorisation provided by the relevant regulator responsible for licensing the service.

While there is some consistency in categories, it is evident that it is not possible to achieve a complete alignment of some genres across all platforms. It is not anticipated that other commercial platforms will reorganise their entire line-up to realise this, although of course they may choose to do so.

The question then arises as to how individual services are organised within these categories. Each of the currently regulated platforms has adopted different approaches to this.

In order to implement a regulated national or regional Service List a simple system of deterministic rules is recommended that can be applied objectively.

It is important to note that this system of organisation applies to the Service List. The objective is to provide a default ordering that that can be easily adopted to provide consistency across platforms. An existing or prospective platform provider remains free to map this to its own system of listing.

### Designated channels

Some services are currently Designated Channels and there is a legal and regulatory requirement in the United Kingdom for these to be presented with Appropriate Prominence.

This imposes certain constraints on the numbering of these Designated Channels, complicated by the regionalisation requirements around national and local channels.

Table 5 shows that there is consistency in the first five Designated Channels across all platforms, subject to the requirement that they appear in the first five slots in the electronic programme guide. In the case of Freesat, Sky and Virgin, this begins at 101. This is also reflected on Freeview. It is recommended that this practice is maintained in the suggested scheme, such that 101 corresponds to BBC One on all platforms. It will also be available by default as channel 1 as a pre-assigned favourite channel.

**Rule 1: The first five slots, from 101 to 105, shall be allocated to Designated Channels for public service broadcasters (currently BBC One, BBC Two, Channel 3, Channel 4, and Channel 5).**

The platforms diverge after the first five Designated Channels. This is partly due to the less prescriptive requirements for prominence. There is limited consistency in the regionalisation of channel numbers for Channel 4 in Wales or the numbering for BBC Scotland or BBC Alba in Scotland. There are differences in channel numbering for BBC Three and Four across platforms and regions.

**Table 5: Designated Channels**

Service	Suggested	Freeview	Freesat	Sky	Virgin
England					
BBC One	1 / 101	1 / 101	101	101	101
BBC Two	2 / 102	2 / 102	102	102	102
Channel 3 (ITV1)	3 / 103	3 / 103	103	103	103
Channel 4	4 / 104	4 / 104	104	104	104
Channel 5	5 / 105	5 / 105	105	105	105
	6 / 106				
Local	7 / 107				
National / Local	8 / 108				
National	9 / 109				
BBC iPlayer	10 / 110				
BBC Three	11 / 111	23 / 107 / 301 / 613	107 / 179	115 / 117 / 845	107
BBC Four	12 / 112	9 / 106 / 614	108 / 173	116 / 815	108

The suggested solution is to allocate local channels consistently in slots 7 and 8, according to nation or region.

This leaves slot 6 available for another service. It could either be left vacant, used as a channel to promote the platform, as an occasional service for special events, or retained for future expansion.

Given the ability to regionalise the service list, it should be possible to rationalise the local and national arrangements using slots 7, 8 and 9.

**Table 6: National variations**

Service	Suggested	Freeview	Freesat	Sky	Virgin
Wales					
S4C	4 / 104	4 / 104	104	104	104
Channel 4	9 / 108	7 / 110	106	108	108
Scotland					
BBC Scotland	8 / 108	9 / 108 / 302	106 / 110	115	108
BBC Alba	9 / 109	7 / 303	109	117	120

**Rule 2: Slots 106 to 109 shall be allocated to Designated Channels for national, regional, or local services.**

The remaining Designated Channels include the other channels of the BBC. Some of these will be included in this block, while others will be accommodated in the appropriate genre categories for News and Children.

It is recommended that the BBC iPlayer be allocated a dedicated channel number to allow direct numeric selection.

**Rule 3: Slots 110 to 112 shall be allocated to Designated Channels for other BBC services.**

### Related services

In addition to the grouping of services by within portfolio groups and by genre category, there is also another opportunity to group channels that are related by provider.

Grouping of related channels can be achieved through metadata associated with each service that identifies a parent group. Such information can be employed by a user interface to reference and present related services.

For instance, when a service such as BBC One is selected, there could be an option to access related services. These could include channels such as BBC Two, BBC Three, BBC Four, and additionally BBC News, BBC Parliament, CBBC and CBeebies, as well as other national services.

A similar approach may be used to reference associated online services, such as the BBC iPlayer, BBC Sounds, or a News, Sport, or Weather application.

This can provide another dimension by which services can be related. The presentation of such information can be implementation dependent, according to the design of an application or guide.

### Portfolio services

Portfolio channels associated with the other public service broadcasters can then be allocated to slots 13-32, with blocks allocated to ITV, Channel 4, and Channel 5, in the order of their primary Designated Channel, followed by the UKTV portfolio channels of BBC Studios, of which the BBC is ultimate owner.

There is a benefit to viewers and service providers in contiguity of these families of services in a revised numbering scheme.

It is also desirable to offer direct access to the online service of each of these families within its group.

This suggests an allocation of five slots for each of the families of portfolio services, including its online offering.

It should be delegated to these service providers to propose how they wish to allocate the order of services within their own family group.

Table 7 offers a suggested line-up that demonstrates how this would bring consistency, coherence and contiguity to these services that is currently missing on existing platforms.

**Rule 4: Slots 113 to 132 shall be allocated to the portfolio channels associated with the providers of Designated Channels (currently those of ITV, Channel 4, Channel 5, and UKTV).**

**Table 7: Suggested portfolio channel numbering**

Service	Suggested	Freeview	Freesat	Sky	Virgin
ITVX	13 / 113				
ITV2	14 / 114	6	113	118 / 816	115
ITV3	15 / 115	10	115	119 / 817	117
ITV4	16 / 116	26	117	120 / 818	118
ITV Be	17 / 117	28	119	131	119
4	18 / 118				
E4	19 / 119	13	112	135 / 830	106
E4 Extra	20 / 120	31	126	138	287
More4	21 / 121	18	124	136 / 831	147
4seven	22 / 122	49	127	137	143
My 5	23 / 123				
5USA	24 / 124	21	129	141	141
5Star	25 / 125	32	131	128	126
5Select	26 / 126	46	133	153	138
5ACTION	27 / 127	33	132	150	130
UKTV Play	28 / 128				
Dave	29 / 129	19	157	111 / 811	127
Drama	30 / 130	20	158	143	116
W	31 / 131	25	156	132 / 827	125
Yesterday	32 / 132	27	159	155 / 846	129

### Other service groups

That leaves fewer than 50 other services in the Entertainment category that are currently available on Freeview and Freesat. These can be accommodated in the remaining double-digit slots.

Where an ultimate owner controls more than one channel on 30 June 2023, these channels may be assigned to a further family group, with the proviso that no group can contain more than ten services.

The ordering of these family groups will be determined by a weighted set of factors, such as volume of viewing, audience reach, the length of time that services have been licensed in the United Kingdom, and alphabetical ordering.

