

From Aerials to Algorithms: An Industry Manifesto for UK's TV Future.



On cold winter day on 26th January 1926, in a modest Soho workshop, John Logie Baird unveiled the world's first working television system. That moment did more than introduce a new medium — it marked Britain as the birthplace of TV, setting technical and cultural benchmarks that shaped the next century of global viewing.

From Baird's televisor to the DVB-T revolution, and through the flat-panel and smart TV eras powered by British engineering, the UK has consistently punched above its weight in defining how and what the world watches.

Today, as the medium enters its second century, Britain has the opportunity to lead again — shaping not just how television is made and delivered, but how it connects audiences, industries, and ideas across the world.

From Aerials to Algorithms: An Industry Manifesto for the UK's Cognitive TV Future

As the centenary of Baird's demonstration arrives, the UK stands at an equally profound turning point. Over the coming decade, TV will shift from aerials to broadband, and from passive screens to AI-powered cognitive hubs that orchestrate entertainment, communication and commerce in every home. If the first century of television was defined by the invention of the picture, the second will be defined by who controls the intelligence between people and the screen.

The country that led the world into television's first century should not be content to watch from the sidelines as others define its second. With such profound changes forecast – in infrastructure, audience behaviour, and the underlying economics of media – the UK must draw on its heritage in broadcasting, telecoms, silicon and software to lead again, this time in the era of cognitive TV.

Television in the UK does not have another decade to drift. The decisions that will determine who really owns the British living room in the 2030s – UK telcos, PSBs and OEMs or global platforms – must be taken in the next 12 months, not at the end of this decade. This Industry Manifesto is a UK-focused call to action grounded in the hard lessons of past TV transitions, Ofcom's latest evidence on public service media, and the Government's modern industrial strategy for a Britain "fit for the future".

History's Warning: When Incumbents Ignore Convergence

In the early 2000s, two shifts landed almost simultaneously: analogue to digital tuners, and CRT to flat-panel displays. Most incumbent TV suppliers treated them as linear, manageable transitions, to be handled in sequence and on familiar timelines. That complacency created space for an innovative Startup (MStar) to enter with an integrated, software-centric silicon solution and, in a few short years, take the global TV chipset market away from larger, better-resourced rivals.

The pattern was clear: when several fundamentals change at once, incumbents that "wait and see" do not preserve their position – they vacate it. MStar did not win by outspending giants; it won by recognising that convergence demanded a new architecture, not incremental refinement of the old one.

Telcos, PSBs, Content makers and TV manufacturers face the same test today. Treat the shifts from aerials to broadband, and from passive screens to AI-powered cognitive TVs, as distant or separable issues, and others will write the rules for the 2030s.

That would be a betrayal of Britain's own pioneering legacy in television – from Baird's televisor to the launch of DVB-T and the Smart TV revolution driven by UK-led silicon and software teams. (of which the Authors of this document played a key part) The choice is whether to repeat that inventive tradition or allow this inflection to be led entirely from elsewhere.

