



May 2025

D5.1

Report on Policy Review



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and Innovation

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Grant Agreement no. 101132585

PROJECT DETAILS

Acronym: **GAME-ER**
 Title: Gaming Clusters Across Multiple European Regions
 Coordinator: **INOVA+ - INNOVATION SERVICES, SA** (Portugal)
 Call: HORIZON-CL2-2023-HERITAGE-01
 Type: HORIZON Research and Innovation Actions
 Topic-ID: HORIZON-CL2-2023-HERITAGE-01-06

 Start: **1 March 2024**
 End: **28 February 2027**
 Duration: **36 months**

 Website: **www.game-er.eu**

CONSORTIUM

No	Participant Name	Short Name	Country
1	INOVA+ - INNOVATION SERVICES, SA	INOVA+	Portugal
2	UNIVERSITA DEGLI STUDI DI TORINO	UNITO	Italy
3	ASSOCIATION POUR LA RECHERCHE ET LE DEVELOPPEMENT DES METHODES ET PROCESSUS INDUSTRIELS	CRG	France
3.1	ECOLE POLYTECHNIQUE	EP	France
4	ASOCIACE CESKYCH HERNICH VYVOJARU ZS	GDACZ	Czechia
5	SPIN SYSTEM	SPIN	Belgium
5.1	NOVARECKON	NR	Italy
6	UNIVERZITA KARLOVA	CUNI	Czechia
7	OGR-CRT - SCPA	OGR-Torino	Italy
8	PLUG AND PLAY PLATFORM SPAIN SL	PNPTC	Spain
9	KLASTER HRVATSKIH PROIZVODACA VIDEOIGARA	CGDA	Croatia
10	GAME ONLY	GO	France
11	HERNÍ KLAŠTR Z.S.	HK	Czechia
12	MUNICIPIO DO FUNDAO	CMF	Portugal
13	THE UNIVERSITY COURT OF ABERTAY UNIVERSITY	AU	United Kingdom

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Acknowledgements

This deliverable was developed based on collective efforts from all partners of the GAME-ER consortium.

DELIVERABLE DETAILS

Number: **D5.1**
Title: **Report on Policy Review**
Lead beneficiary: **CUNI**
Work package: **WP5**

Dissemination level: **Public**

Nature: **R: Document, report**

Due date: **31/05/2025**

Submission date: **29/05/2025**

Authors: **Jan Švelch, CUNI**
Daniel Nielsen, CUNI

Reviewers: **Zdeněk Záhora, HK**
Stefano de Paoli, AU
Luís Leça, INOVA+

VERSION HISTORY

Date	Version No.	Author	Note
10/12/2024	0.1	Jan Švelch, CUNI Daniel Nielsen, CUNI	Early draft version
14/01/2025	0.2	Jan Švelch, CUNI Daniel Nielsen, CUNI	Second draft version
06/03/2025	1.0	Jan Švelch, CUNI Daniel Nielsen, CUNI	First full draft
15/05/2025	1.1	Jan Švelch, CUNI Zdeněk Záhora, HK	Internal review and revision
21/05/2025	1.2	Jan Švelch, CUNI Stefano De Paoli, AU	Further revision
29/05/2025	1.3	Luís Leça, INOVA+	Final Revision and Submission

GLOSSARY AND ABBREVIATIONS

Baltic Game Industry	BGI
Cultural and creative industries	CCI
Council of Europe	COE
European Commission	EC
European Game Developers Federation	EGDF
European Union	EU
General Block Exemption Regulation	GBER
General Data Protection Regulation	GDPR
Global Financial Crisis	GFC
Information and communication technology	ICT
Key Performance Indicator	KPI
Latvian Game Developers Association	LGDA
Nomenclature statistique des activités économiques dans la Communauté européenne (classification of economic activities)	NACE
Small and Medium-sized Enterprises	SME
Syndicat National du Jeu Vidéo	SNJV
United Nations	UN
Ventspils Digital Centre	VDC
World Intellectual Property Organization	WIPO
Work Package	WP

Table of Contents

1	INTRODUCTION.....	12
1.1	KEY DEFINITIONS.....	14
2	VIDEO GAME INDUSTRY AND POLICY	15
2.1	VIDEO GAME CLUSTER POLICY	16
3	METHODOLOGY	18
3.1	DATA COLLECTION	18
3.2	CORPUS DESCRIPTION.....	18
3.3	ANALYTICAL PROCESS	23
3.3.1	OPERATIONALIZING POLICY RECOMMENDATIONS.....	24
3.3.2	ANALYTICAL GRID.....	26
4	REVIEW OF POLICY-RELATED DOCUMENTS.....	27
4.1	RESPECTIVE ROLES AND EFFECTS OF THE CLUSTER	27
4.1.1	WHAT IS THE IMPACT OF THE CLUSTER'S INSTITUTIONAL FRAMEWORK (IF IT EXISTS) ON THE INTENSITY AND FORM OF COLLABORATIONS AMONG ITS MEMBERS?.....	27
4.1.2	WHAT ARE THE MAIN FEATURES (INTENSITY AND FORM) OF THE COLLABORATION BETWEEN THE CLUSTER'S MEMBERS?.....	28
4.1.3	HOW FORMALIZED STRUCTURES AND GOVERNANCE MECHANISMS WITHIN THE CLUSTER FACILITATE OR HINDER COLLABORATION DYNAMICS?	29
4.1.4	WHAT IS THE ROLE OF LEADERSHIP, POLICIES, AND RESOURCES IN SHAPING COLLABORATIVE EFFORTS?	31
4.1.5	HOW DO INSTITUTIONAL FRAMEWORKS SET NORMS, STANDARDS, AND GOALS, WHILE ALLOWING NETWORK DYNAMICS TO FOSTER CREATIVITY, INNOVATION, AND KNOWLEDGE EXCHANGE?	32
4.1.6	WHAT ARE THE TENSIONS BETWEEN FORMAL REGULATIONS AND INFORMAL INTERACTIONS WITHIN THE CLUSTER?.....	33
4.1.7	HOW DO THESE FORMAL AND INFORMAL COMPONENTS AND THEIR TENSION INFLUENCE THE CLUSTER'S FUNCTIONING?	33
4.2	CLUSTER DYNAMICS OVER TIME	34
4.2.1	HOW DID THE CLUSTER EVOLVE?.....	34

4.2.2	ARE THERE PARTICULAR MOMENTS OF GROWTH, STAGNATION, OR DECLINE?	35
4.2.3	ARE THERE ANY PARTICULAR PATTERNS FOLLOWED BY THIS EVOLUTION?	37
4.2.4	HOW DID THE CLUSTER ADAPT TO CRISIS AND SPECIFIC TRIGGERS OF CHANGE (MEMBERSHIP CHANGES, TECHNOLOGICAL ADVANCEMENTS, MARKET TRENDS, AND POLICY INTERVENTIONS)? DID THE CLUSTER EXHIBIT RESILIENCE AND ADEQUATE ADAPTATION?	37
4.2.5	WHAT IS THE ROLE OF CLUSTER LEADERSHIP AND STRATEGIC PLANNING IN DRIVING ADAPTATION AND RESILIENCE IN THE FACE OF CHANGE?	38
4.3	TYPOLOGY OF CLUSTERS	38
4.3.1	WHAT ARE THE MOST SALIENT FEATURES OF THE CLUSTER (INDUSTRY FOCUS, GEOGRAPHICAL PROXIMITY, INNOVATION LEVELS, AND GOVERNANCE STRUCTURES)?	38
4.3.2	WHAT ARE THE CONTEXTUAL ELEMENTS THAT INFLUENCE THE SALIENT FEATURES OF THE CLUSTER AND ITS CLASSIFICATION AND HOW DOES THIS INFLUENCE OCCUR?	39
4.4	LINK BETWEEN CLUSTER BENEFITS AND CLUSTER FUNCTIONS	41
4.4.1	WHAT ARE THE MAJOR FUNCTIONS OF THE CLUSTER (POOLING, LOBBYING, TRANSACTION COSTS)?	42
4.4.2	POOLING FUNCTION	43
4.4.3	LOBBYING FUNCTION	44
4.4.4	TRANSACTION COSTS	46
4.5	STRUCTURAL AND CURRENT ISSUES	47
4.5.1	ARE THERE ANY OTHER SPECIFIC ISSUES, WHETHER GENERIC OR SPECIFIC, THAT MAY INFLUENCE THE ROLE AND BENEFITS OF THE CLUSTER?	47
4.5.2	ARE THERE NEW QUESTIONS (MARKET CONDITIONS, SOCIAL ISSUES, ETC.) THAT MAY YIELD NEW INFLUENCING ISSUES?	48
5	REVIEW OF EXISTING POLICY RECOMMENDATIONS	50
5.1	GENERIC RECOMMENDATIONS	50
5.1.1	FUNDING	50
5.1.2	REGULATION	51
5.1.3	LEADERSHIP	52

5.1.4	EDUCATION	53
5.1.5	DATA	53
5.1.6	OTHER.....	55
5.2	VIDEO GAME INDUSTRY-SPECIFIC RECOMMENDATIONS.....	55
5.3	META-LEVEL RECOMMENDATIONS	57
6	DISCUSSION	58
7	CONCLUSION	60
8	PROSPECTIVE POLICY AREAS FOR THE GAME-ER PROJECT.....	62
9	REFERENCES.....	63
10	APPENDIX A – CORPUS OF POLICY-RELATED DOCUMENTS	68

LIST OF FIGURES

Figure 1 – Chart of chronological distribution of relevant policy-related documents; year is based on original publication of the document.	22
Figure 2 – Map of geographical distribution of commissioning organizations; Australia was excluded to streamline visualization.	23
Figure 3 – A model of cluster policy setting Source: (EC2020, 8).....	24
Figure 4 – Government influences on cluster upgrading (Porter 2000, 28)	25
Figure 5 – An overview of the analytical grid (adapted from page 15 of D3.1)	26
Figure 6 – Overview of typical elements and indicators in cluster program monitoring and evaluation from (Wise, Wilson, and Smith 2017) and cited in EC2020	54
Figure 7 – Do’s and don’ts for establishing effective cluster policy monitoring & evaluation system (EC2020)	57

LIST OF TABLES

Table 1 - Overview of commissioning organizations represented in the corpus of all collected policy-related documents.....	20
Table 2 - Overview of commissioning organizations represented in the corpus of relevant policy-related documents.....	21

EXECUTIVE SUMMARY

The policy review has set out to explore the current video game industry cluster policy landscape to provide a foundation for new policy recommendations originating from forthcoming tasks in the **GAME-ER** project. To this end, **CUNI** collected 42 documents authored or commissioned by key stakeholders in the area of video game industry policy, including the European Commission (and its initiatives and projects such as the European Cluster Collaboration Platform), the European Game Developers Federation, or the United Nations' World Intellectual Property Organization.

Out of the total 42 documents, 31 contained relevant information regarding video game industry clusters and policy recommendations. It was further analyzed this subset of relevant documents using the analytical grid developed in a T3.1 (*D3.1 - Analysis grid and interview script*) of the **GAME-ER** project. Additionally, inductive qualitative analysis was also used in order to identify concrete policy recommendations.

The analysis identified several key issues and challenges facing the cultural and creative sectors, particularly the video game industry:

- Difficult access to EU funding and support, including programs like Creative Europe, which are technically open for video game development projects.
- Brain drain of talent to countries offering more generous incentives (in the past this was, for example, the case of France versus Canada) as well as unhealthy intra-EU competition due to differences in public funding support among member states.
- Industry fragmentation limits collaboration, but at the same time video game industry consolidation and platformization is threatening to relegate European video game companies to the role of service providers by extracting profits elsewhere in the global network of the video game industry, mainly to the U.S., China and Japan.
- Broader challenges such as the need to better integrate cultural initiatives into sustainable business models, address global competition and market access issues, remote work and cross-border operations, or promote environmental sustainability.
- Specific challenges such as the lack of a clear NACE classification for the video game industry, complex digital rights management, high risk and difficulty in raising finance for video game development, limited access to production and business skills, a disadvantageous position of video game developers with regard to industry convergence, and negative perceptions of the video game industry.