**Rule 5: Slots 133 to 199 shall be allocated to family groups of up to ten Entertainment services from the same ultimate owner, ranked by weighted factors.**

Table 8 is indicative only, with group ordering and numbering to be determined.

**Table 8: Suggested family groups**

Service	License holder	Ultimate owner
NOW	Sky UK	Comcast
Sky Arts	Sky UK	Comcast
Pick	Sky UK	Comcast
Challenge	Sky UK	Comcast
Discovery+	Discovery	Warner Bros Discovery
Quest	Discovery	Warner Bros Discovery
Really	Discovery	Warner Bros Discovery
DMAX	Discovery	Warner Bros Discovery
Quest Red	Discovery	Warner Bros Discovery
Food Network	Discovery	Warner Bros Discovery
HGTV	Discovery	Warner Bros Discovery
Paramount+	Paramount	Paramount
Legend	CBS / AMC	AMC Networks / Paramount
CBS Reality	CBS / AMC	AMC Networks / Paramount
Reality Xtra	CBS / AMC	AMC Networks / Paramount
Horror Xtra	CBS / AMC	AMC Networks / Paramount

Other family groups can be created where there is an ultimate common owner. Some of these services may elect to be allocated to other categories, such as Movies or Music.

### Promotional service

Channel 200 will be reserved for the purpose of platform promotion and service announcements. This could vary by platform or delivery network.

**Rule 6: Slot 200 shall be reserved for promotion and service announcements on the relevant platform.**

### Time-shift services

Time-shift services, often known as +1 channels, will be allocated in the range from 201 to 299 where applicable, offset where possible by +100 from their parent channel. If the parent channel is outside the range 101-199 the time-shift channel may be allocated to the next available slot following the parent channel.

For example, the +1 channel of a parent service numbered 114 will be allocated channel 214. This provides a consistent pattern for the convenience of viewers.

**Rule 7: Time-shift or +1 services shall be allocated slots in the range 201 to 299, offset where possible by +100 from their parent service.**

### Other entertainment services

Any additional Entertainment services will be allocated available slots in this range, ordered by the priority date on which they were first licensed in the United Kingdom. This will allow the list to expand without disrupting the sequence.

**Rule 8: Additional Entertainment services shall be allocated remaining available slots in the range 201 to 299, ordered by the priority date on which they were first licensed in the United Kingdom.**

**Other non-broadcast services**

Some of the most popular online video services are from providers that do not have a broadcast presence on existing free platforms. They include Netflix, Amazon Prime Video, and Disney+.

Channel numbers for such services could be accommodated within the suggested scheme. Alternatively, where supported by platforms, devices and displays, users could assign favourite numbers in the range 1-99 to access installed apps for such services.

**Thematic services**

Specific ranges are reserved for thematic services, grouped by Movies, Music, Sport, and Documentary. These can include services that are currently broadcast on Freeview and Freesat and licensed services that are only available online.

**Rule 10: Movies services shall be allocated slots in the range 300-349.**

**Rule 11: Music services shall be allocated slots in the range 350-399.**

**Rule 12: Sport services shall be allocated slots in the range 400-449.**

**Rule 13: Documentary services are allocated slots in the range 450-499.**

**News**

The News channels BBC News and BBC Parliament could lead the News group, as currently on Freeview, followed by other services including Sky News. There is unfortunately no consistency across numbering of news channels on other services, or easy way of achieving harmonisation.

**Table 9: News**

Service	Suggested	Freeview	Freesat	Sky	Virgin
News					
BBC News	501	231	200	503	601
BBC Parliament	502	232	201	504	605
[TBC]	503				
...					

**Rule 14: News services shall be allocated slots in the range 500-549, starting with Designated Services.**

**Regions**

Regional variations of Designated Channels will be carried in the range 550-599. Since the channel numbering can be regionalised, viewers will see the services of their preferred region at the appropriate number for Designated Channels. Where possible, a system of related channels can be used to link regional variations with their parent service.

**Rule 15: Regional variations of Designated Channels shall be allocated slots in the range 550-599. Slot 555 is reserved for an accessible programme guide.**

## Children

The designated channels for Children, CBBC and CBeebies, would lead the Children group, as they currently do on Freeview and Freesat.

**Table 10: Children**

Service	Suggested	Freeview	Freesat	Sky	Virgin
News					
CBBC	601	201 / 204	600	607 / 643	701
CBeebies	602	202 / 205	601	608 / 644	702
[TBC]	603				
...					

**Rule 16: Children's services shall be allocated slots in the range 600-649, starting with Designated Channels.**

## Shopping

Shopping services are grouped in the range 650-699. Service providers may also be allocated additional numbers in the Entertainment range if they qualify on other grounds. This grouping provides convenient navigation for viewers specifically looking for shopping services.

**Rule 17: Shopping services shall be allocated slots in the range 650-699, in addition to any other qualifying slots.**

## Religion

Religious and faith services are grouped in the range 700-749.

**Rule 18: Religion and faith services shall be allocated slots in the range 700-749.**

## International

International services are grouped in the range 750-799. These will generally be foreign language services.

**Rule 19: International services shall be allocated slots in the range 750-799.**

## Radio

Allocating 800-975 to radio services allows for 175 services. That is still insufficient to list all the radio stations available in the United Kingdom. RAJAR tracks listening for about 400 services. However, it should be sufficient to list all the BBC radio services and provide a point of entry for each of the major commercial groups.

Within this range, the first 20 slots could be allocated to BBC services, starting at 801, including regional and local radio services assigned automatically based on geographic location. The last 50 slots in the range could be allocated to BBC local radio services in alphabetical order.

That leaves over 100 slots from 820-924 available for other radio services. We recommend that these are presented in family groups by ultimate owner, ranked by aggregate audience reach across each family.

Additional radio services can be accommodated in the range 1000-9999, which provides significant room for further expansion.



It should be noted that the use of favourites could also allow users to assign services to double digit numbers for easy access based on their personal preferences.

Where voice control is available, this should allow access to any radio service that is licensed in the United Kingdom.

**Rule 20: Radio services shall be allocated slots in the range 800-975, starting with 20 BBC services.**

### Adult

The range 980-999 is reserved for adult services, which should be protected by appropriate parental controls or PIN codes. These services are separated from the preceding television channels by a large buffer zone. They could also optionally be hidden from display in channel listings according to viewer preference depending on the user interface implementation.

**Rule 21: Adult services shall be allocated slots in the range 980-999, with appropriate parental controls.**

### Integration of additional services

It is important to provide a way in which additional services in the range 1000+ can be integrated appropriately into the viewing experience, while preserving the principles of prominence for Designated Channels.

One way in which integration can be achieved is through tagging of services with genre or category classifications. This is a feature of standards such as DVB-I. It allows a service to be associated with one or more genres or categories.

This would enable a service with a high Logical Channel Number such as 1111 that is tagged with the category Sport to be appended to the presentation of a list of services in the range 400-449. This can accommodate numerous Sports channels, while preserving the range 400-449 as an entry point for Sport.

