



**Foresight**LAB



# Creative Technologies International Scan #1

A Foresight Lab Report prepared by Olsberg·SPI

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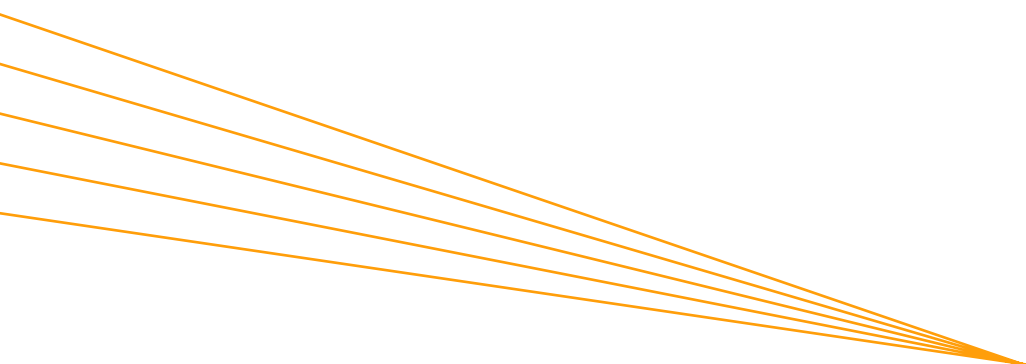
# The CoSTAR Foresight Lab

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 sectors. 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).



# Acknowledgements

The Foresight Lab's partners and contributors are.

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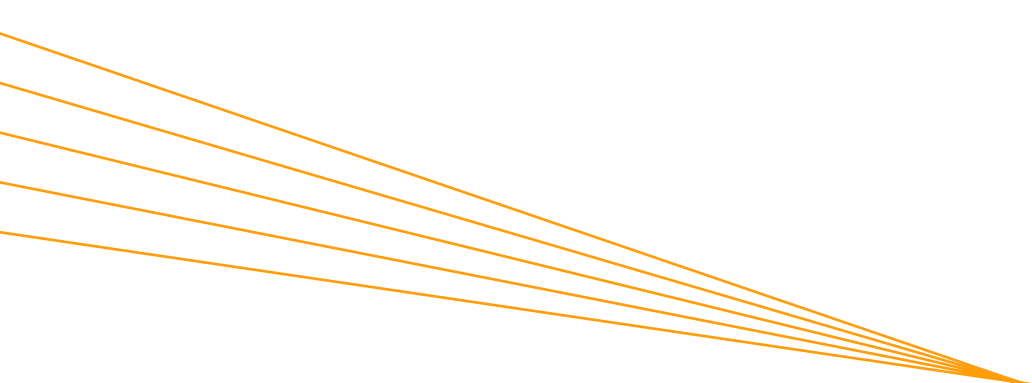
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# Introduction

**This international scan is the first in a series of reports designed to present and unpack global developments of advanced technologies and their use in and for the creative industries.**

This report is a compilation of key trends and updates from markets outside of the United Kingdom (UK), with analysis into the opportunities and challenges on the horizon for UK stakeholders.

**This report covers developments between January and October 2024.**

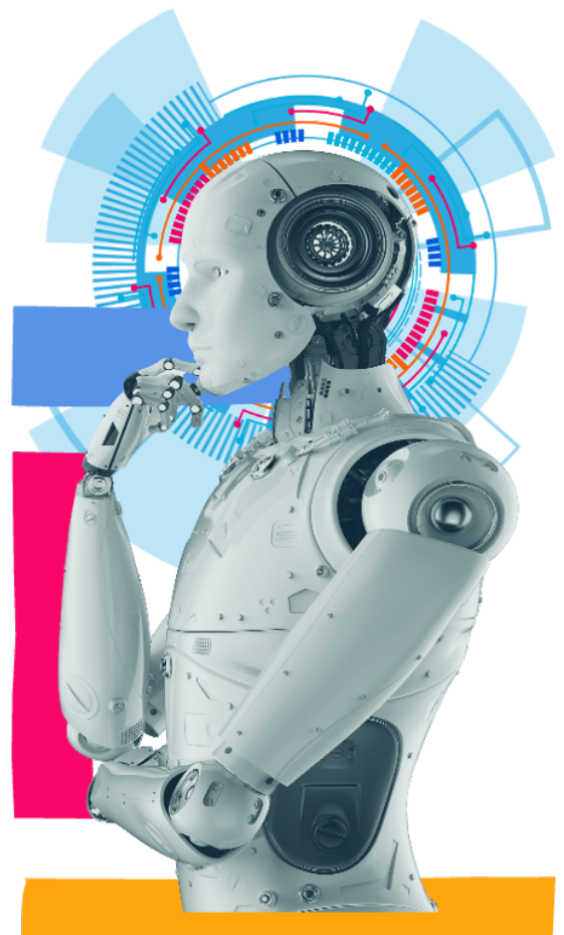
**It tracks intelligence across the following six areas:**

- Policy and regulatory developments
- Corporate mergers and acquisitions (M&A), deals, and investments
- Workforce and skills
- Facilities and infrastructure
- Technological advancements and adoption
- Sustainability and environmental impacts.

Each area follows the same format:

- **Insights** highlight new developments and key insights from across the globe, as well as key considerations for the UK based on the global insights analysed.
- **Reference Stories** outline key announcements and updates that contextualise and inform the insights. Stories are grouped under five territories:
  - Global
  - US & CANADA
  - LATAM (Latin America)
  - APAC (Asia-Pacific)
  - EMEA (Europe, the Middle East and Africa)

Research and data analysis for this report has been undertaken by Olsberg·SPI and developed in partnership with the CoSTAR Foresight Lab. For any comments or questions, please email [costarforesightlab@gold.ac.uk](mailto:costarforesightlab@gold.ac.uk)



# Global Trends at a Glance

Summary of global developments and trends identified across territories.

## US & Canada

- As with other territories across the globe, there are heightened regulatory pressures over Artificial Intelligence (AI), particularly pertaining to talent and IP
- Workforce strikes this year have resulted in reductions and potential shifts of production activity to outside the US
- The private sector continues to advocate for AI systems for workflow efficiency.

## EMEA

- The EU AI Act is the first legal framework pertaining to AI globally, coming into law in July 2024. This policy has put the EU at the forefront of AI regulation development and implementation
- Immersive and augmented technology is being used in training as well as for entertainment – regions are looking for ways to better support the development of this content, as also seen in the US.

## LATAM

- Increasing momentum for skills development and training to capitalise on public and private interest in advancing virtual production and post-production offerings
- Significant developments in virtual production studios are being made across Latin America, particularly in Mexico and parts of Brazil.

## APAC

- Creative industries are central to discussions regarding national AI policies
- Significant advancements in virtual production facilities and digital infrastructure developments for post-production
- Developments in Cloud technology, particularly across Asian markets, are resulting in significant partnerships and deals being made with EU, UK and US private companies

# Policy and Regulation

## Insights

**There are ongoing discussions among legislators on digital transparency** related to the development and implementation of policies on emerging technologies, particularly in terms of AI adoption:

- The Australian senate has established a Select Committee on Adopting AI, which is being largely informed by the creative industries
- The Safe and Secure Innovation for Frontier Artificial Intelligence Models Act in California, US was vetoed after being passed through legislative processes as a result of intense pressures from the private sector
- The EU AI Act came into law in July 2024 and, as the first legal AI regulation globally, is set to be a key case study for AI regulations and their implementation.

**Global technology companies continue to lobby in favour of AI.** While some unions and workforce organisations across the US, UK and Europe remain cautious about AI, tech companies are concerned with the cost implications and restrictions of usage that could arise from proposed regulations.

Many territories globally are proposing or increasing the provisions for the **inclusion of digital media and other content formats in incentive systems** – particularly pertaining to video games and immersive media content:

- Immersive and augmented-reality production is gaining traction but is often not included in existing incentive regulations as an eligible format
- The private sector (led by global tech companies, including Meta, Amazon and Alphabet) is **advocating for the adoption of AI amidst proposed regulations.**

### Considerations for the UK

- To what extent will AI regulations in other jurisdictions, particularly the EU, impact the operations of tech companies in the UK?
- Considering the impact of the 2023 US strike action on the film and television industry globally, how can the UK industry leverage upcoming policies and best practices around technology adoption, IP regulations and talent usage, for example, to future-proof the industry from similar stalls in industry activity from disruption elsewhere?
- How can the UK leverage its existing incentive provisions for video games and other digital media to further attract global stakeholders and drive sector growth? Is there an opportunity to establish or adapt existing incentives to cater, for example, for immersive and live entertainment?

## Reference Stories

### GLOBAL

#### **GLOBAL LEADERS FOCUS ON DIGITAL TRANSPARENCY AND HOW TECHNOLOGIES INFLUENCE CULTURAL EXPRESSION:**

International cultural leaders gathered for a day-long conference held by the Coalition for the Diversity of Cultural Expressions in Canada aiming to consider how digital technologies influence cultural expression. During the event, the Australian Writers' Guild president Claire Pullen said that governments must differentiate the creative industries and other sectors regarding the impact of AI. This follows the Australian Senate's launch of a Select Committee on Adopting AI to inquire into the opportunities and impacts for Australia. ([IF.com](#), 3<sup>rd</sup> June 2024)

#### **IOTA LAUNCHES BLOCKCHAIN-BASED SOLUTION FOR FILM AND MUSIC IP RIGHTS:**

IOTA, an open-source distribution ledger that records and executes transactions used also for cryptocurrency, has partnered with the European Commission to launch a prototype solution using distributed ledger technology to streamline intellectual property rights management. The prototype leverages smart contracts and NFTs to automate digital contracts between music and film stakeholders, ensuring transparent compensation. This innovation would simplify licensing negotiations for film studios, reducing the complexity of music rights management. ([Crypto News Flash](#), 13<sup>th</sup> August 2024)

#### **KEY DEVELOPMENT - 57 COUNTRIES INCLUDING THE US, UK, AND EU MEMBER STATES TO SIGN FIRST AI TREATY:**

The Council of Europe has now opened its Framework Convention on Artificial Intelligence and Human Rights, Democracy, and the Rule of Law for signature. The Convention, having been adopted by the Council of Europe Committee of Ministers in May 2024, has been signed by 57 countries, which include EU member states and other jurisdictions, such as the UK, US, Australia, Canada, Japan and Israel. The Convention addresses the human rights implications of AI while promoting responsible innovation. The treaty emphasises protecting individuals from AI's potential risks but has faced criticism for exemptions on national security uses and limited scrutiny on private companies. The treaty will coexist with the EU AI Act. ([Council of Europe](#), 5<sup>th</sup> September 2024)



