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Unleashing the Potential of the Cultural and Creative Industries



Unleashing the Potential of the Cultural and Creative Industries

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EUROPEAN COMMISSION

Unleashing the Potential of the Cultural and Creative Industries

2025

Directorate-General for Research and Innovation

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This report was drafted at the request of Marc Lemaître, the Director-General of the European Commission's Directorate-General for Research and Innovation (DG RTD).

It gives an overview of the structure of the EU Cultural and Creative Industries (hereafter called CCIs), their strengths and challenges, the possible impact of new information and communication technologies (ICTs) and artificial intelligence (AI) and the current support mechanisms for the sector at EU level. This report aims to help position CCIs in the EU as an engine for sustainable growth and cutting-edge innovation in global competition and for strengthening the social fabric, resilience and values of our societies for our well-being and quality of life. Finally, it could promote a high-level launching event for bringing together a wide range of stakeholders in this field to help place CCIs high on the agenda of the new European Commission and the new European Parliament.

This report reflects the opinion and positions of the author, but not necessarily those of DG RTD or those of the European Commission.

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EXECUTIVE SUMMARY

Overview of the Cultural and Creative Sector

The Cultural and Creative Sector (CCS) is at the heart of the creative economy. Its creativity, transformed into innovation, has made some of Europe's CCIs (Cultural and Creative Industries) world leaders, whose innovative power spills over into other sectors of the EU economy[1]. The sector's 1.2 million companies employ some 8.02 million people and generate a value added of EUR 477 billion[2]. This is higher than the value added of telecommunications, the pharmaceutical industry or the automotive industry.

The CCS employs 3.8% of the EU's workforce. In the decade before the COVID-19 pandemic, cultural and creative employment rates grew faster than overall employment rates in most OECD countries (by 13.4% vs by 9.1%). The educational level in the cultural sector, where 60.6% of workers have a tertiary education, is significantly higher than the EU average of 37.1%.

During the pandemic, CCIs developed innovative collaboration methods, such as co-working spaces, co-location centres and creative labs, which adapted rapidly to market shifts, and which have now been adopted by other EU industries. By leveraging new technologies and AI, CCIs pioneered virtual and augmented realities in the audiovisual sector, digital installations in museums, and interactive content in gaming and entertainment.

Challenges in exploiting CCIs' full potential

CCIs in the EU have great potential. Flagship companies like LVMH showcase CCIs' economic strength and the sector's growth potential.

However, CCIs in the EU are still far from being as effective as they could be to their inability to exploit and capture the full commercial and cultural value of their creations and the large number of small and microbusinesses, as well as the financial struggles experienced by many of these companies.

The vast majority of SMEs in the CCIs are still operating on a local or regional level. The CCIs' market is still fragmented along national and linguistic borders. CCI companies are failing to make the single market their home base, and to operate from there at an international level.

Financing is one of the CCI companies' main challenges because of their small size, their lack of classic assets and the project-oriented nature of their business planning and cycles.

There is a wealth of support mechanisms, structures, and institutions, but each of them follows its own logic, its own procedures, and its own timetables. Thus, there is a risk that they will not meet a CCI company's specific needs at a specific point in its life cycle.

Growth and access to financing are often intertwined. The small size and scattered landscape of the small enterprises and microenterprises that make up 99% of the sector, mean that they fail to achieve their creative and innovation potential.

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[1] In this report, we use the term 'Cultural and Creative Industries (CCIs)' mainly for the enterprises of the sector. The terms 'Cultural and Creative Sectors (CCSs)' and 'Cultural and Creative Sectors and Industries (CCSIs)' are used for the entire sector, including non-commercial operators and institutions. For further information about the terms, definitions and data related to the sector, see Sections 2.5 and 2.6 of Chapter 2 'An Industry with Potential'.

[2] Commission Staff Working Document *Annual Single Market Report 2021 Accompanying the Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions Updating the 2020 New Industrial Strategy: Building a stronger Single Market for Europe's recovery* - SWD/2021/351 final https://eur-lex.europa.eu/legal-content/en/TXT/?uri=CELEX%3A52021SC0351.

.

They often remain confined to local and linguistic markets. This situation is made worse by the fact that rules on intellectual property rights and on the audiovisual market in the EU still diverge.

Furthermore, since public administrations in the EU are more risk-averse than in other regions in the world, there are sometimes disproportionately burdensome and long procedures for obtaining public financing. However, the introduction of market approaches combined with public guarantees (i.e. the approach taken by the CCS Guarantee Facility of the European Investment Fund (EIF)), is starting to achieve promising results and significant leverage effects in raising capital for the CCIs.

Opportunities provided by new technologies

The COVID-19 pandemic hit the CCS particularly hard and made its weaknesses apparent. The entire sector saw a 31% drop in its turnover, a 76% drop in attendance at music venues and a drop of 70% in box-office sales for cinemas.

At the same time, those subsectors radically changed their approach and found groundbreaking new and engaging ways of collaborating, and of reaching out to – and capturing the attention of – their public.

Their new ways of working together, adopted mainly in response to the pandemic and the need to reduce costs, have now developed into vibrant new hotspots for creativity and innovation. They will be at the heart of new forms of business models for the CCIs, which will have a strong spillover effect to other sectors of the European economy.

During the pandemic, small enterprises (in particular, those in these area's) started experimenting with and adopting new technologies.

These new technologies are blurring the distinction between producers, distributors and consumers. This will give rise to start-ups that combine these new technologies with culture and creativity and new forms of collaboration between the CCS and high-tech enterprises and novel and innovative business models in the CCIs.

This will lead to the production and distribution of new content. More immersive experiences attract more non-traditional audiences. As a result, digital consumption of performing arts content generates new revenue opportunities. Immersive content has the potential to add about EUR 1.3 trillion to the global economy by 2030.

While in many cases, these new technologies gave rise to initial fears when first introduced, they have the potential to respond precisely to the needs of the CCS and its companies.

For example, virtual and augmented realities increase the reach of musicians and live performances exponentially by opening up new dimensions in the performing arts, exhibitions and museums, and unfolding new perspectives in design, architecture and social media.

Need for common definitions and metrics

The CCIs' contribution to – and importance for – the competitiveness, growth and innovative power of the EU economy is undervalued. This is due to a lack of a commonly accepted definition of the sector, statistics based on that definition and robust methodologies for measuring the spillover effects on a broad scale.

There is no generally accepted definition of the CCSs or the CCIs. They are defined in different ways at international, EU and national level. Their definitions change in line with the context.

The procedures in place for official definitions and statistics are too cumbersome to capture the rapid changes in this sector in a timely manner, and the various national statistics sometimes diverge considerably from those at EU level.

Therefore, in parallel to updating and reviewing culture statistics every year, the Commission is looking into complementary sources to fill the data gaps.

By analysing specific cultural sectors and continuing to cooperate with EU Member States, international organisations and the relevant stakeholders, the Commission aims to further identify best practices and build the evidence base for developing policies. To identify and evaluate future trends, some of the main studies on the CCS also use informal sources, statistics from professional organisations or collecting societies[3] and estimations.

Furthermore, the importance of creative skills for the whole economy is highlighted by the fact that 40% of cultural and creative employment takes place outside of CCSs, e.g. industrial designers working in the automotive industry.

The importance of research and innovation (R&I)

Research paves the way to innovation and to the market. There is a wealth of research – results and ongoing projects – which provides a solid basis for an evidence-based and comprehensive EU support structure for CCIs.

As AI and new technologies will have a profound effect on not only the CCIs, but also our entire economies and societies, there are two main research areas for the future: the influence of new technologies on our societies and the influence of our societies on the development of new technologies.

This raises the question of how best to prepare the CCIs to take full advantage of cutting-edge technologies, and how to develop a human-centric approach to new technologies, where the creators of those technologies can still understand, predict, and reliably control the developments that they have triggered.

This leads to an additional challenge for research in this field; i.e. the rapid pace of change of technologies.

When published, studies in mainstream academic journals are often based on data that are 5-10 years old. The 'new insights' are essentially derived from technologies that are two or three generations old.

This calls for new research methods to identify, conceptualise and validate emerging trends to timely cope with the rapid change of technologies.

Building a unified ecosystem

Currently, there is no cohesive ecosystem for CCIs. Therefore, a coherent and comprehensive ecosystem with enough size, financial firepower, expertise and local anchorage to meet the challenges ahead is needed.

The CCS is as diverse as the EU funding and support opportunities available to it. All of these funding opportunities follow their own logic, procedures, and timetables. Although they are growing in volume and in what they offer, they underperform in terms of their output and impact at EU level compared with their combined size and financial capacities.

There needs to be better collaboration between the different instruments and activities for, or open to, CCIs in Horizon Europe, and enterprises in the cultural and creative fields need to work closely together to reach their full potential.

[3] A collecting society is an organization that licenses and manages copyrighted works on behalf of copyright owners like songwriters or composers. They monitor performances and distribution of works on radio, television, in public venues or online.

Such collaboration requires a Europe-wide platform that hosts tools, services and exchanges to develop and nurture a robust European network for and with CCIs.

Information, studies, guidebooks and market analyses could be stored, processed, and managed on such a platform.

It should link the different sectoral and regional ecosystems and forums for developing and showcasing best practices for the business models of Cultural and Creative Sectors and Industries (CCSIs).

The platform would need to be regularly maintained and updated and produce regular outputs for the stakeholders, the general public and policymakers.

Setting up another support system for CCSIs in parallel to what already exists, or is in the making, will not suffice. That would risk further contributing to the fragmentation and patchwork nature of the sector and its associated support initiatives.

The transformative potential of CCIs

Support for the CCSIs is not a cost; it is an investment. It is an investment in the future of the EU economy and society and its competitiveness and power of innovation.

To reach a new level of outreach and impact, there is a need for a more structured approach and for collaboration with CCSI stakeholders, be they institutions, professional organisations, individuals or companies.

The Commission Communication on promoting cultural and creative sectors for growth and jobs in the EU sets out a strategy to foster the sector's economic power and societal impact. In its deliberations on increasing the support for CCIs, the European Parliament urges the Commission to increase its funding for the cluster 'Cultural Heritage and Cultural and Creative Industries'.

Consequently, the budget for the Horizon Europe 'Cultural Heritage and Cultural and Creative Industries' cluster has been increased to EUR 2.28 billion, which is 80% more than the budget for the previous 2020 Horizon Europe programme.

The recently launched EIT Culture & Creativity, of the European Institute of Innovation and Technology, aims to raise some EUR 500 million in support for CCIs.

It is supplemented by several support facilities of other EU instruments and initiatives for SMEs in general and for CCIs in particular. These include the Cultural and Creative Sector Guarantee Facility, Media Invest and Creative Europe and the support for the CCSs through the ERDF, which, all together, can create significant impact at EU level.

Combining these instruments from all Commission services on one platform and around a commonly defined goal would make a significant difference and have a sizeable impact at European level.

As these tasks are multi-faceted, far-reaching and comprehensive, all the Commission services concerned would need to work together.

A platform with strongly rooted stakeholder groups and organisations needs to be built gradually to provide a coherent and comprehensive CCI ecosystem.

To achieve this, the Horizon Europe programme can provide the legal basis and raise the necessary funds, which can be combined with support instruments from other Commission services and programmes.

A more holistic approach founded on joint ownership and strong leadership could make the difference.

This means tying up the loose ends and building a structure to gather all these complementary support and funding opportunities. There should be regular exchanges between CCI operators, professional organisations, financial intermediaries and policymakers. This collaboration will enable the joint development of coherent strategies and goals, foster lasting cooperation and build an ecosystem where each support and funding instrument meets a specific need in the different phases of the life cycle of a CCI enterprise or operator.

The challenges of our economies and of our societies require out-of-the-box solutions. We cannot solve problems using the same mindset that led to their creation in the first place. Unleashing the full potential of the CCSIs can offer new perspectives and opportunities for a competitive and cutting-edge European economy, as well as for the well-being of a resilient, coherent and inclusive society.

1. INTRODUCTION

Cultural and Creative Industries (CCIs) play a vital role in assuring the future prosperity and quality of life in Europe. They are a major engine for growth, competitiveness, and innovation in the EU, while also shaping perceptions and culture, and fostering a sense of belonging. As part of Horizon Europe (the EU's key funding programme for R&I), this report focuses specifically on the potential of CCIs as the engine of a culture- and creativity-driven European innovation ecosystem. By taking a cross-disciplinary approach, this report aims to help draw up a new vision for CCIs, foster a policy dialogue between researchers and policymakers; and assist the next Commission in fully harnessing the potential of CCIs.

This report gives an overview not only of the structure of the EU CCIs, and their strengths and challenges, but also of the possible impact of new ICTs and AI. It sets out the economic importance of this industry and of its spillover effects for fostering growth, innovation and competitiveness in other sectors of the EU economy and how CCIs contribute to a resilient society and the well-being of all members of society[4].

This report points out the growing number of support and financing instruments for CCIs in the EU, the different formats of these instruments and the need for a comprehensive approach along clearly defined goals. Finally, this report sets out the components in such an approach and how existing structures and budgetary allocations could be used to implement the approach.

This report should help to position CCIs in the EU as an engine for sustainable growth and cutting-edge innovation in global competition, and for strengthening our societies' social fabric, resilience and values to benefit well-being and quality of life.

To that end, this report is intended to promote a high-level launching event bringing together a wide range of stakeholders in this field (including representatives from the European Commission, the European Parliament, and the Member States), with a view to placing CCIs high on the agenda of the new Commission and of the new European Parliament to help tackle the economic and societal challenges ahead.

[4] To facilitate the reading of only a limited selection of chapters, the chapters were drafted in such a way as to be 'stand-alone' units. By doing so, repetition could not be avoided.

2. AN INDUSTRY WITH POTENTIAL

> 'Our performance in 2023 illustrates the exceptional appeal of our Maisons and their ability to spark desire, despite a year affected by economic and geopolitical challenges,' declared Bernard Arnaut, chairman CEO of LVMH and, according to an estimate of Forbes of 10 February 2024, the richest man in the world[5].

In April 2023, LVMH, the most valuable EU company, became the first EU company to surpass USD 500 billion in market value. In 2023, it grew at a rate of 13%. LVMH (as the flagship of the European high-end luxury industry), together with highly profitable multinationals in the audiovisual, music or publishing fields, form the spearhead of the European CCIs. With its 1.2 million companies, the CCS employs 8.02 million people and generates a value added of EUR 477 billion (Commission, 2021 Single Market Report). This is higher than the economic contributions of telecommunications, the pharmaceutical industry or the automotive industry. While the big multinationals of the high end luxury industry, and of the audiovisual and publishing industries, are the driving force of the CCS, it is SMEs (which make up over 99% of the sector and cover a vast field of activities ranging from traditional artistic crafts to the latest enhanced reality applications) that form its backbone.

This chapter provides an overview of the CCIs in Europe, highlighting their economic impact, challenges, and outlook.

The COVID-19 pandemic hit the CCS particularly hard. At the same time, it accelerated major trends in digitalisation, as well as new audiovisual technologies and business models. The challenge is now to foster an environment that helps to transform this potential into concrete outcomes and methodically transfer the creativity, dynamism and innovation potential of the CCIs to other sectors of the European economy.

2.1. The Cultural and Creative Sector – data from Eurostat

This section deals with Eurostat's data on cultural statistics[6]. The 2021 Single Market Report includes the entire 'advertising and marketing research' sector, for example. However, the below-mentioned Eurostat figures on the European CCS do not include all of the 2021 Single Market Report's sectors and estimates. Therefore, the scope of Eurostat's cultural statistics is narrower. However, these Eurostat figures give a coherent overview of employment, enterprises, international trade in cultural goods and services and of cultural participation. The general trends illustrated by this data are also confirmed by other sources dealing with data in the cultural field. Sections 2.5 and 2.6 of this chapter provide further details about the different definitions and about how data for the cultural field is obtained.

Eurostat's cultural statistics from March 2024 indicate that in 2021, the CCS's 1.9 million companies generated a turnover of EUR 448 billion with a value added of EUR 183 billion[7]. This marked a significant recovery from 2020, when the 1.2 million companies of the CCS generated a turnover of EUR 363 billion (which is 1.5% of the total non-financial EU economy) with a value added of EUR 147 billion (which is 2.5% of the non-financial sector). This was slightly higher than the motor trade sector's value added of EUR 145 billion. 58.9% of the CCS's value added was produced by Germany (30.2%), France (18.6%) and Italy (10.1%), which, together, produced 56.5% of the sector's total turnover.

These data for 2020, when the entire CCS was hit by the COVID-19 pandemic, illustrate a low point in the sector's development in the EU. The CCS was affected much worse than the rest of the European

[5] CNBC, Elliot Smith, 'LVMH shares jump over 12% as earnings point to luxury sector resilience.' 26 01 2024.

[6] Despite many attempts at international, EU and national levels, there is no universal definition or consistent terminology for the CCS. Therefore, terms and statistical data for this area can vary considerably. For this part of the report, unless specifically stated otherwise, we have followed the Eurostat definitions and statistics.

[7] Unless stated otherwise, the data and definitions in this section of this chapter that relate to CCS enterprises are taken from Eurostat, *Statistics Explained - Cultural statistics - cultural enterprises* and its subsections. Culture statistics - cultural enterprises - Statistics Explained (europa.eu).

economy. While there was a decline in the overall non-financial EU economy's value added (-5.2%) and turnover (-6.5%), there was a sharper decline in the CCS's value added (-7.2%) and turnover (-9.5%). The discrepancies between these figures might diverge even more once the data on creative, arts and entertainment activities (NACE 90) and on libraries, archives, museums, and other cultural activities (NACE 91) are included, as many of those sectors' activities had to be cancelled during the pandemic lockdowns[8]. In 2021, the EU audiovisual market achieved revenue of EUR 91.4 billion after its revenue had fallen by 5.5% from 2019 to 2020[9].

The largest proportion of the enterprises was involved in architectural activities (25%) and design (18.2%). The publishing sector generated the most value added (18.8%), followed by programming, broadcasting and news agencies (17%) and architectural activities (15.8%). By far the most productive sector by business was the publishing sector, generating EUR 25 billion of value added with only 6 820 businesses (0.6% of all the enterprises in the cultural sector).

The 'demography statistics' of enterprises also give a good indication of how dynamic economic structures are and how well they adapt to changing market conditions. For enterprises in the services sector in the EU that started their activities in 2015, the average 'death rate' after five years was 45.8%. National data for most cultural activities suggest that the death rate in this sector was lower than that for the EU economy as a whole.

The Cultural and Creative Sectors employ 3.8 % of the EU workforce

In 2022, 3.8% of the EU workforce was employed in the CCS. The sector grew continuously from 2013 until 2019 at an average rate of 1.81% per year, until its growth was halted abruptly by COVID-19. In 2020, growth fell by 3% from 2019 levels. Between 2021 and 2022, the sector started a strong recovery, growing by 4.5% in 2022. This resulted in a 7.732 million-strong workforce, but with considerable variations as regards the geographical distribution and cultural sectors. Overall, design, photography and translation, as well as cultural heritage experienced steady long-term growth. On the other hand, the creative and performing arts, which accounted for many live performances, were hit hard by the pandemic. While the employment rate in those areas fell dramatically by 31%, it rebounded impressively to a record high in 2022 (according to the Ernst & Young study on rebuilding Europe[10]).

A high level of education in the cultural sector

The level of education in the cultural sector, where 60.6% of workers have a tertiary education, is significantly higher than the EU average of 37.1%. In 2021, 14.1% of students in tertiary education in the EU were studying culture-related subjects. The proportion of self-employed workers, at 31.7%, is considerably higher than the EU average of 13.8%. However, 76.5% of the cultural workers have a full-time job, which is 5.5 percentage points less than the EU average.

The OECD points out that 40% of cultural and creative employment takes place outside of the CCSs, e.g. industrial designers working in the automotive industry. This highlights the importance of creative

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[8] The figures are taken from the 2021 Eurostat final data on cultural enterprises, which are based on Regulation (EU) 2019/2152 on European business statistics (EBS). The EBS Regulation extended statistical coverage to the following NACE codes:

- Division 90 (Creative, arts, and entertainment activities);
- Division 91 (Libraries, archives, museums, and other cultural activities);
- Class 85.52 (Cultural education).

Due to the changes in the population of the enterprises covered, the 2020 and 2021 figures are not comparable. Historical data (until 2020) can still be accessed under the common Eurostat database code 'cult_ent_h'.'

[9] Commission Staff Working Document, *European Media Industry Outlook:* SWD(2023) 150 final, Brussels, 17.5.2023. https://digital-strategy.ec.europa.eu/en/library/european-media-industry-outlook.

[10] Lhermitte, M., Alvarez, H., Marcout, C., Nam, Q., and Sauze, E. (2021). *Rebuilding Europe - The cultural and creative economy before and after the Covid-19 crisis.* Ernest & Young Teams (2021). https://www.rebuilding-europe.eu/.

skills for the whole economy, as indicated by the OECD[11]. In the decade before the COVID-19 pandemic, growth in cultural and creative employment outpaced growth in overall employment in most OECD countries (13.4% vs 9.1%) (OECD, The Culture Fix, 2022).

On average, EU households spent 2.6% of their total expenditure on cultural goods and services in 2020. A quarter of that spending went on books and newspapers, and another quarter went on information processing and audiovisual equipment. Households' expenditure on culture was greatly influenced by their income levels, with higher-earning households spending more on culture. Households in the highest income quintile spent 1.5 times more on culture than households in the income quintile just below them[12]. In the OECD, household spending on recreation and culture grew by 18% between 2011 and 2019, which is twice as fast as the growth in overall spending across the OECD (OECD, The Culture Fix, 2022).

Before the COVID-19 pandemic, growth in the CCS was outpacing general growth in many countries. In the EU-27, for example, cultural employment increased by over 11% between 2011 and 2019 compared with a 5.8% increase in total employment. Between 2011 and 2019, in G20 countries for which data are available[13], growth in household final consumption expenditure on recreation and culture also outpaced growth in total household consumption expenditure, increasing by 20% compared with 10%.