While it may be appropriate for a service to reference multiple categories, it is recommended that channels should generally have one category tag and no more than three.

**Rule 22: A service may be tagged with up to three genre categories that are appropriate to its programming.**

### Favourite channels

A further facility that can improve the viewer experience is the ability for users to add favourite channels, either a device level or for their personal profile, using the numbers 1-99. In this way, they can assign their own personal priorities and numeric associations to services, independent of a logical numbering scheme.

Sky has been a pioneer in providing a favourites list that allows users to select and order their own list of channels from those available. This is presented in addition to the ordering determined by the operator in compliance with the prevailing regulations. In this way, public services can retain prominent presentation, but viewers can establish their own navigation to their favourite services. Sky does this because as a service provider that is obliged to have to earn its monthly subscription it needs to satisfy the needs of its subscribers. Research suggests that the feature is not used by all subscribers but is highly valued by those that do.

## Current channel numbers

The following tables indicate the channel numbering used across Freeview, Freesat, Sky, and Virgin Media platforms in the United Kingdom. They indicate the scale and complexity of the channel numbering schemes in use and the difficulty of harmonising numbers across all platforms.

## Freeview

LCN	Service	Notes
1	BBC One	HD
2	BBC Two	HD
3	ITV1	
4	Channel 4 S4C (Wales)	
5	Channel 5	
6	ITV2	
7	Local TV (England)	
7	Channel 4 (Wales)	
8	Local TV	
9	BBC Four	HD
10	ITV3	
11	Sky Arts	
12	Quest	
13	E4	
14	Film4	
15	Channel 4+1	
16	QVC	
17	Really	
18	More 4	
19	Dave	
20	Drama	
21	5 USA	
22	TJC	
23	BBC Three	HD England
25	W	
26	ITV4	
27	Yesterday	
28	ITVBe	
29	ITV2+1	
30	E4+1	Not via relays in Wales
31	E4 Extra	
32	5 STAR	
33	5ACTION	
34	GREAT! movies	
35	ITV1+1	
36	Pick	
37	QVC 2	
38	Channel 5+1	
39	DMAX	
40	Quest Red	
41	Legend	
42	GREAT! action	Not Wales
43	Food Network	
44	HGTV	
45	Gems TV	
46	5 SELECT	
47	Film4+1	

## Freeview

LCN	Service	Notes
48	Challenge	
49	4seven	
50	GREAT! tv	
51	Ideal World	
52	GREAT! romance	
57	Dave Ja Vu	
58	ITVBe+1	0400-0500
59	ITV3+1	2100-0400
60	Drama+1	
61	GREAT! movies+1	Closed
62	GREAT! tv+1	0400-2200 Manchester only
63	GREAT! romance+1	2200-0400 Manchester only
64	Blaze	
65	That's TV UK	0600-0400
66	TBN UK	
67	CBS Reality	
68	Reality Xtra	Local TV coverage areas only
69	Horror Xtra	
70	Quest+1	
71	That's 60s	0900-0300
72	Jewellery Maker	0800-1300
73	Shopping Quarter	
74	Yesterday+1	0500-0700
75	That's 70s	0300-0900
76	That's 80s	0400-0600
77	That's 60s MCR	Manchester only
78	TCC	0300-0500
79	Earthx TV	
80	That's 70s MCR	Manchester only
81	Blaze+1	
82	Talking Pictures	
83	Together	0500-0700 Online at other times
84	PBS America	1300-0000
85	Create & Craft	0700-2200
86	That's 80s MCR	Manchester only
87	TV Warehouse	Manchester only
88	TV Warehouse+1	Manchester only
89	ITV4+1	0500-0700
90	Together TV+1	0700-0800 / Streaming at other times.
91	WildEarth	
100	Freeview	Portal to Freeview Play (Information channel for older Freeview receivers)
	HIGH DEFINITION	
101	BBC One HD	
102	BBC Two HD	
103	ITV1 HD	

## Freeview

LCN	Service	Notes
104	Channel 4 HD S4C HD (Wales)	(1900-0600 Mon-Fri, 1400-0600 Sat/Sun)
105	Channel 5 HD	
106	BBC Four HD	
107	BBC Three HD (not Wales)	
110	Channel 4 HD (Wales only) CHILDREN	
201	CBBC	HD England
202	CBeebies	HD England
203	CITV	
204	CBBC HD	
204	CBeebies SD	Some Freeview Play devices only.
205	CBeebies HD	
205	CBBC SD	Some Freeview Play devices only.
206	POP	Local TV coverage areas only.
207	Tiny POP	Local TV coverage areas only.
208	POP Max	Local TV coverage areas only.
209	Ketchup TV	Streaming service
210	Ketchup Too	Streaming service
211	YAAAS!	Streaming service
212	POP Player NEWS	Streaming service
231	BBC News	
232	BBC Parliament	
233	Sky News	
235	Al Jazeera English	
236	GB News	
237	TalkTV DATA AND STREAMING	HbbTV-based services
250	BBC Red Button	
261	Vision TV	Streaming service
262	Arise News	Streaming service
263	Sonlife	Streaming service
264	Fail Army	Streaming service
265	On-demand 365	Streaming service
266	Pet Collective	Streaming service
267	Al Jazeera English	Streaming service
268	Al Jazeera Arabic	Streaming service
269	WION News	Streaming service
270	Real Crime	Streaming service
271	Channelbox	Streaming service
272	Asharq News	Streaming service
273	Al Arabiya	Streaming service
276	Shots!	Streaming service
277	UK Radio Portal	Streaming service
279	Al Alaraby	Streaming service

## Freeview

LCN	Service	Notes
280	ROK	Streaming service
281	Revelation TV	Streaming service
282	God TV	Streaming service
283	3ABN	Streaming service
284	Amazing Discoveries	Streaming service
	IP CHANNELS	Some Freeview Play devices only
301	BBC Three HD	
302	BBC Scotland HD	
303	BBC Alba HD	
501	BBC News HD	
502	BBC Parliament HD	
	ACCESSIBILITY SERVICE	
555	Accessible TV Guide	Freeview Play devices only
	INTERACTIVE	
601	BBC RB1	
	SD CHANNELS	Devices that support HD substitution
611	BBC One SD	Some Freeview Play devices only
612	BBC Two SD	Some Freeview Play devices only
613	BBC Three SD	Some Freeview Play devices only
614	BBC Four SD	Some Freeview Play devices only
	ADULT	
670	Adult Section	
671	Adult Xpanded	
673	SmileTV3	
674	Adult Babestn	
699	Adult Section	
	RADIO	
700	BBC Radio 1	
701	BBC Radio 1 Xtra	
702	BBC Radio 2	
703	BBC Radio 3	
704	BBC Radio 4	
706	BBC Radio 5 Sports Extra	
705	BBC Radio 5 Live	
707	BBC Radio 6 Music	
708	BBC Radio 4 Extra	
709	BBC Asian Network	
710	BBC World Service	
711	Hits Radio	
712	KISS FRESH	
713	KISS	
714	KISSTORY	
715	Magic	
716	Greatest Hits Radio	
717	Kerrang!	
718	Smooth Radio	
719	BBC Local Radio (England)	
	BBC Radio Wales (Wales)	

**Freeview**

<b>LCN</b>	<b>Service</b>	<b>Notes</b>
720	BBC Local Radio (England) BBC Radio Cymru (Wales)	
721	BBC Local Radio (England) BBC Radio Cymru 2 (Wales)	
722	BBC Local Radio (England)	In some regions only
723	TalkSport	
724	Capital	
725	Premier	
726	BBC Local Radio (England)	In some regions only
727	Absolute	
728	Heart	
730	RNIB Connect	
731	Classic FM	
732	LBC	
733	Trans World Radio	
734	BBC Local Radio (England)	In some regions only
735	BBC Local Radio (England)	In some regions only

Channel 780-799 Reserved for temporary services.