The existing policy recommendations cover many areas (funding, regulation, cluster leadership, education, or data), but sometimes suggest conflicting advice:

- Simplifying funding application processes, improving access to venture capital, and developing dedicated national strategies to support the video game industry's growth and competitiveness.
- Promoting the value of arts, culture, and creativity for the European economy and society. This can also help the related goal of supporting inter-clustering and cross-sectoral networking as a way to limit potential adverse side-effects of policy interventions. At the same time, industry trade organizations call for industry specific support and regulation.
- Be open to industry consolidation to achieve scalability, resource optimization and market expansion. However, at the same time European institutions warn about the role of digital platforms and recommend regulations to protect European video game companies.
- Encourage collaboration of various institutions, businesses, and public authorities as a way to balance out the agendas of these stakeholders and institute effective leadership within clusters.
- Invest in education of future talent and as a way of attracting foreign talent to the cluster locations.
- Improve monitoring, including the aforementioned NACE classification, to better inform business as well as public authorities about effective business models and impacts of policy interventions.

The analysis also found out that policy reports position video game industry clusters as a viable solution for some of the mentioned challenges, in turn, calling for additional institutional cluster support. Cluster policies are, however, deeply embedded in pan-European and national policies and require careful consideration of the interlinked networks of video game production within the global context.

1 INTRODUCTION

1.1 Project Overview

The Gaming Clusters Across Multiple European Regions (**GAME-ER**) project aims to explore the emergence, development, and sustainability of video game clusters, with a specific focus on local and regional clusters. The project will develop a comprehensive Interactive Methodological Toolkit, featuring policy and practical recommendations designed to assist local and national policymakers in establishing or enhancing Cultural and Creative Industries (CCIs) clusters within their regions or cities. Existing research often focuses on clusters outside Europe or within major metropolitan areas like Helsinki or Hamburg. However, **GAME-ER** addresses a critical gap by studying the dynamics of smaller, regional clusters, which play a significant role in driving innovation, growth, and regional cohesion. The project's core component involves a comparative analysis of six clusters in five European countries—France, the Czech Republic, Italy, Scotland, and Portugal. These clusters were chosen for their diverse levels of maturity and unique characteristics, including concentrations of creative talent and companies. In addition to this comparative study, **GAME-ER** will conduct a Europe-wide analysis of the spatial organization of the video games industry, specifically focusing on local and regional ecosystems. This research, conducted in collaboration with policymakers and industry stakeholders, will guide the formulation of actionable recommendations using a participatory approach. **GAME-ER** brings together 15 partners from 9 countries, encompassing expertise in social sciences, humanities, policymaking, business, and innovation.

1.2 Objectives of the Deliverable

D5.1 aims to provide a critical foundation for the **GAME-ER** policy-focused activities by offering an in-depth analysis of the existing policy environment for video game industry clusters in Europe. It sets the stage for future policy recommendations by identifying strengths, gaps, and opportunities within current frameworks. The specific objectives of this deliverable are to:

- **Map and analyse the current policy landscape:** Collect and systematize relevant policy-related documents from EU, national, and regional levels, with a focus on those directly or indirectly influencing the video game industry and its clusters. This includes identifying key actors, trends, and the geographical and institutional distribution of policies.
- **Evaluate existing policy recommendations using a structured framework:** Apply the **GAME-ER** analytical grid (developed in D3.1) to assess how policy documents address cluster-related dimensions such as governance, collaboration, innovation, leadership, and institutional frameworks.
- **Identify recurring challenges, policy gaps, and tensions:** Explore how formal regulations intersect with informal practices, highlight access barriers (e.g., funding, talent,

infrastructure), and assess the extent to which current policies support or constrain local and regional game development ecosystems.

- **Inform the development of future policy tools and recommendations:** Provide a robust evidence base that will inform the creation of **GAME-ER**'s actionable and context-sensitive policy recommendations, to be further developed in subsequent WP5 tasks and integrated into the project's final Interactive Methodological toolkit.

1.3 Research Questions and Structure of the Deliverable

The **GAME-ER** project seeks to offer actionable policy recommendations for the development of video game clusters in new regions outside of capital cities of the European Union. While the core of this research agenda is carried out through empirical fieldwork across six clusters (Bordeaux, Brno, Dundee, Fundão, Lyon and Turin), this original research has to take into account the current state of knowledge regarding video game clusters and policy recommendations. The goal of this report is to provide a comprehensive review of existing policy recommendations at the level of video game clusters (and related creative and cultural industries), so that the new policy recommendations that will be devised during the other tasks of the **GAME-ER** project can build on them. By mapping and evaluating the existing policy recommendations, **GAME-ER** aims to improve the relevancy and usefulness of our policy recommendations.

The main research questions of this report are:

1. *What is the current state of art concerning policy, specifically in the form of policy recommendations, regarding the development and further growth of video game clusters?*
2. *How is video game cluster policy conceptualized and operationalized on the level of policy recommendations?*
3. *How have key industry and policy stakeholders addressed the question of video game cluster policy in the European Union (and possibly elsewhere)?*

The report is divided into three main sections. **The first part summarizes the existing academic writing on video game industry policy.** The goal of this section is to discuss and review the influence of policy on the video game industry more broadly, not only on the level of clusters and similar spatial groupings.

The second part of the report explains the methodology, including the key analytical dimensions partly based on *D3.1-Analysis grid and interview script*. This section also provides descriptive statistics regarding the collected policy documents and a brief background of key organizations that have commissioned their creation.

The third part consists of the analysis of the policy documents with the emphasis on policy recommendations. The goal is to identify recurring themes across the corpus of policy documents as well as concretely formulated recommendations. This third part is divided into two sections. The first section uses the analytical grid to analyze key dimensions of cluster policy. The second section provides an overview of previous policy recommendations.

1.4 Key Definitions

Following on the *D3.1- Analysis grid and interview script*, this report also uses Michael Porter's definition of industry clusters as *"geographic concentrations of interconnected companies, specialized suppliers, service providers, firms in related industries, and associated institutions (e.g., universities, standards agencies, trade associations) in a particular field that compete but also cooperate."* (Porter 2000, 16). This definition emphasizes the geographical dimension of clustering and takes into account the involvement of other types of actors beyond companies. Both aspects are key to understanding clusters and cluster effects in the video game industry.

As the goal of the report is to analyze policy recommendations, it is important to define what is meant by policy in this context. Policy in its broadest sense can refer to any form of management or procedure, but for the purposes of this report the main interest lies in the role of public policymakers and how they influence industrial development, specifically in the video game industry.

In academic writing, this type of policy is usually referred to as *industrial policy*, but there are many other related terms such as *productive development policy*, *structural transformation policy*, or *innovation policy*, which share many of the same features (Aiginger and Rodrik 2020) and are based on the *"deliberate efforts on part of the government to shift economic activity towards more dynamic and rewarding activities with an array of policy tools."* (Lauridsen 2018, 329). Industrial policy as a strategy to promote industrial development has undergone many shifts regarding its usefulness, which is why some of the newer terms like *innovation policy* have been introduced by advocates of such interventions to sever the past negative connotations of the original term (Aiginger and Rodrik 2020; Chang and Andreoni 2020; Noland 2007). Cluster policy differs from industry policy and its various updated versions by shifting the focus from individual industries, usually at the national level, toward locations and the interconnected between fields and industries (Porter 2000). The topic of cluster policy and its operationalization for the sake of analysis is explored further in [Section 3.3.1](#).

2 VIDEO GAME INDUSTRY AND POLICY

While the general research on policy and video games has been a relatively established area of scholarship since the mid-2000s with central issues like violence (Azam 2023; Conway and deWinter 2015; Felini 2015; Guins 2009; Nikken and Jansz 2007; Stroud and Chernin 2008; Tocci 2008), intellectual property (Deng and Chen 2023; Lastowka 2013; van Roessel and Katzenbach 2020), or monetization (Lehdonvirta and Virtanen 2010; King et al. 2019; Perks 2021; Schwiddessen and Karius 2018; Woodford 2016), the intersection of policy and video game industry has not received as much attention.¹ Still, even the relatively sparse work in this area has outlined the potential effects of policy, both economic and cultural, on the video game industry.

For example, the rise of China as a key market and actor in the global video game industry has been understood in the context of China's more open market policy starting from 2001 (Chung 2008; Kerr 2017). Such policies did not focus exclusively on video games but encompassed cultural production more broadly. In the Nordic countries like Finland or Norway, public funding has been considered important for the growth of the national video game industries (Jørgensen 2019; Sotamaa, Jørgensen, and Sandqvist 2020). In these cases, the national policies directly target the video game sector. Scholars have also used Canada (Benghozi, Salvador, and Simon 2017; Darchen and Tremblay 2015; Dyer-Witthford and Sharman 2005) and South Korea (Benghozi, Salvador, and Simon 2017; Chung 2008; Kim and Lee 2020) as examples of effective video game industry policy.

Among EU member states (including former members), the following countries have received scholarly attention: France (Dauncey 2012), Ireland (Kerr 2012; Kerr and Cawley 2012; O'Brien 2019), the Netherlands (Heslinga 2024; Nieborg and de Kloet 2016), and the United Kingdom of Great Britain and Northern Ireland (Kerr 2012; Webber 2020). The level of the entire EU has also been covered by scholars (O'Brien 2023) although this space is quickly evolving as more and more countries implement some forms of public support for the video game sector. Outside the EU and China, researchers have also studied the national contexts of Chile (Baeza-González 2021), Malaysia (Wong 2024), Serbia (Pitić et al. 2020), or Singapore (Chung 2008). The global video game industry policy landscape has also been covered regarding potential cross-sector collaboration within the CCIIs (Klimas et al. 2025).

However, due to the highly globalized nature of the video game industry (Kerr 2017) there are also dangers to the national support of video game production, especially in the case of peripheral regions of the video game industry. For example, Chilean national policies for video game industry have been exploited by foreign publishers (Baeza-González 2021). This can be seen as an effect of

¹ This statement applies especially to academic publications such as journals and edited collections. Increasingly, reports are reflecting on the issues on the intersection of video game industry and policy as can be also seen based on the analyzed policy-related documents (e.g. COE2024, EC2023, WIPO2024).

the production networks that privilege centers of the industry (Jaroslav Švelch 2021). Peripheral actors are in this regard dependent on platforms or publishers to reach global audiences, which puts them into a disadvantageous position. The role of video game platforms like Steam (Thorhaug 2023) might resemble subscription video on demand platforms like Netflix, which received attention from scholars regarding economic and cultural policy (e.g. Davis 2021; Lordache, Raats, and Donders 2022; Lordache, Raats, and Afilipoaie 2022; Szczepanik 2020), but the situation is different in the video games sector where many local producers aim at international markets as opposed to local film and television productions addressed at local audiences (c.f. Szczepanik, Zahrádka, and Macek 2020). These complex dynamics of the globalized video game industry raise the stakes for policy interventions, especially at the national and local levels.

2.1 Video Game Cluster Policy

The prior research on video game industry clusters (51 articles in total) has been covered for the **GAME-ER** project by the report *D2.1-Report on the current state of knowledge on Video game industry as CCIs*, this section will therefore focus specifically on the intersection of clusters and policy as covered by existing academic literature. Not all the articles cover the role of policy in the clusters.

Among the previously studied video game industry clusters, **Melbourne** has received the most scholarly attention regarding the role of policy and public support (Banks and Cunningham 2016a; 2016b; Darchen and Tremblay 2015; Keogh 2020; 2021). After the Global Financial Crisis (GFC) in 2007–2008, the Australian video game industry went through a phase of “creative destruction,” following the departure of U.S.-based major publishers and studios (Banks and Cunningham 2016a). This has forced Australian video game developers to rethink their approach to video game production due to a decline in foreign investment in this field. The new center of the Australian video game industry was established in Melbourne also due to the public support programs on the state level such as Film Victoria and Multimedia Victoria (Darchen and Tremblay 2015; Keogh 2020; 2021). Victoria state government subsidizes creative and cultural industries, including video games, and attracts a lot of the Australian talent. Melbourne has a history of video game production dating back to the early 1980s. It also benefits from its big agglomeration as the most populous city in Victoria and the second-most populous city in Australia. Victoria as a state also has a strong support for ICT industry, which adds to the attractiveness of Melbourne as a video game industry cluster (Darchen and Tremblay 2015).

