



# CoSTAR Network Industrial Strategy Response

## A Foresight Lab policy briefing

November 2024

Dr Vicki Williams and Prof Graham Hitchen

# The CoSTAR Foresight Lab

Driven by the UK's leading Creative Industries experts, the [CoSTAR Foresight Lab](#) is researching the adoption, use and impact of new, emergent and convergent technologies in gaming, TV, film, performance and digital entertainment.

Our findings will inform research, development and innovation across the Creative Industries, including the R&D taking place through the convergent screen technologies and performance in real time (CoSTAR) programme, the UK R&D network for creative technology.

[CoSTAR](#) is a £75.6 million national R&D network of laboratories that are developing new technology to maintain the UK's world-leading position in gaming, TV, film, performance, and digital entertainment. Delivered by the UKRI Arts and Humanities Research Council, the programme is supporting new innovations and experiences that will enrich the UK's creative industries, economy, and culture. The network comprises the National Lab, the Realtime Lab, the Live Lab, the Screen Lab and the Foresight Lab. CoSTAR is funded through UK Research and Innovation's Infrastructure Fund, which supports the facilities, equipment and resources that are essential for researchers, businesses, and innovators to do groundbreaking work. You can find out more by visiting [www.costarnetwork.co.uk](http://www.costarnetwork.co.uk).

## Foresight Lab partners and contributors

### Core Partners:

Prof Jonny Freeman; Jac Sanscartier (Goldsmiths, University of London)  
Prof Frauke Zeller; Prof Melissa Terras; Dr Suzanne R Black (University of Edinburgh)  
Prof Graham Hitchen; Dr Ekaterina Tarnovskaya; Dr Vicki Williams (Loughborough University)  
Rishi Coupland; John Sandow; Brian Tarran (BFI)

### Delivery Partners:

Florence Mansfield (Arup)  
Prof Hasan Bakhshi MBE; Dr Tom Cahill-Jones; Prof Giorgio Fazio; Dr Sarah Najm (Creative Policy and Evidence Centre)  
Brendan Miles (Data Thistle)  
Chiara Badiali; Natalie Highwood; Alison Tickell (Julie's Bicycle)  
Noemi Ponzoni; Anna Stewart; Lewis Turner-Brown (i2 media research)  
Leon Forde; Marta Moretto; Emma Openshaw; Peter Cobb; Joshua Dedman (Olsberg·SPI)  
Patrick Bradley (Station12)  
Alice Fearn; Daniel Hodgkin; Luke Taylor (Verian)

### The Foresight Board:

Prof Dave Bull; Prof Darren Cosker; Sarah Ellis; Steve Jelley; Gaby Jenks; Prof Greg Maguire; Prof Alex McDowell; Prof Sylvia Pan; Dr Romana Ramzan; Bill Thompson; Dr Lincoln Wallen; Nell Whitley; Deborah Williams OBE

The Lab is administrated by Petra Lindnerova, Daniel McCarthy and Tom Steer.



## Overview

On behalf of the CoSTAR Network, the CoSTAR Foresight Lab's policy function submitted a joint response to the UK Government's Industrial Strategy Green Paper, combining input from across members of the Network. This briefing provides a summary of the key points made in the response.

The CoSTAR Network's response is underpinned by a shared commitment to inform and support the Government's ongoing efforts to put the Industrial Strategy into action, particularly to emphasise the UK's strengths in creative technology innovation.

The contributors and consultees across the CoSTAR Network were:

- Prof James Bennett (National Lab)
- Prof Helena Daffern (Live Lab)
- Prof Jonny Freeman (Foresight Lab)
- Prof Graham Hitchen (Foresight Lab)
- Prof Gavin Kearney (Live Lab)
- Prof Declan Keeney (Screen Lab)
- Prof Fiona Kilkelly (National Lab)
- Prof Damian Murphy (Live Lab)
- Dr Andrew Rogoyski (National Lab)
- Prof Will Saunders (National Lab)
- Prof Melissa Terras (Realtime Lab/Foresight Lab)
- Prof Gregor White (Realtime Lab)
- Dr Vicki Williams (Foresight Lab)
- Prof Ade Woolard (National Lab)



## 1. “Co” for Convergence: recognising opportunities across sectors and technologies

The Network welcomes the recognition of the eight growth driving sectors outlined in the Green Paper, including both the Creative Industries and Digital and Technologies.

However, it is increasingly important to account for sectoral convergence, where new and emerging technologies are rapidly transforming established sectoral boundaries.

As one example, the huge growth of the emerging ‘experience economy’ and live performance sectors are being driven by creative technological innovation; productions such as ABBA Voyage are driving new audience experiences enabled by novel technologies. In addition, leading global companies like Netflix are setting up permanent immersive live entertainment venues, developing live experiences based around popular screen streaming series. The ‘live’ sector currently has a projected revenue growth of 9.6% CAGR according to PwC<sup>1</sup>.