Channel 800+ Receiver specific range and non-Freeview channels.

## Freesat

LCN	Service	Notes
101	BBC ONE HD	Local BBC service
102	BBC TWO HD	
103	ITV1 HD	STV SD (C/N Scotland) ITV1 Border Sco. SD (Border) UTV HD (Northern Ireland) ITV1 Channel SD (CI)
104	Channel 4 HD	S4C HD (Wales)
105	Channel 5 HD	
106	-	BBC SCOTLAND HD (Scotland) Channel 4 HD (Wales)
107	BBC THREE HD	
108	BBC FOUR HD	
109	BBC ALBA HD	
110	BBC SCOTLAND HD	(SD version in Scotland)
111	ITV1 SD	ITV1 HD (Border) STV HD (Central/N Scotland)
112	ITV1+1	Not in STV/UTV regions
113	ITV2 HD	
114	ITV2 +1	
115	ITV3 HD	
116	ITV3 +1	
117	ITV4 HD	
118	ITV4+1	
119	ITVBe	
120	S4C HD	In Wales on 104
121	Channel 4 + 1	
122	E4	
123	E4+1	
124	More4	
125	More4 +1	
126	E4 Extra	
127	4seven	
128	Channel 5 + 1	
129	5USA	
130	5USA +1	
131	5STAR	
132	5ACTION	
133	5SELECT	
134	Reality Xtra	
135	CBS Reality	
136	CBS Reality +1	
137	Legend	
138	Horror Xtra	
139	Horror Xtra +1	
141	5STAR+1	
142	GREAT! tv	
143	GREAT! tv +1	
144	Pick	



## Freesat

LCN	Service	Notes
146	Challenge	
147	Sky Arts	
148	Food Network	
149	Food Network +1	
150	DMAX	
151	DMAX+1	
155	PBS America	
156	W	
157	Dave	
158	Drama	
159	Yesterday	
160	Really	
162	Blaze	
164	Together	
166	HGTV	
167	Quest HD	
168	Quest+1	
169	Quest Red	
170	Quest Red+1	
172	Quest	
173	BBC FOUR SD	
174	BBC SCOTLAND SD	Not Scotland
177	Court TV	
178	That's TV UK	
179	BBC THREE SD	
	NEWS AND SPORT	
200	BBC NEWS HD	
201	BBC PARLIAMENT HD	
202	Sky News	
203	Al Jazeera English HD	
204	France 24	
208	Bloomberg HD	
209	NHK World-Japan HD	
210	CNBC	
212	BBC NEWS SD	
213	Channels 24	
214	Arirang TV HD	
215	TRT World	
216	GB News HD	
217	TalkTV HD	
250	Sporty Stuff HD	
	FILMS	
300	Film 4	
301	Film 4+1	
302	GREAT! movies	
303	GREAT! romance	
304	GREAT! romance+1	
305	GREAT! movies action	

## Freesat

LCN	Service	Notes
306	Talking Pictures TV MUSIC	
501	4Music	
502	The Box	
503	KISS TV	
504	Magic TV	
505	Kerrang!	
506	That's 60s CHILDREN	
600	CBBC HD	
601	CBeebies HD	
602	CITV	
603	POP	
604	Pop Max	
605	Tiny Pop	
606	CBBC SD	
607	CBeebies SD RELIGION	
691	Daystar HD	
692	Revelation	
694	GOD Channel	
695	Sonlife RADIO	
700	BBC Radio 1	
701	BBC Radio 1Xtra	
702	BBC Radio 2	
703	BBC Radio 3	
704	BBC Radio 4	
705	BBC Radio 5	
706	BBC Radio 5 Sports Extra	
707	BBC Radio 6 Music	
708	BBC Radio 4 Extra	
709	BBC Asian Network	
710	BBC Radio 4 LW	
711	BBC World Service	
712	BBC Radio Scotland	
713	BBC Radio Nan Gaidheal	
714	BBC Radio Wales	
715	BBC Radio Cymru	
716	BBC Radio Ulster	
717	BBC Radio Foyle	
718	BBC Radio London	(London) BBC Radio Cymru 2 (Wales)
719	Capital	
720	Capital Xtra	
721	Classic FM	
722	Gold	
723	Radio X	

## Freesat

LCN	Service	Notes
724	Absolute	
726	Absolute 80s	
730	Planet Rock	
731	TalkSport	
732	Smooth	
733	Heart	
734	LBC	
735	BBC Radio Cymru 2	Except Wales, where it is on channel 718
736	Virgin Radio UK	
750	RTÉ Radio 1	
751	RTÉ 2FM	
752	RTÉ Lyric	
753	RTÉ RnaG	
786	Forces Radio BFBS	
790	TWR	
	SHOPPING	
800	QVC HD	
801	QVC Beauty	
802	QVC Extra	
803	QVC Style HD	
805	Gems TV (Gemporio)	
807	Jewellery Maker	
809	TJC	
810	TJC Beauty	
812	Ideal World HD	
813	Create & Craft HD	
	REGIONAL VERSIONS	Viewers will see relevant version on channels 101-103
951	BBC One London HD	
952	BBC One NE & Cumbria HD	
953	BBC One North West HD	
954	BBC One Yorkshire HD	
955	BBC One E Yorks & Lincs HD	
956	BBC One West Midlands HD	
957	BBC One East Midlands HD	
958	BBC One East HD	
959	BBC One South East HD	
960	BBC One West HD	
961	BBC One South HD	
962	BBC One South West HD	
963	BBC One Channel Islands HD	
964	BBC One Scotland HD	
965	BBC One Wales HD	
966	BBC One NI HD	
967	BBC Two Network	Except Eng/Sco
968	BBC Two Wales HD	Except Wales
969	BBC Two NI HD	Except NI

**Freesat**

<b>LCN</b>	<b>Service</b>	<b>Notes</b>
	OTHER	
970	BBC RB1 HD	
971	BBC RB1 SD	
977	ITV London AD	Except London
998	Freesat UHD	
2101	Rakuten TV	New Freesat devices only
2102	BBC iPlayer	New Freesat devices only