The UK's Dual Inflection Points: From DTT to Fibre, From Screen to Cognitive Hub

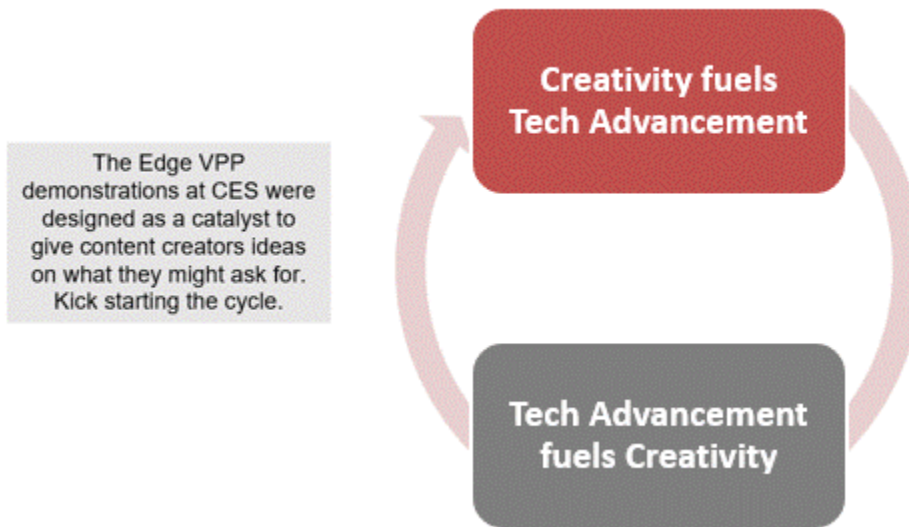
The same pattern is emerging again, now centred squarely on the UK. The transition to TV over broadband has already started. Over the next decade, digital terrestrial TV multiplexes will be decommissioned or reconfigured as viewing moves decisively from aerial-based broadcast to IP delivery over fibre and 5G. Ofcom's Media Nations work and its latest PSB interventions highlight the direction: weekly broadcast TV viewing is falling, particularly among younger audiences, while streaming and video-sharing platforms grow. Ofcom has warned that UK

public service TV is “endangered” in the streaming era and called for urgent action to secure PSB visibility and sustainability online.

...traditional suppliers of TV entertainment have mostly not realized the potential that is on the horizon...

At the same time, UK households are rapidly upgrading to large, powerful connected TVs. These sets now increasingly ship with GPUs, NPU processing power that begin to rival laptops, unconstrained by battery life or handset size limitations TV processors can outstrip mobile phone for AI power in the next decade. This expanded compute opens the door to more Edge-AI: small, specialised AI models running locally inside the TV set itself, enabling real-time programme personalization, discovery, interaction and measurement without constant round-trips to the cloud.

First demonstrations at CES January 2026 showed live video streams being edited inside the TV set to implement Edge based Virtual Product Placement as a first compelling use case for Edge-AI. This is really just the start of the next TV CreaTech cycle. This first version of Edge-AI tech will lead to Content creators thinking up new applications and new content types. Which in turn will lead to increase in demand for even more TV processing power.



By the mid-2030s, the central screen in the home will behave more like an AI-powered home hub, orchestrating video, gaming, social presence, ambient information, fitness and commerce. Opening the door for a number of new revenue opportunities for Telco, PSB and TV manufacturers alike. The question is how to grab hold of those opportunities?

Together, these two inflection points – the shift from broadcast multiplex to IP over managed broadband, and the rise of Edge-AI-powered “Cognitive TV” – will redefine where control, data and value sit in the UK’s TV ecosystem. The living-room screen ceases to be a dumb panel showing third-party apps and becomes an adaptive hub linking video, gaming, social presence, commerce and smart-home control. If UK players misread this convergence window, the result will be a repeat of the early-2000s story – this time with global platforms as the nimble disruptors and UK incumbents as the slow giants.

Europe must have sovereignty over its own TV platform.

European PSB and Telco face exactly the same problems as the UK and are also spending effort to look for a solution. We have the solution right here. A UK-centred cognitive TV platform, grounded in the country's long history of broadcast innovation, becomes not just industrial opportunity but an opportunity for UK export as Telcos and PSB across the European mainland faces the same dilemma. The solution is cooperating on a European standard AI-TV platform driven from the UK strong technology base.

Telcos and PSBs: A Shared Solution for both.

The white paper describes television as a burning platform for telcos, pay-TV providers, PSBs, TV manufacturers and advertisers alike. But there is a solution.

For UK telcos, the challenge is stark:

- Almost everything that once differentiated their pay-TV propositions – basic channels, most on-demand content, mainstream apps – is now available directly on smart-TV home screens supplied and monetised by others.
- Telcos have invested billions in fibre, but without owning the home screen and operating system, they remain price-takers in connectivity while TV platforms capture 70–80% of household digital and video spend through interfaces, data and advertising economics.
- Compared to the cost of installing fibre, the cost of controlling the TV platform is trivial. **“It's like building a bridge over a river but then not installing a toll booth”**

For UK PSBs, the picture is equally urgent, despite current strengths:

- The rise of smart-TV platforms and global streaming ecosystems has diluted linear discovery, undermining the traditional schedule as the main route to PSB content.
- Younger audiences in particular are fragmenting into millions of micro-groups, with their viewing shaped by private algorithms that PSBs do not control and cannot scrutinise.

