Call for Evidence response form

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Organisation name	Digital TV Group (DTG)
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Overarching Message

The DTG welcomes this opportunity to respond to Ofcom's call for evidence. Our submission is based on evidence collected during and subsequent to the DTG Pathway to the Future of UK Television research. It is the culmination of interviews with multiple teams from 60 companies, and an online survey to industry experts (N=2,463) from across the sector, followed by industry workshops.

The DTG's mission is to ensure digital television reaches its full potential by innovating with industry to deliver long-term growth efficiently and effectively, centred around an egalitarian vision that digital television is for all.

We should not ignore the continued and ongoing audience benefits underpinned by the DTG D-Book, the technical requirements co-created with, and supported by industry and stakeholders, and implemented in *every* digital television in the UK.

This common set of requirements ensures a stable open market that provides a wide choice of affordable, safe and interoperable options for audiences. It also helps to ensure smooth market innovation, transformation and new technology and experience transitions that are fair, elegant and accessible. This current regime remains attractive to wide range of industry participants and is to the benefit of audiences.

The broad conclusion of all our stakeholder outreach and opinion gathering is that the gradual transition to "all-digital" television (all-IP) is more complex, will take longer and involve significantly more stakeholders than the transition from analogue to digital broadcast.

Assuming a working hypothesis that all internet innovations will have an impact on UK television, the dominant market influences will be global and as such challenging, but not impossible, for the UK to influence and leverage.

Issues arising from the interaction of the UK television market with international devices, applications and service developments **can only be resolved by going back to first principles with an audience and industry outcome perspective**. To ensure good outcomes for audiences and industry within these new more complex system dynamics, **the DTG recommends that a simulation model or digital twin is co-created with DTG members.**

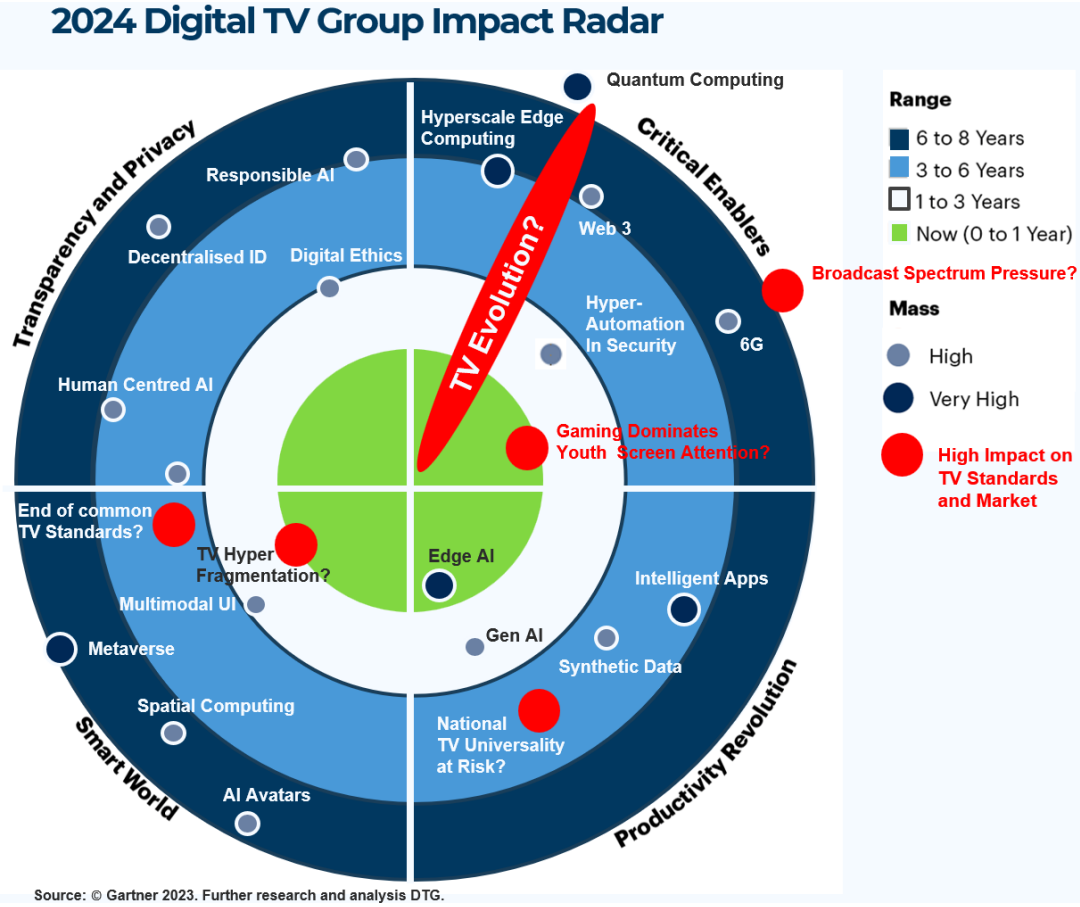
This model should address any need for timely proposition pivots and planned product end-of-life (EOL) and within the overall market lifecycle to protect all audience demographics. The *digital twin* of the market will allow the sector to simulate, test, predict, monitor, and drive successful market dynamics. The

model should reflect the different business models, investment cases and outcome ambitions, examples of simulations could include:

1. Importance of hybrid delivery to specific audiences
2. Switchover
3. Network frameworks
4. Different scenarios and critical paths for different demographics
5. Impact of different approaches on the vulnerable
6. Impact and effectiveness of must-carry regime
7. Impact of early market preparation and keeping the market open and competitive through open, standards-based technology deployment
8. Sustainability and carbon impact.

Robust plans can only be developed when the market is truly understood.