2.2. The challenges facing the Cultural and Creative Sectors

A still-fragmented market

The vast majority of SMEs in the CCS are still operating on a local or regional level. The CCS's market is still fragmented along national and linguistic borders. CCS companies are failing to make the single market their home base, and to operate from there at an international level.

The fact that intellectual property rights are still split into national markets has been a major stumbling block for growth and outreach for some of the most promising subsectors of this industry. The timely and efficient implementation and application of the 2019 EU Copyright Directive, the update of the EU design protection legislation and the update of the Audiovisual and Media Services Directive[14], as well as their rigorous enforcement and monitoring could really help to set CCS companies up for the future[15].

Workers in the CCS are highly skilled. Their jobs are more 'future-proof' than jobs in the general jobs market (with 10% of CCS jobs being at high risk of automation, compared with 14% of jobs in the general jobs market). At the same time, CCS workers are, on average, twice more likely to be self-employed than workers in the general workforce, and they are also more likely to hold down several jobs, allowing them to combine salaried employment with project work. Contract instability, fluctuations in income and

[11] OECD, *The Culture Fix: Creative People, Places and Industries, Local Economic and Employment Development* (LEED), OECD Publishing, Paris, 2022, p. 11. 991bb520-en.pdf (oecd-ilibrary.org).

[12] Eurostat*, Statistics Explained - Culture statistics - household expenditure on culture* Culture statistics - household expenditure on culture - Statistics Explained (europa.eu).

[13] Factsheets measuring-ccs-eu. https://www.measuring-ccs.eu/wp-content/uploads/2022/11/MeasuringCCS_Factsheet-EU-27_Final_v1.1.pdf

[14] Directive (EU) 2018/1808 of the European Parliament and of the Council of 14 November 2018 amending Directive 2010/13/EU on the coordination of certain provisions laid down by law, regulation or administrative action in Member States concerning the provision of audiovisual media services (Audiovisual Media Services Directive) in view of changing market realities, PE/33/2018/REV/1, (*OJ L 303, 28.11.2018, p. 69* http://data.europa.eu/eli/dir/2018/1808/oj.

[15] Commission Staff Working Document, *2021 Annual Single Market Report* Accompanying the Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions Updating the 2020 New Industrial Strategy: Building a stronger Single Market for Europe's recovery SWD/2021/351 final, pp. 97 ff. https://eur-lex.europa.eu/legal-content/en/TXT/?uri=CELEX%3A52021SC0351.

limited access to social protection make **many jobs in the CCS more precarious than jobs** in other sectors (OECD, The Culture Fix, 2022).

Challenges and opportunities through ever-faster digitalisation

Digitalisation is changing business models in the sector, the skills need of its workers, and the ways in which people engage with culture. It has encouraged the development of new business models and new forms of collaboration and opened up new opportunities to sell and disseminate content to larger audiences and reach new markets. Therefore, digital skills and infrastructure support will be essential to take full advantage of these opportunities (OECD, The Culture Fix, 2022). Digitalisation increases the opportunity for crossovers between the CCS and other parts of the economy. Such inter-industry collaboration can spur on innovation and growth (OECD, The Culture Fix, 2022).

Networking and **collaboration** are particularly important for the CCS, due to the high proportion of microenterprises and project-based activities. Therefore, CCS businesses frequently work collaboratively with freelancers and other businesses in temporary arrangements. The rise of new working methods, such as co-working spaces, co-location centres and creative labs (which enabled companies to reduce their costs significantly during the pandemic), is now encouraging collaboration between sectors and enabling them to adapt quickly to a constantly changing environment. This significant change will be at the heart of new forms of business models for the CCS and will have a strong spillover effect into other sectors of the European economy.

The lack of access to financing remains CCS companies' biggest problem

Financing is one of the CCS companies' main challenges because of their lack of classic assets and the project-oriented nature of their business planning and cycles. There is a plethora of support mechanisms, structures and institutions, but they often follow different agendas, timetables and procedures. Thus, there is a risk that they will not meet a CCS company's specific needs at a specific point in its life cycle. Furthermore, since public administrations in the EU are more risk-averse than in other regions in the world, there are sometimes disproportionately burdensome and long procedures for obtaining public financing. However, the introduction of market approaches, combined with public guarantees (i.e. the approach taken by the CCS Guarantee Facility of the EIF), has achieved promising results and significant leverage effects in raising capital for the CCS.

2.3. Supporting the Cultural and Creative Sectors through EU funding schemes

The European Commission has supported the CCS with numerous financial instruments[16]. Some of these funding initiatives are specifically designed for the CCS. However, other funding initiatives are linked to other policies and shared competencies in which the link with culture remains predominant through specific and thematic initiatives. These support instruments and programmes are explained in more detail in the Chapter 'EU support and funding instruments'.

Following the COVID-19 pandemic, the NextGenerationEU recovery plan had a significant effect on EU funding schemes. The **EU Recovery and Resilience Facility** (RRF), which is part of NextGenerationEU, is the EU's largest-ever funding instrument. It provides financial support to help the Member States recover from the pandemic and build resilience against future shocks. Some 2% of its EUR 23.8 billion budget is dedicated to the CCS.

The **Creative Europe programme** is the EU's flagship programme for the CCSs. It provides funding for co-creation, skills development, network- and platform-building and knowledge sharing. Its 'culture' and

[16] This is a short overview on the main EU instruments in support of the Cultural and Creative Sector in Europe. More detailed information can be obtained from: European Commission, *CulturEU funding Guide - EU Funding Opportunities for the Cultural and Creative Sectors 2021-2027* (2021) https://culture.ec.europa.eu/sites/default/files/2021-11/cultureu-funding-guide.pdf

'media' subprogrammes and its cross-sectoral strand also provide funding for mobility and for the distribution and promotion of content. Significant funds from the Creative Europe budget support InvestEU's CCS Guarantee, which is managed by the EIF[17].

The **European Solidarity Corps** enables cultural and educational institutions, NGOs and social enterprises to develop volunteering and solidarity projects that can strengthen the social fabric of – and a sense of belonging to – our societies, active citizenship and ownership by the young generation (Commission, CulturEU, 2021).

The **InvestEU** funding programme also aims to secure private investment for infrastructure, innovation and jobs. With a budget of EUR 26.2 billion, the fund will secure EUR 372 billion in investment for the green and digital transition, and for recovery and growth between 2021 and 2027. It will achieve this through the **CCS Guarantee**, the **Media Invest blending facility** and the **Digital CCS instrument**, which are all implemented through the **EIF**. These instruments provide guarantees and equity investments, mainly funded through the Creative Europe and Digital Europe programmes.

The **Digital Europe programme** brings digital technology to businesses, individuals and public administrations. It complements funding through other EU programmes, such as Horizon Europe, the Connecting Europe Facility for digital infrastructure, the RRF and the structural Funds. The Digital Europe programme funds projects of cultural and creative organisations, thereby enabling those organisations to access the newest digital technologies, from AI to supercomputing, acquire digital skills and take up these new technologies (Commission, CulturEU, 2021). Through the **Connecting Europe Facility**, the **Europeana initiative** also provides grants to help organisations embrace digital change and to set up partnerships that foster innovation (Commission, CulturEU, 2021).

The **Cohesion Fund** and the **ERDF** can also provide support to the CCS because they aim to strengthen long-term resilience and environmental, social and economic sustainability and turn the impact of the COVID-19 pandemic into an opportunity for transformation (Commission, CulturEU, 2021).

2.4. Trends and outlook

The devastating effect of COVID-19 … and a catalyst for radically new approaches

The COVID-19 pandemic hit the CCS particularly hard and made its weaknesses apparent. **The sector's entire turnover dropped by 31%** and the pandemic had an even more devastating effect on some of the subsectors. For example, attendance at music venues dropped by 76%, museums in popular tourist regions suffered losses of up to 75-80%, and box-office sales for cinemas dropped by 70%[18]. At the same time, it was those subsectors, in particular, that radically changed their approach and found groundbreaking new and engaging ways of reaching out to – and capturing the attention of – their public. To overcome the crisis, a growing number of companies, particularly small enterprises, began to experiment with and adopt new technologies. In many cases, these new technologies gave rise to initial fears when first introduced. However, they have the potential to respond precisely to those companies' needs through virtual and augmented realities that open up new dimensions in the performing arts, exhibitions and museums and unfolding new perspectives in design, architecture and social media to increase the reach of musicians and live performances exponentially.

[17] European Commission, *CulturEU funding Guide - EU Funding Opportunities for the Cultural and Creative Sectors 2021-2027,* 2021, https://culture.ec.europa.eu/sites/default/files/2021-11/cultureu-funding-guide.pdf.

[18] Lhermitte, M., Alvarez, H., Marcout, C., Nam, Q. and Sauze, E., *Rebuilding Europe - The cultural and creative economy before and after the COVID-19 crisis*, Ernest & Young Teams, 2021, https://www.rebuilding-europe.eu/.

New technologies enhance new ways of working together

New technologies are both a great opportunity and a challenge for the CCS. Regardless of how they are perceived by the operators in the sector, they will play an even more central role in the future.

Advanced digital technologies lead to new **content production and distribution**. They make creative content available to larger audiences. More immersive experiences attract more non-traditional audiences. As a result, digital consumption of performing arts content will generate new revenue opportunities[19]. By 2030, immersive content could add about EUR 1.3 trillion to the global economy. Thanks to its large cultural diversity and highly skilled professionals, the EU has the potential to make the best use of these opportunities (Commission, Market, 2021). The architecture and design sector provides a concrete example of the use of new digital tools, such as AR (augmented reality) and VR (virtual reality), which are used in that sector for presenting projects and for the design process. 3D printing, automation and AI create new opportunities for architectural design and prototyping. Moreover, this subsector is increasingly exploring new practices to reduce the negative environmental impact of buildings by investigating more efficient and eco-friendly uses of materials and energy. (Deloitte, Market Analysis, 2019*)*.

The new working methods, like co-working spaces, co-location centres and creative labs (which enabled companies to reduce their costs significantly during the pandemic) have now developed into new vibrant hotspots for creativity and innovation with the flexibility and agility to react on the spot and adapt quickly to changing situations. They will be at the heart of new forms of business models for the CCS and will have a strong spillover effect into other sectors of the European economy.

The CCS is at the heart of the creative economy. Its creativity, transformed into innovation, has made some of the European CCIs world leaders, whose innovative power spills over into other sectors of the European economy. At the same time, they contribute to a sense of belonging and shared values, which are critical for the social fabric, resilience and well-being of our societies.

How to record the impact – definitions and data

A universally accepted definition of 'culture' does not exist. The scope of culture statistics is different from the scope of statistics on the CCSs[20].

The CCS is defined in different ways at international, EU and national level. Furthermore, the terms and definitions used in this context vary according to the goals and needs. Therefore, this chapter explores the definitions and data surrounding the **Sector (CCS)** and the **Industries (CCIs),** highlighting the challenges and methods involved in recording their economic impact.

[19] Deloitte, *Market Analysis of the Cultural and Creative Sectors in Europe: A sector to invest in*, European Investment Fund, 2019, https://www.eif.org/InvestEU/guarantee_products/ie-ccs-market-study.pdf

[20] Eurostat, *Guide to Eurostat cultural statistics – 2018 edition*, PDF: ISBN 978-92-79-97216-4 Print: ISBN 978-92-79-97215-7, p. 4, 72981708-edb7-4007-a298-8b5d9d5a61b5 (europa.eu).

2.5. Definitions and context

At EU level, different terms are used to describe the cultural sector, but consistent trends can be observed. The most commonly used terms include:

- **'the Cultural Sector'** (CS);
- 'the **Cultural and Creative Sectors'** (CCSs), as per the Eurostat database;
- 'the **Cultural and Creative Industries'** (CCIs), which is used by the European Parliament, and some European Commission services, such as DG RTD[21], or the Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs (DG GROW);
- 'the **Cultural and Creative Sectors and Industries'** (CCSIs), which has been gradually introduced by the Directorate-General for Education, Youth, Sport and Culture (DG EAC), and is being increasingly used, for example, by The European Institute of Innovation and Technology (EIT) and its 'Culture & Creativity' Knowledge and Innovation Community (KIC)[22].

Whereas definitions for cultural and creative operators change according to needs, they all have one thing in common: creative expression and/or cultural values are at the heart of their activities, whether they are market or non-market-oriented[23].

[21] In Horizon Europe (in the 'Culture, Creativity and Inclusive Society' cluster), DG RTD uses the definition from the European Parliament Resolution on a coherent EU policy for cultural and creative industries:

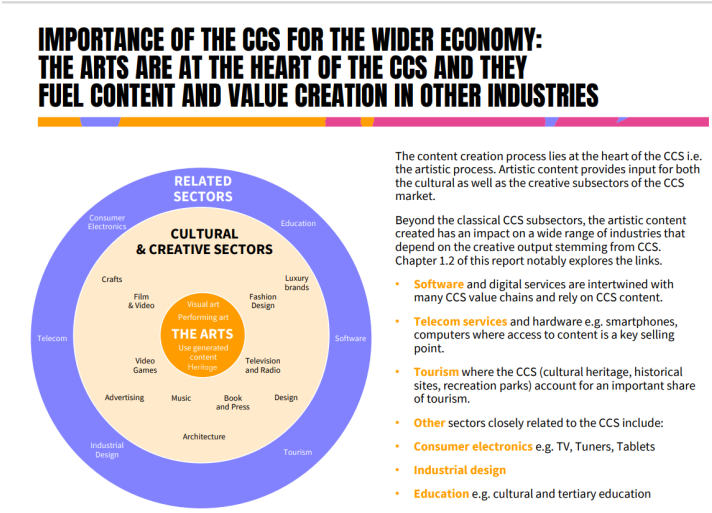
> 'cultural and creative industries are those industries that are based on cultural values, cultural diversity, individual and/or collective creativity, skills and talent with the potential to generate innovation, wealth and jobs through the creation of social and economic value, in particular from intellectual property; they include the following sectors relying on cultural and creative inputs: architecture, archives and libraries, artistic crafts, audiovisual (including film, television, software and video games, and multimedia and recorded music), cultural heritage, design, creativity-driven high-end industries and fashion, festivals, live music, performing arts, books and publishing (newspapers and magazines), radio and visual arts, and advertising.'
> https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52016IP0486&from=EN.

[22] Definition of CCSIs by the EIT Culture & Creativity KIC, as set out in the factsheet on the KIC on Cultural and Creative Sectors and Industries (CCSI). (OJ L 189/112, 28.5.2021, p.112).
https://eit.europa.eu/sites/default/files/factsheet_on_the_kic_on_cultural_and_creative_sectors_and_industries_ccsi.pdf

'CCSIs relate to all sectors and industries whose activities are based on cultural values, cultural diversity and individual and/or collective artistic and other creative expressions, whether those activities are market or non-market-oriented, whatever the type of structure that carries them out, and irrespective of how that structure is financed. Those activities include the development of skills and talent with the potential to generate innovation, the creation of wealth and jobs through the production of social and economic value, including from intellectual property management. Those activities relate also to the development, the production, the creation, the dissemination and the preservation of goods and services which embody cultural, artistic or other creative expressions, as well as related functions such as education and management. The cultural and creative sectors include, inter alia, architecture, archives, the arts, libraries and museums, artistic crafts, audiovisual (including film, television, software, video games, multimedia and recorded music), tangible and intangible cultural heritage, design, creativity-driven high-end industries and fashion, festivals, music, literature, performing arts (including theatre and dance), books and publishing (newspapers and magazines), radio and visual arts, and advertising.'

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[23] European Investment Fund – Deloitte, *Market Analysis of the Cultural and Creative Sectors in Europe: A sector to invest in,* 2019, p. 9,
https://www.eif.org/what_we_do/guarantees/cultural_creative_sectors_guarantee_facility/ccs-market-analysis-europe.pdf.



The terms 'Cultural and Creative Industries (CCIs)' (as used in the legal basis for the Horizon Europe programme), and 'Cultural and Creative Sectors and Industries (CCSIs)' (as defined by the European Parliament) are used throughout this report. Where appropriate, other terms, such as 'Cultural and Creative Sectors (CCSs)' (as defined in the Eurostat legal basis) are used.

2.6. Diverging definitions lead to diverging data[24]

One challenge for statistical analysis in the CCSs is the existence of varying definitions, leading to inconsistencies in the data collected. As set out in the section on the CCIs in the 2021 Single Market Report, there are several descriptive definitions in use, including those in the 2009 United Nations Educational, Scientific and Cultural Organisation (UNESCO) Framework for Cultural Statistics and in the 2010 European Commission Green Paper on unlocking the potential of cultural and creative industries. Article 2 of the new Regulation establishing the Creative Europe programme for 2021-2027 defines the CCS as including architecture, archives, libraries and museums, artistic crafts, audiovisual (including film, television, video games and multimedia), tangible and intangible cultural heritage, design (including fashion design), festivals, music, literature, performing arts, (including theatre and dance), books and publishing, radio, and visual arts (Commission, 2021 Single Market Report).

2.6.1. Eurostat methodology

Eurostat uses the 2012 ESSnet-Culture final report as the reference for cultural statistics in Europe. It includes concepts, definitions, a methodology and a description of ten cultural domains. It also contains recommendations for the future development of European cultural statistics.

Eurostat's cultural statistics currently focus on cultural employment, cultural enterprises, international trade in cultural goods and services, cultural participation, and expenditure on culture by private households and public bodies. This framework, including the definitions and the statistical scope according to the EU official classifications, is summarised in the Guide to Eurostat cultural statistics (Eurostat, Guide to Eurostat cultural statistics – 2018 edition).

[24] European Investment Fund – Deloitte, *Market Analysis of the Cultural and Creative Sectors in Europe: A sector to invest in* [2019]. https://www.eif.org/what_we_do/guarantees/cultural_creative_sectors_guarantee_facility/ccs-market-analysis-europe.pdf

The multidimensional nature of culture requires various methodologies for statistics. For example, the Eurostat cultural statistics working group revised the scope of employment in the cultural sector to bring it closer to the scope used by the UNESCO institute for statistics. Therefore, the scope of cultural employment was extended by some additional NACE and ISCO codes.

2.6.2. OECD approach

The OECD points out that greater granularity is needed in the reporting of employment and business statistics to produce better data on second jobs, voluntary work, and non-standard forms of employment. Furthermore, the OECD sees the need to explore the integration of complementary data sources, such as online vacancy data, geolocation data, and websites to complement official data sources (OECD, The Culture Fix, 2022).

The CCS contributes to innovation in many different ways. However, this innovation is underrepresented in official data. The CCS produces new products, services and content, develops new business models and ways of working, and creates and integrates technologies in new ways. Innovation in the CCS also feeds into innovation in other sectors of the economy. However, it is not properly recorded in official statistics, as innovation metrics (such as research and development (R&D) expenditure) often fail to account for the specific characteristics of innovation in the CCS (OECD, The Culture Fix, 2022).

Reflecting on future data-collection methods

The work carried out on cultural statistics is an ongoing process, since data are still lacking at EU level for many indicators and sectors. This concerns the scope, definitions, methodologies, harmonisation with national and international levels as well as the inclusion of new and dynamic subsectors and their impact on the general economy (Eurostat, Guide, 2018).

In parallel with Eurostat's regular work on updating existing cultural statistics every year, the European Commission also investigates complementary sources to fill the data gaps at EU level. By analysing specific cultural sectors – namely music, European heritage, and books – and through continued cooperation with European Member States, international organisations, and relevant stakeholders, it aims to further identify best practices, build the evidence base for policy, and engage with representatives from across the sector[25]. As part of the foresight approach developed thanks to R&I, some projects funded by Horizon 2020, i.e. DISCE[26] and CICERONE[27], have made specific proposals for collecting better and more harmonised data for the CCSIs in the future.

Some of the main studies on the CCS also use informal sources and statistics from professional organisations or collecting societies. In addition to hard data, some of these studies also work with estimations to identify and evaluate future trends. Although these differing approaches may be suitable for particular research purposes and objectives, they hinder the comparability of aggregate economic data across the CCS.

Following a call for proposals by DG EAC, the 'Measuring the Cultural and Creative Sectors in the EU' consortium, which was actively supported by the Eurostat Working Group on Cultural Statistics, laid the foundation for progress by producing a substantial analysis and offering practical recommendations for advancing the field[28].

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[25] European Commission, *Culture and Creativity – Data on the cultural sector*, https://culture.ec.europa.eu/policies/selected-themes/data-on-the-cultural-sector.

[26] Developing Inclusive & Sustainable Creative Economies | DISCE | Project | Fact sheet | H2020 | CORDIS | European Commission (europa.eu).

[27] Objectives - Cicerone project (cicerone-project.eu).

[28] The Measuring CCS Consortium, *the Final Report – Measuring the Cultural and Creative Sectors in the EU*, 23 November 2022, The-Measuring-CCS-Consortium-publishes-the-Final-Report-Measuring-the-Cultural-and-Creative-Sectors-in-the-EU.pdf.

They identified the following challenges to be tackled soon.

- The different scopes of EU statistics and of the statistics of some EU Member States impede a common approach and the comparability of data within the EU, as Eurostat and some Member States classify many activities differently.
- Another challenge is the inclusion of data from non-official sources, like professional associations, consultancies or intellectual property rights management societies. While these bodies have no legal mandate to produce statistics, they can still add most useful and timely information, also for estimates for future developments. The inclusion of data from administrative sources in some Member States has proved to be quite useful and promising (Measuring, CCS, 2022).
- The third big challenge is the incorporation of the digital economy, which is gaining increasing importance and economic weight in the CCS, but which is insufficiently represented in the current data. Thus, new data-collection methods using data analytics capabilities are also required to capture the vast amount of data and dynamics in this subsector (Measuring the CCS, 2022).

In this report, we generally use the terms ‘Cultural and Creative Industries (CCIs)’, as used in the legal basis for the Horizon Europe programme, and ‘Cultural and Creative Sectors and Industries (CCSIs)’, as defined by the European Parliament (see footnote 19 of this chapter). Depending on the context, other terms like ‘Cultural and Creative Sectors (CCS)’, as defined by Eurostat, are used in specific cases.