## Sky

LCN	Service	Notes
101	BBC One	
102	BBC Two	
103	ITV1	STV in Central and Northern Scotland, UTV in Northern Ireland. HD except Channel Islands and Border Scotland.
104	Channel 4	S4C (Wales)
105	Channel 5	
106	Sky Showcase	
107	Sky Witness	
108	Sky Atlantic	Channel 4 (Wales)
109	alibi	Sky Atlantic (Wales)
110	GOLD	alibi (Wales)
111	Dave	Gold (Wales)
112	Comedy Central	Dave (Wales)
113	Sky Max	Comedy Central (Wales)
114	Sky Comedy	Sky Max (Wales)
115	BBC Three HD (England/NI)	Sky Comedy (Wales); BBC Scotland (Scotland);
116	BBC Four	
117	BBC Three (England, outside of London)	London Live (London); BBC Alba HD (Scotland)
118	ITV2	
119	ITV3	
120	ITV4	
121	Sky Documentaries	BBC Three (Scotland)
122	Sky Crime	Sky Documentaries (Scotland)
123	Sky History	Sky Crime (Scotland)
124	Sky Nature	Sky History (Scotland)
125	Discovery	Sky Nature (Scotland)
126	MTV	Discovery (Scotland)
127	Comedy Central Xtra	MTV (Scotland)
128	5STAR	Comedy Central Xtra (Scotland)
129	Nat Geo	5STAR (Scotland)
130	Sky Arts	Nat Geo (Scotland)
131	ITVBe	Sky Arts (Scotland)
132	W	ITVBe (Scotland)
133	TLC	W (Scotland)
134	S4C (Eng, NI, CI, IoM)	TLC (Scotland)
135	E4	S4C (Scotland)
136	More4	E4 (Scotland)
137	4seven	More4 (Scotland)
138	E4 Extra	4seven (Scotland)
139	Sky Sci-Fi	E4 Extra (Scotland)
140	Food Network	Sky Sci-Fi (Scotland)
141	5 USA	Food Network (Scotland)
142	Really	
143	Drama	

## Sky

LCN	Service	Notes
144	QUEST	
145	Challenge	
146	CBS Reality	
147	Reality Xtra	
148	Legend	
149	Quest Red	
150	5ACTION	
151	Pick	
152	Sky Replay	
153	5SELECT	
154	ID	
155	YESTERDAY	
156	Crime+Investigation	
157	GREAT! tv	
158	HGTV	
159	E!	
161	Discovery Turbo	RTÉ One in Northern Ireland
162	Animal Planet	RTÉ 2 in Northern Ireland
163	Sky History 2	TG4 in Northern Ireland
164	BLAZE	
165	Nat Geo Wild	
166	Eden	
167	Disc. Science	
168	Sky History 2 (Northern Ireland only)	
169	BBC Alba HD	5USA (Scotland)
170	Together	
172	DMAX	
174	PBS America	
176	ITV1 HD [Border England version]	In the Border Scotland region.
177	Discovery History	
178	Animal Planet (Northern Ireland)	
179	Court TV	
180	EarthX TV	HD only.
181	Channel 7	
182	Travelxp	
183	That's TV (UK)	
184	Discovery Turbo (Northern Ireland)	
185	NTD	
186	Ayozat	
187	BBC Scotland	(not Scotland)
200-299	+1 CHANNELS	100 places above the parent channel
203	ITV1+1	Not in the STV region.
204	Channel 4+1	
205	Channel 5+1	
206	Sky Showcase+1	
207	Sky Witness+1	
208	Sky Atlantic+1	

## Sky

LCN	Service	Notes
209	alibi+1	Wales: Sky Atlantic+1
210	GOLD+1	Wales: alibi+1
211	Dave ja vu	Wales: GOLD+1
212	Comedy Central +1	Wales: Dave Ja Vu
213		Wales: Comedy Central+1
218	ITV2+1	
219	ITV3+1	
220	ITV4+1	
222	Sky Crime+1	Not Scotland
223	Sky History+1	Scotland: Sky Crime+1
224		Scotland: Sky History+1
225	Discovery+1	Not Scotland
226		Scotland: Discovery+1
228	5STAR+1	Not Scotland
229	Nat Geo+1	Scotland: 5STAR+1
230		Scotland: Nat Geo+1
232	W+1	Not Scotland
233	TLC+1	Scotland: W+1
234		Scotland: TLC+1
235	E4+1	Not Scotland
236	More4+1	Scotland: E4+1
237		Scotland: More4+1
240	Food Network+1	Not Scotland
241	5USA+1	Scotland: Food Network+1
243	Drama+1	
244	QUEST+1	
246	CBS Reality+1	
249	Quest Red+1	
254	ID+1	
255	YESTERDAY+1	
256	Crime+Investigation +1	
257	GREAT! tv+1	
258	HGTV+1	
261	Disc. Turbo+1	(In Northern Ireland on 284)
262	Animal Planet+1	(In Northern Ireland on 278)
266	Eden+1	
267	Discovery Sci+1	
269		Scotland: 5USA+1
272	DMAX+1	
277	Discovery History+1	
278	Animal Planet+1	(In Northern Ireland)
284	Discovery Turbo+1	(In Northern Ireland)
300-349	MOVIES	
301	Sky Cinema Premiere	
302	Sky Cinema Select	
303	Sky Cinema Hits	
304	Sky Cinema Sci-Fi/Horror	
305	Sky Cinema Animation	

## Sky

LCN	Service	Notes
306	Sky Cinema Family	
307	Sky Cinema Action	
308	Sky Cinema Comedy	HD only
309	Sky Cinema Thriller	HD only
310	Sky Cinema Drama	HD only
311	Sky Cinema Greats	
313	Film4	
314	Film4+1	
317	Horror Xtra	
318	Horror Xtra+1	
319	GREAT! romance	
320	GREAT! romance+1	
321	GREAT! movies	
322	GREAT! movies+1	
323	GREAT! movies action	
324	GREAT! movies action+1	
325	Movies24	
326	Movies24+	
328	TalkingPictures	
350-399	MUSIC	
350	MTV MUSIC	
351	MTV HITS	
352	MTV 90s	
353	MTV 80s	
354	4Music	
355	The Box	
356	KISS	
357	Magic	
358	Kerrang!	
360	Trace Vault	
361	NOW 70s	
362	NOW 80s	
363	NOW ROCKS	
364	Clubland TV	
365	That's 60s	
366	That's 80s	
400-499	SPORT	
401	Sky Sports Main Event	
402	Sky Sports Premier League	
403	Sky Sports Football	
404	Sky Sports Cricket	
405	Sky Sports Golf	
406	Sky Sports F1	
407	Sky Sports Action	Sky Sports NFL (part-time)
408	Sky Sports Arena	
409	Sky Sports News	
410	TNT Sports 1	
411	TNT Sports 2	