The white paper argues that “the PSB have all the creativity and content that the telcos don't have; the telco controls the pipe into the home which will become increasingly important as new Ai content formats and cloud gaming emerge” and that a industry wide cooperation could bring massive growth for all parties. But that cooperation needs to bring control of the TV set itself. **Without control of the TV platform choke point then you have control of nothing.**

This strategy also advances the UK's wider industrial and sovereignty objectives, ensuring that British inventiveness in TV does not become a historical footnote but a living capability in AI-TV.

In her ministerial forward to the **Creative Industries Sector** plan **Lisa Nandy** states “In a changing world, with new technologies, audience behaviours and international competition transforming business models and routes to market, the UK is uniquely well placed to innovate and adapt.”

We agree, the UK is well placed. The issue is that no one is actually doing anything. No individual company can make the transition on their own as they don't have all of the pieces. The power of the HyperScalers appears so strong and obstacles to compete appear so large that no one is doing anything. PSBs are unlike to start selling

TVs, Telcos are unlikely to start investing in creating content or designing TV sets. **Content makers are too far away from the technology to be able to see and understand the new opportunities in front of them.**

The PSB have recognised the threat of Smart-TV some time back and have made moves to develop their own Apps and high-level software. But generally, these are still reliant on third parties for the underlying TV platform. As many of those third parties are effectively PSB competitors then they face an impossible struggle to gain control. As TV moves increasingly to IP centric with increased Edge processing then the control points will move even faster towards the big HyperScaler's and global platforms.

Ironically the tech needed to lead the next TV wave is already in the UK. Global vertically integrated HyperScaler's often call upon UK companies for the Tech components they need to develop their world dominating platforms.

So yes, the UK does have all the parts it needs to lead. We just need to put the parts together and do it. What is missing is the strategy and the vision to do so. The RedSquid White Paper hopes to outline a way forward.

Our point is: To any individual corporation the barrier looks high. But collectively in the UK we have all we need to lead. The UK leads Europe in AI start-ups*1 and tech innovation. RedSquid is part of that eco-system. What we need is a government push to make this happen.

*1 <https://www.independent.co.uk/tech/europe-french-b2741440.html>

*1 <https://content.soprasteria.com/openinnovationreport2025/>

Tech platforms rely on a complete Ecosystem.

Tech ecosystem platforms are very complex. Most independent companies are only creating a small component to be added to a much bigger (usually HyperScaler owned) platform. **Often UK tech innovations have no outlets for their developments on their own.**

This is also true in the TV creative sector. Whatever content gets created today has to be played out on a foreign owned TV platform. Control is immediately lost. As we move forward during the next decade into more cognitive content then the value of the loss will accelerate.

HyperScalers own and control everything from advertising, Content production, streaming, TV software platform, and TV manufacturing. The real barrier to success is the UK (or Europe) does not have a vertically integrated HyperScaler of its own. But we do have all those skills in different companies.

A UK AI-TV Stack: Pipe + PSB Content + Platform

The central UK proposition is straightforward:

- Telcos bring the managed broadband, in-home Wi-Fi control and customer relationships.
- PSBs bring trusted news, national storytelling, cultural soft power, children's content and deep creative capability.
 - PSB existing tech partners bring Apps and Streaming and User Interfaces.
- RedSquid brings the independent, open, Edge-AI-ready TV platform that can sit on operator supplied screens and embed PSB Apps, prominence and AI governance by design. Plus, the TV manufacturing relationships. Factory production software, test and qualification harnesses. Plus, partnership for Financing the supply of the TV, and the logistics to get the TV into people's homes.