In conclusion, while there are significant challenges in defining and measuring the CCS and CCIs, ongoing efforts by organisations like Eurostat and the OECD are essential for **harmonising definitions** and **improving data-collection methods.**

3. ICT AND AI FOR INNOVATION AND GROWTH

New technologies profoundly change our economies and our societies. In terms of the way we communicate with each other, mobile phones, social media and the internet increasingly complement and often replace in-person contacts. Digitilisation and AI revolutionise production and distribution chains, as well as business and customer relations. The new technologies are likely to blur the distinction between producers, distributors and consumers and will generate new and innovative business models.

3.1. The profound impact of new emerging technologies: revolutionising economies and societies

Digitalisation will enable companies to sell more, decrease costs and operate more efficiently

Advanced connectivity through mobile technology has made transaction costs fall dramatically. Consequently, data consumption by smartphone surpassed data consumption by fixed broadband for the first time in 2019, and it is set to triple by 2024. Nearly 200 million people accessed the internet for the first time in 2021. The computing power of smartphones has now surpassed that of PCs, and can be used as a base layer for entire ecosystems[29]. By 2030, there will be 500 billion connected devices with the potential to unlock USD 5.5-12.6 trillion. 20-25% of this estimated value will come from home, retail, and office environments, where most of the creative production and consumption takes place (Schneider, Tomorrow, 2023).

The digital transformation can bring substantial benefits to our economies. Key to this transformation in the EU are its 25 million SMEs, representing 99% of European enterprises. A recent study by Sage suggests that the EU economy could grow by EUR 628 billion if the SMEs with the slowest digital adoption are brought in line with the EU average, making digitalisation the most powerful engine for growth in the EU[30]. For most SMEs, the main benefits of digitalisation are to sell more, decrease costs and operate more efficiently (Bleeker, Digital 2023).

More than 15 000 SMEs in 15 countries were interviewed for the Sage report on digital technologies powering growth. Many of those SMEs say that: (i) they are positive about digitalisation (80%); (ii) it helps them start their businesses (80%), keep their businesses running (81%) and grow their businesses (85%); (iii) it helps them save time (80%); and (iv) it helps them sell more products and services (83%). 51% of the respondents say that they have a web design function, 46% have accounting software and 44% have payroll software (Bleeker, Digital, 2023).

As to the challenges, 79% consider the lack of financial resources – and cash flow, in particular – to be their major concern. This is paired with a lack of skills and expertise to implement digital technologies and uncertainty about regulatory requirements (Bleeker, Digital, 2023).

[29] Schneider P., *Tomorrow comes Today – Trends shaping the future of the Creative Industries*, The Creative Industries Policy and Evidence Centre, August 2023, ISBN: 978-1-913095-93-2, pp.11,14. https://pec.ac.uk/wp-content/uploads/2023/12/PEC-Tomorrow-comes-today-Trends-shaping-the-future-of-the-Creative-Industries-August-2023.pdf.

[30] Bleeker D., *Digital technologies powering growth: the €628 billion opportunity for the EU's SMEs - Sage's Manifesto for EU SME Policy,* Sage, 2023, https://www.sage.com/en-gb/-/media/files/company/documents/pdf/digital-newsroom/empowering-smes-in-the-digital-decade.pdf.

3.2. The EU's Digital Decade programme

To tackle these challenges, the EU created the Digital Decade policy programme for 2030. One of the programme's targets for 2030 is that 75% of EU businesses should adopt advanced technologies like cloud computing, AI and big data. Furthermore, 90% of SMEs and 80% of the population should attain at least basic digital skills, while it is planned that 20 million ICT specialists will be employed in the EU. Additionally, all key public services should be accessible online, all Europeans should have access to gigabit connectivity and the EU's share of the global semiconductor market should be doubled by 2030[31].

Although the delay in implementing those targets (which was indicated in the first implementation report) may suggest that these goals will be revised, the Digital Decade programme provides the long-needed framework for digitisation in Europe[32]. Its success will depend on the concrete implementation of measures, political reforms at all levels and the raising of additional funds for this goal.

Digital infrastructures and capabilities are essential for the EU's future. Financing them is one of the most crucial questions in this field. 20% of the RRF will be invested in digitalsation, with InvestEU, Creative Europe, Digital Europe and Horizon Europe providing significant funds for digitilisation. However, an estimated investment shortfall of EUR 125 billion per year remains. Access to finance remains one of the sector's key problems. SMEs and start-ups face a financing shortfall of EUR 20-35 billion in Europe, despite substantial support programmes at EU and national level (Commission, Market, 2021).

3.3. Leveraging and assessing the potential of AI tools in culture

AI and big data are at the heart of the digital transformation. Today, more data cross the internet every second than were stored 20 years ago, and this data can be used to train and improve algorithms. Open data that everyone can access, use and share have the potential to unlock USD 3.2-5.4 trillion of value added every year. AI could add USD 11-17.7 trillion to the global economy by 2030 (Schneider, Tomorrow, 2023).

There is an uneven distribution of data. In 2020, the Open Data Institute highlighted that 50% of all the data produced daily feed only 100 companies worldwide. In 2021, it was predicted that the top four leaders in the public cloud infrastructure market would account for over 80% of global revenues (2021 Single Market Report, p. 106). This has given rise to the fear of 'data colonialism' to the detriment of the SMEs and microenterprises that make up more than 99% of the sector. To mitigate the impact of scale, generative AI is now being used to create 'synthetic data', i.e. new artificial data based on key characteristics in a smaller sample of real data. By 2025, the use of synthetic data could reduce by 70% the amount of real data needed for machine learning. This could allow smaller companies to find their place in the dynamic use of big data combined with AI (Schneider, Tomorrow, 2023).

The digital transformation has profoundly changed the way individuals and companies buy and sell. The global e-commerce market was estimated to be worth USD 3.4-5.7 trillion in 2022. E-commerce penetration in the UK went from 20% to over 30% in two months. The number of companies that integrate social shopping with social commerce sales is expected to triple by 2025 (Schneider, Tomorrow, 2023).

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[31] European Commission, *Europe's Digital Decade: digital targets for 2030*. Europe's digital decade: 2030 targets | European Commission (europa.eu).

[32] European Commission, *Report from the Commission to the European Parliament and the Council - First Implementation Report on the Single Digital Gateway*, Directorate-General for the Internal Market, Industry, Entrepreneurship and SMEs, November 2023, https://single-market-economy.ec.europa.eu/publications/first-implementation-report-single-digital-gateway_en#details.

3.3.1. Exploring pivotal technologies and their influence on the CCS

Just as the internet has eliminated certain sources of revenues while creating new ones, the spread of AI-based tools is a challenge for the traditional CCS, which may need to rely more and more on the advancements of new tech firms that produce AI tools to remain competitive[33].

AI tools can estimate the potential audience of a film, when and where to release it, and can forecast demand. Therefore, in the CCIs, AI combined with big data is being used for production and demand prediction in content industries, in particular, the film industry (where up to 50% of the project budgets go into marketing) and dynamic pricing for tickets for concerts, performing arts or sports events (Schneider, Tomorrow, 2023).

To better understand and reach out to new audiences, book publishing start-ups are using similar strategies, and now offer new ways of engaging readers through immersive reading experiences and making readers part of the story (European Commission, AI for CCS, 2022, pp. 31-33).

AI can offer tangible support to fashion production too, as it can help to tailor fashion products to customers' specifications and to work out exactly how much fabric to use for customers.

Another relevant feature is that AI systems can be trained by 'watching' humans carrying out tasks (imitation learning). AI systems can learn to control robot arms, drive cars or craft diamond tools in this way (Tomorrow, 2023, p. 28). However, despite the significant progress made by the music industry, the production of artistic content by AI is still in its early stages. AI can help artists enhance content production by opening up new and sometimes unexpected dimensions (Commission, AI, 2022). In the restoration business, for example, AI can be used to restore the missing edges of a painting after being trained to use a similar style and similar brushstrokes to those used in the painting (Commission, AI, 2022).

AI's potential is still untapped, in particular, for small stakeholders, like artists and content creators. AI applications can cover the entire value chain for the creation, production and distribution of creative content. Machine learning can be used for data analytics, deep learning for predictions, to support image searches or to develop new subscription models. It can help the CCS to save costs, make decisions, engage new audiences and inspire creation (Commission, AI, 2022).

AI is not necessarily about replacing artists or creatives, but more about opening up new horizons through new technologies. While several expert studies and research do not predict major job losses in this sector, routine jobs are expected to be replaced by new positions, and job content will undergo significant changes. In general, automation will have a greater effect on specific tasks than on the entire professional field (Commission, AI, 2022).

Microbusinesses, which constitute the vast majority of businesses in the CCS, frequently operate on a project basis. A steep temporary increase in demand can be very challenging for them as far as their staff, logistics and organisational structures are concerned. Technologies can supply businesses with the necessary expertise, so that they do not have to hire new expert staff or set up full-time management structures that may become redundant when demand subsides (Schneider, Tomorrow, 2023).

The creative economy is increasingly built on platforms

Much of the digital and creative economy is increasingly built on platforms. Setting up a platform is expensive, but the marginal cost of adding another user or carrying out another transaction is negligible. The market capitalisation of the world's largest platforms corresponds to their power and reach: in August 2023, the market cap of Facebook, Apple, Amazon, Microsoft and Google as a share of the S&P

[33] European Commission, Directorate-General for Communications Networks, Content and Technology, Izsak, K., Terrier, A., Kreutzer, S. et al., *Opportunities and challenges of artificial intelligence technologies for the cultural and creative sectors*, Publications Office of the European Union, 2022, p. 39. https://data.europa.eu/doi/10.2759/144212.

500 was 22.6%. A comparison of the biggest platform and non-platform companies in the S&P 500 with similar revenues showed that the platform companies were twice as profitable and grew twice as fast as their non-platform competitors between 1995 and 2015 (Schneider, Tomorrow, 2023).

The gaming industry has developed from a niche industry into a giant of the CCIs. With a global revenue of EUR 179 billion in 2022, video games are far outpacing other subsectors of the CCI market. In the EU27, the video games market generated revenue of EUR 23.48 billion in 2022. Revenue is expected to reach EUR 34.28 billion by 2027, representing a 45% increase on current levels. In 2020, revenue for the EU video games sector was 5.5 times higher than revenue for e-publishing, 4.3 times higher than revenue for digital music and 1.8 times higher than revenue for video-on-demand[34].

Smartphones have boosted digital video games and, in particular, mobile games, which accounted for 73% of total revenue in the sector in the EU27 in 2022. Over half of the European population (237 million users aged between 6 and 64 years) regularly play video games. While 35% of 45-64-year-olds regularly play video games, 80% of 11-14-year-olds are regular video game players (Commission, Video, 2023).

Opportunities through VR and AR

VR and AR alter our perception of the world around us[35]. Whereas VR replaces the real world with a simulated one, AR overlays the real world with digital content. The typical devices for VR are headsets or goggles, while the devices for AR are tablets and AR glasses or smartphones, which blend the artificial with the real world. Mixed Reality (MR) blends aspects of the physical and virtual worlds to coexist and interact in real time. These technologies offer unique opportunities for collaboration, training, visualisation and simulation in a broad spectrum of fields, ranging from gaming and entertainment, through education and healthcare, to architecture and manufacturing.

Between 2018 and 2021, the patents for VR and AR doubled. The global immersive reality market is expected to grow at a compound annual growth rate of some 24% until 2035. According to the website statista.com, the AR and VR market was expected to generate revenue of USD 38.6 billion in 2024. It is expected to grow at an annual rate of 10.77%, resulting in a market volume of USD 58.1 billion in 2028[36]. The gaming and entertainment industries are the most active driving forces behind the use and development of these technologies.

New dimensions in this world are opened up by: (i) haptic devices, which convey the sense of touch; (ii) on-body sensors, which accurately reflect users' limb movements and their environment; and (iii) microelectromechanical systems, which allow users to physically feel tactile experiences without any wearables. However, progress still needs to be made to achieve the resolution limit discernible to the human eye of +12 000 pixels per inch and a refresh rate of + 120 Hz (Schneider, Tomorrow, 2023).

VR and AR enable cheaper and faster experimentation. In the aviation industry, training with these tools (e.g. flight simulators) has halved the training costs and human-error-related plane crashes since the 1970s (Tomorrow, 2023, p. 85). VR and AR are also being used to recreate historical environments, landscapes and civilisations in the cultural heritage sector and in the fields of museums, artefacts, excavations, and paintings. VR and AR are increasingly used in the gaming and film industry, as can be seen from the recreation of the historical Tuscan village of Monteriggioni in 'Assassin's Creed' (one of the most successful and longest-running VR games), which plunges its players into the world of the 13th-century crusades[37].

[34] European Commission: Directorate-General for Communications Networks, Content and Technology, *Understanding the value of a European video games society – Final report*, Publications Office of the European Union, 2023, p. 7, https://data.europa.eu/doi/10.2759/332575.

[35] Raymond R. Burke, 'Do you see what I see? The future of virtual shopping', *Journal of the Academy of Marketing Science*, Fall 1997, Do-You-See-what-I-See-The-Future-of-Virtual-Shopping.pdf (researchgate.net).

[36] Statista.com https://www.statista.com/outlook/amo/ar-vr/worldwide.

[37] https://www.youtube.com/watch?v=ENG-wHmrrVM.



Photomontage: Combining VR and history - Assassin's Creed: screenshot from assassinscreed.fandom.com with an aerial view of Castle Monteriggioni, source: Tripadvisor.

Through its decentralised and immutable ledger, blockchain can facilitate large numbers of transactions in fractions of time. This can be applied to many areas such as copyright licensing, royalty collection, smart contracts, and equities down to fractions of ownership. Given the chronic underinvestment in the CCS, its cash flow problems, the problems in handling intellectual property rights (IP) and the struggle with burdensome and lengthy administrative procedures, blockchain could offer at least part of the solution. Through tokenisation, for example, businesses like Otis Wealth, Masterworks.io and Stanley Gibbons successfully sell fractional shares of fine art, rare books, comics and stamps (Schneider, Tomorrow, 2023).

3D printing has reshaped the way goods are designed and produced

Over the last 20 years, 3D printing has achieved an average annual growth rate of 20%. It enables small, customised batches to be created at low cost, which fulfils the needs of many microenterprises. It has reshaped the way goods are designed and produced.

The potential of 3D printing still seems to be underexploited. In 2018, it accounted for only a small fraction (0.7%) of the global manufacturing revenues. Once some of the remaining obstacles like post-processing, logistic costs or the speed of 3D printing have been resolved, falling costs and a broader use of established good practice could help the 3D market to expand considerably over the next 5-10 years. The development of new materials for use in 3D production has already produced some initial positive effects (Schneider, Tomorrow, 2023).

3.3.2. The transformative impact of AI tools in the CCS

AI will considerably change the nature of jobs in the creative sectors…

The advances in AI and automation will change the nature of jobs in the creative sector considerably. Many tasks previously performed by humans can be performed by new technologies, which helps artists and creatives to develop new experiences for their customers, for instance through VR and AR. 'Deep learning' methods, for example, are beginning to learn directly from data, without human intervention (Schneider, Tomorrow, 2023). This will increasingly enable machines to replace humans in carrying out routine tasks.

At the same time, it can relieve creatives of a number of administrative tasks, help them identify customer preferences, acquire new audiences and focus on the new opportunities offered by new technologies.

So far, most creative occupations have been more resilient than other occupations in the face of new technologies. Although most studies and research conclude that most of these jobs will not disappear, they will, most likely, undergo considerable change as AI becomes increasingly capable of generating music, videos and designs that are indistinguishable from human production. In 'The Creative Code', Marcus du Sautoy argues that a considerable number of artworks follow patterns and structures of an almost mathematical nature, which opens up new opportunities for AI in the creative process[38].

… and generate a new kind of tech start-up in the CCS

A new kind of tech start-up specialised in specific CCSs has emerged. It combines technology and creative content and can anticipate the areas that new technology is expected to disrupt.

To acquire these much-in-demand high-tech skills, managers in many CCS are often unsure whether to invest in team members with the appropriate skills or whether to collaborate with external companies on an ad hoc basis (Commission, AI, 2022).

Overreliance on the predictions and results of AI can lead to inertia, tunnel vision and possibly to wrong decisions. Outsourcing all matters concerning AI tools and new technology also runs the same risk. AI can provide indicators and figures. However, interpreting those findings, looking behind the patterns discovered, and putting all those results into context, will remain a task for humans and will be an essential prerequisite to retaining a competitive edge in the market (Commission, AI, 2022).

Therefore, successful long-term business operations in the future will depend on sound and regularly updated general knowledge about the functioning, challenges and opportunities of these technologies in the CCS, and their practical use in specific business contexts.

[38] du Sautoy, Marcus, *The Creative Code – Art and Innovation in the Age of AI*, The Belknap Press of Harvard University Press, Cambridge, Massachusetts, 2019.

Food for thought – research for the future[39]

AI technologies have a profound effect on the CCIs. This is also true of other groundbreaking technologies, such as additive manufacturing (3D printing), blockchain technologies, robotics, VR and AR, biotechnology, digitisation and hyperconductivity.

Predictions of their future impact have mostly been wrong. The technological advances have been much more profound – and their implementation and general societal acceptance have been much slower – than expected.

They will, however, have a deep influence on our societies, on our perceptions and on our values.

This leads to **two main research areas for the future**: the influence of new technologies on our societies and the influence of our societies on the development of new technologies.

- **Technology for CCSIs,** i.e. the best way of giving the CCSIs the means to take full advantage of cutting-edge technologies. The goal is to develop policy recommendations for devising smart ways to motivate and empower CCIs to take advantage of these technologies to foster a competitive and cutting-edge EU economy.
- **CCSIs for technology,** i.e. the long-term implications of AI to open up new and so-far unimagined opportunities for humankind. At the same time, these opportunities can pose profound risks to society and humanity. Artists, authors and other creatives look at things in a different way. Therefore, they are well placed to explore the possible long-term implications of new technology by looking beyond the immediate horizon, which limits the vision of most individuals and decision makers. The goal is to develop a human-centric approach to new technologies that allows the creators of those technologies to still understand, predict and reliably control the developments they have triggered.

[39] With many thanks to Rickard Bucksch of the Cultural Heritage team in the 'Democracy, Equality & Culture' unit of DG RTD.

4. CREATIVE SPILLOVERS

'The most exciting and groundbreaking innovations are happening at the intersection of disciplines.' Carlos Moedas, Commissioner for Research, Science and Innovation (2017)

CCIs combine aesthetics with economic returns. They foster revenues, greater value added and jobs (OECD, The Culture Fix, 2022). CCIs innovate and support innovation in other sectors – through new products, services and content, new business models and means of coproduction, and skills mobility (OECD, The Culture Fix, 2022).

4.1. Merging aesthetics with economic returns

A business needs more than an efficient manufacturing process, tight cost checks and a solid technological base to remain competitive[40]. Steve Jobs felt that the main challenge of the twenty-first century was to marry creativity and technological innovation. 'It's in Apple's DNA that technology alone is not enough, that it's technology married with liberal arts, married with humanities that yields us the result that makes our hearts sing,' he emphasised at a major Apple event in 2011[41]. The company's strength lies in combining technology with the human and the artistic. It has built brand empathy by using culture-based creativity, with design and content being given as much consideration as engineering. Today, Apple is the world's largest capitalised company[42].

European CCI firms offer great potential, but generally face difficulties in combining culture and creativity with business and in collaborating with businesses outside their field of competence. For that reason, the EU likes to look to Silicon Valley for how cooperation between art, research and industry can work. The connection between the tech industry and the arts in Silicon Valley has proved to be most successful whenever artists have been included in the vanguard of technological development, acting as powerful participants in the process of creating new human experiences. As opposed to merely providing artists with existing tech that is already on the market, Silicon Valley offers artists opportunities to work with companies that are still in the process of developing new hardware. Major companies, including Autodesk, Adobe and Facebook, have engaged in such promising initiatives[43].

Apple embraced the luxury culture. Its cheapest notebooks are still three times more expensive than similar notebooks from other major producers. It managed to build a brand. The vision of Steve Jobs was that a business should never compete solely on price. In a period of increasingly affluent societies and heightened market satisfaction, companies cannot simply sell things. Customers want to know what a product or service can do for them. Therefore, companies need to create an unforgettable customer service experience[44].

The digital age has opened up new dimensions for the role of creativity in business. The transformation of marketplaces from physical stores to global online platforms has given companies of all sizes and types hitherto unknown opportunities to showcase their products and services and find customers and partners around the globe at relatively low cost[45].

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[40] KEA, Directorate-General for Education and Culture, European Commission, *The Impact of Culture on Creativity*, June 2009, https://keanet.eu/wp-content/uploads/2019/09/impactculturecreativityfull.pdf.

[41] Jobs S., Apple's special event, Youtube, March 2011.

[42] Kern P., *The Smart Guide to Creative Spillovers*, KEA European Affairs, April 2015, p. 7, https://keanet.eu/wp-content/uploads/2019/09/SMARTGUIDE-FINAL-PDF.pdf.

[43] Hieslmair M., *Involve Artists in the Technology Development Stage,* Interview with Nadav Hochman, ars electronica, 8 March 2019, https://ars.electronica.art/aeblog/en/2019/03/08/nadavhochman/.

[44] Gallo C, *The Apple experience*, McGraw Hill,2012.

[45] Clementson J., *Creativity matters*, https://juliaclementson.com/blog/creative-block-what-you-need-to-know/.

In this hyperconnected world, businesses face challenges to make their mark in crowded industries. The rise of globalisation means that products and services from various parts of the world are accessible to the average consumer, who is then saturated with choice. Here, the ideas of creativity become indispensable. Creativity in branding and advertising is not merely a strategy, but also necessary in order to carve out a distinctive identity amid the noise.

In such saturated markets, creativity in branding makes the difference. It creates deeper connections with the customers and fosters loyalty and success. This goes beyond mere marketing and aesthetics. It is about approaching challenges from new angles. In the process, the combination of creativity and technology can reshape industries and help resolve long-standing problems (Clementson, Creativity).