The chart below may be a useful indicator of emerging technologies that will have a disruptive impact on television over the next 10 years. Ofcom may wish to consider mapping these to changes in the audience experience.



Importance critical skills and facilities for future technology transition management

Ofcom should work with the sector to ensure that the knowledgebase, skills, and facilities are in place to manage future technology and spectrum transitions. The DTG specifically requests Ofcom support to sustain the market representative collection of televisions devices operational in the DTG Zoo that were critical to the success of previous transitions. Knowledge, skills and loss of critical facilities should be included on Ofcom's risk register.

Q1. How are audience demands and expectations evolving, and how does that vary for users of different TV platforms and different demographics?

As shown in Ofcom's Media Nations research, UK audiences continue to enjoy a broad range of television services and benefit from both broadcast and IP distribution at scale. Ofcom must ensure that the needs of all audiences and viewing habits are taken care of with a particular focus on demographics that may be less attractive for the market to address commercially, such as the vulnerable.

It would be helpful for Ofcom to identify areas where the audience experience will change, and where solutions may need to be developed with industry. Significant changes that should not be ignored include the risk of the loss of a simple broadcast-TV-like no-sign-on UI, hybrid, audience's legal-right and functionality to home-record (9% of current viewing), and the need for universal broadband connectivity. The government's ambitions for near universal coverage of super-fast broadband by 2030 under Project Gigabit will help address this challenge. As broadcasters move to IP-based distribution, they should consider how the sign on user experience for consumers can be made as easy as possible.

The chart below lists areas identified by DTG research that will need to be addressed, and where industry is willing to collaborate.

Source: Digital TV Group Pathway to the Future of UK Television Research

Q2. What do audience trends mean for the financial prospects and sustainability of TV distribution platforms, and what are the key decision points over the next ten years?

The DTG would support the co-creation with industry and funding of a digital-twin market simulation which would enable the financial prospects and sustainability of TV distribution platforms to be modelled with technical input from industry. Only then can key decision points and critical path influences be identified.

Q3. How do broadband networks and supporting infrastructure need to evolve to support resilient delivery of TV over the internet in the future?

The DTG would support analysing from first principles how desired network and supporting infrastructure characteristics can be efficiently and effectively achieved. This approach will allow consideration of how characteristics such as resilience, efficiency, productivity, carbon impact and meeting audience needs

(e.g.by improving latency) can be achieved with a combination of fixed and mobile infrastructure. Both existing and more radical approaches should be considered to increase infrastructure efficacy and reliability.

Simultaneous live viewing generates significant peaks in broadband networks. To manage this, policymakers should encourage the use of technologies designed to maximise efficient distribution, including emerging multicast technologies. Standards for adoption of efficient technologies, similar to the current D-book should be considered in an all-IP world.

Policymakers should also help manage the avoidance of 'super peaks', where a popular live TV event coincides with a large download, such as a gaming release.

Q4. In what ways might different types of 'hybrid' terrestrial and internet services deliver benefits for audiences and what risks may arise?

Today's open and competitive market provides a wide range of choice and distribution options to consumers and addresses the needs of most audiences. Any change, however, will place the experience some demographics rely on at risk. It is critical that all changes in the market are tracked, and the impact modelled. These changes could be as simple as the perceptually small impact of the loss of broadcast distribution systems in new MDUs, or the removal of key services from international television operating systems to more deliberate strategic pivots from broadcast to broadband. When modelled, the sum of the parts of all these changes may not only prove significant but difficult to reverse. For example: new MDUs continue to be built and the consumer electronics market continues to prosper to European and international market requirements.

Q5. Given the sharing of infrastructure, what would the implications for other sectors be if there was a change to the use of digital terrestrial television (DTT)?

A change to the use of digital terrestrial television (DTT) infrastructure could have a major impact on PMSE through the loss of spectrum. The 470-694 MHz band provides harmonised access to spectrum for PMSE in Europe and the rest of the world, providing significant benefit to UK production companies operating abroad. The loss of the 470-694 MHz band would inhibit these companies both at home and outside the UK, significantly increasing costs and causing a major impact on these sectors as microphones and other vital content production equipment could not be properly supported.

While spectrum re-allocation will need to be considered, a change of use of DTT would also have a direct negative impact on broadcast radio. Any reduction in the number of services on DTT would increase the overhead costs to the remaining DTT and broadcast radio services and as such place the commercial viability of remaining services at risk, to the detriment of audiences. While it is noted consumers are increasingly moving to internet-based radio systems, through smart speakers and streaming services, the impact of a change in DTT would increase reliance on this.

Subject to confirmation of an extended life of UK DTT, the UK should consider the adoption of broadcast innovations in line with other markets such as Italy, France, and Spain.

Q6. What coordination and planning across the value chain might be necessary to secure good outcomes for audiences and key providers over the long term?

The gradual transition to "all-digital" television (all-IP) is more complex, will take longer and involve significantly more stakeholders than the transition from analogue to digital broadcast. Until this is modelled it is too early to determine the key influencing players, their motivations and the critical path required to secure good outcomes for audiences and industry. To understand the new and more complex infrastructure and market dynamics, the DTG recommends that a simulation model, or digital twin, is cocreated with DTG members. This *digital twin* of the market will allow the sector to simulate, test, predict, monitor, and shape successful market dynamics. Robust plans can only be developed when the market is truly understood.

Any model should also consider the sustainability benefits of IPTV vs. DTT as well as the impact on sustainability of different technical solutions for efficient delivery of IPTV.

As Ofcom have highlighted, the value chain for traditional broadcast involves fewer players than the value chain for IPTV, this will result in changes to the commercial models used in the TV industry. These increased number of actors, are likely to have misaligned incentives. Government intervention is likely required to manage this misalignment to maximise consumer outcomes.