## US & CANADA

### **BILL INTRODUCED FOR INCREASED POST-PRODUCTION PROVISION IN NEW JERSEY**

**INCENTIVE:** In the US State of New Jersey, the state government introduced Senate Bill 3369 and referred it to the Senate Economic Growth Committee. The identical Assembly Bill 4459 was introduced and referred to the Assembly Commerce, Economic Development and Agriculture Committee. The bills would revise New Jersey's Film and Digital Media Tax Credit to add a 40% tax credit for qualified post-production expenses incurred at a film-lease production facility in the state. The bills would also introduce a 35% tax credit for qualified post-production expenses incurred by 'independent' post-production companies. ([New Jersey Legislature](#), 3<sup>rd</sup> June 2024)

### **POTENTIAL CREATION OF A NEW INCENTIVE FOR DIGITAL INTERACTIVE MEDIA PRODUCTION IN MASSACHUSETTS:**

House Bill 2773 was ordered to be studied during a legislative recess. The bill, which was originally introduced in February 2023, would create a new incentive in Massachusetts for digital interactive media production, including video games. The incentive would be a tax credit worth 25% of qualifying Massachusetts production expenditure. ([General Court of the Commonwealth of Massachusetts](#), 24<sup>th</sup> June 2024)

### **GEORGIA (US) LAWMAKERS HEAR CONCERNS ON AI AS REPORTED BY THE FILM AND TELEVISION INDUSTRY:**

Studio executives in Georgia have informed state lawmakers that AI could significantly impact film production, offering capabilities like automated language translation and virtual environments. At a Georgia Senate Committee on AI hearing, Trilith Studios CEO Frank Patterson highlighted AI's potential to reboot classic films and create digital actors, raising concerns about copyright and privacy, with studio executives informing state lawmakers that AI could significantly impact film production. Legislators are exploring potential regulatory approaches, with interest expressed in adopting models like Tennessee's *ELVIS* Act, which protects voice and likeness rights. The Senate AI Committee will continue discussions through December. ([Georgia Recorder](#), 15<sup>th</sup> August 2024)

### **WARNER BROS. PLEDGES US\$8.5 BILLION (£6.5 BILLION) IN NEVADA PRODUCTION EXPANSION IF FILM TAX CREDITS ARE EXPANDED:**

Warner Bros. Discovery has committed to investing US\$8.5 billion (£6.5 billion) over 17 years in Southern Nevada, contingent on state lawmakers approving an expansion of the state's film tax credit programme. The plan includes a partnership with the University of Nevada and Birtcher Development to establish a film studio and workforce training centre in Las Vegas. This pledge follows a similar proposal involving Sony Pictures, adding complexity to the upcoming legislative session as lawmakers consider competing proposals amidst budget constraints and criticisms of film tax credits. ([The Nevada Independent](#), 20<sup>th</sup> August 2024)

**KEY DEVELOPMENT - CALIFORNIA GOVERNOR VETOES PREVIOUSLY PASSED AI REGULATION BILL SB 1047:**

Governor Gavin Newsom has vetoed the Safe and Secure Innovation for Frontier Artificial Intelligence Models Act (SB 1047) following the bill being passed in early September 2024. California Bill SB 1047 was one of the US's first frameworks to regulate AI, targeting safety requirements for foundation models. Unlike other AI laws, SB 1047 emphasises preventative measures, requiring developers to demonstrate fail-safes and shutdown mechanisms to avoid potential AI-related threats before they happen. Governor Newsom cited multiple factors in his decision, including the burden the bill would have placed on AI companies, California's lead in the space, and a critique that the bill may be too broad. ([The Verge](#), 29<sup>th</sup> September 2024).

**EMEA****EUROPEAN WRITER REPRESENTATION ORGANISATIONS CALL FOR AI 'TRANSPARENCY AND ACCOUNTABILITY':**

Members of the Federation of Screenwriters in Europe and the International Affiliation of Writers Guilds, which includes the Writers' Guild of Great Britain, provided a five-point collective stance around the use of AI. The 'joint position' has been put forward to be used in bargaining, mandatory clauses in standard contracts and via lobbying. ([Television Business International](#), 11<sup>th</sup> April 2024)

**AI REGULATION OUTLINED IN A DRAFT POLICY BY THE AFRICAN UNION:**

The African Union's draft policy, set for review by members in 2025, encourages member states to develop AI strategies. Mauritius and Kenya lead with established AI policies, focusing on economic integration and international partnerships. Egypt's phased strategy emphasises regional cooperation and national AI growth. South Africa and Nigeria rely on existing data protection laws, with consultations underway for specific AI regulations. ([Dentons](#), 13<sup>th</sup> June 2024)

**UK COMPETITION WATCHDOG SIGNS JOINT AI STATEMENT WITH US AND EU:**

The Competition and Markets Authority – the UK's competition watchdog – with the European Commission, the US Federal Trade Commission, and the US Department of Justice have released a joint statement outlining their position on managing the competition risks of AI models. The statement outlines principles for AI competition regulation across all relevant territories. ([UKTN](#), 23<sup>rd</sup> July 2024)

**NEW AI RULES INTRODUCED IN ITALIAN TAX CREDIT GUIDELINES:** During the Venice Film Festival, the Italian government unveiled key updates to its international tax credit, with a focus on new regulations concerning the use of AI in film production. The guidelines stipulate that costs related to AI will not be eligible for the tax credit, except for AI used in special effects related to 'Main Actors'. Producers must now also disclose any stages of production where AI is utilised and must also disclose clauses in contracts allowing authors, performers, and other professionals to refuse the use of their work or image by AI systems. These new measures aim to ensure transparency and protect creative rights in the era of AI-enhanced production. ([Ministry of Culture](#), 30<sup>th</sup> August 2024)

**KEY DEVELOPMENT - THE EU AI ACT COMES INTO LAW AS THE WORLD'S FIRST LEGAL FRAMEWORK ON AI TECHNOLOGY:**

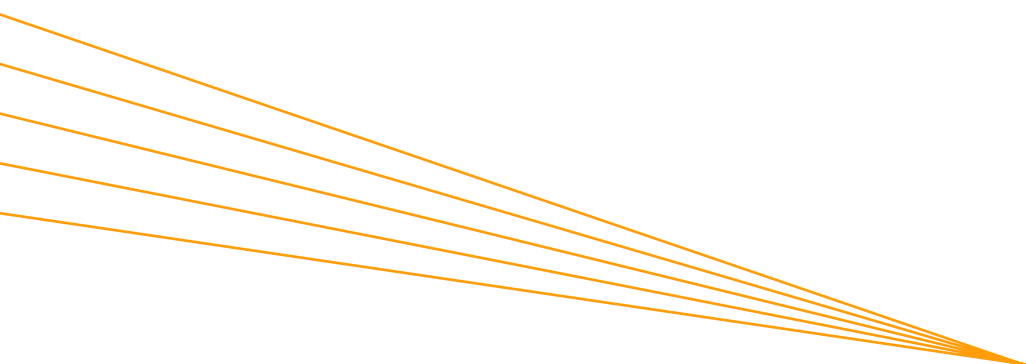
The European Commission's EU AI Act, the first-ever comprehensive legal framework on AI, came into law in July, following its publication in February 2024. The framework aims to guarantee the health, safety and fundamental rights of EU citizens, and provide legal certainty to businesses across the 27 EU Member States. The AI Act empowers the AI Office to implement and monitor the regulations proposed, which will come into force in 2025. The act will impact creative works involving various inputs from AI, requiring disclosure obligations, adherence to specific copyright policies and data summaries. ([European Commission](#), 8<sup>th</sup> August 2024)

**OVER 100 COMPANIES SIGN VOLUNTARY**

**AI PACT:** The EU has announced that more than 100 companies, including multinational corporations and SMEs, have signed the EU AI Pact. The signatories committed to voluntary actions in line with the forthcoming AI Act, including developing AI governance strategies, mapping high-risk AI systems, and promoting AI literacy. Over half of the companies also pledged to ensure human oversight and transparency in AI-generated content, such as deepfakes. ([European Commission](#), 24<sup>th</sup> September 2024)

**DUBAI FUTURE FOUNDATION PUBLISHES GUIDELINES FOR DEVELOPMENT AND REGULATION OF AI IN CREATIVE INDUSTRIES:**

The Dubai Future Foundation and Centre for the Fourth Industrial Revolution have published a new report providing outlines for the responsible integration of AI technologies into the creative industries. The report aims to provide a balanced approach to evaluating the implications of AI technologies for the creative sector, with a key focus on transparency, inclusivity, and people-centred innovation. ([Dubai Future](#), October 2024)



## APAC

### **GLOBAL COPYRIGHT REGIME DISCUSSION:**

The Ministry of Culture, Sports and Tourism of Korea (MCST) and the European Commission held the inaugural EU-Korea Copyright Roundtable in Seoul. The roundtable aimed to strengthen cooperation on global copyright norms, focusing on collective management systems in music. Representatives from both Korea and the EU shared insights on their respective strategies, highlighting areas for mutual collaboration. Additionally, a workshop was conducted to address public performance rights and improve the collection and distribution of performance fees between the two regions. ([MCST](#), 4<sup>th</sup> July 2024)

### **INDIAN VIDEO GAMES INDUSTRY URGES GOVERNMENT TO DISTINGUISH BETWEEN GAMING AND 'REAL MONEY GAMES':**

The Indian video games industry, supported by 70 game developer studios, esports companies, and wider stakeholders, submitted a letter to the Government of India advocating for a clear distinction between 'video games' and 'real money games' (where users can win real money). This differentiation aims to ensure fair policy formation and support the industry's growth, projected to reach US\$1.6 billion (£1.26 billion) within five years. The letter, addressed to the Prime Minister's Office and the Minister of Information and Broadcasting, includes ten recommendations. ([IGN India](#), 9<sup>th</sup> July 2024)

### **JAPANESE GOVERNMENT'S AI STRATEGY CRITICISED FOR PRIORITISING BUSINESS OVER CREATIVE WORKFORCE:**

Japan's AI Strategic Council launched a pro-business AI strategy, emphasising minimal regulation to attract global investments. Companies like OpenAI and Amazon have committed to multi-year funding. A recent survey found that 63% of the Japanese creative industries are concerned about AI using artistic works without permission, calling for stronger protections. Japan's lenient approach contrasts with other regions, sparking debate over balancing innovation and copyright concerns. ([Greenbot](#), 12<sup>th</sup> August 2024)

### **NEW AUSTRALIAN AI LEGISLATION TO PROTECT CONTENT CREATORS:**

The Australian government has proposed AI guardrails to protect artists' content from unauthorised use by AI systems. The legislation mandates that training data must be legally sourced, disclosed, and free from illegal material. Industry bodies, including the Australian Writers' Guild, the Australasian Performing Right Association and the Australasian Mechanical Copyright Owners Society support these measures, which aim to safeguard intellectual property and cultural content. The proposals align with global standards, ensuring fair compensation and preventing cultural misappropriation. ([Federal Government](#), 4<sup>th</sup> September 2024)

# Mergers & Acquisitions, Deals and Investments

## Insights

**Significant investment continues to be made into the development and implementation of AI in film and television**, with Meta and Google reportedly making multi-million-dollar offers to Hollywood studios to secure licensing agreements that could boost their capabilities in AI-generated video content.