Creative people spur innovation

Creative people work in practically all sectors of the economy. They spur innovation and help meet the challenges of the future (OECD, The Culture Fix, 2022). Around 40% of cultural and creative employment can be found outside the CCS, e.g. industrial designers working in the automotive industry. This highlights how important creative skills are for the economy as a whole (OECD, The Culture Fix, 2022).

As a result, when considering the impact of cultural and creative work on economic development it is important to look beyond the CCS itself. Cultural and creative workers move between the CCS and other sectors of the economy. They bring with them ideas, skills, knowledge and attitudes as well as cross-fertilisation between the CCS and the rest of the economy. In addition, increasing numbers of non-CCS businesses are adopting cultural practices and creative approaches, feeding cultural and creative skills directly into innovation across the entire economy (OECD, The Culture Fix, 2022).

As digitalisation increases the opportunity for crossovers between the CCS and other parts of the economy, interindustry collaborations can spur innovation and growth (OECD, The Culture Fix, 2022).

Stand-alone CCIs will not benefit from knowledge spillovers or reduced transaction costs. This is where public authorities and policymakers can intervene to help build communities, networks and bridges[46]. They can do so by providing financial support and/or facilitating the development of platforms and networks.

4.2. Knowledge, industry and network spillovers

The creative industries are not only a significant driver of economic growth, job creation and social cohesion, but also a hub of managerial innovation and experimentation and new organisational and business practices that stimulate innovation and entrepreneurship in other sectors of the economy[47].

Therefore, the spillover effects have been broadly outlined in three overlapping categories[48].

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[46] Fesel B., *Spillover Effect of Cultural & Creative Industries – How big is its value added?*, ECBN, 2015, https://www.eesc.europa.eu/sites/default/files/resources/docs/bernd_fesel.pdf

[47] Feng Li, *How to develop sustainable and scalable business models in the creative industries,* CRAIC, Loughborough University, London, 2022, https://craic.lboro.ac.uk/essays/how-to-develop-sustainable-and-scalable-business-models-in-the-creative-industries/.

[48] These categories have been adopted from Tom Fleming's report 'Cultural and creative spillovers in Europe' and are increasingly being used in the discussions about further improving the methodologies for measuring creative spillovers: Tom Fleming creative consultancy, *Cultural and creative spillovers in Europe: report on a preliminary evidence review,* Arts Council, UK, October 2015, Cultural_creative_spillovers_in_Europe_full_report.pdf (artscouncil.org.uk).

- **Knowledge spillovers** refer to the new ideas, innovations and processes developed within arts organisations and by artists and creative businesses that spill over into the wider economy and society without directly rewarding those who created them.
- **Industry spillovers** refer to the vertical value chain and horizontal cross-sector benefits to the economy and society in terms of productivity and innovation that stem from the influence of a dynamic creative industry, businesses, artists, arts organisations and artistic events.
- **Network spillovers** relate to the impacts and outcomes for the economy and society that spill over from the presence of a high density of arts and/or creative industries in a specific location (such as a cluster or cultural quarter). The effects include economic growth and regional attractiveness and identity.

Spillovers from the video games industry

The video games industry is one of the most dynamic economic sectors in Europe. It generates EUR 23.48 billion in revenue and employs 74 000 people in 5 000 game developers and publishing studios (2022 figures). The cutting-edge technology the sector regularly produces has seen it grow significantly and it is expected to achieve revenue of EUR 34.28 billion by 2027[49].

The key technologies of game engines, VR and AR, controllers as well as input devices and haptics, have fuelled other industrial sectors, among them the automotive industry, furniture and architectural design and medical surgery. Virtual and augmented realities are increasingly used to train pilots, car and lorry drivers as well as police forces and fire fighters. New forms of VR for surgical training have improved procedural accuracy and completion rates by 300%. The merge of VR surgery techniques with haptic feedback has resulted in a 44% increase in surgical accuracy over traditional VR training[50]. In aviation, audiovisual (AV) and VR training tools such as flight simulators have halved training costs as well as the number of airline crashes due to human error since the 1970s (Tomorrow, 2023).

In the UK in 2021, the spillover from video game technology generated revenue of GBP 1.3 billion, with a corresponding contribution to GDP of GBP 760 million. This amounts to an additional 13% on top of the UK games industry's total gross value added for 2021. The video game technology spillover in the UK is estimated to have created some 10 000 additional jobs (FTI, Video Game, 2023).

Creative spillovers are obvious but difficult to quantify

Much of this CCS innovation occurs through informal mechanisms. For example, in the visual and performing arts, a great deal of radical innovation is produced through individuated and non-routinised innovation practices. Here, subsidised and non-profit cultural activities can act as R&D labs for commercial businesses, enabling them to take risks with creative content that can then be harnessed by for-profit businesses at reduced risk. Cutting-edge visual arts and experimental cinema, for example, produce innovations that are quickly adopted in advertising, mainstream cinema and entertainment (OECD, The Culture Fix, 2022).

Only a few countries report R&D expenditure with the level of fine detail required to compile CCS statistics. This makes it difficult to measure the CCS's contribution to innovation internationally. Despite these difficulties, studies at national level suggest that the CCS is highly innovative and contributes to innovation across the economy. As such, CCS businesses provide outputs which are themselves

[49] European Commission, Directorate-General for Communications Networks, Content and Technology, *Understanding the value of a European video games society – Final report*, Publications Office of the European Union, 2023, https://data.europa.eu/doi/10.2759/332575.

[50] FTI Consulting, *The Economic Impacts of Video Game Technology Spillover*, ukie, November 2023, https://ukie.org.uk/resources/the-economic-impacts-of-video-game-technology-spillover

innovative and deliver results; these then provide inputs for the innovation activities of other businesses (OECD, The Culture Fix, 2022) (see box).

Quantitative effect of spillovers

To illustrate a possible quantitative effect of spillovers from CCIs into other sectors of the economy, the report entitled '*Creative spillovers: do the creative industries benefit firms in the wider economy?*' provides initial figures for the UK[51].

Firms that are more connected to the Creative Industries (CIs) are more likely than other firms to produce product innovations (and novel product innovations that are new to the market).

Firms that buy twice the average amount from the CIs (4% of their sales value as opposed to 2%), are 10% more likely to produce product innovations and 15% more likely to produce novel product innovations. Similarly, firms with twice the average proportion of people recruited from the CIs (6% as opposed to 3%), are 9% more likely to produce product innovations and 18% more likely to produce novel product innovations.

It is estimated that half of this association is due to spillovers, e.g. firms buying from the CIs are persuaded to be more innovative by their suppliers, and firms recruit people from the CIs who bring with them either knowledge of innovations or an innovative culture and way of thinking.

Firms with stronger links to the CIs are more likely to achieve product and novel innovations, because they spend more on research and development and also have a higher probability of successful innovation for the same R&D spend. (Frontiers, *Creative spillovers,* 2023)

Such spillovers can take place through interactions with CCI suppliers, through interactions with CCI customers, and by recruiting staff who previously worked in the CIs. (DCSM, *creative spillovers,* 2023)

[51] Frontier Economics, *Creative spillovers: do the creative industries benefit firms in the wider economy?*, jointly commissioned by the Department for Culture, Media and Sport and the Creative Industries Policy and Evidence Centre (2023), Creative spillovers: do the creative industries benefit firms in the wider economy? - GOV.UK (www.gov.uk).

4.3. From anecdotal spillovers to a systematic transfer of creativity and innovation

The question now is how to move from anecdotal spillovers, which can happen accidentally, to building solid bridges and achieving a systematic transfer of creativity and innovation from the CCIs and the CCS as such to the wider EU economy.

There is no silver bullet or one-size-fits-all solution. However, it is possible to create an environment in which such transfers can take place more easily. There are tools to facilitate this process, which policymakers can promote by helping to set up networks and strengthen the local fabric and by fostering collaborations between their region's research bodies, businesses and public authorities.

This support involves helping to eliminate some of the main obstacles, such as a lack of understanding of the artistic world on the part of the business world and vice versa, their different mindsets and vocabularies, a silo approach or a lack of evaluation tools to show the impact of spillovers[52].

At the same time, such support should facilitate collaborations across sectors, the creation of new places for new forms of collaboration (e.g. co-working spaces, creative hubs, incubators and accelerator labs), foster training and education, and provide new and better forms of access to finance, which is a precondition for growing the businesses (more than 96% of them microenterprises) that make up this sector.

The power of design

Design is where the merger between art and business has most flourished, as we need everyday objects, but we also like to surround ourselves with meaningful artefacts that provide aesthetic appeal. The trivial can become beautiful. Alessi in Italy has excelled in implementing this idea by employing high-profile artisans to combine everyday objects with aesthetics. Another example is the Finnish company Iittala, which produces iconic glassware across the world by incorporating high-end design in objects for everyday life. The Helsinki Design Museum is filled with their related works of art[53].

According to economists and sociologists, the economy has entered a new phase in which immaterial value will determine material value. The relationship between the sign and the object is being reversed, according to French sociologist Leo Scher: 'The sign is becoming more real than the object and the object more virtual than the sign'. Designers transform consumer goods into magical and mysterious products and transform buildings into museums or art galleries. The trivial can become beautiful. At Renault, design was initially the preserve of the engineering department. Over time, the number of designers has more than tripled. Today, the chief designer is part of the management board and in charge of everything that can be perceived by the customer (KEA Impact, 2009).

Although art and design contribute to business, art and commerce have always had a productive, but tense co-existence. Addressing this tension can help to expand the business culture and develop progressive organisational techniques to include art, science and technology crossovers within a new ecosystem to develop critical and unconventional breakthrough processes, services and products (Purg, Ecosystems, 2021).

[52] Kern P., *The Smart Guide to Creative Spillovers*, KEA European Affairs, April 2015, https://keanet.eu/wp-content/uploads/2019/09/SMARTGUIDE-FINAL-PDF.pdf.

[53] Purg, P., Cacciatore, S. and Gerbec, J.C., 'Establishing ecosytems for disruptive innovation by cross-fertilising entrepreneurship and the arts', in: *Creative Industries Journa*l, 16(2), pp. 115-145. Doi: 10.1080/17510694.2021.1969804.

4.4. Think globally, act locally

Artists and technicians look at things differently. Combining the two different angles has proved to be most valuable for the business world. Breaking down the boundaries between disciplines, and introducing intuition and imagination in business and organisational processes, helps companies to innovate (Fleming, Spillovers, 2015).

'Creative mediators' can bridge the gaps between the CCSs and other sectors of the economy. They enable the different sectors to communicate and understand each other's languages. This is even more important as vocabulary can create dividing lines. Creative mediators translate different languages and perceptions to enable collaboration (Kern, Smart Guide, 2015).

Whereas there are general principles and methods for fostering creativity, which can be applied universally, in practice their implementation can only take place locally. This allows the specific assets of a city or region to be brought fully to the fore. In order to support creative spillovers, they need to identify the cultural and creative resources available locally and assess the readiness of such structures to contribute to economic growth, social development and innovation. There is no need to generate creativity from scratch. Rather, it is a matter of capacity building (Kern, Smart Guide, 2015).

Innovation mainly happens at the point of intersection between disciplines and business sectors. Co-working spaces offer new opportunities for collaborations across disciplines and professions as well as flexibility in adapting quickly to new situations and challenges: innovation labs have developed new 'grassroots-driven' practices of urban coordination, collaboration-centric architecture and technology-based work. Depending on the main goals being pursued, they can take different forms, such as grassroots labs, co-working labs, company-owned labs, research and university-affiliated labs, incubators and accelerators as well as temporary lab formats in relation to events[54]. This encourages local authorities to set up dedicated spaces and/or organise events (matchmaking, training sessions, conferences, workshops, cultural cafés, etc.) that facilitate such exchanges (Kern, Smart Guide, 2015).

[54] Dümke C., *New Business Models in the Cultural and Creative Sectors (CCSs), EENC ad hoc question*, European Expert Network on Culture, June 2015, https://www.interarts.net/descargas/interarts2540.pdf

Collaboration across sectors – creative hubs

Cross-industry collaboration with the CCS promotes knowledge spillovers and skills development and creates more robust innovation systems. Ideas and perspectives from different industry sectors can open up new ways of understanding problems and cross-sectoral working can provide innovative solutions. Creative hubs and co-working spaces offer opportunities for the cultural and creative businesses to interact directly with other creative and cultural professionals (OECD, The Culture Fix, 2022).

As shown by the Cross Innovation Hub in Hamburg, Germany, the format of this collaboration is built around each unique case and can take different forms ranging from one-day workshops to projects lasting for several months, but typically involving workshops at which companies collaborate with selected creative professionals to develop new ideas, products and solutions[55].

Such creative hubs meet the needs of creatives and companies. Their number has grown considerably. Research by the European Creative Hubs Network shows that 96% of hubs surveyed in 2017 were created after the year 2000, with 59% founded since 2013. The vast majority of hubs were cross-sectoral in nature (81%), had a physical location (98%) and offered networking and events opportunities (90%), workshops (86%), community engagement (86%), space rental (84%) and training (66%)[56].

Whereas there is clear evidence of causality of spillovers from the CCS and enterprises to other sectors of the EU economy, the methodologies applied need to improve further in order to deliver more precise and longitudinal data as well as more robust models to evaluate the full spectrum of spillover effects[57].

To produce tangible outcomes from creativity, this must translate and be channelled into innovation that impacts on markets and societies. Therefore, a central point in the concept of all CCIs and of all spillover models is to foster creativity and transform it into innovation. This involves skills, perceptions, attitudes and mindsets, fostered by a combination of training and education. To this can be added the role of the head of such an enterprise, or spillover coordinator, one that requires skills and attitudes that go beyond just management and involves leadership.

The structures, the platform and the holistic approach for a comprehensive European CCI ecosystem as proposed in chapters six and seven of this report could provide these channels and help build such lasting bridges.

[55] Kreativ Gesellschaft, *Cross Innovation Hub*, Hamburg Kreativ Gesellschaft, 2022, Cross Innovation Hub | Hamburg Kreativ Gesellschaft.

[56] ECHN, 'Capturing the Profile and Evolution of Creative Hubs throughout Europe' in: *Creative Hubs Barometer 2017*, European Creative Hubs Network, 2018. https://creativehubs.net/images/upload/Creative-Hubs-Barometer_published-2.pdf

[57] Tom Fleming creative consultancy, *Cultural and creative spillovers in Europe: Report on a preliminary evidence review,* Arts Council, UK, October 2015, Cultural_creative_spillovers_in_Europe_full_report.pdf (artscouncil.org.uk).

5. EU SUPPORT AND FUNDING INSTRUMENTS

More than just money

CCIs create revenues, provide greater value added and help to make EU industries more competitive. They spur innovation and are a source of creative skills with strong links in the economy as they combine aesthetics with economic returns. Beyond their economic impacts, they have significant social impacts, from supporting health and well-being to promoting social inclusion and local social capital[58].

Culture is an economic and social investment, not a cost

The recognition of the economic impact of CCSIs[59] has broadened the scope of investments beyond cultural policy to include a wide range of more industrial policy approaches. The role of public finance is shifting from direct support to intermediation and the strategic channelling of private investment. Governments are gradually transforming their participation in the financial ecosystem of CCSIs from that of direct supporters to intermediaries, leveraging private investment and promoting cross-cutting resources for companies at specific stages. Partnerships and alliances are at the heart of the new financial ecosystems emerging for culture. They include a multitude of stakeholders and partnerships between local governments and creatives to enable a thriving cultural and creative ecosystem (OECD, The Culture Fix, 2022).

Although EU support, which encompasses access to finance, offers a broad portfolio of coaching, training and mentoring activities – ranging from training for IT development and applications to managing the transition from creativity to innovation via financial planning and execution – feedback from the CCSIs confirms that **access to finance remains their primary concern.**

The CCSIs are a very diverse sector with a broad spectrum of activities. What they all have in common is a lack of access to financing. This is recognised as a general problem for SMEs in the EU, but is even more problematical for SMEs in the CCSIs owing to the sector's specifics. To this extent, the general data and trends for financing SMEs also set the scene for the CCSIs.

After the blow of the COVID-19 pandemic, SMEs have come under increasing pressure from inflation and a sharp tightening of monetary policies. This has translated into a jump in interest rates and tougher financing conditions being imposed by financial institutions. Consequently, the cost of SME financing recorded an historically unprecedented increase and both new lending and outstanding loans to SMEs declined[60]. In the EU, lending to new SMEs slumped by -12% in 2021, followed by a further dip of -4% in 2022 (OECD, Financing, 2024). The outstanding stock of SME loans dropped by 1.2% in 2021 and then by 2.58% in 2022. However, the fact that 62% of the loans in the EU have a variable interest rate, may also have prompted SMEs to make repayments rather than face higher repayment costs (OECD, Financing, 2024).

While bank lending remains the primary source of financing for European companies, SMEs and in particular start-ups need more adaptable financing for upscaling, such as risk capital, often at the stage before a public offering of shares. In 2021, risk capital investment in the United States of EUR 325.3

[58] OECD, *The Culture Fix: Creative People, Places and Industries, Local Economic and Employment Development (LEED*), OECD Publishing, Paris, 2022. 991bb520-en.pdf (oecd-ilibrary.org).

[59] Depending on the context and legal base, the terms Cultural and Creative Industries (CCIs), Cultural and Creative Sectors (CCSs) and Cultural and Creative Sectors and Industries (CCSIs) are being used in this chapter. For more information about the different definitions and contexts, see Chapter 2.

[60] OECD, *Financing SMEs and Entrepreneurs 2024: An OECD Scoreboard,* OECD Publishing, Paris 2024, p. 20, https://doi.org/10.1787/fa521246-en.

billion was some seven times higher than the EUR 47.7 billion figure for the EU. In the first half of 2023, the US figure of EUR 87.2 billion was still some five times higher than the EU figure of EUR 16.2 billion[61].

In **venture capital**, for high-risk capital focused on potential start-ups and small businesses, Europe also still lags a long way behind the United States. According to State of European Tech 2023, after five years US tech start-ups are 40% more likely to have secured venture capital funding than their European counterparts[62]. Owing to a more conservative and short-term focus by European investors, in 2016 venture capital in Europe was just EUR 6.5 billion compared to EUR 40 billion in the United States. However, this has started to change over time[63]. Despite the dramatic global drop in venture capital in 2022, after a boom period from 2013, Europe has fared quite well over time and outperformed the US in venture capital fund returns by 5% over the three- and five-year periods and by 3% over the 10-year period[64]. Over the past decade venture capitalists invested EUR 96 billion in some 27 000 European companies with net annual returns of 23% (State of European Tech 2023). However, it is noticeable that the gap is narrowing.

To overcome this lingering deficit, the EU offers a broad spectrum of funding opportunities for SMEs. There are specific instruments designed to support start-ups and upscaling. As some 99% of CCSI companies are SMEs, they are eligible for most of these instruments. Among SMEs, the CCSIs are characterised by a specific lack of access to funding. This is due to the particularly small size of the companies in this sector (on average, two persons work in a CCSI SME), the high rate of self-employment, a business model based mainly on a project-by-project approach, a shortage of tangible assets, and a lack of understanding on the part of banks and other financial intermediaries of the value and possible returns on intangible assets such as intellectual property.

To meet these specific needs, some large EU support facilities contain either specific actions with a budget earmarked for the CCSIs or specific support instruments designed for the individual needs of SMEs in the CCSIs. This chapter sets out the main initiatives for CCSI SMEs. More comprehensive overviews of all EU support opportunities for CCSIs can be found in, for example, the CulturEU funding guide[65], the EIF funding guide and the 'Be creative call a bank' guide[66] and also on the 'So you need money!' website of creativesunite[67].

5.1. The EU Recovery and Resilience Facility (RRF)

The COVID-19 pandemic hit the EU economy hard. The CCSIs – with their live performances and onsite visits to museums and historical sites – were hit harder than the rest of the economy.

For some sectors of the CCSIs, the pandemic proved devastating: in 2020, the suspension of cultural activities, the closure of museums, libraries, archives, galleries and heritage sites and the cancellation of events, festivals and tours, as well as of art, design and fashion fairs and trade shows, led to significant revenue losses across the EU: a drop of 70% in box-office sales for cinema operators; a 76% drop in attendances at music venues; and up to 75-80% losses for museums in

[61] The World Economic Forum, *How capital market finance can boost European businesses*, March 2024, How capital market finance can boost European businesses | World Economic Forum (weforum.org).

[62] Atomico, *State of European Tech 23*, 2023, b598f20b-3e6a-4556-bfbd-9b2d71a72183_Atomico-state+of+european+tech+report+2023+(1).pdf (prismic-io.s3.amazonaws.com).

[63] Smith C., *Europe's Venture Capital Scene Is Narrowing The Gap With The US Despite Global Investment Slowdown*, Forbes, 14 February 2023, Europe's Venture Capital Scene Is Narrowing The Gap With The US Despite Global Investment Slowdown (forbes.com).

[64] Kahn J., *European VC investments outperforming U.S. ones – and have over the past two decades*, Fortune, 7 December 2021, European VC investments outperform U.S. ones–and have over the last 2 decades | Fortune.

[65] European Commission, *CulturEU funding Guide - EU Funding Opportunities for the Cultural and Creative Sectors 2021-2027*, 2021, https://culture.ec.europa.eu/sites/default/files/2021-11/cultureu-funding-guide.pdf.

[66] European Investment Fund (EIF,) *Be creative call a bank – A guide for SMEs in the cultural and creative sectors on how to obtain financing.* https://www.eif.org/what_we_do/guarantees/cultural_creative_sectors_guarantee_facility/CCSIs-sme-book.pdf.

[67] Creativesunite, 'So you need money!' So You Need Money! (creativesunite.eu).

popular tourist regions. Television companies suffered a drop in advertising revenue of 20% and news publishers reported losses of up to 80% during the lockdowns that same year[68]. Only the video games industry reported a significant increase in turnover for major EU stakeholders in 2020[69]. In its study on rebuilding Europe, Ernst & Young estimates the total loss in turnover of the CCIs from 2019 to 2020 at -31%, equalling a loss of EUR 199 billion[70].