Montreal is a major hub of the Canadian video game industry, which as a whole receives strong national support (Darchen and Tremblay 2015). For Montreal and Quebec as a state, Darchen and Tremblay identified two key policy initiatives that helped grow the local video game industry cluster. One is the National Film Board, which is financed by the Canadian federal government, but has its head office located in Montreal. It has acted as an important accelerator for the Montreal video

game cluster. The second policy was the Multimedia City, supported by the provincial government, which contributed 25% of the wage bills for jobs created in a specific zone of Montreal.

In China, video game clusters in Shenzhen (Yang and Chan 2021) and Shanghai (Huang 2022; 2024) had developed also thanks to support of cluster policies. Shenzhen government set up various programs and policies and reportedly Tencent's founder was attracted by the local government's support for high-tech startups, including tax incentives, but also a development of educational programs in the area (Yang and Chan 2021). Shanghai benefits from the fact that is a home to the China National Center for Developing Animation, Cartoon, and Game Industry, and the nation's first Pilot Site for Local Online Game Management (Huang 2024). According to Huang, this provides an advantageous position for Shanghai as a place to experiment with and advance policy initiatives.

In Malaysia, Kuala Lumpur constitutes a key cluster of the local video game industry (Wong 2024). As a capital city the location already attracts entrepreneurs and talent, but this effect was further heightened through the activities of the Malaysia Digital Economy Corporation (MDEC), which started cover video game production in 2012, as well as the establishment of an incubator space for training. Kuala Lumpur's central position was further solidified by the annual industry conference Level Up KL. Wong in this regard emphasizes the role of the MDEC in developing the local cluster.

3 METHODOLOGY

This section describes the methodological background of the report, including the data collection process, description of the corpus of policy-related documents, and the analytical process.

3.1 Data Collection

The data collection process started in May 2024 and was concluded in November 2024. Already at the grant proposal stage, **GAME-ER** consortium partners have identified key actors and organizations for video game industry policy in the EU. These included the **European Commission** (and its initiatives and projects such as the European Cluster Collaboration Platform) and the **European Game Developers Federation** – an important trade organization, which brings together national trade organizations from across Europe. **GAME-ER** also wanted to acknowledge the work and contribution of previous projects within the area of video game industry development, such as the **Baltic Game Industry – Empowering a Booster for Regional Development** (2017–2021). With this initial set of relevant policy-related organizations, **CUNI** sought out individual policy-related documents and statements. For the purposes of data collection, **CUNI** has intentionally excluded academic publications, which are analyzed as part of the literature review in [Section 2](#) of this report.

During the first round of data collection, which involved help from all the **GAME-ER** consortium partners, **CUNI** gathered 29 policy documents. The baseline set in the grant proposal was 20 documents, but it was soon realized that not all documents, which touch on video game industry policy, feature policy recommendations, which constitute the core of the analysis (more on the issue of relevance in [3.3.1](#)). To get a wider array of policy documents, **CUNI** initiated a second round of data collection, which was conducted by searching through reference lists of the previously collected documents. This step yielded 12 additional items, bringing the total number to 41. During the internal review process in January 2025, one additional document was added (COE2024).² Altogether, the corpus consists of 42 items.

3.2 Corpus Description

For cataloging purposes, **CUNI** has established a system of identifiers based on the initials of the commissioning organization and the year in which the document was published. For example, EC2006 stands for the document *The Economy of Culture in Europe*, which was commissioned by the European Commission and published in 2006. These identifiers are used throughout this report instead of traditional references to show which organizations or institutions have commissioned a

² The document in question (COE2024) was published in November 2024 after the data collection process had been concluded.

cited or referenced document. We believe that this is relevant information that would not otherwise be easily visible if the referencing system focused on authors as is usual for established citation styles as opposed to commissioning organizations. All collected documents are listed in [Appendix A](#), which includes all relevant bibliographic material.

As mentioned, the data collection process was guided by our understanding of key policy actors in the space of European video game production. This is where the knowledge of industry partners within the **GAME-ER** consortium was essential for building a corpus of relevant policy-related documents. **Tables 1** and **2** show the most represented organizations within the corpus and as expected the top ranks are occupied by the EGDF and the European Commission.

The **EGDF (European Game Developer Federation)** is an international trade association operating on the pan-European level by representing multiple national trade associations in the video game industry. As of December 2024, the EGDF comprises 24 national trade associations from 22 European countries (Belgium and Poland are represented by two organizations each); two of its member organizations act also as partners in the **GAME-ER** project, namely **CGDA** (Croatian Game Development Alliance) and **GDACZ** (Czech Game Developers Association). The EGDF is headquartered in Stockholm and formally registered with the Swedish trade association Dataspeksbranschen. Through its personnel, the EGDF is directly connected to several other national trade associations, among them also the Finnish Neogames. Jari-Pekka Kaleva, the EGDF's managing director since 2013, holds the position of chief policy advisor at Neogames. The primary constituents of the EGDF are small to medium enterprises (SMEs) active in the video game industry. The EGDF publishes policy statements as well as annual reports about the European video game industry, drawing on the data provided by national trade associations. The EGDF lobbying activities focus on the EU.

The **EC (European Commission)** is the primary executive arm of the European Union. The EC funds various research and development projects, including the Horizon Europe program or the European Cluster Collaboration Platform. Through these activities, the EC produces or commissions policy-related documents regarding the video game industry.

The **WIPO (World Intellectual Property Organization)** is a specialized agency of the United Nations (UN). Through its focus on intellectual property rules and policies, the WIPO publishes relevant policy-related documents, which also cover the video game industry. Compared to the EGDF and the EC, the WIPO operates on a global scale.

The **Baltic Game Industry** (hereinafter referred to as **BGI**) is not technically an organization, but it is listed as commissioner/author due to the project's specific focus on the video game industry and clusters in the Baltic Sea region. The project was co-funded by the European Regional Development Fund.

Other organizations represented in the corpus include national trade associations like the French Syndicat National du Jeu Vidéo (**SNJV**) or the Finnish **Neogames**, national game developer trade unions such as the **Game Makers of Finland**, national governments and legislative bodies, as well as types of businesses, including accelerators (**TheCAP**), consulting firms (**Institute for Innovation and Technology**), and research centers (**Foundation Robert Schuman**).

Table 1 - Overview of commissioning organizations represented in the corpus of all collected policy-related documents.

Commissioner/Author	Number of collected policy documents
EGDF	13
European Commission	9
SNJV	3
UK Government	3
WIPO	3
Baltic Games Industry	2
Australian Government	1
Council of Europe	1
European Parliament	1
Foundation Robert Schuman	1
Neogames	1
Game Makers of Finland	1
House of Commons, UK	1
Institute for Innovation and Technology	1
TheCAP	1
Total	42

Not all the collected documents contained relevant policy recommendations for video game industry clusters. The question of relevance is discussed in more detail in [3.3.1](#), but in short, many documents either focused on the policy landscape in the video game industry only in a very broad sense (such as by collecting information about existing funding opportunities) or clusters outside video game production. As the goal is to analyze policy recommendations for video game industry clusters, such documents were removed from the more in-depth analysis. The commissioning organizations from the corpus or relevant policy documents, which total 31 documents, are shown

in **Table 2**. This more focused dataset was also published in open access as one of the datasets created during as part of the **GAME-ER** (Jan Švelch and Nielsen 2025).³

Table 2 - Overview of commissioning organizations represented in the corpus of relevant policy-related documents.

Commissioner/Author	Number of relevant policy documents
EGDF	11
European Commission	7
Baltic Games Industry	2
UK Government	2
WIPO	2
Australian Government	1
Council of Europe	1
European Parliament	1
Foundation Robert Schuman	1
House of Commons, UK	1
Institute for Innovation and Technology	1
Neogames	1
Total	31

Figure 1 charts a chronological distribution of the relevant policy-related documents. The oldest document is from 2002, which aligns with the fact that the video game industry is a relatively new field (it was first established as a commercial industry in the 1970s) and that policy organizations have only recently started paying attention to this area. Also, the EGDF was founded in 2006, and it is a significant producer of policy-related documents regarding the video game industry.

³ The dataset is available on **GAME-ER**'s Zenodo Community ([here](#))

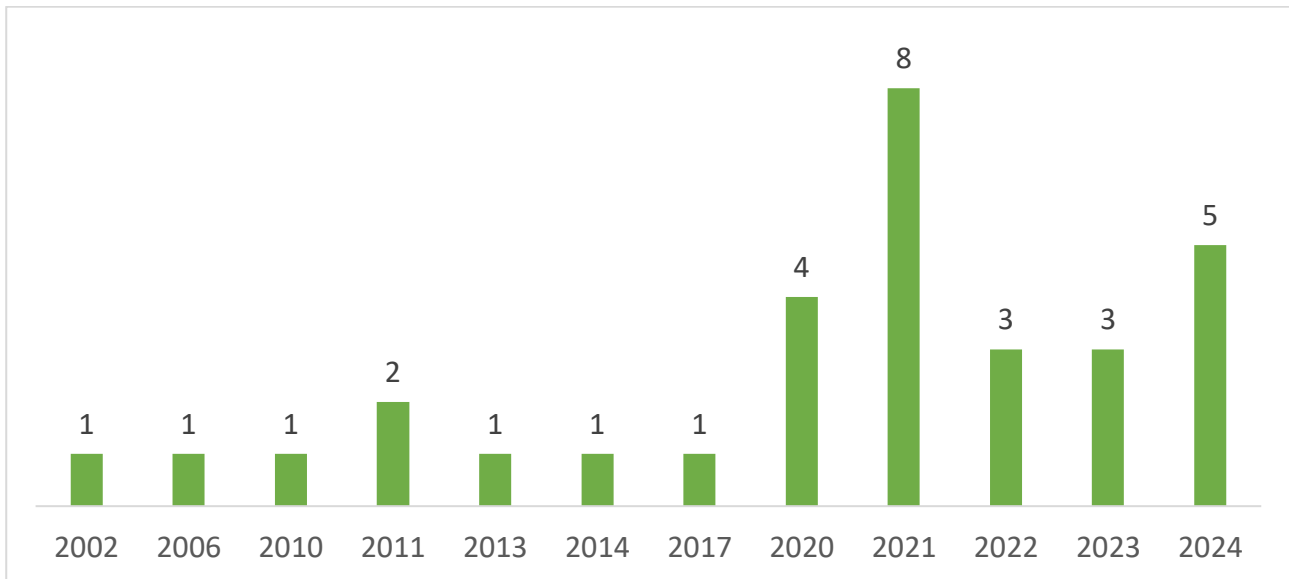


Figure 1 – Chart of chronological distribution of relevant policy-related documents; year is based on original publication of the document.

Figure 2 shows the geographical distribution of the commissioning organizations based on the official address of their registered headquarters. Using this logic, the EGDF is plotted in Sweden, the EC in Belgium, and the WIPO in Switzerland. The data labels denote the number of relevant policy-related documents produced by organizations from the respective countries.

The collected documents also differed regarding their format and genre, ranging from reports to statements and leaflets. This can be also illustrated on the wide spread of document length in terms of pages and words. The shortest document length was 2 pages or 899 words (EGDF2022), while the longest document length was 378 pages or 203,111 words (WIPO2021). The mean average word count was approximately 26,379 words ($SD = 45,479$). However, it is important to point out that not all sections of the documents were relevant for the analysis. With the more comprehensive documents, which cover many other industry sectors or other topics than policy, we have focused only on the relevant parts to better optimize the researchers' workload.