**In the past five years there has been significant M&A activity across the global media and entertainment sector** (including broadcasters, streamers, production companies, and studios). The momentum of private investment and consolidation is now focusing on digital content opportunities and technological innovation.

**The recent acquisition of the European OV Entertainment Group of games studios in Latin America signals movement in the region towards diversifying content offerings** and looking to join the global trend towards digital and technologically advanced content creation and consumption.

**Across the US, there are shifts in content accessibility as streamers** look to catalyse new waves of subscriptions, as evidenced by:

- The launch of the Disney+, Hulu, and Max streaming bundles
- NBCUniversal's deal to distribute content in Pakistan as well as across the wider Middle East and North African regions
- Paramount Global's extension of a carriage deal with the second-largest cable and broadband provider in the US.

As with other streamers and studios, **Disney is again looking to the games sector** to further expand its digital offering and to capture audiences across various content platforms. This is an example of a broader trend of private investment into the games sector as narrative content looks to capitalise on the sector's growth.

## Considerations for the UK

- What would the impacts of potential consolidation across digital and technology-centric content creation and exhibition companies within the UK market be?
- How would UK-based companies benefit from international and/or private investment to expand the reach of the UK's talents, patents and/or audience reach?
- Are there potential partnerships with content as well as games streaming platforms and/or with media distribution companies to encourage the development of content for specific audiences?

## Reference Stories

### GLOBAL

**DNEG GROUP SECURES US\$200 MILLION (£156.7 MILLION) INVESTMENT TO ADVANCE VISUAL ENTERTAINMENT TECHNOLOGY:** The DNEG Group, a UK-based VFX and animation company with facilities across the globe, has announced a US\$200 million (£156.7 million) investment from Abu Dhabi's United Al Saqer Group, valuing the company at over US\$2 billion (£1.56 billion). This investment will bolster DNEG's strategy to grow its presence in the VFX industry and diversify its operations. The capital will support further investments in content production through Prime Focus Studios and the development of AI-powered CGI technology via its new division, Brahma. Additionally, DNEG plans to establish a visual experience hub in Abu Dhabi. Earlier this year, DNEG launched a new division, DNEG 360, which will focus on providing services for visualisation, virtual production, and content creation. The new division was launched in collaboration with the virtual production studio Dimension. As part of the launch, the company also debuted two LED volume stages in London and Rome. ([Zawya](#), 2<sup>nd</sup> July 2024 and [DNEG](#), 15<sup>th</sup> May 2024)

**APPLE LAUNCHES IMMERSIVE FILM CONTENT LINE-UP FOR THE APPLE VISION PRO:** Apple has launched various series, features and performances captured in Apple Immersive Video to be debuted for free on Apple Vision Pro. The launch was led by the release of the scripted short film captured in Apple Immersive Video, *Submerged*, written and directed by Academy Award-winning filmmaker Edward Berger, which will be available from November and followed by a range of other immersive series, live performances and short films. ([Apple Newsroom](#), 10<sup>th</sup> October 2024)

**DIMENSION SECURES MAJOR INVESTMENT FOR GLOBAL EXPANSION:** Virtual production studio Dimension, which is UK-based and has global reach, has received significant investment from US private equity firm Growth Catalyst Partners to drive its international growth. Dimension plans to expand its production capabilities in both the US and Europe. This investment will enhance the company's virtual production technology and pipelines and will also support Dimension's script-to-screen initiative, *Virtual Circle*, in collaboration with Vue and producers to co-produce independent films. ([Dimension Studio](#), 2<sup>nd</sup> June 2024)

**UBISOFT TO LIMIT VR INVESTMENT**

**AFTER DISAPPOINTING SALES:** Ubisoft has announced it will not increase investment in VR games following the disappointing sales of *Assassin's Creed Nexus VR*. Despite continuous sales, Ubisoft CEO Yves Guillemot stated that the game did not meet sales expectations, leading to the decision. The company will not expand VR development, instead opting to observe the market's growth. ([IGN](#), 21<sup>st</sup> March 2024)

**LG EXPANDS INTO VIRTUAL PRODUCTION WITH MO-SYS INVESTMENT:**

LG Electronics has invested in the London-based Mo-Sys Engineering, a developer of virtual production solutions, to enhance its presence in the virtual production and XR studio markets. This partnership will allow LG to combine its LED display technology with Mo-Sys's expertise in camera robotics and virtual production, offering joint hardware and software solutions. ([TVTech](#), 9<sup>th</sup> September 2024)

**US & CANADA****DIDDO SECURES US\$2.8 MILLION (£2.2 MILLION) TO BRING SHOPPABLE TV API TO STREAMING:**

DidDo, an API enabling shoppable videos on streaming platforms, has raised US\$2.8 million (£2.2 million) in seed funding. DidDo uses AI to identify products in television shows and movies, offering both original and lower-priced alternatives. The funding, led by Link Ventures, will support product development and team expansion. DidDo has deals with 12 companies, including Dailymotion and the Highlights App, and is in talks with Hulu. ([TechCrunch](#), 24<sup>th</sup> April 2024)

**KEY DEVELOPMENT - ALPHABET AND META LOOK TO PARTNER WITH HOLLYWOOD ON AI:**

Alphabet and Meta have discussed licensing content to feed into both companies' AI video-generation software with Hollywood studios. Both companies are developing technology that can create realistic scenes from a text prompt. Rival application OpenAI, by Microsoft Corp., is having similar conversations. No formal announcements have been made. ([Bloomberg](#), 23<sup>rd</sup> May 2024)

**DISNEY+ LAUNCHED ON APPLE VISION PRO WITH IMMERSIVE CONTENT:**

Disney+ became available on Apple Vision Pro in February 2024, offering immersive experiences in four themed environments: the *Disney+ Theatre*, *Scare Floor* from *Monsters Inc.*, *Marvel's Avengers Tower*, and *Tatooine* from *Star Wars*. Disney CEO Bob Iger praised the collaboration for bringing fans closer to Disney characters and stories. The platform will also feature 3D movies, providing in-home 3D experiences. ([Advanced Television](#), 18<sup>th</sup> January 2024)

**DISNEY PARTNERS WITH EPIC GAMES FOR FORTNITE-RELATED UNIVERSE:**

Disney has announced a US\$1.5 billion (£1.17 billion) investment in Epic Games to create a *Fortnite*-related game universe featuring Disney's popular franchises. This partnership aims to integrate Disney's brands with *Fortnite*, offering new interactive experiences. Disney CEO Bob Iger highlighted the opportunity for growth and expansion through this collaboration. ([Forbes](#), 7<sup>th</sup> February 2024)

**VFX COMPANY JELLYFISH PICTURES EXPANDS INTO CANADA:** UK-based VFX and animation company Jellyfish Pictures announced the launch of a new VFX production outpost in Toronto, expanding its international presence. Toronto's concentration of top VFX talent and the recent surge in production activity in Ontario are cited as key factors for the expansion. ([Deadline](#), 11<sup>th</sup> June 2024)

**KEY DEVELOPMENT - VENTURE CAPITAL INVESTMENT DROPS ACROSS VIRTUAL REALITY, AUGMENTED REALITY AND METAVERSE:** According to Crunchbase data, VC investment in Metaverse, VR and AR startups has declined. Despite Apple's introduction of the Vision Pro headset, demand for such technologies remains lukewarm. In 2024 funding for AR, VR, and Metaverse companies is set to hit a low, with seed funding only being US\$464 million (£366.8 million) and notable startups like Magic Leap and Niantic not securing new rounds since 2021. While some sizeable investments have occurred, like Rokid's US\$70 million (£55 million) and Xreal's US\$60 million (£75.8 million), the overall trend shows a decline in VC enthusiasm for these sectors. ([Crunchbase](#), 21<sup>st</sup> June 2024)

**LIONSGATE PARTNERS WITH RUNWAY FOR AI-DRIVEN CONTENT CREATION:** Lionsgate has announced a collaboration with AI research company Runway to develop a new AI model tailored to enhance the studio's film and television content. The AI products will assist Lionsgate's creative teams in generating cinematic video, offering new tools for pre-production and post-production workflows. This partnership marks the first collaboration between Runway and a Hollywood studio, aimed at augmenting the creative process. ([Lionsgate](#), 18<sup>th</sup> September 2024)

**XTR ACQUIRES AI ANIMATION STUDIO LATE NIGHT LABS:** Oscar-nominated film and television studio XTR has acquired Late Night Labs, a film and animation studio with a proprietary AI technology that describes itself as artists-led. With the acquisition, XTR will launch Asteria Film Co., a new holding company focused on producing animation, fiction, and non-fiction content. XTR will continue to operate its streaming platform, Documentary+, while Late Night Labs will enhance its AI tools to support filmmakers. Financial details of the deal were not disclosed. ([Variety](#), 4<sup>th</sup> October 2024)

## LATAM

**OV ENTERTAINMENT GROUP ACQUIRES BRAZILIAN STUDIO KOKKU GAMES AND ARGENTINIAN STUDIO 3OGS:** OV Entertainment Group, a newly formed global multimedia entertainment company encompassing games, film, television and advertising, has finalised two strategic acquisitions in Latin America and Europe. The company has emerged as a significant player in the global cross-media market with its recent purchase of Brazil- and Portugal-based Kokku, a leading Triple-A co-development studio, and 3OGS, located in Cordoba. ([GLOBE NEWSWIRE](#), 26<sup>th</sup> June 2024)



**EVOKE STUDIOS PARTNERS WITH MALAK XR VP STUDIOS:** Evoke Studios has formed a strategic partnership with Malak XR Virtual Production Studios in Mexico. By combining advanced real-time engines and immersive digital environments, the collaboration aims to enhance storytelling, reduce production costs, and accelerate workflows in the virtual production industry. ([British Cinematographer](#), 14<sup>th</sup> August 2024)

## EMEA

**PLAZAMEDIA AND MR FACTORY PARTNER TO ADVANCE VIRTUAL PRODUCTION:** Leading sports television producer in the German-speaking region PLAZAMEDIA has formed a partnership with Madrid-based MR Factory. Announced at the International Broadcasting Convention 2024, the collaboration aims to expand the virtual production capabilities of the German company. PLAZAMEDIA's Virtual Production Campus, equipped with XR and virtual set technologies, will adopt MR Factory's specialised workflows for converting real spaces into 3D scenes. ([PLAZAMEDIA](#), 13<sup>th</sup> September 2024)

**HABITAT XR AND TOPAZ LABS UNVEIL AI-POWERED IMMERSIVE FILM EXPERIENCE:** The South African immersive production company Habitat XR and the AI enhancement software platform Topaz Labs have collaborated to showcase high-resolution wildlife films in the Irmelin DiCaprio Theatre on The Ellen DeGeneres Campus of the Dian Fossey Gorilla Fund in Rwanda, in celebration of World Gorilla Day. Using Topaz Labs' Video AI technology, Habitat XR has enhanced its nature productions, offering an immersive experience that promotes environmental conservation. The project includes VR and AR experiences centred on mountain gorillas. ([PR Newswire](#), 24<sup>th</sup> September 2024)

## APAC

**WESTERN ESPORTS ORGANISATIONS EXPAND TO SOUTHEAST ASIA, KOREA, AND CHINA:** Several Western esports organisations have expanded into key markets in Southeast Asia, South Korea, and China to diversify revenue streams and grow their global presence. These regions, known for their thriving esports scenes in mobile titles and legacy PC games like *StarCraft* and *Street Fighter*, offer lucrative opportunities. This push is further incentivised by initiatives like the *Esports World Cup Foundation Club Support Programme*, which has encouraged teams to compete in Eastern markets. ([Esports Insider](#), 8<sup>th</sup> August 2024)

# Workforce and Skills

## Insights

**The ratification of key industry negotiations in the US** has begun to resolve some significant tensions across workforce unions and major studios and streamers. However, concern pertaining to regulating rights – specifically in reference to AI, compensation and working conditions remains prevalent.