Through its funding programme, the EU is addressing the acute needs highlighted during this challenging time. For instance, the ERDF has enabled practical initiatives to be implemented in the CCS. One of these, Lascaux 4, is a prime example of how new technologies such as AI on VR/AR are being used within this sector.

Lascaux 4, a practical application of AI on VR/AR new technologies

The **Lascaux 4 project** created a reproduction of a famous prehistoric cave in the Dordogne region, to facilitate its conservation and boost the region's cultural tourism and economic development.



Artist from the Lascaux 4 project during the reproduction of the prehistoric cave, 2017.
Source: European Commission.

Identical reliefs and paintings have been reproduced by painter-sculptors, resin workers and moulders using a stone veil technique. Digital and interactive areas allow visitors to experience the art and civilisation of Cro-Magnon man and explore the links between parietal (cave) art and modern art. Visitors can immerse themselves in AR experiences and are also provided with a multifunctional digital 'companion' scenographic device that adapts to the profiles of visitors, who can interact with it (via Bluetooth Low Energy technologies and Wifi).

Lascaux 4 expects to attract 400 000 visitors each year.

Total budget for the project: EUR 57 000 000
EU contribution: EUR 12 000 000

[68] European Commission, *Recovery and Resilience Scoreboard – Thematic analysis – Culture and Creative Industries,* April 2022, https://ec.europa.eu/economy_finance/recovery-and-resilience-scoreboard/assets/thematic_analysis/scoreboard_thematic_analysis_culture.pdf.

[69] Commission Staff Document, *Annual Single Market Report 2021, Accompanying the Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions Updating the 2020 New Industrial Strategy: Building a stronger Single Market for Europe's recovery,* SWD/2021/351 final, https://eur-lex.europa.eu/legal-content/en/TXT/?uri=CELEX%3A52021SC0351.

[70] Lhermitte, M., Alvarez, H., Marcout, C., Nam, Q., and Sauze, E., *Rebuilding Europe - The cultural and creative economy before and after the Covid-19 crisis,* Ernest & Young Teams, 2021, https://www.rebuilding-europe.eu/.

In order to recover from the devastating effects of the pandemic and make the EU economy more resilient, the Commission created the **RRF**, the EU's largest-ever funding instrument. It supports EU economies and societies as they recover from the COVID-19 pandemic and enables them to develop resilience against future shocks. In addition to its unprecedented financial scale, the RRF links its payments to meeting milestone targets without any linkage to costs incurred, unlike other key EU instruments (EP, Governance and oversight of the RRF, 2023). With a budget of EUR 723.8 billion, the RRF is the centrepiece of the **NextGenerationEU** programme, split more or less evenly between grants and loans for investment and support for reforms in the Member States through national recovery and resilience plans (NRRPs)[71].

Through their National Recovery and Resilience Plans (NRRPs), Member States can include specific actions for arts and culture. The goal of this support for the CCSIs is twofold: to build up more resilient CCSIs and to make CCSIs contribute to fostering a more resilient society. On average, roughly 2% of these funds are spent on culture, subject to notable national and regional variations. Some 50% of these funds have been assigned to the RRF pillar on smart, sustainable and inclusive growth, 23% to the pillar on social and territorial cohesion and 14% to digital transformation[72].

The RRF supports a broad spectrum of activities: Czechia's NRRP, for example, will introduce a status of 'artist' by introducing legislative changes combined with a grant scheme focused on digital, financial and management skills. Belgium will support the creation of 100%-digital events to enable cultural operators to win over new audiences, and Latvia will invest in the digital transformation of the media sector and support the uptake of innovative technologies such as AI and machine learning.

An evaluation of the use of these funds published by European Policy Analysis (EPA) in early 2024 highlights that 24.7% of these funds went into absorptive resilience to preserve existing systems such as restoring historic buildings. Another 67.77% was invested in adaptive resilience, which prepares a system for change, mainly by building up buffering capacities, and 7.65% went on transformative resilience which challenges systems by changing the overall framework conditions (Betzler, Transformation, 2024).

The pandemic revealed the structural weaknesses of the EU economy, in particular its dependence on international supply and production chains. The CCSIs' main weaknesses are fragmentation, underinvestment and insufficient access to finance for small operators. The working and living conditions of people in the sector, the fragility of creative enterprise – primarily due to how small its companies are – and a skills shortage in the labour market constitute an additional structural challenge.

While the pandemic exposed the structural weaknesses of the CCSIs, the post-pandemic period is now gradually revealing the importance and potential of the CCSIs as the drivers of recovery for growth, jobs, social cohesion and regional regeneration. At the same time, it shows that the sector has not yet fully exploited the potential generated by digital transformation and technological developments for content creation, accessibility of services and goods, and interaction with end users (Commission, Scoreboard, 2022).

[71] Lilyanova V., *Governance and oversight of the Recovery and Resilience Facility*, briefing, European Parliament, 05.2023, Governance and oversight of the Recovery and Resilience Facility (europa.eu).

[72] Betzler D., Loots E., Prokůpek M., 'Arts and culture in transformation: a critical analysis of the national plans for the European Recovery and Resilience Facility', in: *European Policy analysis*, Volume 10 No 1, Winter 2024, Arts and culture in transformation: A critical analysis of the national plans for the European Recovery and Resilience Facility - Betzler - 2024 - European Policy Analysis - Wiley Online Library.

5.2. Leveraging private investment into the CCS through public guarantees

One of the main challenges for businesses (more than 99% of them SMEs) in the CCS[73] is their financial vulnerability and lack of access to financing. This is due mainly to a **shortage of tangible assets**, a **lack of understanding of the value of intangible assets (such as intellectual property rights) on the part of financial intermediaries, and business models** that are often based on project approaches and, therefore, **lack continuity**. To this can be added a general lack of understanding of the sector on the part of financial institutions, as well as a shortage of practical data for the sector, as, according to needs, there are different terms and definitions being used in parallel for the CCS, with data varying at national and European level. While these different approaches can be appropriate for a specific purpose and goal, there is a lack of comparability as far as macroeconomic data are concerned.

These developments have contributed to the cautious approach to financing CCSIs taken by many financial institutions: in general, they consider(ed) the CCSIs as negligible because of their size, which does not compare to any other sector; they also consider the survival rate of its companies to be lower than rates found in other sectors and that evaluating CCSI companies is too time consuming and complex.

5.2.1. The Cultural and Creative Sector Guarantee Facility (CCS GF) – A boost from the past[74]

To counter these preconceptions and translate the potential of this sector into tangible outcomes, as part of the Creative Europe programme (2014-2020) the CCS GF was launched in 2016, leading to some 8 700 loans for nearly 7 000 CCS companies. With an EU contribution of around EUR 250 million, mainly from the Creative Europe programme, by guaranteeing parts of the loans (worth EUR 1.6 billion) this instrument unlocked nearly EUR 3.6 billion in investment. This was due to the AAA rating from the EIF, a maximum guaranteed rate of 70% for individual loans and a general cap on the portfolio guarantee of 25% for the CCS GF[75]. The initial drop-out rate, conservatively estimated at some 10%, turned out to be much lower in practice, allowing the GF's leverage rate to be increased further. Ultimately, this resulted in a leverage factor thirteen times that of the EIF's risk-sharing instrument, effectively mobilising significant funds from the private sector for SMEs, mid-caps and individuals[76].

In addition to the funds from the Creative Europe programme and the EIF funding model, three other main factors contributed to this success:

- **The initial comprehensive market survey of the CCS,** which did much to help financial intermediaries understand the specificity of this sector and overcome the initial prejudices through hard facts and data[77].

[73] In line with the legal basis of the CCS Guarantee Facility we use the term 'cultural and creative sector' (CCS) in relation with this facility.

[74] The main content of this subchapter is based on the following publications:
EIF, Cultural and Creative Sectors Guarantee Facility (CCS GF) – Information for businesses Cultural and Creative Sectors Guarantee Facility (CCSIS GF) – Information for businesses (eif.org).
European Commission, Directorate-General for Communications Networks, Content and Technology, *Creative Europe 2021-2022 – Monitoring report*, Publications Office of the European Union, 2023, **https://data.europa.eu/doi/10.2759/561008**.

[75] EIF, *Guarantee products – calls for expression of interest* Guarantee products – calls for expression of interest (eif.org).

[76] European Commission, Directorate-General for Communications Networks, Content and Technology, *Creative Europe 2021-2022 – Monitoring report*, Publications Office of the European Union, 2023, **https://data.europa.eu/doi/10.2759/561008**.

[77] European Investment Fund; *Market Analysis of the Cultural and Creative Sectors in Europe – A Sector to Invest in* https://www.eif.org/what_we_do/guarantees/cultural_creative_sectors_guarantee_facility/ccs-market-analysis-europe.pdf.

- Practical **training for financial institutions in specific risk assessment** and the **needs of the CCS.**
- **Cooperation with private-sector financial institutions** as intermediaries between the EU institutions and private companies.

5.2.2. The Cultural and Creative Portfolio Guarantee Product

One of the main challenges facing the Guarantee Facility, but which at the same time can be seen as proof of its success, has been its **high oversubscription rate.** For this reason, CCS GF funding has been doubled during its operational phase, and a new CCS Guarantee was introduced under InvestEU. This **Cultural and Creative Portfolio Guarantee Product** should trigger more than EUR 372 billion in additional investment in the CCSIs over the 2021-2027 period. Since the launch in 2022 of the call for expressions of interest for financial intermediaries (banks, alternative lenders, guarantee institutions), the EIF has received over 60 applications and already signed 24 agreements, with another nine set to be finalised shortly. The Invest EU CCS Guarantee is expected to generate over EUR 3 billion in investments for the CCS.

As a vital capacity-building component as well as a basis for an appropriate assessment of size, potential and risks related to the CCS for the 2022-2027 period, the EIF planned to release an updated version of its 2016 market survey during 2024. The revised survey better captures the dynamics of the audiovisual sector, as well as new developments in ICT and AI related to the CCS, in addition to CCS data from Eurostat. This updated survey incorporates additional data and information, including data and information from national sources, the EU single market survey of 2021, funding sources and pan-European studies and analysis.

In parallel, new training measures for intermediaries will be implemented, taking their lead from the successful model used for the CCS GF.

The financial intermediaries of the Cultural and Creative Portfolio Guarantee Product are the link between public funding and guarantees and private investments based on market conditions. As part of their approach, the intermediaries in question have developed a comprehensive means of supporting CCS enterprises that goes beyond financial aspects and covers areas such as consulting, training and networking.

As the needs for financing instruments vary according to each company's specific situation, there are also complementary financing procedures offered for CCS through InvestEU.

5.3. Equity investment in CCSI

The European audiovisual sector faces several challenges: it is highly dependent on public funds; independent European companies are under pressure from their global competitors to raise their production budgets; and private investors consider the audiovisual industry to be risky and shy away from the much-needed capital investments.

To tackle this deficiency, **MediaInvest** aims to encourage private investment in the AV sector. It blends public funds from Creative Europe, InvestEU and the EIF with private investments to obtain commercially viable audiovisual projects on a European scale. The backing of public funds multiplies the effects of the private investors, decreases the risks and allows projects to achieve critical mass. It strengthens the position of independent investors by giving them access to increased capital resources.

MediaInvest is a market instrument supporting equity investment dedicated to the audiovisual sector. It invests in financially viable and profitable projects. At the same time, it has the policy objective of supporting the growth of the European audiovisual industry. Projects must have a 'significant European participation', meaning that, for example, a film or series has European creative influence over its content and is produced by a company established and having its main economic activities in Europe. At the same time, a majority of the cast and crew should be European.

The EIF, which manages MediaInvest on behalf of the Commission, selects participants who can demonstrate the capacity to meet both market and policy objectives. It envisages two main types of investment:

Firstly, at project level, through equity intermediaries. The EIF co-invests in an equity fund run by the intermediary. In turn the equity fund invests in audiovisual projects. A range of audiovisual projects, e.g. productions of films/series/video games as well as distribution projects are potentially eligible.

Secondly, at company level, again through equity intermediaries. The EIF co-invests in an equity fund run by the intermediary. In turn, the equity fund invests in a range of audiovisual companies, typically production and distribution companies as well as video games companies.

MediaInvest aims to mobilise investment equal to EUR 400 million by 2027.

MediaInvest

MediaInvest is a market instrument for supporting equity investment dedicated to the audiovisual sector.

- MediaInvest's budget

  MediaInvest will be kickstarted by the EU's InvestEU and Creative Europe programmes, with the requirement that private investors provide like-for-like investment. In line with the media action plan, the initial target of MediaInvest is to mobilise investment equal to EUR 400 million by 2027.

- How many transactions to expect?

  As a preliminary high-level projection, some 7-10 funds could be invested in; these in turn will invest in 70-100 companies/projects during the seven-year framework of the programme.

- Leverage effect?

  This is a new instrument as well as a new area of activity. However, based on the EIF's previous experience with equity investment in specific policy areas, we can expect MediaInvest over its lifetime to achieve a leverage effect of potentially 2.5 times, which would equate to investment in the audiovisual sector of up to EUR 1 billion.

- Which investors can apply for MediaInvest?

  The definition of financial intermediary is broad, and should attract new investors, especially those with a background in the audiovisual sphere. This includes, but is not limited to, private equity, venture capital funds, fund of funds, crossover funds, (co-investment schemes, special-purpose vehicles in any guise that undertake long-term risk capital investment in the form of equity, preferred equity, hybrid debt equity instruments, tailor-made debt financing, other types of mezzanine financing, payment-by-results investment schemes).

- How could MediaInvest benefit the companies?

  MediaInvest co-invests EUR 30 million in the EUR 100 million fund. This will enable co-investment from other private investors to flow more easily, generating a positive crowd-in effect and step-in investment in IP. In the longer term, it broadens the base of investors with an understanding of the value of IP as an asset class and makes cooperation between the investor and the business owner easier.

In addition to the main funding sources for the CCSIs, which to various degrees also include non-financial support actions, several EU actions focus mainly on support measures to increase the competitiveness, growth potential and innovation capacity of CCSIs through training and education, coaching and networking measures.

5.4. SME pillar of the Single Market programme

The Single Market programme (SMP), with a budget of EUR 4.2 billion for the 2021-2027 period, includes a support pillar for SMEs aimed at providing SMEs with assistance to boost their competitiveness, innovation capacity and growth. 24% of the SMP budget goes into these activities.

The Enterprise Europe Network (EEN), which has over 450 members, plays a key role in this SMP support for SMEs (https://een.ec.europa.eu/about-enterprise-europe-network). With a budget of EUR 164.5 million for the 2021-2024 period, it mobilises experts from member organisations such as chambers of commerce, universities and regional development agencies renowned for their excellence in business support. They offer free targeted support ranging from market intelligence to capacity building via assistance with funding applications. The EEN also includes a dedicated CCI sector group and a further sector group on textiles. The EEN2EIC builds on EEN experiences with the aim of improving the capacity of SMEs to apply to the European Innovation Council (EIC) with a focus on widening countries[78], women-led enterprises and the Seal of Excellence (https://een2eic.eu/about).

The European Cluster Collaboration Platform of the SME pillar is an online hub and one-stop-shop for stakeholders aimed at setting up partnerships with European counterparts.

WORTH is the sole European project where designers, SMEs, manufacturers and tech providers collaborate on developing innovative, design-oriented business ideas. This partnership project focuses on lifestyle industries, including sectors such as fashion, interior design and jewellery. It provides incubation programmes to develop new businesses. This includes financial support of between EUR 10 000 and EUR 20 000, business-strategy and technology coaching, legal advice on intellectual property rights, participation in exhibitions, and networking. After a successful start in the COSME programme, the third project call in 2023 under WORTH II far exceeded expectations by attracting 142 applications and 320 participants.

5.5. EU cohesion policy

Accounting for about one third of the EU budget, the EU cohesion policy is a major financing tool for economic and social development, with EUR 392 billion assigned for the 2021-2027 period. Over this period, a budget of EUR 3.7 billion has been earmarked for culture and sustainable tourism with a view to promoting cultural heritage, protecting historical sites and developing sustainable products[79]. Through the main funding sources for EU regional development (ERDF, European Social Fund Plus, Just Transition Fund and the Interreg programme) the EU cohesion policy supports projects for transforming former industrial or mining sites into cultural venues. Successful examples in the previous planning period included the Silesian Museum at Katowice in Poland, and the Louvre-Lens Museum in France. Further examples include support for safeguarding the archaeological site at Pompeii in Italy and improving its accessibility, which increased visitor numbers by 62%, and the establishment of an

[78] In this context the widening countries are: Bulgaria, Croatia, Cyprus, Czech Republic, Estonia, Greece, Hungary, Latvia, Lithuania, Malta, Poland, Portugal, Romania, Slovakia, Slovenia. These 15 widening countries account for approximately 30% of the European Union with a population of roughly 124 million. To this are added the 14 Associated Countries with equivalent characteristics in terms of R&I performance, as well as the Outermost Regions (defined in Art. 349 TFEU).

[79] *2021-2027 cohesion policy overview* Open Data Portal for the European Structural Investment Funds - European Commission | Data | European Structural and Investment Funds (europa.eu).

integrated network of natural and cultural tourist sites in the Świętokrzyskie region of Poland. Similar such projects are being funded in the 2021-2027 period[80].

The ERDF has a long track record of supporting culture and heritage with a view to creating local jobs in the running of heritage sites and attracting visitors to them and to fostering private initiatives in the area of the CCIs. One such project, 'Regional business incubators and creative industries incubators' is aimed at supporting the establishment and development of new, viable and competitive businesses in Latvia's regions. Another example is the 'Košice Regional Creative Centre' in Slovakia which is creating an environment conducive to the development of creative talent and non-technological innovations and for job creation in the CCIs. This creative centre acts as a catalyst for change and offers space for stimulating collaboration, sharing knowledge and inspiration, and devising and testing innovative solutions[81].



Communication campaign #EUinmyRegion.
Source: European Commission, 2023.

5.6. The Digital Decade

New technologies profoundly change our economies and our societies. Digitalisation and AI revolutionise production and distribution chains as well as business and customer relations. The new technologies will blur the lines between producers, distributors and consumers. The result will be start-ups that combine these new technologies with culture and creativity and new forms of collaboration between the cultural and creative sectors, with high-tech enterprises and novel and innovative business models in the CCSI. Digital skills and infrastructure support will be essential therefore in order to take full advantage of these opportunities (OECD, The Culture Fix, 2022).

To facilitate this transition, the Digital Europe Programme (DEP), which has an overall budget of over EUR 7.9 billion, focuses on bringing digital technology to businesses, individuals and public administrations. It supports projects in key areas such as supercomputing, AI, cybersecurity and advanced digital skills to ensure the widespread use of digital technologies across the economy and society. Instrumental in this endeavour is its network of European Digital Innovation Hubs. In order to take a comprehensive approach and avoid tackling these challenges in isolation, the DEP complements

[80] Pasikowska-Schnass M., Widuto A., *Culture and Regional Development,* Briefing, European Parliamentary Research Service, July 2022 Culture and Regional Development (europa.eu)..

[81] *Regional business incubators and creative industries incubators* Regional business incubators and creative industries incubators | Kohesio (europa.eu) and Košice Region Creative Centre | Kohesio (europa.eu).

funding available via other EU programmes such as Horizon Europe, the Connecting Europe Facility, the Recovery and Resilience Facility and the Structural Funds[82].

5.7. Audiovisual and media

The European media industry generates revenue of EUR 134.7 billion according to the European Media Industry Outlook 2023 (Media Outlook, 2023). The Audiovisual Media Services Directive, the European Media Freedom Act, intellectual property rules and dedicated communication target the film and audiovisual industries that make up the media segment of the CCSIs – a specialist sector with its own, specific rules.

The Media and Audiovisual action plan[83] focusses on access to finance, business collaboration and support for innovation with initiatives such as the VR/XR coalition, a European Media Data Space, and financing and support for media companies to develop innovative solutions. This action plan provides a practical roadmap for media policy by building on a proactive regulatory framework.

The European Media Data Space will be at the heart of an interconnected and competitive European data economy in the sector. The European Media Industry Outlook (Media Outlook, 2023) regularly explores technological as well as production and consumer trends, complemented by regular policy dialogue between the Commission and the sector[84].

Creative Europe supports competitiveness, innovation and sustainability as well as cooperation between Member States with different capacities. It fosters cooperation and networks at EU level, provides sector-specific support and stimulates the upscaling of audiovisual enterprises and digital transformation. In terms of targeted support activities for the audiovisual sector, the Creative Europe programme also contributes to the Guarantee Facility and in particular to the MediaInvest blending facility of InvestEU[85].

5.8. Reflecting on the impact of EU funding for the sector

5.8.1. A steadily growing number of non-coordinated support and funding opportunities for CCSIs

As shown above, there are abundant EU support and funding opportunities for CCSIs, either through general funding programmes for SMEs, which are open to CCSIs or through specific support initiatives for CCSIs tailored to their specific needs. Anecdotal accounts of how well these opportunities are taken up suggest considerable oversubscription of the instruments tailored to CCSIs, whereas use of the general SME support instruments by CCSIs remains low.

The EU's CCS is as diverse as the funding and support opportunities available to it. This involves support for single companies and individuals at local, regional, national and EU level, support for consortia operating at EU or international level, financial support, training facilities, networking opportunities, coaching, developing business models, market analyses, research and much more. Over the last 20 years the opportunities provided have steadily increased both in size and variety. One of the success factors in the deployment of financial instruments for CCSs was the development of market intelligence

[82] For more details about the challenges and opportunities for CCSIs courtesy of new technologies and artificial intelligence and the related EU strategy, see the chapter on 'New Technologies and Artificial Intelligence'.

[83] Communication from the Commission, *Europe's Media in the Digital Decade: An Action Plan to Support Recovery and Transformation*, COM/2020/784 final, 3 December 2020 https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX%3A52020DC0784.

[84] European Commission, *Shaping Europe's digital future*, 2024 https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/europe-fit-digital-age/shaping-europes-digital-future_en

[85] European Commission, *The Creative Europe Programme* https://culture.ec.europa.eu/creative-europe/about-the-creative-europe-programme.

and a training programme for the participating financial intermediaries that focused on the challenges and opportunities facing economic activities in CCSIs.