Together, these elements form a UK cognitive TV stack that:

- Keeps PSB content prominent and easily discoverable on the main screen, in line with Ofcom's calls for updated prominence in an online world.[3]
- Allows on-device AI to personalise experiences while respecting UK data-protection norms, with clear, auditable rules for consent, bias and explainability.[1]
- Creates a domestic alternative to global OS platforms for UK households, supporting industrial policy goals around sovereign capabilities and resilient supply chains.[13][2]
- **Creates an exportable solution for telco across Europe.**
- May even lead to reopening TV factories in South Wales.

The 12 Month Agenda for the UK

This Manifesto calls on UK telcos, PSBs, OEMs and policymakers to act together within the next 12 months on five concrete fronts:

1. Launch a UK Cognitive TV Consortium in 2026

A joint forum for UK telcos, PSBs, and UK based industry specialists (part of the RedSquid team), with Ofcom and DCMS observers, to define a UK AI-TV roadmap that aligns with PSB online prominence and media sustainability goals.

2. Back an open AI-TV standard with UK governance (Perhaps cooperating with the EU EIT).

Define a metadata and Edge-AI runtime standard hosted in the UK, ensuring PSBs and independent producers can author once and deliver interactive, personalised experiences across operator TVs without surrendering control to global OS vendors.

3. Scale an operator-centric TV OS in UK homes

Use RedSquid's proven Edge-AI TV platform as the base for operator-branded TVs, with telcos financing devices over broadband contracts. PSBs existing software partners co-design home screen, Apps and voice-layer prominence .

The same solution can be supplied to other telco across Europe, creating new business for PSB software partners.

The complete platform could be controlled and even owned by the consortium, not by RedSquid!

4. Tie multiplex policy to platform transition

As Government and Ofcom consider the long-term future of DTT, use clear timelines and policy signals to support investment in IP-first, cognitive TV platforms, ensuring PSB universality is maintained via new routes rather than old infrastructure alone.

5. Anchor skills and regional growth in AI-TV

Work with universities, ScreenSkills and regional bodies to develop AI-TV engineering and creative programmes in clusters such as Bristol, Manchester, and Cardiff, linking industrial strategy funding to the growth of a UK AI-TV ecosystem.

A UK Manifesto Moment

From Baird's televisor to today's Smart TVs, Britain has repeatedly pioneered new eras of television. The UK's PSBs are still widely used and trusted; its telcos have built world-class connectivity; its creative industries and TV-technology heritage are globally respected. But without immediate decisive, collective action, those strengths will be mediated – and gradually diminished – through cognitive platforms controlled elsewhere.

This Industry Manifesto argues that the UK can do better. By learning from the last inflection point, listening to Ofcom's warnings, and aligning with the Government's modern industrial strategy, the UK can turn the shift from aerials to AI into a moment of renewal – for its telcos, for its PSBs, for its regions, and for its industrial base. The country that invented television should not be content merely to watch the next era unfold.

The question is no longer whether cognitive TV is coming. It is whether the UK chooses to shape it – or simply watch.

Download the full white paper here:

Scan the QR code to download the full white paper,
or email us on:

info@redsquid.tv

www.redsquid.tv



Key Messages:

The Problem Is Well Understood.

Operators (Pay TV & telco providers) rely on their TV service as a means to differentiate their broadband service. Without TV, broadband risks becoming a race to the bottom on price and entirely commoditised.

→ **That's no longer the case.** Up till now they primarily used a STB to supply these TV services. But now all the content is available in their customers' existing Smart-TV, so no need to use the STB.

PSBs have relied on the luxury that their national content would always be front and centre of the TV.

→ **That's no longer the case.**

Viewers used to be able to find that they wanted easily on TV

→ **That's no longer the case.** Now TVs are monetized and are becoming increasingly irritating to use.

TV manufacturers used to make a margin on the sale of the hardware.

→ **That's no longer the case.** The margin's gone and instead they rely on home screen monetization.

Governments used to rely on the TV to represent the face and interests of the country

→ **That's no longer the case.** Now foreign-owned TV platforms are the final arbiters of what people watch

The TV Is About To Have Its “iPhone moment”

The TV in the corner of the room has up till now been a one-way device, a device you sat in front of and watched. But the reason it was a passive form of entertainment is because that is all it could do.