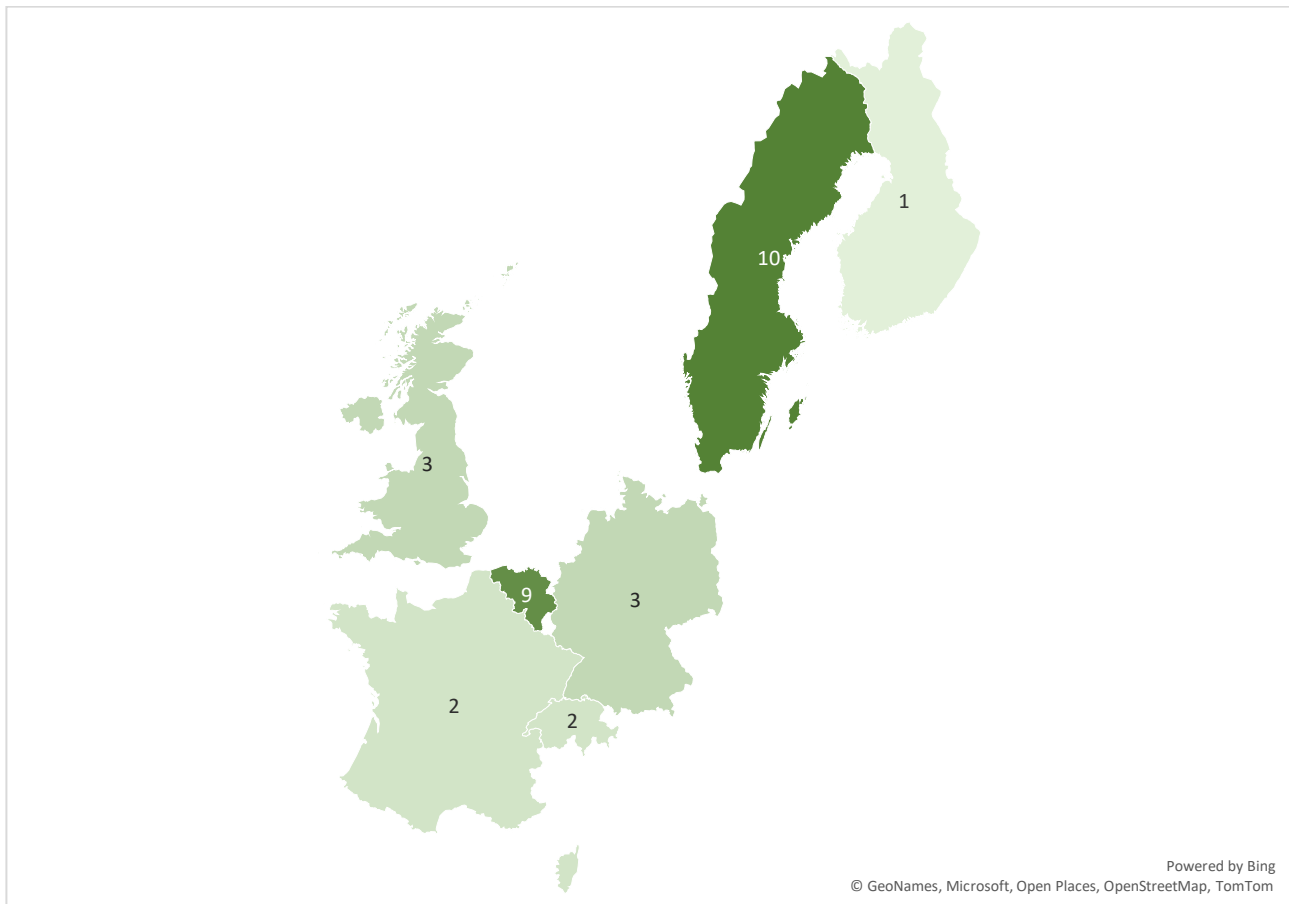


Figure 2 – Map of geographical distribution of commissioning organizations; Australia was excluded to streamline visualization.

3.3 Analytical Process

The analysis of policy-related documents was a multi-step process, combining deductive and inductive approaches. The first step was to identify documents containing relevant policy recommendations for video game industry clusters. The subsequent analytical process was guided by the analysis grid from **D3.1** (more in section [3.3.2](#)). The grid defines key dimensions of clusters, and **CUNI** applied it to see how these dimensions are addressed in policy recommendations. This part of the analysis is presented in [Section 4](#). Beyond this deductive approach, **CUNI** also paid attention to any relevant themes and patterns emerging from the documents in an inductive way. This inductive approach was the basis for the identification of existing policy recommendations, which are presented in [Section 5](#) of this report.

3.3.1 Operationalizing Policy Recommendations

The operationalization of video game cluster policy recommendations was a three-step process. First, it was necessary to define cluster policy and its scope. Second, it was defined what can be considered a policy recommendation within this particular context. Third, it was sought out policy recommendations designed for video game clusters or which might have relevance for video game clusters and through inductive analysis align with policies aimed at the video game industry. This process, which is outlined in more detail in the following paragraphs, resulted in the elimination of some of the documents collected from the corpus. Only those documents that offered relevant information regarding these criteria were further analyzed. In practice, this meant that some documents only, for example, described general cluster policies without focusing on the video game industry (EC2022). Other documents discussed the video game industry, but did not substantially touch on policy issues (CAP2020, EGDF2020A, GMF2022, SNJV2024B, UK2012, WIPO2021) and thus were also removed from further analysis. **CUNI** has also identified several documents that lacked any policy recommendations per se but provided a valuable overview of existing public support tools, which can be understood as part of the broader video game industry policy landscape. These documents (EC2021B, EGDF2018, SNJV2023, SNJV2024A) are classified in [Appendix A](#) as being partially relevant.

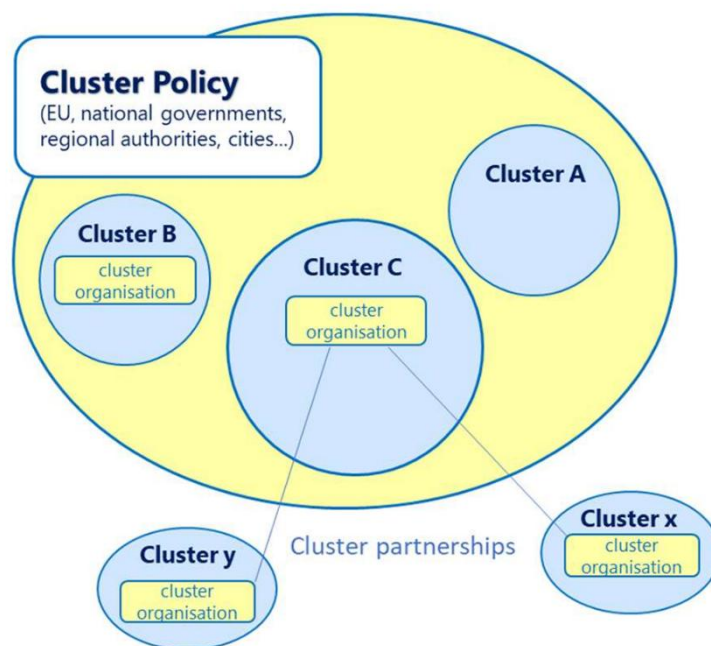


Figure 3 – A model of cluster policy setting Source: (EC2020, 8)

While clusters are defined by geographical proximity of firms, cluster policy involves more than just public support on a local level. According to Porter (2000), cluster thinking requires initiatives at the state and local levels and the integration of cluster interventions into overall economic policy. This wider context of cluster policy is visualized in **Figure 3**, which is taken from one of the collected policy-related documents (EC2020).

Acknowledging this broader policy context means in practical terms not only focusing on local recommendations from the corpus, but to also considering higher-level recommendations and how they can affect clusters. This wider perspective on cluster policy was also represented within the corpus even going to the oldest document collected: *“Industry development policies that are not explicitly ‘cluster policies’ are often consistent with cluster strategies.”* (AUS2002)

Another important part of the operationalization of cluster policy for analytical purposes is defining what constitutes a policy recommendation. For the purposes of this report, we consider any explicit suggestion for policymakers as well as broader recommendations for clusters as institutions a policy recommendation. Generic examples of policy recommendations can be seen in **Figure 4**. Arguably, the removal of policy hurdles, for example, in terms of prohibitive regulation can be also understood as a policy recommendation.

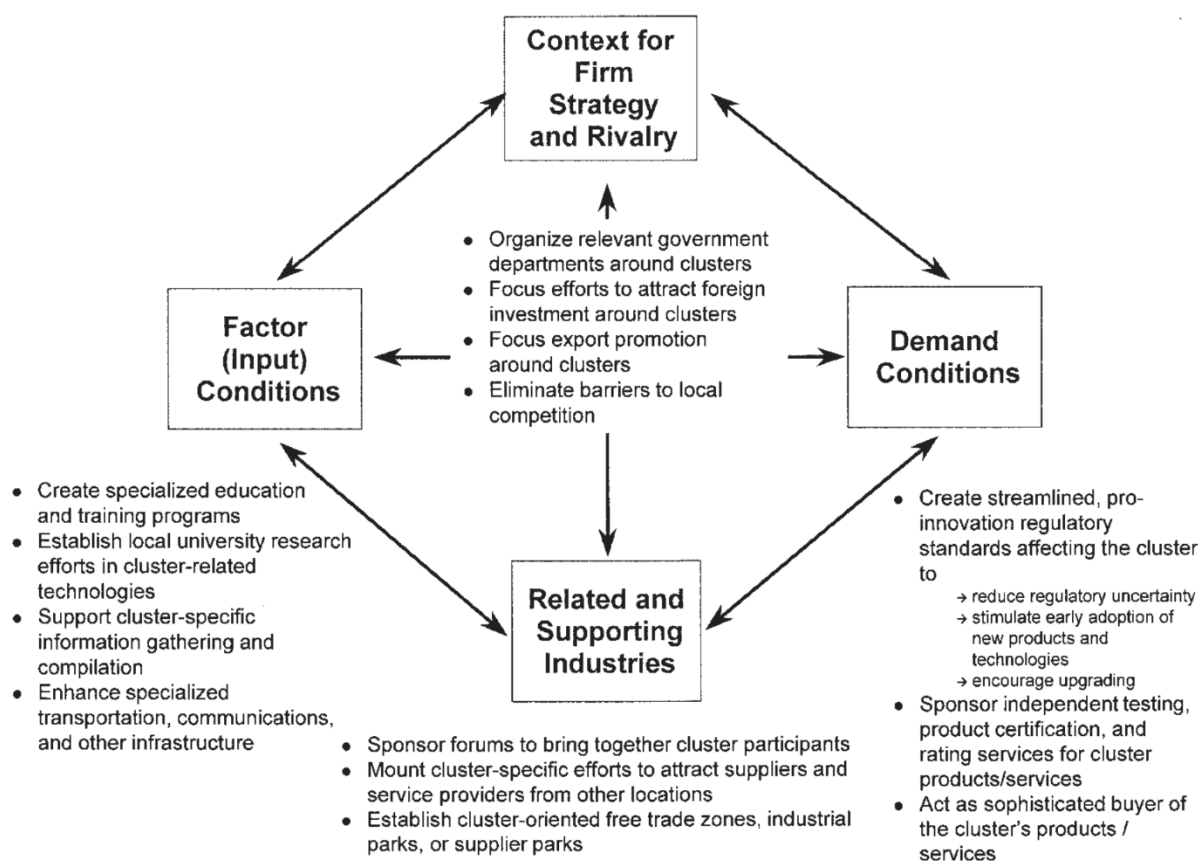


Figure 4 – Government influences on cluster upgrading (Porter 2000, 28)

The final step of the operationalization process was the relevance of the policy-related documents for the video game industry. **GAME-ER** deliverable **D2.1** provides an overview of the state of research on video game industry clusters, highlighting also their unique characteristics and challenges. This means that not all cluster policy is useful or aimed at video game production, which is usually considered as part of the CCI, although it might have some productive overlaps with ICT industries as well.

3.3.2 Analytical Grid

The analytical grid is described in **GAME-ER** deliverable **D3.1** and its primary intended use is for the analysis of empirical fieldwork related to project cluster case studies. For the analysis of the policy-related documents, **CUNI** focused only on the first of the four areas (see **Figure 5**). The first area *Underlying Issues* covers overarching aspects of clusters across five dimensions, which are then further expanded on in the other three areas. [Section 4](#) of this report is structured based on these dimensions and uses the questions from the grid as a framework for evaluating video game cluster policy recommendations.