**Governments around the world are promoting creative careers and digital skills.** Advanced media roles that involve digital and technological skills are emerging as key areas for development across the globe within the creative sector. There is deemed an increasing need to develop those skills as well as an opportunity to leverage them to create new, alternative and different content, such as immersive content.

**VFX, game design and animation training programmes and skills development courses are being increasingly offered** at new entrants' level, looking to capture young talent, as these areas of the industry thrive but have significant workforce and skills gaps across most major international markets.

**Australia's public and private sectors are supporting the development and advancement of key digital production skills** around both virtual production and post-production. The country's post-production offering continues to be one of the strongest across the global market.

### Considerations for the UK

- How can skills development programmes better estimate and address challenges across the creative sector?
- What systems will be needed to mitigate concerns about the impact of AI on the creative workforce? Are there training programmes or case studies that integrate AI technologies with processes to better workflows as opposed to threatening workforce placements?
- Are there training programmes similar to those being implemented in Australia that could enhance the UK's VFX, animation and game design offering or is there an opportunity for skills sharing across international markets?

## Reference Stories

### GLOBAL

**WILL.I.AM DEFENDS AI IN CREATIVE INDUSTRIES:** Will.i.am argues that AI enhances, rather than replaces, human creativity, using it as a tool to amplify artists' visions. While critics in media and entertainment voice concerns about AI's role in displacing jobs and undermining creativity, Will.i.am suggests AI acts as 'creative adrenaline' for artists. His ventures, including stakes in AI music platforms, illustrate how AI tools can transform content creation without diminishing human agency. ([The Conversation](#), 10<sup>th</sup> September 2024)

### US & CANADA

**NEW AI-BASED ACCELERATOR PROGRAMME FOR FILM AND TELEVISION CREATORS LAUNCHED IN THE US:** TCLtv+, the Chinese streaming service, launched an accelerator programme for film and television creatives in the US. The programme, called *TCL Film Machine*, will offer development, financial and production support to working creatives who are looking to enhance and elevate their films using AI tools. The programme will support five entrants in its inaugural year, with grants starting at US\$25,000 (£19,589) with the possibility for an increased amount subject to talent and project specifications. Applications to the programme are free and open to mid-level or experienced creators working in film and television. ([Deadline](#), 20<sup>th</sup> June 2024)

**NATIONAL ENDOWMENT FOR THE HUMANITIES (NEH) DISSEMINATES AWARDS TO CREATE AI RESEARCH CENTRES:** The NEH has awarded US\$2.72 million (£2.05 million) to five institutions across the US to establish new Humanities Research Centres on Artificial Intelligence. These centres will focus on the societal, ethical, and legal implications of AI technologies, encouraging interdisciplinary research on AI's impact. Part of NEH's broader Humanities Perspectives on Artificial Intelligence initiative, the programme aims to promote a holistic understanding of AI's effects on culture. This initiative supports President Biden's Executive Order on Safe, Secure, and Trustworthy Artificial Intelligence ([NEH](#), 27<sup>th</sup> August 2024)

**KEY DEVELOPMENT - INTERNATIONAL ALLIANCE CONCLUDES US CREW NEGOTIATION TO INCLUDE AI PROTECTIONS:** Members of the International Alliance of Theatrical Stage Employees (IATSE) have voted to ratify both the Hollywood Basic Agreement (HBA) and the Area Standards Agreement (ASA). The HBA is a contract covering roughly 45,000 behind-the-scenes film and television workers primarily located in Los Angeles; while the ASA covers approximately 25,000 film and television workers across the U.S., excluding Los Angeles, New York, San Francisco, and Chicago. Agreed terms include improvements in minimum wage rates, AI protections, and increased uniform benefits contributions. Following the ratification, the agreements were set to come into effect on 4<sup>th</sup> August. ([IATSE](#), 18<sup>th</sup> July 2024)

**THE CANADA MEDIA FUND (CMF) AND CREATIVE BRITISH COLUMBIA (CREATIVE BC) LAUNCH CA\$1 MILLION (£560,000) PROGRAMME FOR VIDEO GAME COMPANIES:** The CMF and Creative BC have announced a new CA\$1 million (£560,000) *Video Games Business Development Program* to support video game companies in British Columbia. The programme will provide up to \$200,000 (£112,300) in funding for B.C.-owned companies to develop creative intellectual properties and build long-term capacity. ([CMF](#), 30<sup>th</sup> August 2024)

**VIDEO GAME STUDIO LIGHTSPEED L.A. EMBRACES AI PROTECTIONS IN UNION'S INTERIM INTERACTIVE MEDIA AGREEMENT:** Video game studio Lightspeed L.A. announced that it has agreed to produce games under the SAG-AFTRA interim Interactive Media Agreement. The company will now be able to access SAG-AFTRA members. This development comes as the union continues its strike against ten major video game companies over AI protections. The deal marks a significant win for SAG-AFTRA, which has been advocating for stronger AI safeguards for performers. ([SAG-AFTRA](#), 4<sup>th</sup> September 2024)

**NYU'S CUTTING-EDGE MARTIN SCORSESE VIRTUAL PRODUCTION CENTRE OPENS:** NYU's Tisch School of the Arts launched the Martin Scorsese Virtual Production Centre. The facility will train undergraduate and graduate students on virtual production technology and provide opportunities for collaboration and internships. ([NYU](#), 6<sup>th</sup> September 2024)

**MANITOBA COLLEGE LAUNCHES TRAINING INSTITUTE FOCUSED ON PRODUCTION TRAINING, RESEARCH AND APPLICATIONS OF TECHNOLOGY:** Manitoba's Red River College Polytechnic has launched the Schroeder Institute of Entertainment and Media Arts, following a CA\$15 million (£8.3 million) donation from the Schroeder Foundation. The institute will have programmes focused on screen sector training and research. Planned research opportunities include exploring different ways to leverage AI to create media, how to use virtual reality in productions, and exploring ways to reduce the carbon footprint of film productions. ([Red River College Polytechnic](#), 12<sup>th</sup> September 2024)

## EMEA

**SCREEN IRELAND ANNOUNCES NATIONAL TALENT ACADEMY FOR VFX IN IRELAND:** Screen Ireland has launched a new National Talent Academy for VFX which will develop and address skills needs in the VFX sector across Ireland. This adds to the existing National Talent Academy Network in Ireland, which includes five academies for film, television, animation and crew across the country. ([Screen Ireland](#), 24<sup>th</sup> January 2024)

**SCREEN IRELAND LAUNCHES 2024 EDITION OF GRADUATE TRAINEESHIP PROGRAMME FOR ANIMATION, VFX AND GAMES:**

Cultural & Creative Industries Skillnet and Screen Ireland launched the 2024 iteration of the *Graduate Traineeship Programme for Animation, VFX and Games*. The programme, which has been running since 2016, has a notable track record, with over 90% of participants going on to gain further work in the industry, either with their host studio or with another studio. ([Creative Skillnet](#), March 2024)

**SCREEN IRELAND LAUNCHES REPORT ON IRISH VFX SECTOR SKILLS NEEDS, OPPORTUNITIES AND CHALLENGES:**

Screen Ireland launched a report titled *Charting Ireland's VFX Future*, focusing on skills gaps and challenges for the VFX sector. The study suggests ways that VFX studios, colleges and training providers can establish a strong skills and talent pipeline in Ireland. The report found that the Irish VFX sector, which currently employs over 300 professionals, is experiencing high levels of expansion, with a 326% increase in revenue in the past five years. However, this rapid growth has resulted in a VFX skills gap in Ireland, particularly in relation to the link between third-level education and qualifications and the skillset required by the industry. ([Screen Ireland](#), 3<sup>rd</sup> July 2024)

**APAC****THE AUSTRALIAN FILM TELEVISION AND RADIO SCHOOL (AFTRS) LAUNCHES NEW VIRTUAL PRODUCTION COURSES IN SYDNEY IN COLLABORATION WITH UNIVERSAL STUDIOS AND MATCHBOX PICTURES:**

AFTRS has announced two new virtual production short courses, including a three-week *Producing for VP and VFX* course, and a one-day workshop, entitled *Volume Studio Fundamentals*, developed in collaboration with Universal Studio Group and Matchbox Pictures. The two courses are designed for screen practitioners with little or no experience in virtual production and/or who are looking to develop technical set-ready skills through hands-on experience in a volume studio. ([AFTRS](#), 6<sup>th</sup> May 2024)

**FUDAN UNIVERSITY TO LAUNCH 100 AI COURSES TO ENHANCE DIGITAL LITERACY:**

China's Fudan University plans to introduce over 100 AI courses to boost digital literacy and AI talent, aiming to become a leading digital university in China. Starting with 60 courses in late August, the initiative will expand to include more specialised AI topics tailored to various degree programmes. This initiative aligns with broader national efforts, such as the government-backed *Supermind* project, to track global AI developments and strengthen China's position in the AI sector. ([Coin Geek](#), 11<sup>th</sup> June 2024)

**US EMBASSY ANNOUNCES REGIONAL WORKSHOP ON ADVANCED MEDIA LITERACY:**

The US Embassy in the Philippines launched the Young Southeast Asian Leaders Initiative *Regional Workshop on Advanced Media Literacy for Digital Creators*. The workshop aims to enhance participants' media literacy skills and foster a network for best practice exchanges. Participants will compete for small grants to promote media literacy projects. The available funding ranges from US\$150,000 to US\$250,000 (£117,000 to £156,700) with a performance period of 12-18 months. ([Grants.Gov](#), 21<sup>st</sup> June 2024)

# Facilities and Infrastructure

## Insights

**Virtual production continues to evolve**, and significant growth is expected. Analyst consultancy Omdia projects that total revenue associated with the virtual production market will expand from US\$138.7 million (£106.8 million) in 2023 to over US\$1.1 billion (£847.5 million) by 2028.