## Sky

LCN	Service	Notes
412	Viaplay Sports 1	HD only
413	Eurosport 1	
414	Eurosport 2	
415	Sky Sports Racing	
416	Sky Sports Mix	
417	TNT Sports 3	
418	MUTV	
419	Viaplay Sports 2	HD only
420	Viaplay Xtra HD	HD only
421	TNT Sports 4	
423	LFCTV	
424	Racing TV	
427	Sporty Stuff TV HD	HD only
429	DAZN 1 HD	HD only
490	TNT Sports Box Office	part-time
491	Sky Sports Box Office SD	part-time
492	Sky Sports Box Office HD	part-time
493	TNT Sports Ultimate (UHD)	part-time
494	TNT Sports Box Office 2	part-time
495	DAZN PPV	part-time
500-579	NEWS	
501	Sky News	
502	Bloomberg	
503	BBC NEWS	
504	BBC Parliament	
505	CNBC	
506	CNN	
507	NHK World	HD only
508	Euronews	
509	NDTV 24x7	
510	FRANCE 24	
511	Al Jazeera English	HD only
512	GB News	HD only
513	TRT World	
515	Channels 24	
516	Arise News	
518	Arirang TV	
519	WION	HD only
520	TVC News	
521	NBC News Now	HD only
522	TalkTV	HD only
523	India Today	
580-599	RELIGION	
580	GOD Channel	
581	revelation	
582	TBN UK	
583	DAYSTAR	
584	Inspiration TV	

## Sky

LCN	Service	Notes
585	LoveWorld	
586	EWTN Catholic	
587	Word Network	
588	Faith World TV	
589	KICC TV	
590	Faith UK	
591	Good News TV	
592	Dunamis TV	
593	SonLife	
594	New Media HD	
600-659	CHILDREN	
601	Cartoon Network	
602	Cartoon Network +1 (CN+1)	
603	Boomerang	
604	Nickelodeon	
605	Nicktoons	
606	Nick Jr.	
607	CBBC	
608	CBeebies	
609	Sky Kids	
610	Cartoonito	
611	Boomerang+1	
612	CITV	
613	Nick Jr. Too	
614	POP	
615	Tiny Pop	
616	Nickelodeon+1	
618	Tiny Pop+1	
619	POP+1	
620	POP Max	
621	POP Max+1	
622	Nick Jr+1	
624	RTÉjr	Northern Ireland only
626	Baby TV	
640	Cartoon Network	SD version
641	Boomerang	SD version
642	Nickelodeon	SD version
643	CBBC	SD version
644	CBeebies	SD version
645	Nick Jr.	SD version
660-699	SHOPPING	
660	QVC	HD only
661	JML Direct	
662	TJC	
663	QVC Beauty	
665	Gems TV	
666	High Street TV 1	
667	High Street TV 2	

## Sky

LCN	Service	Notes
668	TJC Beauty	
669	Best Direct	
670	Gemporio Craft	
672	High Street TV 3	
673	Create & Craft HD	
674	HobbyMaker	
675	High Street TV 4	
676	TV Warehouse	
677	QVC Style	HD only
678	Direct Store TV	
679	QVC Extra	
680	Craft Extra	
681	Cruise1st.tv	
700-799	INTERNATIONAL	
701	B4U Movies	
702	B4U Music	
703	SONY TV	
704	Utsav Bharat	
705	Utsav Plus	
706	COLORS	
707	Zee Cinema	
709	Zee TV	
710	AAJ TAK	
711	MATV National	
712	Foodxp	
713	Colors Rishtey	
714	Colors Cineplex	
715	SONY MAX	
716	Siraj TV	
717	Utsav Gold	
718	SONY SAB	
720	SONY MAX 2	
724	Aastha	
725	Sanskar	
731	MTA1 World	HD only
732	HUM Masala	
733	Hidayat TV	
734	GEO News	
735	PTV Global	
736	New Vision TV	
737	Islam Channel	
738	GEO TV	
739	Noor TV	
742	IQRA TV	
743	92 News	
744	Islam TV	
745	Ahleibait TV	
746	Madani Chnl	

## Sky

LCN	Service	Notes
749	Takbeer TV	
751	HUM EUROPE	
752	British Muslim	
754	Dunya News	
755	Islam Ch Urdu	
757	Eman Channel	
758	ARY Digital	
759	Samaa TV	
760	Siraj TV	
761	QTV	
766	PTC PUNJABI	
767	Brit Asia TV	
768	Sikh Channel	
769	Sangat	
770	Akaal Channel	
772	Kanshi TV	
774	Pitaara	
775	PBC	
777	CHSTV	
778	IQRA BANGLA	
779	ATN	
780	NTV	
781	TV One	
782	iON TV	
783	Deen TV	
784	Islam Bangla	
786	Abu Dhabi TV	
787	Ahlulbayt TV	
788	Sky News Arabia	
789	ImamHussain3	
791	PCNE Chinese	HD only
794	Colors Gujarati	
800-899	SD SWAP	Standard definition versions of channels with an HD version. (Excludes children's SD/HD swaps)
801	BBC One Nightlight	No regional programmes
802	BBC Two	
803	ITV / STV / UTV	
804	Channel 4	
805	Channel 5	
806	Sky One	
807	Sky Witness	
808	Sky Atlantic	
809	alibi	
810	GOLD	
811	Dave	
812	Comedy Central	
813	Sky Max	

## Sky

LCN	Service	Notes
814	Sky Comedy	
815	BBC Four	
816	ITV2	
817	ITV3	
818	ITV4	
819	Sky Documentaries	
820	Sky Crime	
821	Sky History	
822	Sky Nature	
823	Discovery	
824	MTV	
825	National Geographic	
826	Sky Arts	
827	W	
828	TLC	
829	S4C	
830	E4	
831	More4	
834	Quest	
835	E!	
836	SyFy	
837	Crime+Investigation	
840	Sky History 2	
841	Nat Geo Wild	
843	Smithsonian Channel	
844	BBC Scotland	
845	BBC Three	
846	Yesterday	
847	BBC ALBA SD	
848	Sky Cinema Premiere	
849	Sky Cinema Greats	
850	Sky Cinema Family	
851	Sky Cinema Action	
855	Film4	
858	Sky Sports Main Event	
859	Sky Sports Main Event	UHD/HD swap
860	Sky Sports Premier League	
861	Sky Sports Football	
862	Sky Sports Cricket	
863	Sky Sports Golf	
864	Sky Sports F1	
865	Sky Sports Action	
866	Sky Sports Arena	
867	Sky Sports News	
868	Eurosport 1	
869	Eurosport 2	
870	BT Sport 1	
871	BT Sport 2	