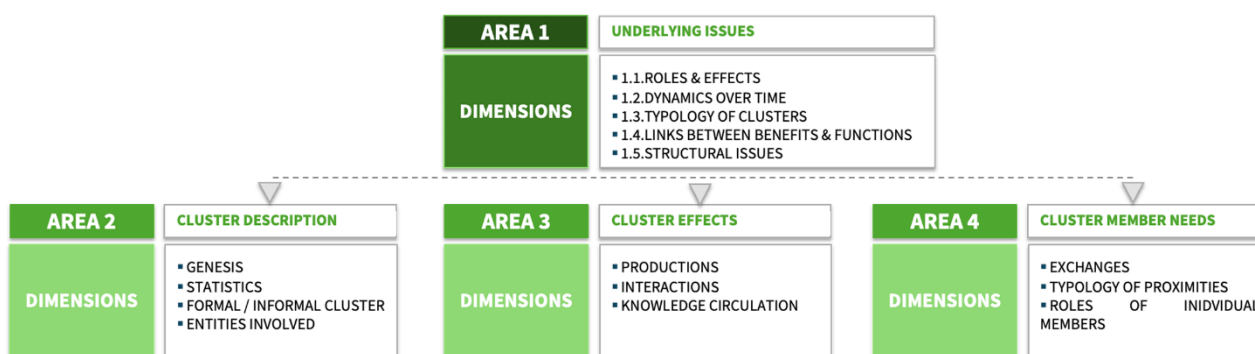


Figure 5 – An overview of the analytical grid (adapted from page 15 of D3.1)

Each of the areas and dimensions is further developed through a series of questions, which expand on the respective dimensions. The questions were used to guide the analysis of policy recommendations and to provide a structure for the presentation of our findings. However, the analytical grid was not primarily intended for the policy review, so not all the questions were used to structure of [Section 4](#).⁴

⁴ The unanswered questions from the first area of the analytical grid are:

- What are the hierarchical structure and the informal networks that contribute to the cluster's functioning? (Section 4.1)
- What are the main features of cluster leadership and strategic planning? (Section 4.2)
- What classifications can be applied to better understand these features? (Section 4.3)
- How does the cluster serve as a platform for bringing together diverse stakeholders with common interests and goals? (Section 4.4)
- How do these functions contribute to the overall success and sustainability of the cluster ecosystem? (Section 4.4)
- What are the transaction costs associated with interactions and exchanges within the cluster ecosystem? (Section 4.4)
- To what extent do clusters limit transaction costs and enable efficient matching, compared with the two main configurations of markets and firms? (Section 4.4)
- How do the reduced transaction costs impact on innovation, competitiveness, and overall economic performance within the cluster? (Section 4.4)

4 REVIEW OF POLICY-RELATED DOCUMENTS

4.1 Respective Roles and Effects of the Cluster

4.1.1 *What is the impact of the cluster's institutional framework (if it exists) on the intensity and form of collaborations among its members?*⁵

The analyzed policy-related documents speak about various institutional frameworks and their impact on clusters and their activities. For example, the European Cluster Alliance enabled SMEs and large corporations to co-develop solutions, addressing challenges such as skill gaps and technological advancements (EC2021A, 6, 14). Another example is the BGI, which demonstrated the importance of public-private partnerships and the integration of educational institutions with industry to support game developers (BGI2020B, 6). Such frameworks leverage structured collaboration among members through shared strategies and resource sharing.

In Finland, Business Finland (Originally Tekes; the state's official organization for innovation funding and trade, investment and travel promotion) allows members to pursue joint research and innovation projects. These projects are guided by clear governance and indicators, enabling participants to meet long-term goals effectively (BGI2020B, 24–27). Most importantly, Business Finland works closely with the Finnish video game industry trade organization Neogames to gain insight into how to fund games appropriately, compared to arbitrary success metrics.

Some institutional frameworks provide adaptive measures to policy shifts and economic conditions, helping clusters to adapt to policy and economic changes. For instance, the Lithuanian Innovation Center has proactively enhanced industry frameworks to mitigate bureaucratic delays (BGI2020B, 36–37). And more generally clusters function as a network match-making startups with funding opportunities.

For example, the establishment of game hubs in Grenaa, Denmark has enabled partnerships that elevate regional clusters to national and international prominence (BGI2020B, 8). On a larger scale, Estonian sTARt-Up days festival is a festival that seeks to match-make startups, entrepreneurs, investors, and students across multiple sectors such as financial technology, medical technology, education, and video games (BGI2020A, 22–23). Such initiatives for peer-matching facilitate international market entry and resilience against global challenges, including scaling.

⁵ Research questions are adapted from D3.1.

4.1.2 *What are the main features (intensity and form) of the collaboration between the cluster's members?*

Intensity of Collaboration

High-frequency interactions consist of regular and structured exchanges. Examples include joint projects, frequent meetings, and shared platforms to discuss strategies and initiatives (EC2020, 45, 54). For instance, the BGI highlighted periodic “innovation dialogues” to ensure cohesive actions (BGI2020B, 6). An integrated ecosystem approach is built on intense collaborations across diverse sectors within the cluster, such as combining educational institutions, government bodies, and private industries. This integrated approach strengthens clusters’ resilience and adaptability (EC2021A, 8). For example, Ventspils Digital Centre (VDC) in Latvia was a funded initiative by the local municipality with an early platform called e-Ventspils, which offered public services such as internet, printing, copying, scanning, consultation, and support. Monitoring a large demand for technological education led to an ICT strategy on IT talent targeting youths. This spiraled the collaboration with local educational institutions to overcome course overlaps, alongside modest financial support for startups (BGI2020A).

Low-frequency interactions consist of bottom-up approaches such as Lithuanian game development community, employed to identify industry challenges collaboratively and engaging government bodies to develop tailored support measures. This reflects a grassroots form of collaboration (BGI2020B, 36). Similarly, the development scene in Latvia sought to increase local talent through the VDC’s collaboration with Latvian Game Developers Association (LGDA) with its main output/results being continuous communication about industry events, tutorials, and online community events. The partnership supports local capacity building through initiatives like monthly meetups and tutorial video creation. This form of collaboration is educational and community-driven, focusing on local talent growth (BGI2020B, 34).

Forms of Collaboration

As already alluded to in the previous section, there are various frameworks clusters can adopt. These often also exemplify the ‘forms’ of collaboration engaged in. For example, public-private peer-matching link government agencies with private enterprises to implement sustainable innovative solutions and policies in the BGI (BGI2020B, 5). This form also applies to startups seeking public funding, where clusters disseminate and match public funding opportunities.

Resource pooling (see also [Section 4.4.2 Pooling function](#)) means shared resources, including funding, talent, and infrastructure. For example, the Finnish game industry leverages national and regional funding to sustain incubators and innovation hubs (BGI2020A, 26). On a policy lobbying level, Neogames’ initiative of twelve meetings with key decision-makers to draft policy documents led to governmental commitments for a one-month immigration process and increased funding by €13 million (BGI2020B, 17; NG2021). This collaboration can be considered intensive between

Neogames and government agencies, and demonstrates a proactive form aimed at talent attraction and legislative change.

Cross-sectoral cooperation involves diverse stakeholders from technology, culture, and arts sectors, enriching projects with multidisciplinary perspectives, particular to the circular economy initiatives (EC2021A, 14). For example, Business Finland presumably sprung out of Nokia's cluster commitment to innovation (WIPO2024, 114–115), which together suggests that a cross-sectoral focus is one of the most natural forms of cluster collaboration. Another example is *Krakov Technology Park* (KTP) fostering a collaborative ecosystem by engaging 500 enterprises, universities, and local governments. Their collaboration efforts have established *Digital Dragons*, a major video game industry conference, and contributed to the inclusion of creative industries in regional smart specializations. This illustrates a broad, multi-stakeholder form of collaboration focused on long-term industry growth (BGI2020A, 37–38).

This dovetails the innovation-focused networks form, that prioritize research and development and technological advancements through joint ventures and innovation labs, in the case of Finnish game developers (BGI2020B, 17–24). Furthermore, knowledge sharing platforms approach is an extension of this, promoting information exchange, peer learning, and capacity building.

4.1.3 *How formalized structures and governance mechanisms within the cluster facilitate or hinder collaboration dynamics?*

The Finnish video game industry trade organization Neogames demonstrates how formalized governance mechanisms, such as organized advocacy efforts and structured policy negotiations, facilitate collaboration. As previously mentioned, by engaging government stakeholders through twelve formal meetings and submitting structured policy proposals Neogames achieved concrete results, such as immigration process reforms and increased funding (BGI2020B, 17).

Facilitators of Collaboration

Public-private synergies such as *Game Hub Denmark* foster partnerships between municipalities, educational institutions, and private businesses, which help align goals and allocate resources effectively (BGI2020B, 6). Similarly, unified strategic vision in Grenaa where stakeholders developed shared branding and strategic goals to represent their cluster externally, reportedly enhanced collaboration with outside stakeholders (BGI2020B, 8).

Another example of facilitating factors is *Film Australia Limited*, located in the Sydney suburb of Lindfield that adopts formalized cluster structures through its purpose-built facilities that act as a business incubator. These facilities enable collaboration among film production companies and tenants by providing shared resources, such as sound stages, editing suites, and post-production facilities. This structured environment fosters sustained, resource-efficient partnerships (AUS2002, 26).

Broadly speaking, this support for creative networks is a governance mechanism focused on peer coaching and creative partnerships, which improve knowledge sharing and adaptability in the creative and cultural industries (EC2021A, 12).

Hindrances to Collaboration

Barriers in funding access introduce power disparities for small businesses and entrepreneurs, especially when governance frameworks fail to acknowledge the unique needs of creative industries. For example, fragmented public support systems often exclude micro-businesses and startups in the video game industry (EGDF2021D).

Taxation and administrative hurdles caused by inconsistent fiscal policies between regions complicate the free movement of services and create friction for cross-border collaboration in clusters (EGDF2021C). Economic priorities might end up being misaligned with cluster needs where governance priorities diverge from cluster-specific objectives. For instance, economic constraints delayed physical infrastructure investments in Grenaa, hampering the cluster's development (BGI2020B, 8).

Remote work challenges, such as uneven access to digital infrastructure, hinder effective remote work for many micro-enterprises in cultural and creative industries (EC2010, 8). Additionally, governance structures struggle to address the “gatekeeping” role of large digital platforms, further complicating remote collaboration dynamics (EC2010, 9; EGDF2021A).

Ultimately, this exemplifies a poor infrastructure. For example, slower broadband speeds compared to Asian countries like South Korea, indirectly hinders formal collaboration in Europe’s video game clusters. Reports indicate that stronger broadband infrastructure supports higher levels of clustering and inter-firm collaboration, emphasizing the role of foundational infrastructure in enabling collaboration (EC2017A, 199).

The result is a patchy, or ad hoc collaboration rather than formalized, which is also seen in the Australian game industry (AUS2002A, 27). Examples of informal arrangements, such as information exchanges or equipment sharing, highlight the limitations of lacking long-term, structured governance mechanisms, which could otherwise sustain collaboration.

4.1.4 *What is the role of leadership, policies, and resources in shaping collaborative efforts?*

Leadership

National trade associations, such as the Finnish Neogames, often assume a leadership role and act as a strategic intermediary, facilitating dialogue and understanding between diverse stakeholders like policymakers, industry leaders, and the local ecosystem (BGI2020B, 15). The EGDF as a pan-European trade association emphasizes the importance of setting global administrative and governance standards. The organization promotes best practices in VAT (value added tax) systems, consumer protection, and data management, benefiting smaller businesses with limited resources (EGDF2021C, 2–3).

In Grenaa, the Norddjurs municipality's commitment to becoming a partner in a game cluster has enhanced opportunities for funding and ecosystem development. However, diverging economic priorities among partners have strained long-term cooperation, signaling a critical decision point for either staying local or expanding regionally or nationally (BGI2020B, 9). Similarly, the city of Tartu demonstrates strategic leadership by investing in events like sTARTUp Day and supporting a dedicated startup manager, fostering innovation and collaboration across creative industries (BGI2020A, 23).

Policies

Policies that prioritize local needs enable bottom-up approaches. In Lithuania, a bottom-up policy design facilitated innovation dialogues that addressed region-specific challenges like funding gaps and resource allocation (BGI2020B, 36; EC2021A, 11). The EU's *Pact for Skills* (part of the European Skills Agenda) integrates reskilling initiatives tailored to diverse industries, aligning workforce capabilities with evolving market needs (EC2021A, 23).

Business Finland (first as Tekes) has provided consistent funding to the game sector since the 1990s, evolving through programs like Fenix, Verso, and Skene. These initiatives professionalized the video game industry, creating substantial economic growth and job opportunities (BGI2020A, 24–25). Similarly, Germany's Medienboard supports innovative audiovisual content through repayable loans to enhance regional collaboration (BGI2020A, 28).

The policy review did not describe any internal cluster policies, as in cluster policies that govern how members operate, that contributed to cluster collaborations, compared to the above that describe governmental attitudes towards industry funding to boost the local/national economy.