**Various studios and sound stages have been announced and opened in key production hubs** in the first half of this year, signalling ongoing commitment to this form of capital investment, despite wider challenges impacting production activity, such as the actors' strikes in the US as well as rising costs of operations.

- Government and private sector investment in high-tech studios is increasing as it becomes key to maintaining global competitiveness
- Virtual production and LED facilities remain key attractions to provide flexibility as they allow producers the opportunity to conduct filming on location as well as in a studio, regardless of changing scenery and sets, which results in producers staying in one jurisdiction for longer periods of time
- The expansion of these production spaces, particularly in the US, UK, Canada and Australia, is also adding various job opportunities to the market
- There is significant evidence of volume stage expansions across Europe; for example, VFX and virtual production company DNEG having unveiled new LED volume stages in London and Rome as part of its new division
- New volume stage facilities have opened in Singapore as well as Australia, with developments in Queensland reinforcing the country as a major global competitor.

## Considerations for the UK

- What does the strengthening of the competitive offer in advanced technology infrastructure across other territories mean for UK businesses?
- Would virtual production conversion and capability development improve the utilisation of existing infrastructure and facilities in the UK and respond to increasing global demand?
- How can training and skills development be better integrated into the development of facilities, for example through motivating virtual production conversions as multi-function facilities to service productions and train incoming production workforce through apprenticeship programmes?

## Reference Stories

### GLOBAL

#### **KEY DEVELOPMENT - VIRTUAL PRODUCTION MARKET POISED TO REACH US\$1 BILLION WITHIN FOUR YEARS:**

According to Omdia's latest analysis, total revenue associated with the virtual production market is projected to expand from US\$138.7 million (£108.6 million) in 2023 to over US\$1.1 billion (£861.48 million) by 2028. This growth is driven by its adoption in filmmaking and emerging applications in corporate and educational sectors. Further, AI is projected to play a more significant role in the coming years, transforming complex virtual production workflows. ([Omdia](#), 17<sup>th</sup> April 2024)

#### **DIMENSION SELECTS AMAZON WEB SERVICES (AWS) AND ARCH TO MOVE VIRTUAL PRODUCTION TO THE CLOUD:**

Virtual production studio Dimension announced its partnership with AWS and Arch Platform Technologies to enhance its virtual production capabilities in the cloud. Dimension will use AWS to scale its workflows and Arch for advanced virtual desktop infrastructure and real-time capabilities. Dimension and DNEG 360, known for their work with major studios like Apple and Netflix, will leverage this technology for upcoming projects, including *HUMANOID* and *2040*. ([Yahoo Finance](#), 24<sup>th</sup> June 2024)

### US & CANADA

#### **GOLDCREST POST TO OPEN FACILITY AT LIONSGATE STUDIOS YONKERS IN NEW YORK:**

Goldcrest Post, an independent post-production company with facilities in New York and London, recently announced plans to open a new post-production facility at Lionsgate Studios Yonkers, just outside New York City. The new facility is set to feature a theatre equipped with Dolby Atmos and Dolby Vision for screenings, colour grading sessions and sound mixing. ([Great Point Studios](#), 4<sup>th</sup> April 2024)

#### **MEDIAPRO OPENS VIRTUAL PRODUCTION STUDIO IN NEW YORK:**

Spanish television group Mediapro has launched a new virtual production studio in Hudson Yards, Manhattan. The 1,207m<sup>2</sup> studio features a 53m<sup>2</sup> LED screen and is part of Mediapro's strategic plan to integrate virtual technology across its production centres. This initiative follows similar implementations by Mediapro in Miami, Barcelona and Lisbon. The New York studio was developed in collaboration with Vü Virtual Studio Network. ([Advanced Television](#), 17<sup>th</sup> June 2024)

#### **TYLER PERRY HALTS \$800 MILLION (£630 MILLION) STUDIO EXPANSION AFTER AI DEMONSTRATION:**

The expansion of Tyler Perry Studios was halted after the release of OpenAI's video generator *Sora*, which was launched in February and caused reactions due to its ability to produce realistic footage. Tyler Perry raised concerns over the impact of AI on jobs in the film industry. The process of adding 12 sound stages to the studio has been halted indefinitely. ([The Guardian](#), 23<sup>rd</sup> February 2024)

#### **NETFLIX TO OPEN PERMANENT IMMERSIVE ENTERTAINMENT VENUES IN THE US:**

Netflix announced plans to open its first permanent experiential entertainment venues in Dallas, Texas, and King of Prussia, Pennsylvania, by 2025. These Netflix Houses will feature shopping outlets, eateries, and immersive activities themed around popular series like *Bridgerton* (2020-present), *Money Heist* (2017-2021), and *Stranger Things* (2016-present). Each venue will occupy over 100,000 square feet in former department stores, offering ever-changing experiences and unique food and drink options inspired by Netflix content. ([Netflix](#), 20<sup>th</sup> June 2024)

### **AMAZON MGM STUDIOS' STAGE 15 REOPENED AS VIRTUAL SOUND STAGE USING AMAZON WEB SERVICES:**

Amazon MGM Studios recently reopened Stage 15 as a fully upgraded virtual production space. The 3,158m<sup>2</sup> production space, located in Culver City, California, comprises 3,000 LED panels and 100 motion-capture cameras and is operated by Amazon MGM Studios' Virtual Production department. The volume wall enables lighting and backdrops to be changed quickly, reducing the need to rebuild stages and making it easy for productions to shoot with continuous light, or to change for a different time of day, weather, or other factors the script demands. The virtual production space is driven by new technology provided by Amazon Web Services. ([Amazon](#), 20<sup>th</sup> June 2024)

### **BROADCAST ROUNDTABLE ON VIRTUAL PRODUCTION OUTLINES SECTOR CHALLENGES:**

At a roundtable hosted by the US trade publication for broadcast production [NewscastStudio](#), broadcast professionals discussed the technical challenges and advancements in augmented reality and virtual production. Key issues included latency, precise synchronisation, and accurate camera tracking in multi-camera environments. Experts emphasised the integration of advanced technologies and the need for new workflows and skillsets. The discussion also highlighted how cloud services and generative AI can help smaller broadcasters cost-effectively implement these technologies, promoting wider adoption and innovation in the industry. ([NewscastStudio](#), 17<sup>th</sup> July 2024)

## **LATAM**

### **KEY DEVELOPMENT - BANIJAY ESTUDIOS OPENS IN SAO PAULO AS THE LARGEST INDEPENDENT AUDIOVISUAL PRODUCTION COMPLEX IN LATIN AMERICA:**

Banijay, one of the world's largest groups in content production and distribution, has announced the opening of Banijay Estúdios in Brazil, the largest independent audiovisual production complex in Latin America. Spanning over 60,000m<sup>2</sup>, the facility was envisioned by Ben Samek, CEO of Banijay Americas, Laurens Drillich, President of Endemol Shine Latino, and Nani Freitas, CEO of Endemol Shine Brasil. The complex also includes an extensive green area and three studios with the following sizes: Studio A, with 3,434m<sup>2</sup>; Studio B, with 6,383m<sup>2</sup> and Studio C, with 1,094m<sup>2</sup>. Compared to the largest studio in one of São Paulo's most renowned complexes (1,211m<sup>2</sup>), Banijay Estúdios stands out due to its size. ([Banijay](#), 23<sup>rd</sup> April 2024)

### **MEXICO-BASED STUDIO ADOPTS ADVANCED PROCESSING TECHNOLOGY FOR IMMERSIVE LED STAGE:**

Simplemente, a Mexican virtual production studio, has integrated Brompton Technology's Tesseract SX40 processors into its LED stage at Churubusco Studios. The 200m<sup>2</sup>, 270-degree immersive screen features 782 high-density AOTO LED panels with a total resolution of 14,252 x 2,582. The studio recently filmed Amazon Prime's *Every Minute Counts* (2024) using this technology, to recreate the 1985 Mexico City earthquake. Simplemente also used the stage for commercials, reality television, and a presidential debate in 2024, reaching over 16 million viewers. ([tvvideo](#), 31<sup>st</sup> August 2024)



## EMEA

**TEAMLAB BORDERLESS MUSEUM IS SET TO OPEN ITS DOORS IN SAUDI ARABIA:** Toshiyuki Inokoon, the founder of teamLab Borderless (a series of immersive museums in Japan), announced that the group will open a new immersive art museum in Jeddah. The venue will be the first location of the group in the Middle East and will feature more than 80 visual artworks. ([Arab News](#), 2<sup>nd</sup> June 2024)

**AV STUMPFL ELEVATES VIRTUAL PRODUCTION CAPABILITIES WITH ROE VISUAL IN WALLERN:** Media server manufacturer AV Stumpfl has expanded its virtual production capabilities by installing a ROE (linear LED visual display) wall at its headquarters in Wallern, Austria. The installation supports research and development efforts and will be used for customer demonstrations, internal training and testing. The system enhances the company's existing virtual production services, including live events, fixed installations, and film production. The company now offers virtual production training too. ([British Cinematographer](#), 10<sup>th</sup> September 2024)

**PRODUCTION AND TECHNOLOGY COMPANIES PARTNER ON NEW VIRTUAL STUDIO IN COPENHAGEN:** Zero Density, a virtual production and real-time motion graphics solutions company, recently announced a partnership with Matchday Production, a leading Danish sports production company and part of DMC Production group. The partnership will deliver an end-to-end solution for two virtual studios in Copenhagen. The first users of the new studios will be Disney+, streaming the UEFA Europa League and UEFA Conference League, and ESPN Matchcenter, providing football updates. ([Zero Density](#), 15<sup>th</sup> September 2024)

**WHITE PAPER HIGHLIGHTS OPPORTUNITIES IN VIRTUAL PRODUCTION:** The Spain Film Commission has published a white paper on virtual production, offering an in-depth analysis of the challenges and opportunities for Spain's audiovisual industry. The report, developed with national experts, addresses key areas such as emerging technologies, legal considerations, and tax incentives, alongside proposals to adapt regulations. The initiative aims to strengthen Spain's position as a global leader in virtual production and digital transformation. ([Spain Film Commission](#), October 2024)