Recognising such convergence and the shifting boundaries of sectors could drive the industrial strategy in-action, enabling a mission-driven, challenge-led approach that combines UK strengths across multiple areas. This would also encourage cross-sectoral collaboration, accelerate growth and enable subsequent spillover benefits and opportunities.

Convergence also applies to technologies, where combining multiple technological tools underpins the majority of cross-sector applications. Businesses across a wide variety of sectors experiment and innovate with a vast toolkit of different technologies, including AI, future networks, Extended Reality (XR), the Internet of Things (IoT), blockchain and games engines.

Current policy approaches to technology and its use across sectors tend to consider individual technologies in a structurally pillared approach; that is to say, the UK often establishes technologies of focus individually – for example in the previous Government’s establishment of five critical technologies (AI; engineering biology; future telecoms; semiconductors; quantum)<sup>2</sup>. This is subsequently reflected in innovation funding opportunities which tend to be separated by technology types.

Whilst this approach is successful in determining which technologies are central to growth ambitions, it does not accurately reflect the way in which tools, products and services are developed, combining and integrating different technologies - also referred to as technological convergence - and the unique growth potential enabled by such convergence.

Within the Creative Industries, convergence, especially in digital workflows, reflects a high-impact opportunity, incentivising the development of new solutions that crowd around a problem space (e.g. skills, hardware, infrastructure) as opposed to an individual technology.

1 <https://www.pwc.com/id/en/pwc-publications/industries-publications/telecommunications-media-technology/global-entertainment-media-outlook-2023.html>

2 <https://www.gov.uk/government/publications/uk-science-and-technology-framework>

This context is central to UKRI's investment in the national CoSTAR Network, with its focus on the adoption of advanced technologies across the Creative Industries. The development of a creative technology taxonomy forms a central part of the work being led by the CoSTAR Foresight Lab – using foresight methods to track established and nascent technologies and their rates of adoption across creative media production. We are committed to ensuring that key insights and research in this area are shared with Government stakeholders to support the strategy in-action.

## **2. Strong skills; global engagement**

### **Skills**

The UK benefits from a highly skilled workforce and established industry areas that can be leveraged to better support the growth of emerging and convergent technologies.

For example, the UK has established growth in creative sectors like film and TV (including camera, sound, lighting in the screen industries) that are being rapidly translated into new areas such as live and immersive experiences, and on into non-creative sectoral innovations. It is important to recognise such emerging areas and the convergence of technologies to ensure that the UK's workforce is equipped for new jobs that emerge in these spaces.

Whilst emerging technologies have been identified as a priority within the Green Paper, at present there is a lack of skills pipeline for working with such technologies, and ways of linking growth-driving sectors with technical skills are limited. The government should consider routes (in education and life-long learning) to ensure the future workforce is equipped to harness new technologies across multiple sectors, including the need to upskill in traditional sectors.

Skills and education are critical to maintaining existing UK strengths as roles and required skillsets emerge. As one example, the Digital Catapult, in collaboration with the Workforce Foresighting Hub, has delivered a report to assess new jobs likely to emerge as AI and virtual production are increasingly used across film, TV and video games subsectors<sup>3</sup>.

There is a need to develop a skills agenda that emphasises collaboration across different disciplines and sectors, and this will also address an ongoing imbalance in funding allocation across them. The reform of the apprenticeship levy to the Growth and Skills Levy will be a welcome opportunity for companies to retrain and upskill employees at all levels, ensuring that the workforce is able to adapt to emerging technologies.

### **Global engagement**

The UK is also recognised as a world leader in creative content innovation, increasingly shaped by experimentation with novel technologies, and has an important soft power and global engagement function.

---

<sup>3</sup> <https://iuk-business-connect.org.uk/wp-content/uploads/2024/10/Digital-Catapult-AI-Tools-Report.pdf>



UK strengths across the Creative Industries and Digital and Technologies mean that these sectors are well-placed to take an active role in stimulating international trade and fostering inward investment. These strengths should also be exploited to help solve shared challenges, for example supporting the Government's announced Regulatory Innovation Office to support the development of regulation around IP management and text and data mining (TDM), offering new opportunities to work closely with creators and creative businesses across the UK. The AI Opportunities Action Plan is a timely opportunity to explore the ways in which the Creative Industries can drive the development of new and responsible products and services and support economic growth in regions across the UK.

### **3. R&D driving technology adoption and diffusion**

Technology adoption and diffusion is recognised as critical to certain sectors like healthcare and energy, as well as within Government itself. There remains a lack of awareness of the central role the Creative Industries play in driving technology innovation - not only of the development of content and experiences using technology, but of new products and services.

There is a need to ease access to finance for higher-risk R&D activity to enable the development of sustainable and new business models across the sector. This is particularly relevant in the Creative Industries and the development of IP. This should combine both new tax incentive opportunities, in particular to support inward investment, and more generous and open responses to existing R&D activity, to make sure the UK can benefit from emerging technologies and not fall behind other global competition (for example, IP ideation and exploitation in immersive and AI experiences).