## Sky

LCN	Service	Notes
873	Sky Sports Mix	
874	BT Sport 3	
875	MUTV HD	
876	BT Sport ESPN	
877	Racing TV	
881	Sky News	
882	BBC News	
883	CNBC	
884	CNN	
886	TRT World	
890	TJC	
892	Sony TV Asia	
893	Utsav Plus	
894	Colors	
895	Sony Max	
896	Utsav Gold	
898	Zee TV	
900-929	ADULT	
900	TVX	
901	Adult Channel	
902	Xpanded TV	
903	Babes & Brazzers	
904	Babenation	
905	Get Lucky TV	
906	XXX Public Pickups	
907	TVX 40+	
908	XXX Girl Girl	
909	XXX College	
950	Sky Intro	
951-980	REGIONAL VARIATIONS and BBC RED BUTTON	Viewers will see relevant version on channels 101-103.
951	BBC One London HD	
952	BBC One NE & Cumbria HD	
953	BBC One North West HD	
954	BBC One Yorkshire HD	
955	BBC One E Yorks & Lincs HD	
956	BBC One West Mids HD	
957	BBC One East Mids HD	
958	BBC One East HD	
959	BBC One South East HD	
960	BBC One West HD	
961	BBC One South HD	
962	BBC One South West HD	
963	BBC One Channel Islands HD	
964	BBC One Scotland HD	
965	BBC One Wales HD	
966	BBC One NI HD	
967	BBC Two HD	NI/Wales

## Sky

LCN	Service	Notes
968	BBC Two Wales HD	Eng/Sco/NI
969	BBC Two NI HD	Eng/Sco/Wal
970	BBC RB 1 HD	(Red Button)
971	BBC RB 1 SD	
973	ITV1+1	in some regions
990-999	OTHER	
996	Channel Line-up	
998	Sky Intro	
999	Sky	
	RADIO	
101	BBC Radio 1	
102	BBC Radio 2	
103	BBC Radio 3	
104	BBC Radio 4	
105	BBC Radio 5 Live	
106	Classic FM	
107	Absolute Radio	
108	TalkSport	
109	Capital	
110	Planet Rock	
111	Heart	
112	Heart 80s	
113	Radio X	
114	Capital Xtra	
115	BBC World Service	
116	BBC Radio Scotland	
117	BBC Radio Wales	
118	BBC Radio Ulster	
119	BBC Asian Network	
120	BBC Radio 6 Music	
121	Gold	
122	WRN Europe	
123	LBC	
124	Smooth Radio	
125	Panjab Radio	
126	BBC Radio 4 Extra	
127	BBC Radio 1Xtra	
128	TWR	
129	BBC Radio Nan Gaidheal	
130	BBC Radio 4 LW	
131	BBC Radio 5 Live Sports Extra	
132	Heart Extra	
133	Sukh Sagar	
135	variations:	BBC Radio London (London); BBC Radio Foyle (NI); BBC Radio Cymru (Wales)
136	variations:	BBC Radio Cymru (Eng, Sco, NI); BBC Radio Cymru 2 (Wales)
137	RTÉ Radio 1	

**Sky**

<b>LCN</b>	<b>Service</b>	<b>Notes</b>
138	RTÉ 2fm	
139	RTÉ Lyric	
140	RTÉ Raidió na Gaeltachta	
141	Kiss	
142	Magic	
143	Hits Radio	
144	Absolute 80s	
145	Absolute 90s	
146	Jazz FM	
148	Absolute Classic Rock	
149	BFBS Forces Radio	
150	Virgin Radio	
151	Greatest Hits Radio	
152	Heart 90s	



## Virgin

LCN	Service	Notes
100	Virgin Media Previews HD	
101	BBC One HD	Your local BBC One service
102	BBC Two HD	
103	ITV1/STV/UTV HD	
104	Channel 4 HD	S4C HD in Wales
105	Channel 5 HD	
106	E4 HD	
107	BBC Three HD	England/NI
	BBC Four HD	Scotland/Wales
108	BBC Four HD	England/NI
	BBC Scotland HD	Scotland
	Channel 4 HD	Wales
109	Sky Showcase HD	
110	Sky Witness HD	
111	Sky Max HD	
112	Sky Comedy HD	
113		BBC Three HD (Scot/Wal)
114	Alibi HD	
115	ITV2 HD	
116	Drama HD	
117	ITV3 HD	
118	ITV4 HD	
119	ITVBe HD	
120	5USA	BBC Alba HD (Scotland)
121	Sky Crime HD	
122	Sky Sci-Fi HD	
123	Sky Arts HD	
124	GOLD HD	
125	W HD	
126	5STAR	
127	Dave HD	
128	Really	
129	Yesterday HD	
130	5ACTION HD	
131	Sky History HD	
132	Comedy Central HD	
133	Crime+Investigation HD	
134	MTV HD	
135	Pick	
136	Together TV	
137	Quest HD	
138	5SELECT	
139	Challenge	
140	Sky Arts (HD)	
143	4seven HD	
147	More4 HD	
148	CBS Reality	
149	LEGEND	

## Virgin

LCN	Service	Notes
150	That's TV UK	
154	Comedy Central Extra	
156	Sky Replay	
159	Local TV	(in some areas only, e.g. London Live in London)
160	E! HD	
161	BBC Alba HD (Eng/Wal/NI)	On 120 in Scotland
162	BBC Scotland HD (Eng/Wal/NI)	5USA (Scotland)
164	S4C HD (Eng/Wal/NI)	On 104 in Wales
165	TLC HD	
166	Investigation Discovery (ID)	
168	Quest Red	
169	DMAX	
170	GREAT! tv	
171	Horror Xtra	
172	Reality Xtra	
174	BLAZE	
175	Virgin UHD	
176	Eden HD	
177	Discovery HD	
178	Animal Planet	
179	Discovery Science	
180	Discovery Turbo	
181	Discovery History	
182	Nat Geo Wild HD	
183	National Geographic HD	
186	Sky History 2 HD	
187	PBS America	
188	Sky Documentaries HD	
189	Sky Nature HD	
190	Food Network	
191	HGTV	
192	God TV	
	IP Services	
204	Netflix	
205	Amazon Prime Video	
220	Inside Crime UK	
221	Real Wild	
222	Mystery TV	
223	HauntTV	
224	History Hit	
230	Homes Under The Hammer	
231	Great British Menu	
232	Tastemade	
242	NextUp Live Comedy	
243	Chat Show	
244	Baywatch	
250	Deal or No Deal USA	