**KEY DEVELOPMENT - NEWLY DEVELOPED SONY VIRTUAL PRODUCTION TECHNOLOGY ENABLES CREATIVE STORYTELLING:** Hestia, a collaborative production between Red Robin Films and Sony-Professional Europe, has been referenced as a technology demonstration and a case study for Sony's virtual production system. The production, which had only two days of filming, uses Sony's Crystal LED VERONA display system and their BURANO and VENICE 2 digital cameras, designed for cinema-style filming. ([Redshark](#), 25<sup>th</sup> July 2024)

**VIRTUAL PRODUCTION DISCUSSED AT IBERSERIES & PLATINO INDUSTRIA:**

Experts at Iberseries & Platino Industria 2024 discussed the growing impact of VP in the audiovisual industry. Industry leaders, including Georgina Terán (EFD Studios) and Miguel Amoedo, highlighted the benefits of this evolving technology, such as cost savings, flexibility in location-based shoots, and environmental sustainability. While the technology is still in its infancy, it offers significant potential for future productions. Plans for a 2,000m<sup>2</sup> virtual set in Madrid were also announced. ([Cineuropa](#), 3<sup>rd</sup> October 2024)

**EFD STUDIOS ANNOUNCES PLANS TO OPEN THE LARGEST VIRTUAL SET IN EUROPE:**

EFD Studios, an advanced tech rentals company based in Mexico, Colombia, the US and Spain, has announced plans to open what it is proposing will be the largest virtual set on the European continent. With plans to be located at EFD Studios in Boadilla del Monte, just west of Madrid, the facility will include over 2,000m<sup>2</sup> of LED set space. ([Variety](#), 4<sup>th</sup> October 2024)

**APAC****X3D STUDIO OPENS VIRTUAL PRODUCTION STUDIO IN SINGAPORE:**

Singaporean virtual production company X3D Studio launched a virtual production studio in Singapore, converting a 3,716m<sup>2</sup> former power station. X3D Studio aims to support local talent through its partnership with local universities and colleges in Singapore and offers courses in virtual production. ([Alvinology](#), 21<sup>st</sup> June 2024)

**NEW VIRTUAL PRODUCTION FACILITIES OPEN IN HONG KONG:**

The Hong Kong Design Institute's new 836m<sup>2</sup> Virtual Production Studio recently opened. The facilities form a part of Shaw Studios and include a curved LED screen wall and other equipment, including ARRI cinematography and lighting systems that are widely used in the industry. ([Hong Kong Design Institute](#), no date)

**KEY DEVELOPMENT - ANIMATION STUDIOS EARN RECORD £1.79 BILLION IN 2023:** Analysis reported by Screen Daily highlighted that Japanese animation studios generated a record £1.79 billion in 2023, driven by theatrical hits like *The Boy and the Heron* (£137 million) and *Suzume* (£106 million). While larger studios profited from their involvement in production committees, 57% of smaller subcontracting studios saw only modest growth. The industry faces challenges in balancing IP revenue and addressing AI-related copyright concerns. Overall, the Japanese animation market was valued at £15.9 billion in 2022. ([Screen Daily](#), 30<sup>th</sup> August 2024)

**BEEBLE AI RAISES US\$4.75M (£3.65M) TO LAUNCH VIRTUAL PRODUCTION PLATFORM FOR INDIE FILMMAKERS:**

Beeble AI, a South Korean VFX startup, has secured US\$4.75 million (£3.65 million) in seed funding to develop a virtual production platform aimed at indie filmmakers. Founded by former Krafton AI researchers, Beeble AI offers virtual lighting solutions to make Hollywood-level visual effects affordable. Their main product, SwitchLight Studio, provides comprehensive virtual production capabilities. Unlike traditional methods using expensive LED walls, Beeble's platform virtualises real actors with just a phone camera. This approach allows filmmakers to access diverse virtual environments and lighting options. The startup aims to reduce production costs significantly, enabling small teams to create high-quality content. With 3 million downloads of their AI photo editor app and new funding, Beeble AI plans to expand its team and enhance its AI model for more advanced virtual production features. ([Tech Crunch](#), 10<sup>th</sup> July 2024)

# Technology Advancements and Adoption

## Insights

**Some jurisdictions are continuing with the development and implementation of AI-specific regulations** despite public opposition from global tech corporations.

**AI remains the key topic of conversation on the development and adoption of new tech** across the media and entertainment industry in Europe, following heightened discussions and policy development in the US.

**The progression of regulatory controls among national bodies** has not severely impacted the implementation and development of AI technologies in the private sector.

**Technology companies including OpenAI, Meta and Microsoft are looking for opportunities to partner** with the film, television, and immersive content production sector. These partnerships often aim to feed AI programmes with existing content or aim to apply AI in content development.

Although some major US labour negotiations have come to an agreement, there remain **ongoing discussions involving unions, including in the games sector**.

## Considerations for the UK

- What is the potential for investment in technological systems to make key digital and operational production processes more efficient? These may include virtual production systems and technologies across broadcasting as well as VFX and post-production workflows.
- Are there opportunities to capitalise on potential partnerships with global technology companies to further the inclusion of diverse talent and further advance digital literacy?
- How will efforts such as those executed by the UK-based Creators' Rights Alliance letter to private technology firms and other calls for transparency regarding AI technologies impact further legislation developments and regulations in the UK?

## Reference Stories

### GLOBAL

**DEBATE AROUND AI CONTINUES IN TELEVISION:** The role of AI in television content creation remains contentious. A recent Ampere Analysis publication, *Artificial Intelligence (AI) in the TV and Movie Creation and Value Chain*, reports that while AI tools are not yet suitable for the production of high-end television, there will be a surge in AI use within 18 months. The report highlights that European TV players, like RTL and ITV Studios, see AI as an efficiency booster. However, US studios, including Sony Pictures Entertainment, remain cautious, especially after last year's WGA strikes over AI due to issues of potential liabilities with generative AI tools. ([Ampere Analysis](#), March 2024)

**MOBILE GAMES ACCOUNT FOR \$90.4 BILLION (£71.5 billion) OF 2023 GAMES MARKET REVENUE:** Market insights company Adjust reported that mobile games represented 49% of the global games market revenue in 2023. The *2024 Mobile App Trends Report* noted a 6% year-on-year increase in 2023 for in-app revenue for games, despite a 2% decline in consumer spending to US\$107 billion (£84.6 billion). Adjust forecasts mobile games advertising spend to reach US\$103 billion (£81.5 billion) in 2024 and US\$131 billion (£103.6 billion) in 2025. There has been a slight increase in Q4 2023 seeing a 7% year-on-year increase in installs. LATAM led with a 19% increase, followed by EMEA (12%), North America (6%), and APAC (3%). ([Adjust](#), 5<sup>th</sup> June 2024)

**KEY DEVELOPMENT - SONY PICTURES PLANS TO UTILIZE GENERATIVE AI TO REDUCE FILM PRODUCTION EXPENSES:** Alongside Alphabet, Meta, and OpenAI's pitches of their AI video generators to Hollywood studios, Sony Pictures CEO, Tony Vinciguerra, said at an investor meeting in Japan that the company is 'very focused on AI' and is looking at ways to use AI to produce films for theatres and television in more efficient ways. ([The Decoder](#), 1<sup>st</sup> June 2024)

**KEY DEVELOPMENT - THE FUTURE OF ENTERTAINMENT: IMMERSIVE AND INTERACTIVE EXPERIENCES:** Lux Narayan, CEO of StreamAlive - a company providing products for business communication - spoke of the potential to access and generate wider audience bases for various forms of content through cross-engagement on digital platforms and streaming or broadcasting. This also opens opportunities for investment from various brands who can capitalise on fan bases looking for 'behind-the-scenes' experiences through technology partnerships as well as social media, podcasting, and platforms like YouTube Live and Twitch. Engaging with micro-communities on forums like Reddit and Discord through content threads can help brands understand emerging trends. Creating hybrid events and leveraging live streaming technology can access global audiences, offering interactive experiences and enhancing fan loyalty. ([Forbes](#), 24<sup>th</sup> June 2024)

**META PLANS TO BRING GENERATIVE AI TO METAVERSE GAMES:**

Meta is looking to revitalise its metaverse strategy by using generative AI in VR, AR and mixed reality games. The focus will be on Horizon, Meta's network of Metaverse games, apps and creation resources. However, it may expand to games and experiences on 'non-Meta' platforms like smartphones and PCs. This move comes as Meta's Reality Labs faces challenges, including significant financial losses and struggles to attract users. Meta's new AI tools aim to improve game development workflows and efficiency. ([Tech Crunch](#), 2<sup>nd</sup> July 2024)

**IP GROUP DENNEMEYER IDENTIFIES TRENDS RESHAPING MEDIA AND ENTERTAINMENT:**

The global IP consulting and law firm Dennemeyer's IPTrendMonitor panel published an analysis of trends reshaping the media and entertainment sector. The analysis highlighted AI as a significant influence and emphasised the need for new copyright legislation for AI-generated works. According to the analysis, digital content for the metaverse and VR and AR are gaining momentum, as they enhance user experiences across industries. While Video on Demand models remain successful, the screen sector needs innovative licensing approaches. ([Dennemeyer](#), 25<sup>th</sup> July 2024)

**KEY DEVELOPMENT - PWC LAUNCHES GLOBAL ENTERTAINMENT & MEDIA OUTLOOK 2024–**

**2028:** PwC released their *Global Entertainment & Media* report. The study highlights that while global over-the-top (OTT) video subscriptions are projected to rise from 1.6 billion in 2023 to 2.1 billion in 2028, average revenue per subscription will remain relatively flat, increasing from US\$65.21 to US\$67.66 (£50.21 to £52.10). This stagnation is prompting leading streamers like Disney+, Netflix, and Amazon Prime Video to diversify revenue streams by introducing ad-funded subscription tiers and measures such as cracking down on password sharing and investing in live sports content. Consequently, global advertising Video on Demand revenue is expected to grow at a compound annual growth rate of 14.1%, accounting for 28% of streaming revenues by 2028. Additionally, the OTT market is witnessing consolidation, particularly in India, where Disney's Star India merged with Viacom18. In developed markets, there is a shift back to bundled offerings, with companies like Disney and Warner Bros. Discovery collaborating on bundles to attract consumers who are hesitant to expand their subscription purchases. This trend includes a re-emergence of licensing deals to enhance margins. ([PWC](#), 16<sup>th</sup> July 2024)

**KEY DEVELOPMENT - AI REVOLUTIONISES MEDIA PRODUCTION THROUGH AUTOMATION AND CREATIVITY BOOSTS:**

AI is rapidly transforming the media industries by enhancing animation and video production workflows. The piece describes how companies like LeyLine and Runway are developing AI tools that automate tasks such as rendering 3D assets and editing videos. According to the article, AI is also reshaping global distribution, as seen with Flawless' film dubbing advancements. The piece reports that these advancements are allowing creators to focus on creativity, democratising content creation, and making high-quality production more accessible and efficient. ([Forbes](#), 5<sup>th</sup> August 2024)