Resources

Financial support through grants and state-backed instruments, like those provided by Business Finland, enables clusters to innovate and expand their global competitiveness (BGI2020B, 14; EGDF2021E). The EGDF highlights the critical need for user-friendly, AI-ready eGovernment solutions/platform, which would streamline cross-border transactions and data management (EC2021A, 2–3). Also, human resource development such as training workshops, and international mentor programs support the foundational infrastructure for long-term collaboration.

These efforts are seen in Helsinki's talent attraction initiatives and game hubs in the Baltic region (BGI2020B, pp. 8–11), as well as in Poland's Malopolska region, the Marshall's Office that has distributed significant EU funds to game studios, enabling research and development projects and initiatives like *Write the Game* workshops, further integrating regional resources into collaborative frameworks (BGI2020A, p. 40).

4.1.5 *How do institutional frameworks set norms, standards, and goals, while allowing network dynamics to foster creativity, innovation, and knowledge exchange?*

The *European Expert Group on Clusters* emphasizes the standard of integrating clusters into policy alignment and goal setting at regional and national levels. This includes aligning clusters' goals with broader societal objectives, such as the green transition and circular economy (EC2021A, 7). Clusters create conditions for facilitating shared value initiatives by pooling resources and expertise to address societal challenges. For instance, the 4-Werk Cluster in Belgium pioneered inclusive industrial innovation by making development technologies like CAD software and 3D printing readily available, in turn, building bridge between small and big enterprises (EC2021A, 24). Programs like the *European Network of Creative Hubs* foster interdisciplinary collaboration, creating spaces for peer learning and co-creation. These hubs enable knowledge exchange alongside formal initiatives (EC2017A, 238). On a high level, integrating clusters into policy alignment improves the perception of the cluster industry, such as video games, indirectly fostering ties between public organizations and industry stakeholders.

Institutional frameworks encourage cross-sector convergence by funding initiatives like the *FP7 ICT & Art Connect Program*, which paired artists with technologists to explore innovative solutions (EC2017A, 211). Clusters act as "innovation brokers," building trust among stakeholders and facilitating joint action to address gaps in technical expertise or market access (EC2021A, 17). Frameworks, like those described in the *European Expert Group on Clusters – Recommendation Report*, allow for dynamic adaptation to local conditions. By supporting open-ended projects rather than rigid structures, institutions encourage flexibility in innovation (EC2021A, 10).

Networks like the BGI's innovation dialogues promote peer-to-peer learning for sharing best practices and enhancing collaborative creativity across disciplines (BGI2020B, 20). Creative hubs and incubators foster knowledge co-creation environments where participants co-develop new products and services. For example, Helsinki's city-led initiatives support collaboration between local businesses and academic institutions (BGI2020B, 36).

All in all, to allow network dynamics to foster creativity while still setting norms, standards, and goals, clusters rely on creating a shared identity as a brand that resonates with governmental regional, or national goals, preferably addressing challenges such as attracting skilled labor, jobs, innovation, or the environment.

4.1.6 What are the tensions between formal regulations and informal interactions within the cluster?

In the European video game industry, the absence of a specific NACE classifier for game development is a formal gap that hinders accurate monitoring and funding support for the sector (BGI2020B, 4, 34). Adapting to these obstacles, game clusters leverage community-driven initiatives such as disseminating funding opportunities. In Latvia, attempts to formalize the game development sector by introducing a new NACE classifier aim to reduce this tension and reconcile the informal realities of the industry with formal regulatory frameworks (BGI2020B, 34).

Unfortunately, this may not be enough to solve the issue of public funding, as support mechanisms and selection criteria primarily cater to formal R&D-focused companies, leaving smaller enterprises and hobbyists excluded due to their lack of know-how (BGI2020B, 11).

4.1.7 How do these formal and informal components and their tension influence the cluster's functioning?

Many game developers operate informally, relying on passion rather than formal support systems. As mentioned above, existing funding mechanisms focus on research and development projects, leaving smaller enterprises unable to access resources due to a lack of awareness or expertise. This limits the formal development of the cluster. However, clusters tend to make this one of their core pillars alongside education and dissemination such as, the EU-funded BGI (2017–2020) combined formal incubation structures with informal mentoring and networking. The program supported young game studios by addressing specific needs for mobile, PC, and console developers.

This hybrid approach demonstrated how formal instruments, like incubators, benefit from informal flexibility in their implementation (BGI2020A, 40). In addition, to kickstart inexperienced developers Neogames collaborate with Business Finland to match developers with funding opportunities. Neogames, as a cluster, looks out for the financial wellbeing of the games industry in Finland beyond funding mechanisms, Neogames' lobbying efforts in Finland addressed key formal regulatory

challenges, such as immigration barriers, to attract and integrate international talent. Informal dialogues with stakeholders played a crucial role in identifying and advocating for these changes, leading to improved immigration processes and employer incentives like tax relief (BGI2020B, 17).

This highlights how the formal and informal tensions in clusters fundamentally dictate the cluster's functioning, leading to clusters operations being diverse depending on the local policies and regulation.

4.2 Cluster Dynamics over Time

This section highlights the role of ICTs and broadband infrastructure in expanding the reach of creative content, enhancing distribution, and enabling market growth. It also stresses the importance of strategic planning and leadership within clusters to drive adaptation, innovation, and resilience.

Key initiatives include Europe's *Digital Agenda*, which aims to create a single market for digital content, and Innovation Union, which supports entrepreneurship and access to finance for CCIs. The success of clusters is measured using KPIs that assess innovation, economic impact, and cooperation within clusters (EC2020). This approach is illustrated with examples from Poland's video game industry, where strategic support and collaboration led to significant regional growth and international networking (WIPO2024, 118).

4.2.1 How did the cluster evolve?

In the policy documents, clusters are defined as dynamic geographic concentrations of interconnected firms, institutions, and stakeholders that have reached a scale that enables specialized expertise, services, and innovation. They play a vital role in fostering economic resilience and competitiveness. In the EU, over 3,000 clusters exist, employing more than 50 million people. They account for one in four jobs, highlighting their growing economic importance (EC2021A, 6).

Clusters emerged as geographically concentrated networks of interconnected companies, suppliers, and service providers that cooperate and compete. They foster innovation and collaboration across industries, particularly in cultural and creative sectors where social capital is essential. An example is the audiovisual cluster in Hilversum, Netherlands. However, geographic concentration alone does not guarantee collaboration across value chains (EC2017, 220).

In Australia, government support for initiatives such as FIBRE in the early 2000s addressed critical infrastructure needs, like bandwidth for the post-production industry. This support emerged from forums where sector-specific challenges were discussed, highlighting how policy and infrastructure development catalyze cluster evolution (AUS2002A, 37).

Specific to the video game industry, clusters are associated with regional techno-social circumstances. Such as the genesis of the PC techno industry in California and the Seattle metropolitan area, in comparison to the console industry in the Japanese video game industry (WIPO2024). In the EU, the most salient cases are Finland and Poland, with the former cluster springing from the rising mobile industry spearheaded by Nokia that picked up on the creative potential of the grassroot demoscene.⁶ The latter came about as a result of the consumer demand for media localization where CD Projekt initially translated CD-ROM disks and grew into developing games (WIPO2024, 113–116). These two case examples suggest that there is not a singular way or particular set of conditions for clusters to evolve.

Cluster evolution is unpredictable and lengthy. Success often begins locally with educational opportunities attracting talent and businesses, which in turn trigger public policy support. For instance, Ideas Lab in Aarhus and Game Hub Denmark in Aalborg illustrate how municipal support and educational institutions can drive cluster growth (BGI2020A). Remaining in Denmark, Grenaa evolved by integrating game development into education systems, from secondary school to bachelor's degrees, culminating in incubators for startups. These ecosystems developed outside pre-existing national frameworks and thrived through regional collaborations, such as Aarhus, Aalborg, and Grenaa pooling resources (BGI2020A, 7–8, 19). VDC in Latvia transitioned from providing basic digital services to becoming a modern regional digital hub, adapting to changing demands over time (BGI2020A, 32).

In Finland, Business Finland (formerly Tekes) built in-house expertise and launched specific game-focused programs like SKENE (2011–2015), which funded over 100 projects with €33.3 million, fostering innovation and industry maturity (BGI2020A, 13, 24). Lastly, Programs like Fenix and Verso set the stage for SKENE, which propelled Finland's game industry to international prominence (BGI2020A). Business Finland initiative, particularly its SKENE program, focused on professionalizing the game industry and fostering innovation. Over €33 million was invested in game projects, bolstering industry growth through targeted funding and expertise (BGI2020A). Similarly, Germany's Medienboard supports game development with repayable loans, promoting media convergence in the Berlin-Brandenburg region (BGI2020A).

4.2.2 *Are there particular moments of growth, stagnation, or decline?*

In terms of growth, the document *Mapping the Creative Value Chains* (EC2017, 219–220) adopts the concept of *convergence of sectors* to describe cluster growth as industry intersections lead to new industries emerging either through the emergence of a sub-industry, or by a fusion of old industries into a new one. Specifically, the Hilversum cluster in the Netherlands is raised as an example. The cluster consists of a network of companies in the audiovisual domain. The cluster has

⁶ The demoscene origins of the Nordic video game industries are explored in more detail in (Jørgensen, Sandqvist, and Sotamaa 2017).

successfully driven cross-sectoral innovation, particularly at the intersection of media, entertainment, and technology (EC2017A).

The Hilversum cluster is marked by a geographic and historical context, situated outside of Amsterdam and housing most television and broadcast related companies and institutions in the Netherlands. It is considered a 'dinosaur' media cluster conditioned on the early days of television and radio broadcasting (Hitters 2011). The decision to raise strong wavelength antennas made the city attractive to broadcast associations, making the cluster largely a result of infrastructural decision-making. Whereas digital media has resulted in the cluster's popularity waning since 2006 (Hitters 2011).

While not a case of game industry cluster, Hilversum shares with CD Projekt and the Finnish video game development scene the unique unforeseeable preconditions for a convergence of sectors to take place. The release of video games *The Witcher* in 2007 and *The Witcher 3: Wild Hunt* in 2015 marked key moments of growth, catalyzing institutional support and industry scaling. By 2023, the industry grew significantly, with revenues rising 2.5 times since 2018. However, lower spatial concentration compared to other global clusters raises questions about long-term collaboration potential (WIPO2024, 118). Finland's video game sector saw explosive growth during the SKENE program (2012–2020), with turnover increasing from €165 million to €2.4 billion. Public funding supported scale-up efforts, demonstrating sustained growth during this period (BGI2020A, 25).

Similarly, Estonia and Latvia saw growth as a result of the convergence of sectors. The annual sTARTUp Day event since 2016 has fostered collaboration among startups, investors, and innovators, positioning Estonia as a regional leader in entrepreneurship (BGI2020A, 22). And efforts in education and technology upgrades have yielded growth as a result of Latvian VDC's ICT strategies in 2015 and 2019.

Regarding stagnation or decline, the pandemic disrupted global value chains, severely affecting the cultural and creative sectors. Although clusters proved resilient to absorb production delays, reduced funding, and barriers to international collaboration caused by the pandemic, the period was still marked by decline for many clusters (EC2021A). The EGDF has addressed the effects of the pandemic on remote work as a solution to talent shortages, however this approach introduces taxation uncertainties especially for SMEs, which are not able to establish local subsidiaries in third countries (EGDF2022).

Beyond the pandemic, the UK faced stagnation and challenges in retaining talent, securing IP ownership, and attracting investment, despite being a leading digital economy it remains at a competitive disadvantage against lower-cost countries (SAC2011, 7).

4.2.3 *Are there any particular patterns followed by this evolution?*

As illustrated above, clusters emerge out of geographic concentration and specialization. Most commonly they form themselves in proximity to an existing industry with a sectoral focus. Institutionalization and innovation happen after being established, with scaling activities such as government interventions (e.g. EU's *Creative Europe* and COSME programs), provide funding and strategic direction (EC2021A, 12). This is considered the convergence of industries that involves two key processes: “emergence,” where industries collaborate to form new sub-industries, and “fusion,” where a new industry supplants its predecessors. The typical trajectory includes scientific collaboration, technological development, market alignment, and full industry integration, as exemplified in ICT convergence (EC2017A, 221).

