Transforming the creative and cultural industries with advanced technologies
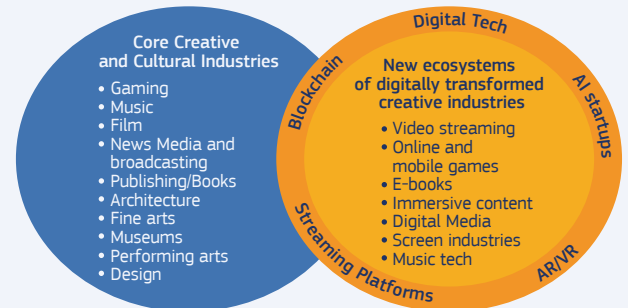
Sectoral Watch: Technological trends in the creative industries

The role of creative industries

Creative industries are crucial for the European economy. They employed 7.4 m people across the EU27 in 2019 (Eurostat), which represented 3.7% of all employment. Next to their economic importance, the creative industries are also relevant in the promotion of Europe's diverse cultural identity and European values.

Overview of creative industries

Source: Technopolis group, 2021

Core Creative and Cultural Industries
- Gaming
- Music
- Film
- News Media and broadcasting
- Publishing/Books
- Architecture
- Fine arts
- Museums
- Performing arts
- Design

Digital Tech / **Blockchain** / **AI startups** / **Streaming Platforms** / **AR/VR**

New ecosystems of digitally transformed creative industries
- Video streaming
- Online and mobile games
- E-books
- Immersive content
- Digital Media
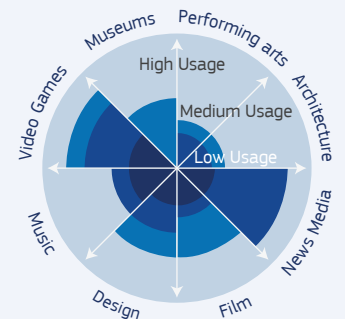- Screen industries
- Music tech

Digitalisation has transformed the processes of the creation, production, distribution and the consumption of content. Culture is increasingly accessed through dedicated platforms, applications, social media and aggregators.

Moreover, digitisation has disrupted the traditional value chains of creative industries and led to more complexity. New actors such as streaming platforms and tech startups entered the creative industrial ecosystem.

Creative industries have been mostly influenced by the advancements of specific technologies including Augmented & Virtual Reality (AR/VR), Artificial Intelligence (AI), Cloud and Blockchain technologies

These advanced digital technologies are spread across different areas of the creative industries, as is portrayed by various use cases in the report. For example, the music industry is being transformed by AI with many potentially disruptive use cases of Blockchain technologies.

- **Blockchain**
- **Artificial Intelligence**
- **AR/VR**

Source: Technopolis Group, 2020, based on assessment of use cases

Museums / Performing arts / Architecture / News Media / Film / Design / Music / Video Games

High Usage
Medium Usage
Low Usage

2020 saw continued investment in design, digital gaming, music and media technology ventures with new technology-focused deals related to online collaboration, digital solutions and AI

For 2021 it is expected that investors are more cautious and that they will make fewer new deals and allocate resources to their existing portfolios. New deals are technology-focused and related to online collaboration, digital solutions and AI.
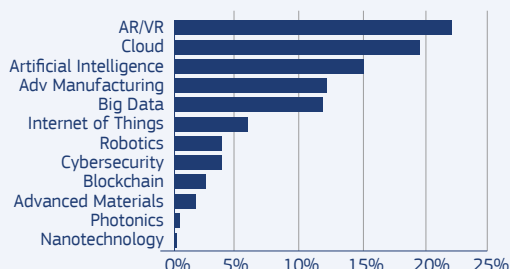
Games studio startups:

- **15%** focused on Augmented & Virtual Reality
- **3%** focused on Artificial Intelligence

Music industry startups:

- **10%** focused on Artificial Intelligence
- **4%** focused on Blockchain Technology

For more information, read the Sectoral Watch report on Technological trends in the creative industries here:
https://ati.ec.europa.eu/reports/sectoral-watch/technological-trends-creative-industries

AR/VR, Cloud and Artificial Intelligence related skills are the most relevant in the creative industries

In 2010-2020, VC investment was the highest in design (product design and fashion), video games, music, news media and broadcasting. Conversely, VC investment was relatively low in architecture, visual arts, performing arts, museum and the film industry.

Share of skilled professionals employed in the creative industries as percentage of all advanced technology skilled in the industry, EU27, 2020

Bar chart categories (top to bottom): AR/VR, Cloud, Artificial Intelligence, Adv Manufacturing, Big Data, Internet of Things, Robotics, Cybersecurity, Blockchain, Advanced Materials, Photonics, Nanotechnology. Axis: 0% 5% 10% 15% 20% 25%

LinkedIn-based analysis suggests that within the registered LinkedIn professionals and those employed in the creative industries, AR/VR related competences are the most relevant in terms of the number of professionals with these skills followed by Cloud technologies and AI.

Of all creative industry segments it is the video games industry that employs the largest share of AI professionals.

The creative industries face both challenges and opportunities by implementing digital technologies as a part of the COVID-19 recovery process

Opportunities

Reinforced by COVID-19, reaching out to the new digital audience and capturing young people in a positive and ethical way is important for the creative industries to increase their relevance. Novel creative content and new ways to make this content accessible will engage new readers.

Automating production processes will deflate the cost of producing creative work, in turn lowering cost to consumers. Ethical business models and ethical economic policies must be set up to prevent monopolisation.

Challenges

The creative industries have been highly impacted by the COVID-19 pandemic. A key challenge lies in policy making, facilitating the emergence of innovative infrastructure and distributed knowledge for the creative industries.

Copyright will be a key challenge and regulatory measures will have an important impact on the creative industries. As identified by the European Commission, the EU 'needs modern copyright rules fit for the digital age'.

About the Advanced Technologies for Industry (ATI) project

The ATI project – funded by the European Commission – supports the **implementation** of Europe's new growth strategy with a systematic monitoring of **technological trends** and reliable, **up-to-date data** on advanced technologies.

Robotics · Artificial Intelligence · Connectivity · Photonics · Advanced Materials · Security · Advanced manufacturing Technology · Internet of Things · Industrial Biotechnology · Mobility · Blockchain · Cloud Computing · Micro- and Nanoelectronics · Big Data · Augmented and Virtual Reality · Nanotechnology

The **Sectoral Watch** analyses trends in the generation and uptake of advanced technologies, related entrepreneurial activities and skills needs in a number of selected sectors. It interprets data from a list of data sources compiled to monitor advanced technologies and their applications in industry across Europe and key competitor economies. It allows policy makers, industries and intermediaries to contextualise the collected data on advanced technologies specific for the industries in focus.

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