**IMMERSIVE COLLABORATION TRENDS SHAPING THE FUTURE OF XR:** As businesses increasingly adopt XR technologies, software creators and device manufacturers, including Apple, Meta and Microsoft are focusing their attention on enterprise solutions. This includes innovations in multi-sensory experiences to facilitate immersive collaboration. Generative AI is also used for content creation in enterprise solutions, while advancements in spatial computing and digital twins are improving mixed-reality applications. These developments aim to optimise workflows and boost team connectivity across industries. ([XR Today](#), 2<sup>nd</sup> September 2024)

**US & CANADA****RIVETAI LAUNCHES AI-POWERED WORKFLOW PLATFORM FOR SCRIPTING, SCHEDULING, AND BUDGETING PROCESSES:**

Developed and financed in-house by the production company End Cue, RivetAI's platform allows content creators to input and review variables that could impact production costs allowing them to run 'what-if' cost scenarios. The platform also uses Natural Language Processing techniques to analyse scripts, along with deep learning algorithms to advise on resource allocation and production planning. ([At the Movies](#), 26<sup>th</sup> April 2024)

**LEADING MOVIE STUDIOS SAY THEY WILL MOVE TO AI FOR ECONOMIC REASONS:**

Sony Pictures Entertainment (SPE) head Tony Vinciguerra endorsed the economic benefits of AI in film production at a Sony investor event. Vinciguerra emphasised that AI could make film production more efficient and cost-effective, addressing the high costs associated with production. Despite potential controversy, he acknowledged last year's labour strikes and ongoing labour negotiations in the US, which were largely centred around AI, in turn highlighted the fragility of the industry's dependency on its workforce and thus left content producers looking to dependable alternatives, such as AI technology. The outcomes of these discussions will determine the extent to which studios like SPE can integrate AI into their production processes. ([Fudzilla](#), 4<sup>th</sup> June 2024)

**CONSUMERS INCREASINGLY PREFER PERSONALISED ADS ON STREAMING MEDIA:**

A survey by research companies Moloco and YouGov found that 57% of US consumers prefer personalised ads on streaming media services. This trend underscores the ongoing shift from traditional television to streaming platforms, with 55% of consumers now using Smart TVs and 42% no longer using traditional television services. The survey reveals that pre- and post-roll ads are the most acceptable forms of advertising, whereas banner and mid-roll ads are considered intrusive. Notably, 37% of consumers have cancelled subscriptions due to poor ad experiences, emphasising the necessity for streaming platforms to develop better ad strategies. ([MarTech Series](#), 26<sup>th</sup> June 2024)

**META'S REALITY LABS FACES US\$50 BILLION (£39 BILLION) LOSS DUE TO OPERATIONAL CHALLENGES:**

Meta's Reality Labs division has lost nearly US\$50 billion (£39 billion) over four years, a figure comparable to the combined market caps of Snap and Pinterest. Insiders blame frequent reorganisations and leadership without AR/VR expertise for the financial woes. Despite Meta CEO Mark Zuckerberg's cost-cutting measures, the division's operating losses are expected to continue rising. The division's struggle includes underperforming AR/VR products, internal discord, and shifting strategic priorities. Analysts remain cautious about Reality Labs' long-term viability amid escalating expenses and market challenges. ([Yahoo Finance](#), 28<sup>th</sup> July 2024)

**MICROSOFT'S GAME PASS CHANGES FOCUS ON PROFITABILITY AND NEW TIER:**

Microsoft announced price increases and a new tier for its Game Pass subscription service, effective 12<sup>th</sup> September 2024. *Game Pass Ultimate* will rise from US\$16.99 to US \$19.99 (£13.20 to £15.55) per month in the US, with similar increases in the UK and Europe. A new tier, *Xbox Game Pass Standard*, will offer a catalogue of Xbox console games with multiplayer access but exclude day-one releases. These changes aim to streamline the *Game Pass* offerings, driving most new subscribers towards the more profitable *Ultimate* tier. These adjustments reflect Microsoft's strategy to enhance profitability amidst escalating costs in the games sector. ([Ampere Analysis](#), 10<sup>th</sup> July 2024)

**SPHERE PREMIERES IMMERSIVE U2 FILM:**

Sphere Entertainment Co. in Las Vegas has premiered *V-U2*, an immersive concert film showcasing a recent U2 tour. Directed by The Edge and Morleigh Steinberg, the film captures the live performances from the *U2: UV Achtung Baby Live at Sphere* tour, which attracted over 700,000 fans. *V-U2* is the first film shot entirely with Sphere's Big Sky ultra-high-resolution cameras and features the venue's 14,864m<sup>2</sup>, 16k x 16k LED screen, Sphere Immersive Sound and haptic seats. ([Sphere](#), 21<sup>st</sup> August 2024).

## LATAM

**AI-POWERED DUBBING EXPANDS AUDIENCE FOR *WE ARE STRONGER*:** Tongues Translation Services, a provider of media translation and dubbing services, has completed the AI-based dubbing of *We Are Stronger* (2017), a faith-based film, for Latin American audiences. The film, originally in US English, was translated and dubbed into LATAM Spanish using cutting-edge AI. *We Are Stronger*, produced by Reflective Media Productions, has won multiple awards, including the Worldfest-Houston International Film Festival Award. ([Tongues Translation Services](#), 12<sup>th</sup> September 2024)

## EMEA

**AI TOOL MXT-1.5 LAUNCHED AT MOMENTS LAB AND LOOKS TO HELP EDITORS AND PRODUCERS CREATE CONTENT FASTER:** Moments Lab (previously known as Newsbridge) used the National Association of Broadcasters 2024 to showcase its MXT-1.5 software. This AI tool automatically highlights the best moments in a video, helping editors and producers create content faster. ([Broadcast Tech](#), 18<sup>th</sup> April 2024)

### **KEY DEVELOPMENT - THE 11TH NOSTRADAMUS REPORT PUBLISHED AT THE CANNES NEXT PROMISES HOPE AMIDST UNCERTAINTY:**

Göteborg Film Festival's annual *Nostradamus Report* was launched at the Festival de Cannes. The report dives into the intricacies of the challenges and opportunities facing the film industry within the framing of global crises, technological advancement, and shifting audience behaviour. It looks at the current landscape as well as providing a roadmap for navigating the implications of AI, new technologies and sustainable growth with technology innovations. ([Göteborg Film Festival](#), 20<sup>th</sup> May 2024)

### **THE NEW EUROPE MARKET (NEM) DUBROVNIK SHOWCASES INNOVATIVE TECHNOLOGY FOR TELEVISION OPERATORS:**

A full day of the NEM Dubrovnik TV market was focused on new and innovative technologies, including SkyShowtime's recent launch of its ad-supported plan across 20+ markets, including Central and Eastern European territories. The overall festival highlighted the application of technologies in content creation, as well as innovation in advertising across streaming platforms. ([Prensario](#), 13<sup>th</sup> June 2024)

### **INFLUENTIAL REPORT HIGHLIGHTS MEDIA DIVERSITY AND AI IMPACT:**

The Kommission zur Ermittlung der Konzentration im Medienbereich (Commission on Concentration in the Media KEK), a joint body of the German state media authorities responsible for guaranteeing plurality of opinion in relation to private television channels throughout Germany, published its 25<sup>th</sup> annual report. The report discusses the impact of AI on media diversity, suggesting the need for AI regulation to prevent misuse in content manipulation. KEK's analysis of the European Media Freedom Act critiqued the extensive powers given to the European Commission. The report also noted a decline in linear television consumption and a rise in online video viewing. ([European Audiovisual Observatory](#), July 2024)



**SWXTCH.IO PARTNERS WITH TYRELL FOR CLOUD MIGRATION SOLUTIONS:**

swXtch.io, a solution that aids in moving content to the cloud, has teamed up with Tyrell to expand its presence in Ireland and the UK. The collaboration aims to streamline cloud migration for media businesses using swXtch.io's *cloudSwxtch* technology, helping unify on-site and cloud workflows, which would aid in streamlining content delivery operations needed for content delivery, such as live broadcasting. ([TVB Europe](#), 14<sup>th</sup> August 2024)

**HUAWEI CLOUD'S CAIRO REGION TO TRANSFORM MEDIA SECTOR:**

Huawei Cloud has launched its Cairo Cloud Region, making it the first company to establish a public Cloud in Egypt. The move is seen as a significant advancement for the media and entertainment industries in Egypt and the wider Northern African region. The new cloud hub will enable media companies to streamline production, distribution, and content delivery processes. This will help reduce latency and support global expansion. The initiative aims to foster innovation, digital transformation and economic growth. ([Egypt Today](#), 12<sup>th</sup> August 2024)

**THE INTERNATIONAL COMMUNITY COMES TOGETHER AT THE VENICE FILM FESTIVAL FOR THE EIGHTH EDITION OF VENICE IMMERSIVE:**

Venice Immersive is the XR section of the Venice Film Festival, dedicated to immersive arts and media. In its eighth edition, this year's selection included 63 projects from 25 countries, including 26 in competition, 30 out of competition and seven developed through the *Biennale College Cinema - Immersive*, an incubator for new talent. As with other international festivals, the inclusion of an innovation market section focused on content technology highlights the relevance and increasing desire to better understand how to use these systems across production streams. The exhibition took place at the start of September, hosted on the island of Lazzaretto Vecchio. ([The Hollywood Reporter](#), 28<sup>th</sup> August 2024)

**KEY DEVELOPMENT - AI OBSERVATORY LAUNCHES NEW STUDY:** The AI Observatory at France's Centre national du cinéma et de l'image animée (CNC) launched a new study looking at public understanding and attitudes toward AI's role in the screen industry. The study reveals that while only a third of French citizens have used generative AI tools, two-thirds are aware of its application in film and series production. However, concerns about AI remain high, especially around virtual actors and fully AI-generated works, though AI's use in visual effects is widely accepted. The study follows a report on the use and impacts of AI on the film and television production chain, and a study on the use of AI among the French industry. (CNC, 11<sup>th</sup> September 2024)

**FRANCE LAUNCHES HANDBOOK FOR IMMERSIVE PRODUCERS:** *French Immersion*, an initiative by the Cultural Services of the French Embassy in the United States, in partnership with the FACE Foundation, the CNC, the Institut Français, UniFrance, and Kaleidoscope have released *FR//XR: A Handbook for Immersive Producers*. The handbook is a comprehensive guide for navigating the challenges of immersive content production. The handbook offers insights into funding, distribution, and collaboration in the XR industry, focusing on the US market and lessons from the COVID-19 pandemic. It includes interviews with industry leaders from Epic Games, Tribeca Film Festival, and more, aiming to strengthen ties between French and American XR ecosystems. ([Villa Albertine](#), 11<sup>th</sup> September 2024)