CCSI funding and support opportunities have grown in volume and offer an increasing variety of expertise, each following its own logic and timetable and addressing specific needs. Finding the most appropriate support for a company's specific needs at a given point in its life cycle remains a challenge. This is despite the proliferation of information and the multiplicity of contact points for each of these support structures. As mentioned earlier, the forthcoming update of the toolkit for the CCSI objective under InvestEU (market overview, country data sheets, training kit) will soon provide real value added to better meet the challenges of the sector and give it greater financial support.

Public support can make the difference:

What began in 1986 with six young Belgian designers, the 'Antwerp 6', as a revolution in fashion, has developed over decades of systematic and strategic support into 'The Label' and 'Belgian Fashion', placing Belgian fashion and design at the forefront on the international scene.

Systemic support for music schools, serving 30% of young Swedes by providing access to instruments, training, music education, collaboration, and cutting-edge IT equipment, has made the Swedish music industry one of the three world leaders, and Swedish songwriters and producers have accounted at times for half of the US Billboard chart's top ten since the mid-1990s.

The strategic support of US governments for the US film industry over the last century resulted in American film studios dominating the movie industry for decades and championed the American way of life around the globe.

5.8.2. Building trust through well-rooted intermediary organisations

There is an increasing number of funding guides in individual sectors and checklists for risk assessments, the development of business models and market studies. Organisations that help connect CCSI businesses with funding and support as well as financial intermediaries are becoming more adept at understanding the specific needs of CCSI businesses and preparing more tailored support solutions. While this development is encouraging, there remains a risk that it will continue to fall short of its capacity to unleash the full potential of the CCSIs.

Feedback from CCSI businesses via assorted intermediary organisations and interviews suggests that something of a gap remains between CCSI SMEs and their funding and support intermediaries, often because of a lack of knowledge of the sector's specificities on the part of the intermediaries, and also because some CCSI branches fail to present their business case.

Furthermore, according to the specific situation of a company and its place in a company lifecycle, combined financial instruments consisting of loans and different forms of equity could be appropriate, but are often difficult to obtain as the various instruments are provided by distinct and/or separate institutions.

The market studies for financial intermediaries as produced by the EIF and checklists for preparing the business cases for CCSI businesses have been instrumental in narrowing this gap and could be utilised more broadly. Additionally, building up trusted business relations between CCSI firms and their financial intermediaries is a prerequisite for a long-term partnership. The more the financial intermediaries know about the sector, local situations, specific needs, strengths and weaknesses, and the more the CCSI knows about making a business case and the specific criteria for assessing the financial viability of a company, the greater the possibility of building a solid, well-rooted and sustainable ecosystem.

6. INVESTING IN RESEARCH AND INNOVATION FOR THE CULTURAL AND CREATIVE INDUSTRIES THROUGH THE HORIZON EUROPE PROGRAMME

Investing in CCIs is about creating sustainability through creativity, shaping identities, identifying benefits and opportunities, and generating returns by steering growth and competitiveness.

EU research bodies and universities are vital for shaping a creative landscape throughout the Union. They provide support services and infrastructures, develop talent and carry out research for the CCSIs. The challenge is how best to connect these research bodies with CCSI businesses and other market- and non-market-oriented stakeholders at EU, national, regional, and local level to create a lasting ecosystem with a Europe-wide impact on the EU's economy and society.

6.1. Horizon Europe

The Horizon Europe (HE) programme aims to strengthen the competitiveness of the EU by improving its scientific and technological foundations and delivering in terms of technology, the economy and the impact on society. With a budget of EUR 95.5 billion it strengthens excellence in basic and frontier research, the link between Research and Innovation, collaboration across sectors and disciplines and the exploitation of R&I results through to as far as the upscaling of innovative SMEs[86]. As part of this approach, it covers the full innovation cycle, from the initial idea through to bringing products and services to market and the impact on our society.

Analysis of HE's predecessor programme, Horizon 2020, provides a good indication of the size and focal points of projects relating to CCSIs. Horizon 2020 funded 274 projects and had a budget of EUR 495 million in the area of culture and cultural production, of which 30% addressed cultural heritage, 11% related to identity, and 10% involved culture[87].

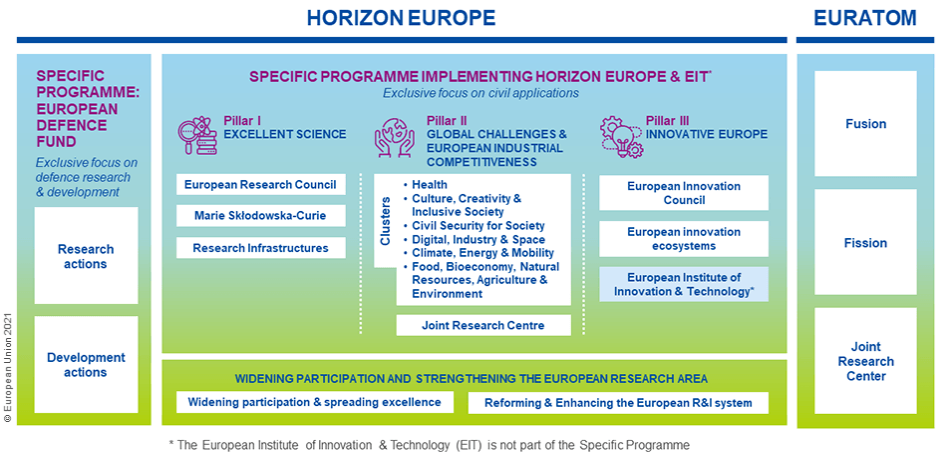


Diagram describing Horizon Europe's pillars. Source: European Commission, 2021.

[86] Horizon Europe: the EU's funding programme for research and innovation (europa.eu).

[87] European Research Council Executive Agency, *ERC Frontier Research in Social Sciences and Humanities*, 2022 FACTSHEET-SH-2022.pdf (europa.eu).

Several components of this programme, covering different stages of the innovation cycle, provide support and funding for the CCSIs. Under the first pillar on excellence in research, the **European Research Council** supports excellent bottom-up and frontier research, mainly by individual researchers[88].

Pillar 2 of Horizon Europe on global challenges and European industrial competitiveness encourages cross-disciplinary collaborative research by EU consortia to find solutions to the main challenges facing our society as set out in the UN Sustainable Development Goals. **The cluster on culture, creativity and inclusive society**, with a priority area on CCIs, has a budget of EUR 2.28 billion[89].

Pillar 3 on innovative Europe aims to position the EU as the world's leading innovator by leveraging start-ups and innovations. With a budget of EUR 10.105 billion, **the EIC supports** start-ups, SMEs and the upscaling of companies so that they can bring their ideas to market. **The EIT** promotes innovation through collaborations between business, education and research. With a budget of EUR 2.965 billion, it fosters collaborations between research institutions, public authorities and civil society. For the CCS, a specific **Knowledge and Innovation Community (KIC)** on CCSIs was launched in 2023[90].

6.2. General support through Horizon Europe open to CCSIs

The **European Research Council (ERC)** aims to fund the best research by the best researchers without any predefined priorities. It provides long-term funding for groundbreaking, high-risk/high-gain research that advances the frontiers of knowledge. With a budget of EUR 16 billion under Horizon Europe, it takes a bottom-up approach and scientific excellence is its sole evaluation criterion. This excludes a thematic priority framework, as is the case under the second pillar of Horizon Europe. Therefore, closer collaboration between the ERC and its executive agency with other pillars of the programme could focus on ERC projects related to the area of culture, cultural heritage and CCSIs with a view to identifying projects that offer potential in terms of business and society. All the more so, since results from ERC-funded research can be channelled into strategic R&I projects (second pillar) or innovation actions (third pillar)[91]. In 2022, some 30 ERC grants were awarded to projects related to CCSIs. These grants cover projects such as PEA ('philosophy of experimental artefacts') and PlatforMuse ('platformisation of music'). PEA looks into the division between artworks and technical artefacts and how this is being challenged by having more interchanges between art and technology[92]. PlatforMuse examines how streaming and social media platforms are changing the working conditions and creative practices of music artists around the world[93].

With a budget of EUR 10.1 billion under the Horizon Europe programme, the **EIC** identifies, develops and upscales breakthrough technologies and game-changing innovations. The **EIC, and SMEs Executive Agency (EISMEA**), implement the EIC and the European Innovation Ecosystems

[88] Examples of excellent research projects related to CCSIs can be found through the following links:
- Literary Games, Poetics and the Early-Modern Novel | JEUX | Project | Fact sheet | HORIZON | CORDIS | European Commission (europa.eu).
- Polyphonic Singing and Communities of Music Writing in Medieval Britain and Ireland, c. 1150 to c. 1350 | BROKENSONG | Project | Fact sheet | HORIZON | CORDIS | European Commission (europa.eu)
- Fashioning Power through South-South Interaction: Re-thinking Creativity, Authenticity, Cultural Mediation and Consumer Agency along China-Africa Fashion Value Chains | China Fashion Power | Project | Fact sheet | HORIZON | CORDIS | European Commission (europa.eu)

[89] European Commission, Directorate-General for Research and Innovation, *Horizon Europe, pillar II - Global challenges and European industrial competitiveness*, Publications Office of the European Union, 2021 https://data.europa.eu/doi/10.2777/881197.

[90] European Commission, Directorate-General for Research and Innovation, *Horizon Europe, pillar III - Innovative Europe – Supporting and connecting innovators across Europe*, Publications Office of the European Union, 2021 https://data.europa.eu/doi/10.2777/90204.

[91] European Commission, Directorate-General for Research and Innovation, *Horizon Europe strategic plan 2025-2027*, Publications Office of the European Union, 2024 https://data.europa.eu/doi/10.2777/092911.

[92] PEA - *The Philosophy of Experiential Artifacts* https://cordis.europa.eu/project/id/101040535

[93] PlatforMuse – *The Platformisation of Music: Towards a Global Theory* https://cordis.europa.eu/project/id/101077952.

programme of Horizon Europe. It also manages the Interregional Innovation Investments instrument of the ERDF and the SME pillar under the Single Market programme (see box below).

ERDF funding for CCSIs implemented by EISMEA

Label4Future – from plastic to fantastic

The production, consumption and disposal of plastic on a massive scale has led to devastating consequences in the form of the 'plastic crisis'. With a budget of some EUR 1.5 million, the Label4Future project promotes the circular economy in the plastics industry through **innovative design approaches**. It aims to reduce the ecological footprint of products from the earliest design phase through **creative industries**, in particular **design and new media art**.

Label4Future will spur out-of-the-box approaches to interregional circular economy innovation, especially in less developed regions, where companies in the plastics sector face particular challenges caused by resource scarcity, high waste generation and significant environmental impacts. Through a cross-sector collaborative new design, new materials and new procedures will be developed and tested. Label4Future aims to **improve the conditions for circular design** sustainably at the product, business model and policy levels.

In addition, between January 2024 and December 2025 the project, which features seven partners from five countries, will develop measures and policy recommendations for policymakers[94].

The **EIC Pathfinder** supports early-stage projects that have the potential to create new markets and address global changes courtesy of grants worth up to EUR 4 million. These collaborative projects are multidisciplinary and pursue disruptive ideas that fall outside the scope of Pillar II clusters.

With individual grants of up to EUR 2.5 million, **EIC Transition** helps novel technologies to mature from the laboratory stage to validation. It supports mid-technology readiness levels (TRL) projects that build on research outcomes from the ERC, Pillar II and the EIC Pathfinder to develop them into commercially viable innovations.

The **EIC Accelerator** targets the upscaling of deep/tech/disruptive innovations from start-ups and SMEs by means of grants and equity funding.

In addition to funding through these instruments, beneficiaries have access to assistance such as coaching and mentoring as well as to business partners. For the upscaling of breakthrough technologies and to create new markets, the EIC made available a budget of EUR 1.2 billion in 2024.

The **European Innovation Ecosystem (EIE)** complements innovation activities in Horizon Europe, in particular those of the EIC and EIT, to improve the overall ecosystem for innovation in Europe. It promotes more connected innovation systems, better interconnection between local, regional and national stakeholders and the upscaling of companies. This includes the Interregional Innovation Investments (I3) instrument (ERDF) under the cohesion policy and the regional Smart Specialisation Strategies (Commission, Strategic Plan, 2024).

[94] Label4Future – *from plastic to fantastic* EU Funding & Tenders Portal | EU Funding & Tenders Portal | EU Funding & Tenders Portal (europa.eu). & https://label4future.eu/

An illustrative example of EIE support for the CCSIs is the NEF4SCALE project. This uses a sustainable automated manufacturing method to create custom-fit textile products from biomaterials. These materials are produced from a mycelium of mushrooms, fermented, filtered and then mixed with other ingredients and pigments. These products, according to the project coordinator, can be fully grown within seven days and offer unprecedented freedom to create silhouette and texture and guarantee a perfect fit[95]. Another example is 'The virtual sound platform of the future', funded through the EIC accelerator, which simulates how products such as cars, audio equipment, buildings and wind turbines will sound. This new technology is also being applied to simulating sounds for virtual spaces and AR. It simulates and generates sounds 100-1 000 times faster than current technologies[96].

6.3. Specific Horizon Europe support for CCSIs

The 'Culture, Creativity and Inclusive Society' cluster

The Horizon Europe sources of financing and support outlined above provide general support for SMEs and are also accessible to CCSIs. The **'Culture, Creativity and Inclusive Society' cluster (CL2)** has a specific focus on culture and creativity, however, and a budget of EUR 2.28 billion. This is an increase for this area of around 80% compared with the previous programme, Horizon 2020. The Horizon Europe Regulation states that this cluster 'should contribute substantially to the research on cultural and creative sectors, including on the Union's cultural heritage and in particular allowing the establishment of a European cultural heritage collaborative space[97]' (Horizon Europe Regulation, 2021). Furthermore, point 2.2.2. of Annex I to the Council Decision on the Specific Programme implementing Horizon Europe calls for 'Research for the accessibility of cultural heritage through new technologies, such as cloud services, including, but not limited to, a European cultural heritage collaborative space, as well as encouraging and facilitating transmission of know-how and skills … [98]'.

In line with this general increase and focus on this area, EUR 116 million has been assigned to foster R&I for the CCSIs in general and its subsectors for the 2021-2024 period. The research topics for this period fall mainly in three areas: key issues of Commission policy areas, R&I actions for specific sectors of the CCIs, and a collaborative platform for a future culture- and creativity-driven EIE. As for the key issues of the European Commission policy areas, emphasis has been put on the CCIs as drivers of innovation and competitiveness, on a sustainable climate transition and on leveraging the digital transition for competitive European CCIs. This has translated into a set of projects proposing specific measures and tools to turn these political goals into tangible outputs. For instance, ARTCAST4: Unleashing creativity![99] will marry innovations in arts and culture with the new dimension of commercialisation through immersive technologies. TRIQUETRA[100] will offer a toolbox for assessing and mitigating climate change risks and natural hazards threatening cultural heritage. The sectoral R&I research topics have led to projects like ARACNE[101], which aims to create a resilient and innovative silk ecosystem to improve the competitiveness of European silk CCIs. This is based on traditional silk art

[95] NEFFA | *New Fashion Factory is increasing business opportunity* 4 SCALing. European Innovation Ecosystems datahub (eismea.eu).& https://cordis.europa.eu/project/id/101114190

[96] *The virtual sound platform of the future*. The virtual sound platform of the future | Treble | Project | Fact sheet | HORIZON | CORDIS | European Commission (europa.eu).

[97] Regulation (EU) 2021/695 of the European Parliament and of the Council of 28 April 2021 establishing Horizon Europe – the Framework Programme for Research and Innovation, laying down its rules for participation and dissemination, and repealing Regulations (EU) No 1290/2013 and (EU) No 1291/2013 (Text with EEA relevance) OJ L 170, 12.5.2021, Regulation - 2021/695 - EN - EUR-Lex (europa.eu).

[98] Council Decision (EU) 2021/764 of 10 May 2021 establishing the Specific Programme implementing Horizon Europe – the Framework Programme for Research and Innovation, and repealing Decision 2013/743/EU, (Text with EEA relevance), OJ L 167I, 12.5.2021. https://eur-lex.europa.eu/eli/dec/2021/764/oj

[99] ARTCAST4, Artcast4D: Unleashing creativity! | Artcast4D | Project | Fact sheet | HORIZON | CORDIS | European Commission (europa.eu).

[100] TRIQUETRA, Toolbox for assessing and mitigating Climate Change risks and natural hazards threatening cultural heritage | TRIQUETRA | Project | Fact sheet | HORIZON | CORDIS | European Commission (europa.eu).

[101] ARACNE, ADVOCATING THE ROLE OF SILK ART AND CULTURAL HERITAGE AT NATIONAL AND EUROPEAN SCALE - ARACNE | ARACNE | Project | Fact sheet | HORIZON | CORDIS | European Commission (europa.eu).

combined with cutting-edge technologies and it leverages digital applications. CRESCINE[102], meanwhile, focuses on enhancing the competitiveness and diversity of the European film industry by innovating at all levels of its value chain. This ranges from policies to data management and analytics, production business models, and modes of distribution.

With a budget of EUR 116 million, the individual CCSI-related projects in CL2 have increased awareness of the different branches of, and of the needs and challenges of, the CCS. To have a concrete economic, societal and scientific impact at EU level, ongoing and finalised CCSI-related projects need to be brought together so as to better distil common traits, challenges and opportunities for further research, to transform their findings into specific policy recommendations, and to engage in a regular dialogue with policymakers at all levels. For this they need a space for exchange, information-sharing, training and collaboration.

The **Cultural Heritage Cloud** provides a unified platform for cultural heritage institutions to share and collaborate on cultural heritage in the digital age. The preparatory phase and launch of this cloud service could yield useful experience and the building blocks to set up such a platform for CCSIs. Its community of practice, the 'Cultural Heritage Cloud Community', attracted more than 1 000 members and brought together services and organisations that had previously followed more individual paths on specific issues concerning digitalisation and new technologies in the context of cultural heritage (see box below).

[102] CRESCINE, CRESCINE – INCREASING THE INTERNATIONAL COMPETITIVENESS OF THE FILM INDUSTRY IN SMALL EUROPEAN MARKETS | CresCine | Project | Fact sheet | HORIZON | CORDIS | European Commission (europa.eu).

Building on recent experience: the Cultural Heritage Cloud

Recital 25 of the Horizon Europe Regulation and Annex I to the Horizon Europe programme decision state that the 'Culture, Creativity and Inclusive Society' cluster (CL2) should enable a European cultural heritage collaborative space to be set up and make cultural heritage accessible through new technologies, i.e. through cloud services. In line with this request, during the first Horizon Europe planning period, from 2021 to 2024, emphasis in CL2 was put on launching a cultural heritage cloud.



Communication on the ECCCH. Source: European Commission, 2023.

This cloud will provide a unified platform for cultural heritage institutions to share and collaborate on cultural heritage in the digital age. It will offer a range of services and tools to preserve, digitise, research and access cultural heritage artefacts ranging from manuscripts to audiovisual recordings. It would serve as digital infrastructure for the preservation, exploration and dissemination of cultural heritage for current and future generations.

A stakeholder survey of more than 1 000 cultural heritage professionals in 2022 revealed that many cultural heritage institutions lacked digital resources and skills. This was particularly true of smaller institutions in more remote rural areas[103]. Preparatory work for the launch of the Cultural Heritage Cloud encompassed multiple presentations, discussions and exchanges between EU and national institutions, professional organisations and practitioners. It mobilised a broad segment of stakeholders to discuss the usefulness and feasibility of such a cloud. The *ex ante* evaluation of the project by eight leading experts and researchers in the field fostered a wide-ranging debate in the scientific community about the technicalities and potential of the cutting-edge tools and services the cloud could offer for the future of cultural heritage preservation and research[104]. These developments led to a gradual building up of joint ownership of the initiative through a community of practice, the 'Cultural Heritage Cloud Community', counting more than 1 000 members. It brought together services and organisations that had previously followed more individual paths on digitalisation and new technologies in the context of cultural heritage. Following a call for proposals in 2023, several high-quality proposals of large networks on a European scale were submitted and substantive work started in mid-2024. For this initiative to achieve long-term success will principally require successful implementation of the related projects, the maintenance of joint ownership over time, and sustained momentum through a regular exchange of views among stakeholders on progress, new perspectives and innovative joint solutions to challenges that arise[105].

[103] European Commission, Directorate-General for Research and Innovation, *Stakeholders' survey on a European collaborative cloud for cultural heritage – Report on the online survey results*, Publications Office of the European Union, 2022, **https://data.europa.eu/doi/10.2777/691331**.

[104] European Commission, Directorate-General for Research and Innovation, Brunet, P., De Luca, L., Hyvönen, E. et al., *Report on a European collaborative cloud for cultural heritage – Ex-ante impact assessment*, Publications Office of the European Union, 2022, **https://data.europa.eu/doi/10.2777/64014**.

[105] European Cloud for Heritage OpEn Science | ECHOES | Project | Fact sheet | HORIZON | CORDIS | European Commission (europa.eu)

Although individual research topics and projects foster knowledge and support for the CCSs, it is the structuring and multiplying effects of R&I initiatives that can create lasting impact at a European scale.

6.4. The structuring effect of the European Research Programmes

Horizon 2020 was the first large-scale international research programme to systematically foster a **cross-disciplinary approach** through the integration of social sciences and humanities into projects with a potential societal impact. The programme has been a precursor to and catalyst for an inter- and transdisciplinary approach to addressing societal challenges during its operational period and beyond. The systematic integration of Social Science and Humanities in Horizon 2020 opened up a new dimension of interdisciplinary and multidisciplinary collaboration in EU research[106]. This has often prompted different institutes and faculties in the same university to jointly prepare proposals for EU research projects. As a result, it promoted internal cultures of interdisciplinarity and created new structures for more systematic collaboration across disciplines within universities as well as for collaboration between them[107]. One of the most important and lasting outcomes of the Horizon 2020 Shape-ID project on fostering inter- and transdisciplinary research is the Shape-ID toolkit for developing and supporting inter- and transdisciplinary research with concrete guidance, practical tips and case studies[108].