As clusters become cross-sectoral and gain regional/national outreach, they also risk insufficient availability of skilled labor or financial resources, which can restrict growth. For example, clusters in Nordic countries, such as Norddjurs Municipality and Grenaa, have faced funding challenges due to changes in legal frameworks (BGI2020B, 8). Similarly, the Lithuanian cluster Ventspils, initially established as an educational platform for digital literacy and later expanded to include game development, has found EU funding inaccessible due to structural issues (BGI2020B, 34). This is a broader issue across the European Union, as the EGDF highlights that the economic activity code NACE groups game development and publishing together, despite these being two distinct aspects of the video game industry (see Broekhuizen, Lampel, and Rietveld 2013; Kerr 2017; Nieborg 2021). This leads to game developers facing challenges in accessing targeted funding, support programs, and policy considerations aligned with their industry needs (EGDF2021B).

4.2.4 *How did the cluster adapt to crisis and specific triggers of change (membership changes, technological advancements, market trends, and policy interventions)? Did the cluster exhibit resilience and adequate adaptation?*

As mentioned, clusters generally demonstrated their flexibility and resilience during the COVID-19 pandemic by quickly mobilizing resources and addressing supply chain disruptions (EGDF 2022). For example, they facilitated the production and distribution of personal protective equipment (PPE), ensuring swift responses to emergent needs (EC2021A, 21). Beyond the COVID-19 pandemic, Guangdong's industrial cluster during typhoons and Kobe's manufacturing cluster during earthquakes proved a high level of recoverability during these crises (EC2021C, 13).

Besides coverage on crisis adaptation to the COVID-19 pandemic, most policy documents address the policy intervention, or lack thereof, to changing the state aid rules and rigid selection criteria. A proposed “game communication” aims to establish clearer rules for cultural state aid targeting games, addressing barriers caused by bureaucratic inefficiencies (EGDF2018A, EGDF2024B).

Additionally, the industry's funding mechanisms remain underfunded and exclusive, limiting their impact on promising companies (EGDF2018A).

4.2.5 What is the role of cluster leadership and strategic planning in driving adaptation and resilience in the face of change?

The above already alludes to the leadership and strategic planning potential of cluster industries. In policy recommendations clusters are presented as an entity rarely associating achievements with individuals' and their approach to leadership. As such, in cluster leadership, we broadly refer to clusters' success in driving change.

The COVID-19 crisis is frequently raised as an example of the benefits of cluster leadership in industries. The *European Cluster Alliance* organized the mobilization of resources across borders, that rapidly addressed supply chain disruptions during the COVID-19 pandemic. For instance, they coordinated over 1,100 offers of medical equipment, showcasing the effectiveness of well-led clusters in addressing urgent needs (EC2021A, 6, 21).

Environmental regulations and “disruptive” technologies are other forms of crises that cluster leadership has helped tackle. For example, the Innovation cluster in Saxony – HZWO supports the industry of propulsion systems for transport. As the industry is charged to become emission-free, the cluster, funded by the Saxonian regional government, brings together research and local companies to develop technology solutions (EC2021C, 12).

Beyond navigating crisis, cluster leadership is effective for overcoming industry-specific barriers. For example, Gamecity Hamburg implemented tailored support programs such as incubators, prototype funding, and educational events to bolster indie game developers’ resilience and growth (EGDF2024C, p. 19). Similarly, SmartSports4GoodLife, a cluster partnership, adapted to the COVID-19 pandemic by revising strategies to prioritize upskilling and diversification, emphasizing the importance of dynamic strategic planning in response to external shocks (EC2021C, 12–13).

4.3 Typology of Clusters

4.3.1 What are the most salient features of the cluster (industry focus, geographical proximity, innovation levels, and governance structures)?

Regarding industry focus and innovation, Helsinki is known for its strong support for game development through youth programs, startup incubators, and partnerships with industry organizations. The city actively promotes innovation within the video game sector (WIPO2024, 122). Whereas, Poland Offers a well-rounded ecosystem, including accelerators like Krakow Technology Park and events like the *Digital Dragons* video game industry conference. It emphasizes research,

education, and cultural adoption, such as incorporating the video game *This War of Mine* (11 bit studios, 2014) into school curricula (WIPO2024, 122).⁷ The United States focuses on educational programs like DigiPen Institute of Technology, a private for-profit university in Redmond, and the first university to offer training specifically for careers within the video game industry (WIPO2024, 115). Tax credits indirectly support R&D and innovation in the video game sector (WIPO2024, 122–123). And in Canada innovation is driven by tax relief programs, such as Montreal’s multimedia tax credit, which helped the region grow from a minor hub to a global leader (SAC2011A, 14).

In terms of geographical proximity, again, Helsinki’s video game industry cluster thrives due to close collaboration among higher education institutions, local governments, and industry stakeholders. With 6.7 video game-focused institutions per million residents, Finland exceeds the European average, fostering a strong localized talent pool (WIPO2024, 122). Poland is also characteristic for its geographical proximity for its regional hubs like Krakow (Krakow Technology Park), Katowice (hosting Intel Extreme Masters and other esports events, as well as the Esports Association), and Poznan (hosting Poznan Game Arena Expo and the Game Industry Conference) that serve as industry accelerators with events, esports competitions, and international conferences (WIPO2024, 122). In Croatia, the *Gaming Incubator Bismarck* near Zagreb exemplifies regional collaboration, with funding from EU, national, and local partnerships supporting startups (EGDF2024C, 10).

4.3.2 *What are the contextual elements that influence the salient features of the cluster and its classification and how does this influence occur?*

The contextual elements influencing the salient features and classification of creative industry clusters, as seen through examples from Finland and Poland are multifaceted. In Finland, the collapse of Nokia’s mobile technology division in the early 2010s catalyzed the development of the Finnish video game industry. This transition was supported by Nokia’s funding and training, enabling former employees to establish successful game development companies. By 2022, Finland hosted 232 active studios with a total turnover of €3.2 billion, showcasing a tenfold growth compared to 2012. Additionally, institutional developments such as recognizing esports players as athletes in 2017 and integrating esports into the Finland Olympic Committee in 2019 have contributed to the industry's growth.

Whereas Finland's contextual elements were supported by governmental instruments and Nokia's commitment to the mobile economy, a similar situation is visible in regions such as Tartu, Estonia, where collaborations between universities, incubators, and tech parks have cultivated a sustainable start-up climate. Events like the sTARtUp Day festival and game incubation initiatives demonstrate how tailored activities create a nurturing environment for entrepreneurial growth (BGI2020A, 11).

⁷ *This War of Mine* has received scholarly attention due to its representation of civilian life during war (Bjørkelo 2019; de Smale, Kors, and Sandovar 2019).

Governmental interventions play a crucial role in cluster development. In Germany, the establishment of the German Game Fund (Deutscher Games-Fonds) in 2019 reshaped the country's video game industry landscape by allocating €50 million to support game development (BGI2020A, 26). While this funding fostered innovation, it also highlighted the need for coordinated regional and national efforts to avoid fragmented strategies.

Public authorities' involvement, as seen in regions like Malopolska, Poland, further reinforces clusters' sustainability. By taking on cluster management roles, governments ensure long-term strategies and mediate between political and business interests, creating stable ecosystems for creative industries to flourish (BGI2020A, 6–9).

In Poland, the contextual backdrop for CD Projekt's success stems from addressing a local challenge: widespread consumption of unlicensed video games. CD Projekt began by localizing games, including translating manuals and hiring well-known Polish actors for voiceovers, which created cultural relevance for Polish audiences. This localization culminated in the development of *The Witcher* series, which propelled Poland's video game industry into the global market. Here, cultural and linguistic adaptations served as key drivers, emphasizing the role of localized creative outputs in distinguishing a cluster's features and fostering international success (WIPO2024, 118).

Lastly, regional approaches to integrating cultural and economic policies also shape clusters' classifications. Finland, for example, distinguished its video game sector as an economic development category, rather than relegating it to cultural funding. This strategy positioned games as innovative exports alongside traditional goods, bolstering the country's global competitiveness. Conversely, Berlin, Germany, emphasizes cultural schemes to support its video game industry, allowing access to larger grants by linking games to cultural exemptions under the EU's GBER. Both approaches reflect how public policy frameworks and funding models influence the evolution and classification of creative clusters (BGI2020A, 13–15).

Similarly, Denmark recently transitioned from integrating video games under film industry governance to creating a separate games institute under the cultural ministry, enabling tailored policies for game development (EGDF2024C, 12). Moreover, Ireland improved funding transparency and accessibility through simplified application processes to strengthen the creative industries (EGDF2024C, 15).

Only nine video game industry clusters are discussed in sufficient detail within the corpus (in alphabetical order): California (WIPO2024), Dundee (SAC2011), Grenaa (BGI2020A, BGI2020B), Helsinki (BGI2020A, BGI2020B, WIPO2024, NG2021), Melbourne (AUS2002), Krakow (BGI2020A, BGI2020B), Seattle (WIPO2024), Stockholm (COE2024), and Tokyo (WIPO2024). The extent to which these clusters are described and analyzed differs with some being given more space even regarding their unique characteristics, while others are only briefly introduced. The former is represented, for example, by the Grenaa Game Cluster whose success is notable due to small size of the city as well

as the fact that there is no university in the area (BGI2020a) as opposed to, for example, Dundee, for which Abertay University is considered an important actor for growth and leadership of the cluster (SAC2011). The latter include California, Seattle, or Tokyo, which receive much less attention in the documents.⁸

4.4 Link between Cluster Benefits and Cluster Functions

Policy recommendations all claim the benefits of collaboration for video games as a creative industry. Emphasis is placed on the precarious nature of startups that rely on seniors' experience and a network to make it. It is argued that tacit knowledge cannot be transferred, it must be taught/relearned (EC2023). Labor mobility has been used and is promoted by companies as a direct foreign investment, sending workers abroad to subsidiaries to transfer skills through mentoring. The same principle counts for clusters. The principle is called moving brains rather than moving knowledge (WIPO2024). Grenaa is mentioned as a hub that managed to produce this by pitching its value proposition of attracting youth to the local municipality, which can otherwise be difficult for rural cities (BGI2020A). The Grenaa hub functions as an educational hub for students at lower and upper secondary education level.

Policy recommendations argue for a need for structural support or a 'platform', and financial support, from which clusters can enact knowledge management and dissemination, facilitate recruitment, handle stakeholder relations, and produce a clear and precise brand (BGI2020A). As previously mentioned, Krakow Technology Park and Business Finland are raised as two remarkable yet distinct examples of the genesis of regional hubs and how they support the game industry, the first originating from CD Projekt's business of localization sparking initial financial foundation for game development and the latter's demoscene being supported by Nokia's commitment to deliver mobile games on its platform (WIPO2024). Other sources claim that the success of Business Finland had to do with the government supported funding strategy of continuous evaluation of funding schemes impact and improvement over time, leading to immense industry growth in the region (BGI2020A). VDC in Latvia was a funded initiative by the local municipality with its e-Ventspils platform that offered the public services such as internet, printing, copying, scanning, consultation and support. Monitoring a large demand for technological education led to an ICT strategy on IT talent targeting youths. This spiraled the collaboration with local educational institutions to overcome course overlaps, alongside modest financial support for startups (BGI2020A).

⁸ Other video game clusters and hubs are mentioned only in passing, such as Aalborg and Aarhus (BGI2020A), Edinburgh and Glasgow (SAC2011), Hamburg (EGDF2024C), Katowice and Warsaw (WIPO2024), or Luleå, Malmö, Skövde, and Umeå (EGDF2024C).

4.4.1 What are the major functions of the cluster (pooling, lobbying, transaction costs)?

While pooling, lobbying, and transaction costs are identified as three major functions of industry clusters based on the analytical grid, clusters in practice do not have to fulfill all these functions to the same degree. In other words, some clusters might prioritize certain functions over others.

Pooling

Clusters act as platforms for consolidating and mobilizing resources to benefit the industry. For instance, the Game Developers Association of Australia (GDAA) brings together major developers and educational institutions to compile statistics, organize technical seminars, and develop industry-relevant courses. By pooling knowledge and infrastructure, the GDAA also provides introductions to overseas publishers and locates funding for its members (AUS2002A, 67). Similarly, the European Cluster Collaboration Platform supports training, matchmaking, and resource-sharing among over 1,000 registered organizations, helping specialized SMEs and large enterprises access opportunities (EC2020A, 38).