## APAC

**SCREEN AUSTRALIA ANNOUNCES AUD\$1.6 MILLION (£825,945) IN SUPPORT FOR ORIGINAL AUSTRALIAN VIDEO GAMES:** Screen Australia announced funding to 27 games through the new Games Production Fund and Emerging Gamemakers Fund. These two video game funds, and the Future Leaders Delegation, were introduced by Screen Australia in October 2023 with the aim of funding original games from Australian independent game creators with a budget below \$500,000 (£391,577). ([Screen Australia](#), 21<sup>st</sup> March 2024)

**AUSTRALIAN WRITERS' GUILD OPTIMISTIC ABOUT POSITIVE AI USE OUT OF SENATE INQUIRY:** The Select Committee on Adopting Artificial Intelligence was held in Canberra in mid-July, with representatives joining from the Media Entertainment and Arts Alliance, Australian Association of Voice Actors, Law Council of Australia, as well as tech companies, Adobe and Atlassian. This inquiry into the risks and opportunities of AI adoption showed positive steps are being taken towards the responsible use of the technology. However, these considerations are still broadly applicable and there were no specifications for the country's creative industries, excluding concerns raised by the screen sector. ([IF.com.au](#), 22<sup>nd</sup> July 2024)

**CLOUD RENDERING BOOSTS ANIMATION PRODUCTION:** China's cloud rendering capabilities are accelerating the post-production process for animated films like *White Snake: Afloat* (2024) and *The Wandering Earth 2* (2023). The efficiency reached by cloud rendering provided by China's tech companies' high level of innovation in this area means that animators are able to halve rendering times increasing efficiency and quality. Cloud rendering allows for greater detail, such as distinguishing fabric textures, and breaks traditional production limitations, contributing to the success of Chinese animated films internationally. ([Global Times](#), 20<sup>th</sup> August 2024)

**THAI VIDEO GAME INDUSTRY PROMOTED AS SOFT POWER:**

At the Thailand International Game Showcase 2024, the Department of Cultural Promotion highlighted the potential of the Thai video game industry to become a regional soft power. By integrating Thailand's cultural capital into games, the industry could bolster related sectors like film and animation. ([Nation Thailand](#), 30<sup>th</sup> August 2024)

**SCREENWEST LAUNCHES FIRST NATIONS VR DOCUMENTARY INITIATIVE:**

Screenwest has announced an AU\$450,000 (£229,000) initiative to support up to three First Nations VR documentary projects in Western Australia. Each selected team will receive up to AU\$150,000 (£76,000) to produce virtual reality documentaries, focusing on truth-telling and showcasing distinctive First Nations voices. The initiative aims to enhance career progression and explore new storytelling mediums. A one-day workshop and development phase will help WA First Nations creatives shape their projects. ([Screenwest](#), 3<sup>rd</sup> September 2024)

**INDIAN GOVERNMENT TO ESTABLISH NATIONAL CENTRE OF EXCELLENCE FOR AVGC-XR SECTOR:**

The Government of India has approved the establishment of the National Centre of Excellence (NCoE) for Animation, Visual Effects, Gaming, Comics, and Extended Reality in Mumbai, Maharashtra. The NCoE will be modelled after India's Institutes of Technology and Institutes of Management, with expectations to create 500,000 jobs and promote the development of indigenous intellectual property. This initiative aims to integrate India's cultural heritage with cutting-edge technology while also supporting early-stage companies and startups in the sector. ([IGN India](#), 19<sup>th</sup> September 2024)

**WELLINGTON PITCHES AS GLOBAL GAMES AND VFX HUB:**

Wellington, New Zealand aims to position itself as a premier hub for games, VFX, and animation. The city launched the *Make It Here* campaign to showcase local creative talent, including studios like Weta FX and PikPok. Supported by initiatives like the Game Development Sector Rebate (GDSR), Wellington aims to expand its role in the global games industry while continuing its legacy in traditional filmmaking. ([Variety](#), 26<sup>th</sup> September 2024)

# Sustainability and Environmental Impacts

## Insights

With sustainable practices becoming a key consideration for global markets, **virtual production has been highlighted as a potential asset to the media industry's efforts** as it can improve pre-production efficiency and minimise travel, which could have a significant impact on a production's carbon footprint. However, the high-energy usage of virtual production systems is still an aspect of concern and consideration for technology developers.

**Advancements in VFX have the potential to have positive environmental impacts through their integration into screen production workflows**, with technologies such as in-camera visual effects and LED walls making workflows more efficient and offering ways to reduce carbon footprints

- The installation of virtual production systems is being promoted to optimise software through render management for energy efficiency:
- Cloud computing technology is emerging as an alternative to on-site consumption, even more so when paired with renewable energy sources.

**Immersive and augmented reality** content is highlighted as a tool to educate and advocate for environmental causes as well as technological tools for skills training:

- This is through events, for example, that allow the public to experience natural habitats and generate empathy and understanding for ongoing environmental issues
- Augmented reality is becoming a popular tool for training people efficiently with minimal use of resource

**Regions are looking to inclusions and qualifying specifications in their incentive and grant systems** as a way to promote the adoption of sustainable practices across supported productions.

**There is an increase in sustainability managers/officers** whose role is to oversee the adoption of sustainable practices in studios. This has become standard practice across Nordic countries and in Canada.

## Considerations for the UK

- The UK is one of the leading regions in terms of the development of sustainable best practices as well as implementable tools for industry to adopt in an effort to ensure the wider media and entertainment industry becomes significantly more energy and resource-efficient. The Screen New Deal is a key example of this that is being celebrated by the industry and should be further promoted and recommendations considered in policy. How can the UK continue to grow its influence as a leading jurisdiction for the development of sustainable best practices?
- How can the screen sector in the UK capitalise on the high level of sustainable studio offerings available, while also incentivising training in sustainable practices?

## Reference Stories

### GLOBAL

#### **THE NETHERLANDS FILM FUND FURTHERS EFFORTS TO ENCOURAGE MORE SUSTAINABLE PRODUCTIONS:**

The Netherlands Film Fund is seeking to raise awareness of the carbon emissions of individual film projects among creators and mitigate the industry's environmental footprint. The fund's sustainability measures reflect recommendations by researchers and sustainability managers, who advocate for the early introduction of sustainability in the development phase of a project, and stimulating the transition by making sustainability more accessible through knowledge sharing, holding awareness-raising meetings with the team and crew, using carbon-calculating tools, and reimbursing hours put into making productions more sustainable. In line with the present sustainability policy, the fund is also set to organise courses to train more eco-managers this year and lend support to initiatives that develop activities intent on making film productions more sustainable. ([Cineuropa](#), 24<sup>th</sup> Jan 2024)

#### **FILM AND TV'S CARBON FOOTPRINT**

**INCREASING:** An article by Time highlighted that the global entertainment industry generates millions of metric tons of CO<sup>2</sup> annually, with large productions like *Oppenheimer* and *Barbie* (both 2023) emitting up to 3,370 metric tons each. The article reports that the Producers Guild of America and the Sustainable Production Alliance in the US are pushing for greener practices, creating toolkits like the *Green Production Guide* to reduce emissions. Despite challenges in accurate emissions tracking, efforts to green the industry are growing, with initiatives like using electric vehicles and renewable diesel on sets. Major studios such as Disney and Netflix are collaborating to develop clean mobile power solutions to replace diesel generators. ([Time](#), 7<sup>th</sup> March 2024)

**KEY DEVELOPMENT - VR STORIES CAN SPUR ENVIRONMENTAL ACTION:** Environmental stories told through VR and 360-degree video can better motivate people to act on environmental threats compared to traditional video. Research from the University of Oregon shows that VR's interactive experiences reduce psychological distance and increase immersion, making distant threats like climate change feel more personally relevant. Studies revealed that participants who watched interactive VR videos felt a greater sense of presence and closeness to environmental issues and reported higher intentions to help the environment. ([Futurity](#), 20<sup>th</sup> May 2024)

**IMMERSIVE TECHNOLOGY IS HELPING GLOBAL LEADERS ENGAGE IN CLIMATE DIALOGUE:** The World Economic Forum's Global Collaboration Village partnered with Sunway University's Centre for Planetary Health on extended reality explorations at the 2024 Planetary Health Summit to deepen understanding of the health of the planet and its implications for humans. A key takeaway was how the application of emerging technology, such as AR and VR, can offer new ways to bolster existing efforts for individuals and particularly global leaders to connect with the climate crisis and its solutions. ([World Economic Forum](#), 9<sup>th</sup> May 2024)

## US & CANADA

**CLEAN ENERGY SERIES TRAINING EVENT HOSTED FOR SUSTAINABLE PRACTICES IN NEWFOUNDLAND AND LABRADOR:** Newfoundland and Labrador's film development corporation PictureNL recently hosted the Clean Energy Series at the College of the North Atlantic Film School. The Clean Energy Series promotes decarbonisation in the screen industry through capacity building, training, local infrastructure support, and equipment accessibility. The day-long training event was led by industry experts and global innovators and attended by key provincial ministers. The training event included workshops and panels on financial assistance for greening businesses and sectors, the use of mobile power units, and mitigation strategies to reduce fuel use. ([Newfoundland and Labrador](#), 11<sup>th</sup> April 2024)

## APAC

**NEW ZEALAND UPDATES SUSTAINABILITY CRITERIA FOR FILM UPLIFT INCENTIVE:** The New Zealand Film Commission published a Sustainability Action Plan Template for productions accessing the country's 5% uplift. The eligibility criteria for the uplift, which is offered on top of New Zealand's 20% cash rebate, was updated to a points-based system last year. As part of the test applicants are required to submit a sustainability plan for the production. ([New Zealand Film Commission](#), 10<sup>th</sup> April 2024)

# Closing

This scanning report has been prepared by Olsberg SPI in partnership with the CoSTAR Foresight Lab. It is the first in a broader programme of reports exploring the latest global trends in advanced technologies in and for the creative industries. If you are a stakeholder (UK or International) working in this space and would like to connect with us, or for more information about this report, please email [costarforesightlab@gold.ac.uk](mailto:costarforesightlab@gold.ac.uk).

## **ABOUT OLSBERG-SPI**

Olsberg-SPI is an international creative industries consultancy, specialising in the global screen sector. SPI provides a range of expert consultancy and strategic advisory services to public and private sector clients in the worlds of film, television, video games and digital media. Formed in 1992, it has become a leading international consultancy in the screen industries. The firm's expert advice, trusted vision, and proven track is trusted by a diverse group of companies and organisations, including national governments, film institutes and screen agencies, studios and streamers, training and skills development organisations, and broadcasters. Further information on SPI's work can be found at [www.o-spi.com](http://www.o-spi.com).

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