Despite successes such as the Creative Industries Clusters Programme<sup>4</sup>, the sector is still seen as a lower priority for investment than traditional sectors. The Creative Industries only accounts for a total of 1% of UK Research and Innovation funding, despite making up 6% of the UK's overall economy<sup>5</sup>. CoSTAR has been established as a nationwide network to support adoption and diffusion of advanced technologies across the Creative Industries. It is critical that cross-cutting programmes are developed to ensure that sectors do not remain siloed but work together to solve challenges, speak to missions, and ensure the responsible adoption and diffusion of emerging technologies.

---

4 <https://www.ukri.org/wp-content/uploads/2024/07/AHRC-01072024-FRONTIER-BOP-CICP-CRDP-final-evaluation-report-STC2-20240524.pdf>

5 <https://craic.lboro.ac.uk/essays/how-much-does-the-uk-invest-in-publicly-supported-rd-in-the-creative-industries-and-how-does-this-compare-to-other-sectors/>

#### 4. Enabling cross-sector innovation and collaboration

As has previously been noted, CoSTAR marks a unique investment by UKRI to directly support infrastructure designed in and for the Creative Industries, as well as to enable newfound access to studios to conduct R&D and experiment with advanced digital technologies.

Such infrastructure investments across the established growth sectors will be critical; developing a set of UK assets that can be accessed by multiple sectors to spur collaboration, to create novel products and services, and to stimulate spillovers. This applies, for example, to AI infrastructure and advanced compute that can be accessed by multiple sectors. Driving cross-sectoral growth will rely on seeing sectors on an equal footing when accessing technological infrastructure (for example, seeing the Creative Industries on equal footing to sectors like Energy and Manufacturing when it comes to AI innovation).

These efforts should also be thought of alongside a strong commitment to net zero and decarbonisation investment. Whilst AI compute and enabling infrastructure is critical to enabling further technological innovation, this should be balanced with active clauses that seek to respond to consequent environmental impact. Matching strong climate policy with digital infrastructure has the potential to strengthen the UK's position in the global market.

Further investment to enable more cross-sector innovation opportunities around the UK, that respond to missions and local challenges (whether that be skills, infrastructure, etc), will lead to more (and evenly distributed) high-growth companies, enabling the finance, talent and support ecosystem to grow the UK economy in the long term. Place-based interventions are more proximal and impactful to local communities and enable spillover into other areas, including new innovations for public services, healthcare and education.

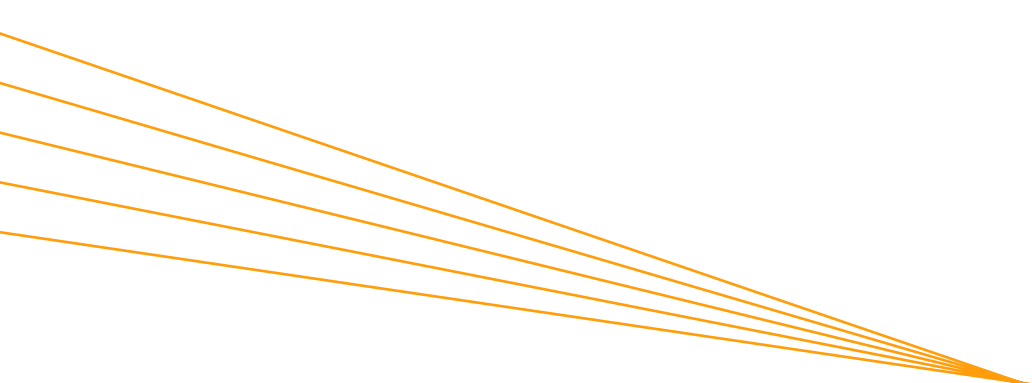
The announcement of the Government R&D Missions Programme is a welcome example of the kind of opportunity to crowd in industry, academia and civil society to address shared challenges through a cross-sectoral response. As part of such programmes, sectoral spillover and the emergence of new sectors can be tested to see where new growth opportunities lie.

#### Contact

For further information, please email Dr Vicki Williams - [v.r.williams@lboro.ac.uk](mailto:v.r.williams@lboro.ac.uk).

#### Suggestion citation:

- Williams, V. and Hitchen, G. (2024). *CoSTAR Network Industrial Strategy Response*. DOI 10.5281/zenodo.15222631





CoSTAR Foresight Lab  
Goldsmiths, University of London  
New Cross  
London SE14 6NW

[costarforesightlab@gold.ac.uk](mailto:costarforesightlab@gold.ac.uk)  
[costarnetwork.co.uk/labs/foresightlab](http://costarnetwork.co.uk/labs/foresightlab)



THE UNIVERSITY  
of EDINBURGH



Loughborough  
University

**Goldsmiths**  
UNIVERSITY OF LONDON