Collaborative research under the societal impact pillar of Horizon Europe and its predecessor programmes has **brought together thousands of university institutes** in the EU and worldwide to collaborate on joint project proposals. In Horizon 2020, 78% of the EUR 75.6 billion budget went into collaborative research, mobilising on average 11 participants for each of its nearly 15 000 projects[109]. Those who have received funding through the EU research framework programmes (average success rate 12%) have often continued to collaborate long after the end of EU funding for a particular project. Anecdotal feedback suggests that many good project consortia that have failed to gain EU funding – because of the high number of projects submitted relative to the number of projects that could be financed – have nevertheless continued working together.

6.5. A European platform for CCSIs

One focal area in the second Horizon Europe planning period for the 'Culture, Creativity and Inclusive Society' cluster will be to foster the innovation potential of the CCSIs through, for example, sectoral analysis, ecosystem approaches and practice-, arts- and performance-based research. This will be closely linked to and partly embedded in the **gradual building up of a collaborative platform** to set up strong and inclusive networks of CCSIs in Europe. It should lay the foundations for bringing together creative companies and professions, making them work together on key issues related to creativity and innovation. This will create bridges and crossover effects to make other economic sectors profit from the innovation capacity, growth potential and competitive edge of the creative sector.

The creation of a **European collaborative platform for CCSIs** is thus a key point in the EU's R&I actions for the CCIs. Experience gleaned from the gradual building of a stakeholder community of practice for the Cultural Heritage Cloud can be instrumental in this. In concrete terms, the CCSI platform

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[106] European Commission, Directorate-General for Research and Innovation, *Integration of social sciences and humanities in Horizon 2020 – Participants, budgets and disciplines 2014 - 2020 – Final monitoring report*, Publications Office of the European Union, 2023, **https://data.europa.eu/doi/10.2777/075642**.

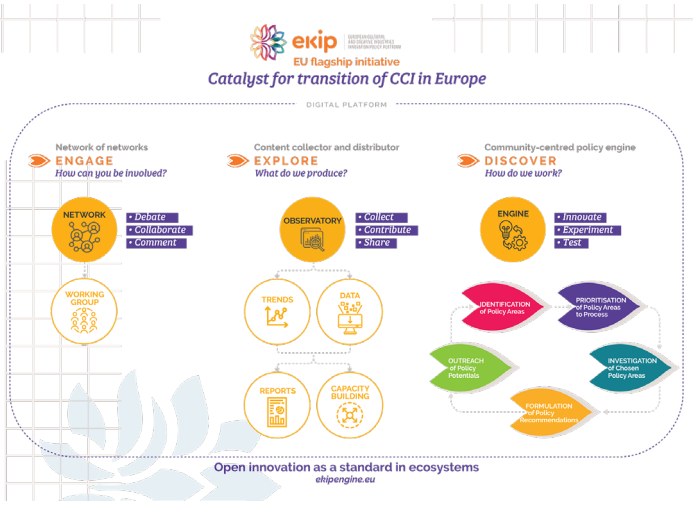
[107] Wernli Didier, Ohlmeyer Jane, *Implementing interdisciplinarity in research-intensive universities: good practices and challenges*, League of European Research Universities (LERU), March 2023, pp. 21-22. *2873_BRO_ADVICEPAPER_ID (leru.org)

[108] Shape-ID, *Pathways to Interdisciplinary and Transdisciplinary Research: the SHAPE-ID Toolkit*, SHAPE-ID : Shaping Interdisciplinary Practices in Europe (shapeidtoolkit.eu).

[109] Report from the Commission to the European Parliament and the Council, *Ex post evaluation of Horizon 2020, the EU framework programme for research and innovation* COM/2024/49 final, Document 52024DC0049, EUR-Lex - 52024DC0049 - EN - EUR-Lex (europa.eu).

should help build a culture- and creativity-driven EIE for the CCIs. It should amplify their impact and potential and be based on a strong, inclusive and representative network, with a focus on R&I. The platform should establish connections with other important economic sectors. It should facilitate cooperation, mutual learning and capacity-building and tap into the business potential of all CCI stakeholders. Finally, it should contribute to the design and prioritisation of EU policy actions to create favourable conditions for the growth of a dynamic CCI-driven innovation ecosystem. The platform should build on existing knowledge, activities, networks and structures. For this project the European Commission has awarded a grant of EUR 6 million from CL2 for a duration of 42 months[110].

The resulting ekip project builds on the 27 R&I projects on the CCIs funded under CL2 of Horizon Europe. It aims to create a strong network of knowledge ('know what'), skills ('know how') and stakeholders ('know who'). More precisely, the diverse background of its participants should help develop new ideas, approaches, working methods and business models. This is to be achieved by creating joint ownership and informal and variable settings according to specific needs. ekip aims to become a policy recommendation engine promoting the development and adoption of policy recommendations for the CCIs. To this end, it will assess R&I actions, list policy areas within a meta-network, map the needs of CCIs, identify and propose critical actions, and provide policy recommendations with practical guidelines[111].



Catalyst for transition of CCI in Europe. Source: EU funded project ekip, 2024.

Central to the content of the project is a 'policy development engine' that will produce policy recommendations for policymakers at European, national, regional and local level, based on the challenges, needs and opportunities faced by operators on the ground. To this end, the 17 partners in ekip bring a broad set of specific skills to the innovation policy platform, reflecting their diverse backgrounds and vocations. More than 40 CCI networks and organisations across Europe are involved in the policy engine by providing it with data on policy areas. The data are then analysed, prioritised, processed and brought to a 'policy lab'. In this lab new formulations are produced, iterated and tested in partner cities' ecosystems. The plan is to run 15 processes of this type through the policy engine. To make sure that the policies are scaled and implemented, the final step is managed by an observatory

[110] HORIZON-CL2-2022-HERITAGE-02-01*: A culture and creativity driven European innovation ecosystem – a collaborative platform*, in: Work Programme 2021-2022, 5, Culture, creativity and inclusive, pp. 75-78, European Commission Decision C(2022)2975 of 10 May 2022. https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/wp-call/2021-2022/wp-5-culture-creativity-and-inclusive-society_horizon-2021-2022_en.pdf.

[111] ekip - *Policy recommendation engine for European culture,* https://cordis.europa.eu/project/id/101112111.

that will follow up the effect of the policies in ecosystems[112]. More specifically, ekip's innovation policy engine can be used to facilitate the new digital product passport[113] initiative, under which, as part of the EU Green Deal, all products in the EU must be traceable and carry information on how they meet criteria for responsible and sustainable production. The ekip policy engine could suggest how local innovation ecosystems can use policies to support the development of new textiles and clothing that have ID tags carrying information. This would enable new ways of carrying out circular processes and recycling, supporting the green transformation in the EU (see box).

New innovation platform strengthens CCIs[114]

'We need cultural and creative skills to succeed in the green transition,' says Charlotte Lorentz Hjorth, manager of the ekip project, 'so we need to build a European culture and creativity innovation policy platform. The focus often falls on technology and the economy, and that is not enough.'

'To achieve radical shifts in thinking, such as the transition from fast fashion to slow fashion, a comprehensive approach and creative skills are needed,' Lorentz Hjorth insists.

To address these and other challenges, ekip will gather policy proposals from stakeholders across Europe, prioritise them, and select five per year to be processed through ekip's policy engine.

One example of where the policy engine could respond to current challenges is the new EU legislation requiring almost all products launched in the European market to have a digital product passport. ekip can use its policy engine to develop policy recommendations supporting the development of labelled and traceable textiles for that purpose.

In essence this is about looking at innovation in new ways so that more stakeholders can benefit from innovation support. 'We need new policies that enable financing and access to both facilities and demonstration labs for different types of projects. The interaction between knowledge, business, research and society is crucial to solving Europe's problems,' Charlotte Lorentz Hjorth says.

6.6. Culture and creativity through the European Institute of Innovation and Technology

Under pillar III of Horizon Europe the **EIT** promotes innovation and entrepreneurship across Europe. It fosters cooperation and integration between higher education institutions, research organisations and businesses, and it creates ecosystems that contribute to sustainable economic growth, competitiveness and entrepreneurship. To this end it brings together the three key stakeholders in innovation – business, education and research – to form dynamic, multi-country partnerships known as **Knowledge and Innovation Communities (KICs).** In their fields of specialisation, the KICs develop innovative products and services, start new companies and train a new generation of entrepreneurs. Close cooperation in these partnerships of leading companies, universities and research centres creates more effective and

[112] Invitation to talk on regional capacity for open innovation policies enabling CCI-driven ecosystems, PPT, ekip, 2024.

[113] REGULATION (EU) 2024/1781 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 13 June 2024 establishing a framework for the setting of ecodesign requirements for sustainable products, amending Directive (EU) 2020/1828 and Regulation (EU) 2023/1542 and repealing Directive 2009/125/E, https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=OJ:L_202401781.

[114] Extract from: *New Innovation Platform Strengthens Cultural and Creative Industries* Interview with Charlotte Lorentz Hjorth, Project Manager of EKIP, published 30 May 2023, *New Innovation Platform Strengthens Cultural and Creative Industries | Lund University*.

innovative solutions for Europe. So far, the EIT has launched nine KICs that involve over 2 400 partners. Its most recent output is the **EIT Culture & Creativity** initiative[115]**.**

EIT Culture & Creativity

The activities of the EIT focus on entrepreneurial education, innovation-driven research, business creation, regional innovation schemes and funding opportunities. Through the EIT community, the EIT fosters cooperation to create innovation opportunities for all. Its 'Knowledge Centre' provides policy reports, lessons learnt and best practices to give specific guidance to CCSIs for their planning and their daily activities. The EIT awards recognise the most promising entrepreneurs and innovators and foster a spirit of entrepreneurship in the EIT community. So far, the EIT's nine KICs have raised EUR 9.5 billion in investment and supported over 9 900 ventures and more than 2 450 new products and services[116].

The CCSIs have a unique innovation potential. Creativity is often seen as 'an originality-based phenomenon aimed at solving problems'[117]; it transcends the cultural sector and creative industries and is having an increasing impact on the EU economy and society.

EIT Culture & Creativity is the EU's institutional partnership aimed at unlocking the innovation potential of the CCSIs.

Its objective is to accelerate competitive and resilient entrepreneurship and to build the first European community of innovators for the CCSIs. It will foster novel collaborations and opportunities for all stakeholders in the extended knowledge triangle of business, education and research in the EU. This will include organisations of all sizes – commercial and not-for-profit, single creators and international organisations – in an interdisciplinary manner and across all 15 sectors of CCSIs. EU funding for EIT Culture & Creativity is expected to last for a period of up to 15 years to encourage breakthroughs in innovation and to bridge the time gap between the ideas for new products and services and their successful implementation on the market..

EIT Culture & Creativity will enable CCSI stakeholders to:

- launch innovative higher education and training programmes
- bring innovative products and services to market, especially in architecture, the audiovisual and media sector, cultural heritage, fashion and the games sector
- scale and create businesses, start-ups or spin-offs from legacy companies.

Beyond grant support, EIT Culture & Creativity will facilitate better access to private financing for adopting emerging technologies and novel business models, and for reaching a global scale. It will incubate start-ups and support legacy companies in spinning off innovations into new companies. EIT Culture & Creativity will also support cities and regions to be innovative in fostering the growth of CCSIs, through a cities and regions network. It also aims to be a one-stop shop for services to the whole ecosystem of CCSIs. For the environmental, digital and social transition, it will specifically support CCSIs in becoming game-changers for responsible growth and resilience in the future EU.

However, the launch of the new KIC is still in its early stages: potential obstacles and uncertainties need to be properly identified and addressed[118]. To facilitate the establishment of EIT Culture & Creativity, the EIT has provided this KIC with a start-up grant of EUR 6 million. This funding allocation is based on the KIC's performance and work plan assessment. For its first four years in operation, EIT Culture & Creativity can expect a funding rate of up to 100%. This share will gradually decrease in years 5 to 15

[115] The content of the section on EIT Cultural & Creativity is mainly based on input from Bernd Fesel, its chief executive officer.
[116] The European Institute for Innovation and Technology, https://eit.europa.eu/.
[117] Lubart T., *Creativity across Cultures*, in R.J Sternberg, Handbook of Creativity, Cambridge University Press, 1999.
[118] Sacco P., *Culture and Creativity Take Center Stage in the EU: How We Got to the EIT-KIC, and What Lies Ahead*, in: *Diid – Disegno Industriale Industrial Design*, 81, 12.2023, https://doi.org/10.30682/diid8123a.

of operation. The KIC is expected to attract investment from other private and public sources to reach financial sustainability in the long term[119].

The setting up of EIT Culture & Creativity comes at a crucial time. It is a concrete step following up the Commission strategy that identified CCSIs as one of 14 industrial ecosystems vital for its industrial strategy: crucial for driving the transformation to a more sustainable, digital, resilient and competitive economy (Commission, Single Market Report 2021). In 2024 EIT Culture & Creativity will launch a first acceleration programme for scaleups for CCSIs and its first continuous professional development courses for professionals in the creative industries.

6.7. A hub for CCIs

6.7.1. Filling gaps to strengthen the impact of support through EU funding

The mid-term evaluation of Horizon Europe, 'Align, act, accelerate', says that the EU's R&I programmes 'appear fragmented and sub-optimally aligned with broader EU policy priorities and with the EU's needs for industrial leadership and strength'. Pillar II of Horizon Europe covers industry-led activities with EU partnerships, but, due to inflexibility, fragmentation, a lack of focus on future technologies and the administrative burden placed on the partners, there is a risk of industry 'walking away from the framework programme[120]'. What has been said about pillar II in general applies all the more to the CCIs.

There is no well-structured, coherent and comprehensive ecosystem for the CCSIs in Horizon Europe. Support and funding opportunities for the CCSIs in Horizon Europe are plentiful: they have general support if they are SMEs and there are more targeted support specific instruments for CCSIs. These instruments operate independently, with their own procedures and timelines. There are points of contact between them, but these have not led to a common approach or to a joint assault on the challenges and opportunities in one of the most productive and innovative sectors of the European economy. This leaves a large part of CCSI potential underused, in particular its 99% SMEs. The scale and impact of the Horizon Europe measures for CCSIs do not match the strategic role the Commission has identified for CCSI as one of 14 industrial ecosystems vital for its industrial strategy. These ecosystems are crucial for driving the transformation to a more sustainable, digital, resilient and competitive economy (Commission, Single Market Report 2021). The measures in place are **fragmented** and **lack critical mass** to have a significant impact at European level. A combination of Horizon Europe measures with support instruments from other Commission services is lacking.

However, the work is not starting from scratch. What needs to be done is to gather the various strands to build a structure in which all these support and funding opportunities are brought together, where there is an exchange between CCSI operators, professional organisations, financial intermediaries and policymakers to jointly develop coherent strategies and goals, to foster lasting cooperation and to establish an ecosystem in which each of the support and funding instruments finds its place in the lifecycle of a CCSI enterprise or operator.

To this should be added a comprehensive **strategic R&I agenda** covering basic research, a search for solutions to the principal related social and economic challenges, and innovation and support actions for enterprises and institutions. This encompasses the equivalent of the entire value chain from TRLs 1 to 9 in the technology field. It could prompt the implementation of a comprehensive and efficient ecosystem through an appropriate CCI platform as aimed for in recital 25 of the Horizon Europe Regulation.

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[119] EIT Culture & Creativity, *factsheet,* European Institute of Innovation and Technology, https://eit.europa.eu/sites/default/files/eit_culturecreativity_factsheet.pdf.

[120] European Commission, Directorate-General for Research and Innovation, *Align, act, accelerate – Research, technology and innovation to boost European competitiveness*, Publications Office of the European Union, 2024, **https://data.europa.eu/doi/10.2777/9106236**.

6.7.2. Promoting better collaboration and local implementation through research funding

There is already a sound package of ongoing and finalised projects in the CCS under Horizon 2020 and Horizon Europe. Together they amount to a budget of EUR 116 million. They cover questions related to individual subsectors like the film, music and games industries, and horizontal aspects like the green and digital transitions. Several calls for funding prepared by DG RTD have been through a co-creation process with other Commission services, in particular DG EAC, DG GROW, the Communications Networks, Content and Technologies (DG CNECT) and Agriculture and Rural Development (DG AGRI). These calls for funding are being jointly monitored by the Research Executive Agency (REA), DG RTD and these partner DGs. This co-creation system has been set up to anchor future projects more firmly in the EU's policy context. It could form the basis for broader cooperation throughout the Commission services, something that needs to be developed further.

To widen this cooperation the submission and discussion of proposals for research topics from the ekip project and EIT Culture & Creativity should become routine and regular. A potential division of tasks in the research area could be that Horizon Europe CL2 focuses on the **longer-term research issues** and the **other European Commission services produce shorter-term studies in their fields of specialisation**. Regular meetings between these services and the project consortia should cover ongoing research topics related to CCSIs from CL2 and related studies from the different Commission services. Together with findings from finalised research projects and studies, these meetings should cover progress made, possible **synergies and complementarities,** and policy recommendations for action by policymakers.

The ekip platform and policy engine can become an important, even central, element in an overarching EU-wide CCSI ecosystem with a focus on pooling and transforming research outputs into policy recommendations and on further nurturing research on and for CCSIs. To this can be added a **platform for exchange and cooperation** among all kinds of CCSI stakeholders as a **nucleus for an emerging culture- and creativity-driven innovation ecosystem.** To avoid any constraints on the creation of an EU-wide impact from the budget of EUR 6 million and a project duration of three years, ekip must seek close cooperation and joint structures with other networks, platforms and support initiatives for CCSIs to agree on a common approach and to jointly implement common goals**.** The way ekip and EIT Culture & Creativity embark on a common approach will be key. It will be crucial for them to align their goals with this common approach, and implementation will be crucial to efficiently supporting CCSIs in the EU. To achieve new levels of outreach and impact a more structured exchange and collaboration with CCSI stakeholders, whether they be institutions, professional organisations, individuals or companies, must be decided on. The experience of setting up a community of practice for the **Cultural Heritage Cloud** could also serve as an example for a structuring effect on broader cooperation in the CCS.

'Think globally, act locally'

To complement activities on the platform, a comprehensive CCSI ecosystem must act locally. It must set up and mobilise a dense network of regional and local intermediaries and professional organisations that are well rooted in local communities. This creates the long-term trust and cooperation between local enterprises and CCSI operators and their intermediaries that is needed to obtain financing, information, training and coaching, and that is key to finding business partners in other sectors or regions for new business opportunities.

The EIF's cooperation with regional and local financial intermediaries for CCSIs in managing the Cultural and Creative Sectors Guarantee Facility (CCS GF), together with the equity intermediaries for MediaInvest, is producing promising results. Experience with local CCSI projects and ERDF funding and actions through Smart Specialisation show there is potential for the future initiative to have a greater impact. In combination with the ERDF, EIT Culture & Creativity, through its regional presence and its fostering of local cooperation between businesses and research, training and education establishments, could play a pivotal role.

6.7.3. A holistic approach for a comprehensive CCSI platform – Horizon Europe's key strategic orientations for 2025-2027

The key strategic orientations of the Horizon Europe strategic plan for 2025-2027 emphasise approaches essential for the success of a comprehensive ecosystem for CCSI in Horizon Europe and the related platform (Commission, HE Strategic Plan 2025-2027, 2024). The orientations foster a **holistic approach**, from knowledge-generation to initial deployment activities covering the full range of TRLs. They call for **more sequential synergies**[121] by means of funding for collaboration where projects and initiatives complement each other's results and resources. They also advocate **cumulative and complementary funding** for a comprehensive support cycle across the TRLs. Finally, the key strategic orientations underline the role of social innovation, which goes beyond technical solutions and empowers societies to act on common challenges and propose concrete measures for implementing such innovation.

All of Horizon Europe's key strategic orientations require R&I activities at different stages of maturity. These stages are described in terms of TRLs. The Horizon Europe work programmes for the 2025-2027 period will be designed to provide balanced support, ranging from **knowledge-generating and early-stage research to innovation, demonstration** and first deployment activities, such as **model regions, living labs and lighthouses**. This should lead to more sequential synergies in which each of the support and funding instruments finds its place in the lifecycle of a CCSI enterprise or operator, through funding for collaboration where projects and initiatives build on each other's results and resources.

Through cumulative and complementary funding, Horizon Europe will take the next step for a comprehensive support cycle through all TRLs in it's 2025-2027 strategic planning period. This will be done by combining Horizon Europe funding with other EU, national or regional funding instruments for the same operation, project or initiative. The Commission Notice on synergies between Horizon Europe and ERDF programmes is a tangible example of this approach, giving concrete guidance on the ERDF's contribution to co-funded European Partnerships in Horizon Europe[122]. Long-term global challenges require solutions that cannot be provided by an individual scientist, a single scientific discipline or an individual research or support programme. These challenges require the breaking of silos and mental barriers. They require synergies at all levels and disciplines for the integration of scientific advances, technological innovation and social and other forms of innovation. Leveraging of social innovation that goes beyond technical aspects can produce viable solutions to entrenched problems. Besides creating new products, services and business models, it empowers society, supports social change and enhances society's capacity to respond to shared challenges. Because knowledge-generating activities with a societal and scientific impact transcend the technology-based logic of TRLs, the 2025-2027 Horizon Europe work programmes are the best place to set out the inherent societal, non-technological aspects of expected outcomes, without prescribing the activities or outputs of funded projects. To this end, the Commission should be developing an approach for when and how societal readiness should be considered. This reinforces the notion of an interdisciplinary approach to projects, including greater sensitivity and consideration for whether R&I match societal needs (Commission, Strategic Plan, 2024).