## Virgin

LCN	Service	Notes
251	Fear Factor	
252	Wipeout Xtra	
	MUSIC	
280	MTV Music	
281	MTV Live HD	
282	MTV Hits	
283	MTV 90s	
284	MTV 80s	
285	The Box	
286	4Music	
287	E4 Extra	
288	Kiss	
289	Magic	
290	Kerrang!	
291	Vevo	
292	Clubland TV	
293	Now 70s	
294	Now 80s	
295	Now Rock	
296	That's 60s	
	+1 Timeshifts	
303	ITV1+1	STV+1 / UTV+1 (Scot/NI)
304	Channel 4+1	Not Wales
305	Channel 5+1	
306	E4+1	
308	Channel 4+1	In Wales
310	Sky Witness+1	
314	Alibi+1	
315	ITV2+1	
316	Drama+1	
317	ITV3+1	
318	ITV4+1	
319	ITVBe+1	
320	5USA+1	Not Scotland
321	Sky Crime+1	
324	Gold+1	
325	W+1	
326	5STAR+1	
327	Dave Ja Vu	
329	Yesterday+1	
331	Sky History+1	
332	Comedy Central+1	
333	Crime+Investigation+1	
337	Quest+1	
347	More4+1	
348	CBS Reality+1	
362	5USA+1	in Scotland
365	TLC+1	

## Virgin

LCN	Service	Notes
366	ID+1	
369	DMAX+1	
371	Horror Xtra+1	
376	Eden+1	
377	Discovery+1	
378	Animal Planet+1	
379	Discovery Science+1	
381	Discovery History+1	
383	National Geographic+1	
391	HGTV+1	
	FILMS	
400	Virgin Movies Previews	
401	Sky Cinema Premiere HD	
402	Sky Cinema Select HD	
403	Sky Cinema Hits HD	
404	Sky Cinema Greats HD	
406	Sky Cinema Family HD	
407	Sky Cinema Action HD	
408	Sky Cinema Comedy HD	
409	Sky Cinema Thriller HD	
410	Sky Cinema Drama HD	
411	Sky Cinema Sci-Fi & Horror HD	
412	Sky Cinema Animation	
419	Movies 24	
420	Movies 24 +	
424	GREAT! movies classic / christmas	
425	GREAT! movies	
426	GREAT! movies action	
428	Film4 HD	
430	Film4 +1	
445	Talking Pictures TV	
	SPORT	
501	Sky Sports Main Event HD	
502	Sky Sports Premier League HD	
503	Sky Sports Football HD	
504	Sky Sports Cricket HD	
505	Sky Sports Golf HD	
506	Sky Sports F1 HD	
507	Sky Sports Action HD	
508	Sky Sports Arena HD	
509	Sky Sports News HD	
510	Sky Sports Mix HD	
511	Sky Sports Main Event	V6 box
512	Sky Sports Premier League	V6 box
513	Sky Sports Football	V6 box
514	Sky Sports Cricket	V6 box
515	Sky Sports Golf	V6 box
516	Sky Sports F1	V6 box

## Virgin

LCN	Service	Notes
517	Sky Sports Action	V6 box
518	Sky Sports Arena	V6 box
519	Sky Sports Racing HD	
521	Eurosport 1 HD	
522	Eurosport 2 HD	
526	MUTV	
527	TNT Sports 1 HD	
528	TNT Sports 2 HD	
529	TNT Sports 3 HD	
530	TNT Sports 4 HD	
531	TNT Sports Ultimate (UHD)	
532	Sky Sports Main Event UHD	
533	Sky Sports F1 UHD	
534	Sky Sports UHD 1	
535	Sky Sports UHD 2	
536	Racing TV HD	
544	LFC TV HD	
551	Viaplay Sports 1 HD	
552	Viaplay Sports 2 HD	
553	Viaplay Xtra HD	
	NEWS	
601	BBC News HD	
602	Sky News (HD)	
604	GB News HD	
605	BBC Parliament HD	
606	TalkTV HD	
609	Bloomberg HD	
613	CNBC	
614	NBC News Now HD	
620	Euronews	
621	NDTV 24x7	
622	Al Jazeera English	
624	France 24 English HD	
625	NHK World-Japan HD	
	CHILDREN'S	
701	CBBC HD	
702	CBeebies HD	
703	Baby TV	
704	Cartoon Network HD	
705	Cartoon Network +1	
706	Cartoonito	
707	Sky Kids HD	
712	Nickelodeon HD	
713	Nick +1	
715	Nick Jr.	
716	Nick Jr. Too	
717	Nicktoons	
730	Boomerang	

## Virgin

LCN	Service	Notes
731	Boomerang +1	
734	CITV	
736	Pop	
737	Tiny Pop	
	SHOPPING	
740	QVC HD	
741	QVC Beauty	
742	QVC Style HD	
743	QVC Extra	
748	Create and Craft	
755	Gems TV	
757	TJC	
	INTERNATIONAL	
800	Desi App Pack	
801	Utsav Gold HD	
802	Utsav Bharat	
803	Utsav Plus HD	
805	SONY TV ASIA HD	
806	SONY MAX HD	
807	SONY SAB	
808	SONY MAX 2	
809	Zee TV	
810	Zee Cinema HD	
815	B4U Movies	
816	B4U Music	
825	Colors Gujarati	
826	Colors TV HD	
827	Colors Rishtey	
828	Colors Cineplex	
829	NDTV Good Times	
831	Al Jazeera Arabic	
838	Islam Channel	
839	Islam Channel Urdu	
	VARIATIONS	
861	BBC One London HD	
862	BBC One Scotland HD	
863	BBC One NI HD	
864	BBC One Wales HD	
865	BBC Two HD	Network version for England and Scotland
875	RTÉ One	In Northern Ireland.
876	RTÉ 2	In Northern Ireland.
877	TG4	In Northern Ireland.
	RADIO	
901	BBC Radio 1	
902	BBC Radio 2	
903	BBC Radio 3	
904	BBC Radio 4	

## Virgin

LCN	Service	Notes
905	BBC Radio 5 Live	
906	BBC World Service	
907	BBC Radio 1Xtra	
908	BBC Radio 5 Live Sports Extra	
909	BBC Radio 6 Music	
910	BBC Radio 4 Extra	
911	BBC Radio 4 LW	
912	BBC Asian Network	
913	BBC Radio Cymru 2	
915	Absolute Radio	
916	Smooth Radio	
917	RTÉ Radio 1	
918	Heart	
919	LBC	
920	WRN	
921	Heart 80s	
922	Classic FM	
923	Gold	
924	Planet Rock	
927	TalkSPORT	
928	Magic	
930	BBC Radio Scotland	
931	BBC Radio Wales	
932	BBC Radio Ulster	
933	BBC Radio Foyle	
934	BBC Radio Nan Gaidheal	
936	BBC Radio Cymru	
937	BBC Radio London	
951	Absolute 80s	
952	Absolute Classic Rock	
958	Capital	
959	Capital Xtra	
960	Radio X	
963	Kiss	
	ADULT	Variations apply to V6 box
968	PIN Help	Advisory
969	Previews	
970	TVX	
978		
971	Babes and Brazzers	
972	Adult Channel	
980		
973	XXX Brits	
979		
974	GirlGirl	
981	Babestation	
982	Meet The Babes	
985	PIN Help	Advisory

**Virgin**

<b>LCN</b>	<b>Service</b>	<b>Notes</b>
	OTHER	
991	BBC RB1 HD	BBC Red Button service
998	VM Previews	
999	VM Ultra HD	