That's about to change.

New fibre broadband has massive data bandwidth, and this enables new forms of entertainment.

TVs now have huge processors, GPU, CPU and increasingly NPU, which means the TV can do a lot more local processing than ever before.

Local AI models running in the TV – in conjunction with the fibre connections – can enable entirely new forms of interactive and hyper-personalised entertainment like never before.

At CES 2026, a number of significant breakthroughs were demonstrated

1. **The first real use case of Edge-AI in the video pipeline inside the TV.**
2. **Cloud Gaming on TV is enabling a whole new genre of home entertainment**

Combining these two technologies will spark a TV revolution

The Companies That Embrace This Will Win.

TV Will Move from Retail To Telco Supplied (like phone contracts)

- 1. TVs Sold by The Operator Will Not Have a High Street Retail Margin**
 - They can be cheaper than retail TVs, for the same specification
- 2. TV Cost Is Dominated by The Cost of the Display Panel.**
 - Electronics are a small proportion of the overall cost, whereas CPU power in a television can be more than doubled and not have a noticeable impact on the price of the TV for the end user.
- 3. Set-Top Box Cost is Dominated by the Cost of Electronics.**
 - STB will struggle to fund the same technology curve as TV.
- 4. TV has a Screen, so Content Can Be Supplied Knowing the Specification of the End Display.**
 - A TV screen supporting 120Hz or even higher will quickly become the norm for cloud gaming, whereas a set-top box has absolutely no idea the quality of the television it is connected to.
 - A TV managed by a telco will realise better QoE and have greater control of network costs
- 5. TV Will Be Purchased by The Customer as Part of Their Broadband Subscription.**
 - No CAPEX cost to the operator.
- 6. Set-Top Boxes Are Given Away at Cost or Rented to the Customer.**
 - Increasing CAPEX cost to the Operator.

Telcos have a once-in-a-lifetime opportunity to become the default place to buy a TV, replicating the smart phone model

These two industry inflection points create an opportunity

- Move from “one-way” Aerials (DVB) supply of TV to “two-way” fibre broadband supply.
- New content types based on gaming and Edge-AI – with movement, gesture voice and more.

Telcos are uniquely positioned to supply and manage these services into the home – if it doesn't the role will be taken by the HyperScalers.

TV Industry Reset

The TV industry is highly fragmented with multiple different monetized TV platforms. Some from huge vertically integrated HyperScalers controlling everything from advertising to content to AI. There are also many smaller platforms, styling themselves as “TV OS” but without the real control of the underlying TV hardware.

Analysts expect to see significant consolidation in the TV platform industry. Platforms that are primarily based on HTML running on a silicon provider reference design will struggle to make the transition to AI TV.

The winner will be TV platform, backed by the telco, that is designed from the ground up to fit the requirements of AI TV. An IP first, platform that supports legacy TV as a plug in and is complete with TV manufacturing partners, logistics and TV financing for the end user – and enabling AdTech functionality.

RedSquid is uniquely positioned to meet this need! Or to put it another way, in the words of a famous BBC children's programme, 'Blue Peter', from the 1970s: **“Here's one I prepared earlier!”**

RedSquid White Paper

RedSquid's white paper expands on all these key points and explains how telcos can step in a lead the TV industry, but only if they embrace the opportunity right now.

The industry has been in paralysis mode for a number of years, watching the existing business model begin to decline and fiddling around the edges of the issue, rather than attacking the root cause. In the meantime competitors grow stronger every day.

The emergence of Edge-AI in the video path, demonstrated at CES 2026 is the final straw. The new TV technology wave has begun. The ripples at CES will become the tidal wave that will reset the industry and choose its new leaders.

There's no time to waste: the hyperscalers have set their sights & are moving fast.

Download the White Paper

A Century of Television: From Cathode Ray Tube to Cognitive Screen is a working document for C-suites and boards – a roadmap for turning the biggest screen in the home from a risk into the most powerful growth engine in the business.

Scan the QR code to download the full white paper, including insights, data, and implications.

Or email us on info@redsquid.tv