Seizing the momentum

The wealth of research findings and expert studies provide a solid basis for coherent and efficient support for the CCSIs and for developing tailor-made business models for companies and ecosystems in individual CCSI sectors. The different EU support and funding instruments have the potential to cover each phase of the lifecycle of CCSI enterprises and operators, if they are organised within a clear and comprehensive framework. The challenge now is to build a comprehensive EU-wide ecosystem by putting all these aspects together in an extensive and coherent way: to **set up a platform for collaboration** and to **concentrate CCSIs around creativity and cultural values**. A platform that requires engagement and produces regular outputs for direct stakeholders, the general public and

[121] Sequential synergies happen when one operator completes its tasks and passes on the results to a partner to provide its contribution. In such cases the resources of the two operators are sequentially interdependent.
[122] Commission Notice on Synergies between Horizon Europe and ERDF programmes (OJ C421/7, 4.11.2022).

policymakers will be crucial. So will a strong support network of professional organisations and intermediaries that are solidly anchored in the local community of customers.

These tasks are multi-faceted, far-reaching and comprehensive. They cannot be executed by a single Directorate-General. Several Commission services need to work together and gradually build up this ecosystem with a platform, stakeholder groups and organisations, and a strong and locally well-rooted support network. **Joint ownership of this initiative** will be essential. Horizon Europe provides the legal basis for this initiative, and the budget too, if it is used properly. In other words, what needs to be done is to follow a holistic approach, to create complementarity between the instruments at the European Commission's disposal, to put them into an overall context and to align them in terms of content, timing and the needs of the enterprises. In short: to bring together disparate strands of action.

7. THE WAY FORWARD

7.1. The need for a coherent and comprehensive European ecosystem for CCIs

CCIs generate considerable economic wealth[123]. They are at the heart of the creative economy, sparking innovation, economic growth and competitiveness. The new and unconventional approaches and ways of working they bring can breathe a new dynamism into our economies and make us find solutions to the challenges our societies face.

The Commission has identified CCIs as one of 14 industrial ecosystems vital for its industrial strategy. All will be crucial in driving the transformation to a more sustainable, digital, resilient and competitive economy. These industrial ecosystems encompass all stakeholders and activities involved in achieving a particular socio-economic goal: small start-ups, large multinationals, research in support of innovation, regulators, policymakers, service-providers and suppliers, as well as the interlinkages and interdependencies between different stakeholders. (Commission, Single Market Report 2021).

Although these sectors are critical, there is as yet no cohesive ecosystem for CCIs. Support and funding opportunities for CCIs in the EU are as diverse as the sectors themselves. The multiple measures in place are fragmented and lack the critical mass needed to have a significant impact at EU level. They are growing in volume and support instruments ,but each of them operates independently, with its own procedures and timelines. Relative to their combined size and financial capacity, they underperform in terms of output and impact at EU level.

To tackle these challenges there is a need for a coherent and comprehensive ecosystem which has the size, financial firepower, expertise and strong local anchorage to match them: an ecosystem with strength and scale.

7.2. Long-term support through Horizon Europe Instruments

The Horizon Europe programme aims to strengthen the competitiveness of the EU. It improves the bloc's scientific and technological base and produces technological, economic and societal impacts. It works towards covering the entire value chain from TRLs 1 to 9 in the field of technology and the equivalent in the area of society.

The ERC focuses on excellent and groundbreaking basic research. In 2022 some 30 ERC grants were awarded to projects related to CCIs.

The 'Culture, Creativity and Inclusive Society' cluster (CL2) has a specific focus on culture and creativity. Its legal bases call for substantial research on the cultural and creative sectors, for the creation of cloud services and for facilitation of the transmission of know-how and skills[124].

[123] This chapter mainly deals with measures related to the Horizon Europe programme, the legal basis of which uses the term 'Cultural and Creative Industries (CCIs)'. For that reason, we mainly use that term in this chapter. For the often-diverging terms used for the cultural and creative operators see the chapter entitled 'The Cultural and Creative Sectors and Industries – How to capture their impact – definitions and data'.

[124] Recital 25 of Regulation (EU) 2021/695 of the European Parliament and of the Council of 28 April 2021 establishing Horizon Europe – the Framework Programme for Research and Innovation, laying down its rules for participation and dissemination, and repealing Regulations (EU) No 1290/2013 and (EU) No 1291/2013 (Text with EEA relevance), (OJ L 170, 12.5.2021), Regulation - 2021/695 - EN - EUR-Lex (europa.eu).

This cluster has a budget of EUR 2.28 billion for the period from 2021 to 2027. A considerable amount of this budget can be used for a CCI platform and ecosystem. Projects financed through this cluster have a duration of around three to four years[125].

EIT Culture & Creativity under pillar III of Horizon Europe will introduce systemic investment in CCIs with three aims: to connect innovation value chains at the local, regional, national and EU levels; to break down barriers to innovation across sectors and disciplines; and to equip the next generation of innovators with much-needed entrepreneurial skills. It will focus on exploring sector-specific innovation strategies at company level and the system levels.

In its first four years of operation, EIT Culture & Creativity can expect up to 100% funding. This share will gradually decrease over the following 10 years, on a path to financial independence. It is estimated that during this period, **EIT Culture & Creativity could raise some EUR 500 million in support of CCIs.**

Additionally, the activities of the EIC (European Innovation Council) and SMEs Executive Agency (EISMEA) can be leveraged. Although these instruments are designed for all types of innovative SME, they are increasingly being used by CCIs.

By integrating these instruments into a coherent long-term support system for CCIs, covering all TRLs, can be built in Horizon Europe.

This system should be closely linked to the multiple powerful support instruments for SMEs in general and for CCIs in particular that are offered by other Commission services, and which cover the entire lifecycle of enterprises operating in the cultural and creative field.

7.3. How to build a comprehensive support cycle for CCIs in Horizon Europe

There is no systematic collaboration around commonly defined goals between the different instruments and activities available to CCIs. But work is not starting from scratch.

There is already a sound package of ongoing and finalised projects in the CCS under Horizon 2020 and Horizon Europe. Together these amount to a budget of EUR 116 million. They cover individual subsectors like the film, music and games industries, as well as horizontal aspects such as the green and digital transitions.

In order to exert an economic, societal and scientific impact at EU level, the ongoing and finalised CCI-related projects and the knowledge and experience they generate must be brought together. This will allow us to better draw out the common traits, challenges and opportunities for further research, to transform project findings into specific policy recommendations, and to engage in a regular dialogue with policymakers at all levels. Experience with this approach shows promising results but needs to be further broadened and deepened.

To this should be added a comprehensive R&I agenda, which should cover basic research, the search for solutions to key societal and economic challenges, and innovation and support actions for enterprises and institutions, covering the entire value chain from TRLs 1 to 9 and their societal equivalents.

As mentioned in the ‘Culture, Creativity and Inclusive Society’ cluster, several research topics have been, and are being, prepared jointly with other Commission services, in particular with DGs EAC,

[125] Point 2.2.2 of Annex I to the Council Decision on the Specific Programme implementing Horizon Europe, Council Decision (EU) 2021/764 of 10 May 2021 establishing the Specific Programme implementing Horizon Europe – the Framework Programme for Research and Innovation, and repealing Decision 2013/743/EU, (Text with EEA relevance)**,** (OJ L 167I, 12.5.2021), https://eur-lex.europa.eu/eli/dec/2021/764/oj.

CNECT, GROW, EMPL, JRC and AGRI. These are being jointly monitored by REA, DG RTD and the partner DGs, forming a basis for broader cooperation that needs further development.

To further build up a comprehensive R&I agenda, the different R&I initiatives linked to and accessible by CCIs need to jointly develop a comprehensive approach for nurturing knowledge and tailor-made support measures, and for identifying new challenges and opportunities for CCIs. They need to feed their findings and expertise into this process.

The ERC focuses on high-quality, groundbreaking basic research. In 2022 some 30 ERC grants were awarded to CCI-related projects. As the ERC does not set any thematic priorities, closer collaboration could focus on areas related to culture, cultural heritage and CCSIs, with a view to identifying projects with commercial or societal potential. These could then be adopted by other support instruments that take basic research further and bring it closer to the market and to the prospect of it having an impact on society.

As part of the EUR 116 million package of CCS projects steered through the 'Culture, Creativity and Inclusive Society' cluster, the ekip project focuses on building a CCI innovation network, on developing a coherent research agenda and on creating a policy recommendation engine for CCIs. It builds on the findings, expertise and collaboration arising from these projects and is increasingly reaching out to include support instruments from other Commission services that are accessible to CCIs. Through this, ekip has the potential to become an important element in an overarching EU-wide CCI ecosystem, with a focus on pooling and transforming research outputs into policy recommendations and on further nurturing research into and on behalf of CCIs.

EIT Culture & Creativity will provide general support, information and advice to CCI enterprises at EU level, exploring sector-specific innovation strategies at company and system level, and making CCI business entities, higher education organisations and research centres work together. EIT Culture & Creativity will focus in particular on TRLs 5 to 9 and their societal equivalents.

All of Horizon Europe's key strategic orientations require R&I activities at different stages of maturity. These stages are described in terms of TRLs. The 2025-2027 Horizon Europe work programmes will be designed to provide balanced support. This will range from knowledge-generating and early-stage research to innovation, demonstration and first deployment activities, such as model regions, living labs and lighthouses. This should lead to more sequential synergies, through the funding of collaboration where projects and initiatives complement each other's results and resources.

This could be put into practice by combining the high-quality basic research outcomes of the ERC's pillar I with cross-disciplinary, collaborative and challenge-focused research in the 'Culture, Creativity and Inclusive Society' cluster of pillar II and the enterprise-specific innovation strategies of EIT Culture & Creativity under pillar III.

In this way the R&I agenda for CCIs in Horizon Europe can cover the entire TRL chain and business lifecycle of CCIs. This comprehensive approach can be rounded out by adding specific tools for building bridges between different instruments, such as the EIC Pathfinder, and R&I activities for CCIs under other EU programmes and initiatives, such as Creative Europe.

Regular meetings between these services and the project consortia should cover ongoing research topics related to the CCSIs under CL2 and related studies from the different Commission services. Together with findings from finalised research projects and studies, these meetings should cover progress made, possible synergies and complementarities and policy recommendations for action by policymakers.

7.4. The platform – a Europe-wide tool for a comprehensive CCI ecosystem

To realise the full potential of CCIs, enterprises in the cultural and creative fields need to work **closely together in areas where they can produce mutual benefit**. This includes exchanges between the small and micro-sized enterprises that make up most of the sector, and also with its flagship enterprises. The aim is to nurture creativity and innovation, to grow in size, and to achieve volumes of business capable of entering new markets within the EU and internationally.

New ways of working together, such as co-working spaces, co-location centres and creative labs, were initially introduced to reduce costs during the pandemic. They have now become engines for collaboration across sectors and adapt quickly to changing situations.

Digitalisation enhances opportunities for such cross-industry collaboration, spurring innovation and growth on a broad scale. The transformation of marketplaces from physical stores to global online platforms gives companies hitherto unseen opportunities to showcase their products and services and find customers and partners around the globe, all at a relatively low cost. (Clementson, Creativity)

CCIs that remain unconnected to others will not benefit from these new opportunities or reduced transaction costs. Setting up a platform is costly, but the marginal cost of adding another user or carrying out another transaction on an existing platform is negligible.

This is where public authorities and policymakers come in. They can help to build communities and networks and the bridges between them. One efficient way of doing this is by facilitating the building up of a platform and networks as the key items of a comprehensive ecosystem for CCIs[126].

Such collaboration necessitates an EU-wide platform that hosts tools, services and exchanges to develop and nurture a robust European network for and with CCIs. It can build on what already exists and facilitate exchanges. It needs to **enable collaboration and co-working**, providing information and training of all kinds and facilitating the search for partners, support activities and organisations. It must also serve as a **forum for exchange** between the sector and its operators, its professional and support organisations, research, training and education institutions, and public administrations and policymakers.

A platform like this can store, process and manage information, studies, guidebooks and market analyses. It should link the different sectoral and regional ecosystems and forums for developing and showcasing best practice for CCI business models. The platform should be open to all stakeholders in the field: CCI companies and operators, professional organisations, support structures, financial intermediaries, public administrations and policymakers at all levels, researchers, innovation hubs and universities.

The platform could be launched through a **call for proposals in a cluster 2 work programme** and be built and managed by an EU-wide consortium. It would need to be regularly nurtured andmoderated and produce regular outputs for stakeholders and general public policymakers. The ekip project and others could be important stages in this approach, but the **size, duration, and financial resources of such an initiative must be scaled up considerably**. This could be achieved through the current budget of CL2 and other CCI-specific instruments. Once fully operational, the facilities of EIT Culture & Creativity should also be accessible through the platform.

[126] Fesel B., *Spillover Effect of Cultural & Creative Industries – How big is its value added?*, ECBN, https://www.eesc.europa.eu/sites/default/files/resources/docs/bernd_fesel.pdf.

A network of strong and locally anchored intermediary and support organisations

The platform must have a European size, but the **role and performance of intermediary organisations** would be a core element for the success of the initiative. These intermediaries need to build trust and long-term relations with customers in the CCS. A first contact through a one-stop shop is helpful, but this must be followed up by an intermediary who is willing and has the capacity to develop long-term relations with its customers. Work and performance of the intermediary financing institutions, which also provide a full package of non-financial services to CCS companies, and of the CCS Guarantee Facility managed through the EIF have produced promising results and could be put at a broader scale. In-person contact is an essential counterpart to virtual means of communication.

To this must be added a **strong anchoring in the local environment**, combining local business networks with universities, R&I agencies and local public authorities. EIT Culture & Creativity could play a major role here.

It is a challenge to make creative and cultural operators in this very heterogeneous sector work with each other. Although CCSIs are increasingly taking shape as a specific sector with a strong impact on the EU economy, the way different CCSIs are defined, and the data related to them, still vary considerably. The fact that a large number of industry sectors involving significant creative input are not considered as CCIs, and that more than 40% of creative personnel do not work in CCIs, undervalues the importance, impact and data of CCIs. Moreover, creative staff working in industries such as the automotive sector may not feel a strong connection to those in the performing arts, fashion design or music production. This results in a perceived lack of common ground and hinders the establishment of a strong collective identity.

One solution could be to **build a sense of community around a shared foundation of creative expression and cultural values,** regardless of whether these are market-oriented or not. This could become a driving force for collaboration. Experience with the setting up of a community of practice for the Cultural Heritage Cloud could also serve as an example of a structuring effect on broader cooperation in the CCS.

A structured and holistic approach

Numerous research findings, expert studies and support initiatives throughout the Commission services provide a solid basis for coherent and efficient support for CCIs and for the development of ecosystems for individual sectors and tailor-made business models for CCI companies. The different support and funding instruments have the potential to cover each phase of the lifecycle of CCI enterprises and operators.

The challenge now for an EU-wide CCI ecosystem is to link these items comprehensively and coherently and to set up a platform to gather CCIs around creative and cultural values. This will include a **strong support network** and professional organisations and intermediaries that are solidly anchored in local communities.

It will not suffice to set up another support system for CCIs in parallel to what already exists or is in the making. This would risk further contributing to fragmentation and to the sector and its mirroring support initiatives becoming a patchwork.

To reach a new level of outreach and impact, a more structured approach and collaboration with CCI stakeholders needs to be decided on, whether these be institutions, professional organisations, individuals or companies. Contacts exist between the different support and funding initiatives of the Commission services, but they have not led to a common approach or to a joint tackling of the challenges and opportunities that face one of the most productive and innovative sectors of the European economy. This leaves a major share of CCIs' potential underused, in particular that of its 99% SMEs.

7.5. Conclusions

A solid basis …

The Commission communication on promoting cultural and creative sectors for growth and jobs sets out a strategy to boost the economic power and societal impact of the CCS[127]. This has engendered several support, analytical and financing initiatives for CCIs.

In the final negotiations on the Horizon Europe programme the European Parliament initiated a considerable increase in the budget for the CCIs cluster with a view to giving substantial support to the CCS. During the first Horizon Europe strategic planning period the European Parliament urged the Commission to increase its funding and support for CCIs in line with its deliberations on the budget increase for this cluster[128].

The budget for the Horizon Europe 'Cultural Heritage and Cultural and Creative Industries' cluster has risen to EUR 2.28 billion – an increase of 80% compared with its predecessor in the Horizon 2020 programme. Its legal basis explicitly mentions support to CCIs for the first time. Pillar III of Horizon Europe saw the launch of EIT Culture & Creativity in 2023; this could mobilise some EUR 500 million in support for CCIs over the next 15 years.

To this can be added the multiple support facilities offered by other EU instruments and initiatives to SMEs in general and CCIs in particular. These include the Cultural and Creative Sector Guarantee Facility, MediaInvest and Creative Europe, as well as support for the CCSs through the ERDF. Taken together, these can exert a significant impact at European level.

… with great potential …

Combining these instruments – managed by different Commission services – into a single platform and around a commonly defined goal would enhance their impact without needing to raise additional financial resources. The combined firepower of these instruments can have a significant impact at European level.

The tasks ahead are multi-faceted, far-reaching and complex. They cannot be tackled by a single Directorate-General acting alone: a number of Commission services need to work together. To foster a coherent and comprehensive CCI ecosystem, these services need to gradually build a platform with stakeholder groups and organisations and a strong and well-rooted support network. Joint ownership of the initiative will be essential for this to happen.

In its Annual Single Market Report 2021 (Commission, Annual Single Market Report, 2021) the Commission identified CCIs as a key European industry for growth and competitiveness. The Commission communication on promoting cultural and creative sectors for growth and jobs in the EU (Commission, Promoting cultural and creative sectors, 2012), has led to a number of support, analytical

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[127] Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, *Promoting cultural and creative sectors for growth and jobs in the EU*, COM/2012/0537 final, 26.9.2012, https://www.europarl.europa.eu/registre/docs_autres_institutions/commission_europeenne/com/2012/0537/COM_COM%282012%290537_EN.pdf.

[128] Written question from the European Parliament to Commissioner-Designate Iliana Ivanova, 2023: *'The budget for Cluster 2 of Horizon Europe has increased by approximately 80% compared to Horizon 2020. This was clearly linked to the need to increase support for the Cultural and Creative Industries (CCIs) in Europe, whose importance is also emphasised in recital 25 of the Horizon Europe Regulation. However, only 9% of the funding under the 2023-2024 Work Programme of Cluster 2 was dedicated to CCIs. How do you intend to ensure that the share of funding for CCIs under Cluster 2 will increase in the coming years?',*
Letter from MEP Christian Ehler to Commissioner Mariya Gabriel dated 28.2.2023.

and financing initiatives for CCIs. Horizon Europe can provide the legal basis for this initiative. It can also make a large budgetary contribution, if used well.

What needs to be done is to bring together the disparate strands and build a structure where all these support and funding opportunities can interface with CCI operators, professional organisations, financial intermediaries and policymakers. This will enable them to develop coherent strategies and goals, to foster lasting cooperation and to outline an ecosystem in which each of the support and funding instruments finds its place in the lifecycle of a CCSI enterprise or operator.

This cooperation must be founded on joint ownership and co-creation around commonly defined goals. It must build on strong leadership that goes beyond the lowest common determinator.

This shows that a more holistic approach could make the difference. It could combine an EU-wide platform for CCIs with specific ecosystems for individual sectors and the main aspects of business models for individual companies. This can only be achieved by the combined effort of all Commission services concerned.

… to unleash the full potential of Europe's CCIs

The challenges our economies and societies face require new solutions. We cannot resolve these problems using the same mindset that created them. Unleashing the full potential of the CCSIs can create new prospects and opportunities for a competitive and cutting-edge European economy and for the well-being of a resilient, coherent and inclusive society.

8. LIST OF ACRONYMS - BIBLIOGRAPHY - PROJECTS

LIST OF ACRONYMS

Abbreviation	Definition
AI	Artificial intelligence
AR	Augmented reality
CCI(s)	Cultural and Creative Industries
CCS	Cultural and Creative Sector
CCS GF	The Cultural and Creative Sector Guarantee Facility
CCSI	Cultural and Creative Sector and Industries
CEF	Connecting Europe Facility
CF	Cohesion Fund
CI	Creative Industry
CL2	Horizon Europe Cluster 2 - Culture, Creativity and Inclusive Society
DEP	Digital Europe programme
DG AGRI	Directorate-General for Agriculture and Rural Development
DG CNECT	Directorate-General for Communications Networks, Content and Technology
DG EAC	Directorate General for Education, Youth, Sport and Culture
DG EMPL	Directorate-General for Employment, Social Affairs and Inclusion
DG GROW	Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs
DG RTD	Directorate General for Research and Innovation
EEN	Enterprise Europe Network
EIC	European Innovation Council
EIE	European Innovation Ecosystem
EIF	European Investment Fund
EISMEA	European Innovation Council and SMEs Executive Agency
EIT	European Institute of Innovation and Technology
EIT CC	EIT Culture & Creativity
ekip	European Cultural and Creative Sectors and Industries Policy Platform

ERC	European Research Council
ERCEA	European Research Council Executive Agency
ERDF	European Regional Development Fund
HE	Horizon Europe
I3	Interregional Innovation Investments
ICT	Information and communication technologies
ISCO	International Standard Classification of Occupations
JRC	Joint Research Centre
NACE codes	Nomenclature générale des Activités économiques dans les Communautés Européennes - statistical classification of economic activities in the European Community
NRRP	National Recovery and Resilience Plan
R&D	Research and Development
REA	European Research Executive Agency
RRF	EU Recovery and Resilience Facility
SME	Small and Mediumsized Enterprise
SMP	Single Market Programme
SSH	Social Sciences and Humanities
TRL	Technology Readiness Level
UNESCO	United Nations Educational, Scientific and Cultural Organisation
VR	Virtual reality

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This report gives an overview of the structure of the European Creative and Cultural Industries (CCIs), their strengths and challenges and the possible impact on them of new ICTs and AI. It sets out the economic importance of this industry and its crossover impact on other sectors of the European economy in terms of fostering growth, innovation and competitiveness, while recognising their contribution to maintaining a resilient society and the well-being of its members. It points to the growing number of support and finance instruments available to CCIs in the EU, to the differences between these instruments and to the need for a comprehensive approach around clearly defined goals. Finally, this paper sets out the different aspects of such an approach and how it could be implemented through existing structures and budgetary allocations.

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