Lobbying

Clusters play a vital role in advocating for industry-wide policies and supporting mechanisms. The GDAA exemplifies this by representing its members' interests to government agencies and organizing events like the *Australian Game Developers Conference* (AUS2002A). At a European level, initiatives like the *Sustainable Games Alliance*⁹ focus on navigating complex regulatory environments, such as compliance with directives under the *European Green Deal*, which necessitate scientific substantiation of sustainability claims (EGDF2024C, 21).

Furthermore, disparities in public funding across the EU highlight the importance of lobbying for equitable support to prevent unhealthy competition and talent drain, as suggested by Daniel Wilén from the Arctic Game cluster¹⁰ at the *Games Policy Summit* at the *Nordic Game* conference in 2024 (EGDF2024C, 30).

Transaction costs

Clusters reduce transaction costs by facilitating connections, sharing knowledge, and enabling collaborative opportunities. Game hubs (more on the distinction between hubs and cluster in [Section 6](#)) in Sweden, such as *Game Habitat* and *Sweden Game Arena*, provide support systems that attract and retain talent, foster policy advocacy, and promote infrastructure development. Without these hubs, the industry's growth would face significant limitations (EGDF2024C, 26). Additionally,

⁹ *Sustainable Games Alliance* is a non-profit organization registered in Finland in 2024.

¹⁰ The cluster comprises four municipalities in Northern Sweden: Umeå, Skellefteå, Luleå, and Boden.

clusters enhance businesses' capacities to navigate regulatory and market complexities, helping companies understand political decisions and adjust practices to align with changing conditions (EC2021C, 12).

4.4.2 Pooling Function

4.4.2.1 What is the cluster's role in facilitating the pooling of resources, expertise, and capabilities among its members?

Clusters play a critical role in connecting indie developers with public funding resources and professionalization opportunities. For instance, Thierry Baujard from Spielfabrique (video game system catalyst registered in Germany) highlighted the organization's role in Creative Europe-backed initiatives like an exhibition program with Arctic Game, demonstrating demand for professional development among indie studios. Moreover, the creation of Indie Plaza, a Creative Europe-supported database cataloging over 200 funding sources, enhances resource accessibility for developers across Europe. Collaborative networks of public funds across countries like Germany and Switzerland also enable knowledge exchange and improve public funding mechanisms (EGDF2024C, 19–20).

Clusters often facilitate inter-generational knowledge transfer and collaborative events to nurture community growth and industry expertise. For instance, the *Helsinki Games Capital* organized the *Game Industry Retrospective* to promote knowledge sharing within the industry, while initiatives like mentorship programs and IGDA Leadership Day events in Helsinki foster collaboration and expertise exchange (BGI2020B, 24).

Clusters strengthen resource pooling by bridging the gap between educational institutions and industry needs. Initiatives like the BGI have fostered collaboration between universities, industry players, and public organizations, leading to better educational programs and infrastructure. For example, Ventspils established extracurricular programs and a science and innovation center to support the future game industry workforce, while Lithuania explored creating a national video game development accelerator to attract investments and foster talent (BGI2020B, 32–38).

Clusters identify gaps in funding and resources and actively work to address them. For example, in Helsinki, the *Get Funded* pilots revealed issues with both the availability of funding opportunities and the awareness among video game companies about their existence. These events provided targeted information on European funding mechanisms, helping studios better navigate funding landscapes and enhancing collaboration between organizations like Neogames and Business Finland (BGI2020B, 21–22).

4.4.2.2 *What are the mechanisms (such as shared infrastructure, joint projects, passing work to other companies, collective branding, and investment funds) that promote synergy and resource optimization within the cluster?*

Video game developers in Finland and Poland benefit significantly from European Union initiatives such as Horizon Europe and Creative Europe MEDIA, which subsidize research and development (R&D) and game development activities. These programs reduce costs and foster shared resources across national and local levels, ensuring that developers can access necessary funding and infrastructure (WIPO2024, 121).

In Finland, Business Finland (formerly Tekes and Finpro) has played a vital role since the early 2000s by funding R&D and game development for companies like Supercell. This includes projects like the DigiDemo grant, which offers additional support (WIPO2024, 121). Similarly, in Poland, government-backed programs such as the Development of Creative Industries program and GAMEINN, implemented by the National Center for Research and Development, promote joint initiatives and partnerships that align with national cultural and strategic priorities (WIPO2024, 122).

Programs such as the *Farm League incubator* in Finland (later rebranded as the *Living Game Intelligence Network*, or LGIN) demonstrate how incubators and mentoring networks nurture young talent by supporting game startups with limited resources. While LGIN operates on a smaller scale, it carries forward the learnings from the BGI project, emphasizing mentorship and resource-sharing (BGI2020B, 23).

Lastly, mechanisms like the VDC center in Ventspils provide direct financial support for businesses, covering costs related to mentorship, publishing, and participation in international events. These initiatives encourage collaboration and resource-sharing among industry stakeholders (BGI2020B, 33).

4.4.3 Lobbying Function

4.4.3.1 *What are the mechanisms through which the cluster fosters trust, solidarity, and collective action among its members?*

At the *Games Policy Summit*, Malte Behrmann (former general secretary of the EGDF) highlighted the importance of shared history and cultural understanding in fostering trust within the Nordic game development cluster. Reflecting on the early days of the Nordic Game Program, Behrmann emphasized how the program's initial design balanced technology, economy, and culture, addressing shared challenges while adapting to new ones over the years. This continuity in goals helped solidify collective values and priorities (EGDF2024C, 22).

In Tartu, innovation dialogues between the local government, Tartu Science Park, and the regional game development community were critical in building trust. These dialogues facilitated

knowledge-sharing, understanding of mutual goals, and the formation of joint initiatives. Stakeholders further deepened relationships through larger meetings held at key regional events, which strengthened collective action (BGI2020B, 10–11).

In Helsinki, collaboration between the local game industry and the city government fostered mutual understanding of key challenges. This partnership addressed issues at both local and national levels, ensuring that the industry's needs and benefits were communicated effectively. This joint understanding and advocacy-built solidarity across the cluster (BGI2020B, p. 14).

In Lithuania, a bottom-up approach to addressing challenges in the game development sector helped align stakeholders. Developers worked collaboratively to identify issues, propose solutions, and gather evidence of the industry's economic potential. Dialogue with the Ministry of Economy and other institutions ensured that the industry's specific needs were understood, strengthening trust and creating a unified vision (BGI2020B, p. 36).

4.4.3.2 *How do these mechanisms enable the cluster members to address shared challenges, advocate for common policies, and pursue mutual benefits?*

Clusters enable members to tackle shared challenges by fostering a common purpose, supported by organizations like the *Winemakers' Federation of Australia* and the *Australian Wine and Brandy Corporation*. These bodies drive collaboration in R&D, education, and infrastructure development. The integration of innovation strategies—like prioritizing industry-focused education and technology diffusion—has helped align members' interests and enabled collective action on issues such as market promotion and policy advocacy (AUS2002A, 20)

The *Sustainable Games Alliance*, a recent cluster initiative, showcases how clusters help navigate complex policy landscapes. By addressing EU directives, such as *Empowering Consumers for the Green Transition* (ECGT), the alliance enabled cluster members to adapt to stringent environmental regulations and mitigate risks of non-compliance, thus ensuring competitive advantage (EGDF2024C, 21).

Another example of effects from cluster mechanisms are Neogames' lobbying efforts in Finland, which focused on immigration policies, and resulted in significant improvements like streamlined immigration processes and increased funding for talent attraction. Such collective lobbying demonstrates how clusters can influence policy to address critical industry challenges (BGI2020B, 17). Not only has this resulted in changes to immigration procedures, but Helsinki also implemented targeted initiatives, such as creating promotional materials and spouse programs to attract and integrate global talent. Collaboration with public authorities ensured that resources and services (e.g., English-language support) were accessible, enhancing the local ecosystem's appeal (BGI2020B, 23).

On a broader industry level, successfully establishing trust means can enable a cluster to redefine the industry nationally. By influencing classification systems like Latvia's NACE, clusters facilitated better monitoring and support mechanisms tailored to the video game industry. This demonstrates how clusters can advocate for policies that enhance their members' operational and financial environments (BGI2020B, 34).

4.4.4 Transaction Costs

4.4.4.1 *Are there particular factors such as information asymmetry, coordination efforts, negotiation complexities, and enforcement mechanisms that influence transaction costs and shape the efficiency of cluster operations?*

Most policy documents raise the point about the ability of clusters to address information asymmetry regarding state aid. Public funding significantly mitigates transaction costs for indie developers, especially through professionalization programs like Spielfabrique's Creative Europe-backed initiatives. These programs address information asymmetry by offering structured opportunities (e.g., exhibitions) that connect developers to resources and networks. Tax incentives in countries such as France, the UK, and Belgium further enhance cluster efficiency by attracting developers to settle in supportive regions, leveraging economic growth and reducing negotiation complexities related to relocation (EGDF2024C, p. 19).

Similarly, Helsinki's second innovation dialogue emphasized the need for startups to access clear information about funding opportunities and business models. Peer support was highlighted as crucial for navigating market entry challenges, reducing informational gaps, and minimizing the complexities startups face in establishing themselves (BGI2020B, p. 15).

Also, the Nanny project in Sweden aimed to reduce information asymmetry by surveying underutilized public funding opportunities and creating a guide for developers. This initiative improved cluster efficiency by fostering a stronger dialogue between the industry and funders, ensuring developers could easily navigate financial resources. The planned public dissemination of findings reinforces the value of transparency and knowledge-sharing in optimizing funding access (BGI2020B, p. 47).

4.4.4.2 *How does the cluster mitigate the transaction costs through mechanisms such as improved information flows, standardized processes, shared platforms, and collaborative initiatives?*

Policy documents do not explicitly address transaction cost mitigation through cluster initiatives. Nevertheless, beyond disseminating funding opportunities, clusters also streamline communication in general, which indirectly reduces transaction costs. For instance, in Latvia, the VDC established a collaboration with the national video game industry trade organization LGDA, enabling continuous updates on events and opportunities, which are shared with the local community. Similarly,

newsletters curated in Sweden provided a structured way to connect publishers and developers, ensuring that relevant information is delivered efficiently, reducing search and coordination costs (BGI2020B, pp. 34, 46).

The Swedish Game Arena developed a standardized framework for *Corporate Sustainability Reporting Directive* compliance tailored to the video game industry. By providing a clear and uniform process for sustainability reporting, the cluster simplified compliance and minimized financial penalties for non-compliance. Similarly, the curated newsletter template in Sweden created a consistent format for presenting game projects to publishers, improving communication efficiency (EGDF2024C, 46).

4.5 Structural and Current Issues

4.5.1 *Are there any other specific issues, whether generic or specific, that may influence the role and benefits of the cluster?*

Funding is a repeated topic in the policy-related documents, or the lack thereof. The lack of proper and unbiased funding bodies is a recurring issue. While funding opportunities are different depending on the member country, all EU countries are able to apply for EU funding such as Creative Europe, Horizon Europe, and Erasmus+ (EC2023A). Yet, it is argued that the process is too complicated for early startups to invest time into (EGDF2024A). Similarly, funding bodies on the national level couple the video game industry with the film and television industries and use the same evaluation criteria. Policy documents stress this as an inherent bias, as these legacy evaluation criteria focus on cultural gain and ignore technological innovation, which is argued to be a significant factor in video game development. This structural bias reportedly leads to less funding for the video game industry overall (EGDF2024A; EGDF2021D). Among these generic issues is also the current exclusion of games from the GBER, which is considered an obstacle for the growth of the video game industry within the EU (EGDF2024B). In this regard, video game development lags the other areas of audiovisual cultural industries that already benefit from the GBER.

The issue of funding has to be addressed in a global context. National and lower-level funding policies in this regard all coexist within the wider network of the video game industry. This means that subsidies in one country can shift the balance in the industry and according to some policy documents thus require a similar approach from countries that want to stay competitive (COE2024). The French tax credit system for video game production has been seen as a necessary response to Canada's and especially Quebec's programs as these two countries also fight over the same pool of French-speaking talent (COE2024).

Taxation is also raised as a bottleneck for kickstarting the video game industry. One of the greatest concerns is the global industry climate, where many member countries are experiencing brain-drain as talent leaves for better conditions and pay abroad (UK2011). Additionally, on a supranational level, policy documents are concerned with the EU's competitive edge as almost all studios are being

bought up by international conglomerates leaving the EU in a situation of cultural sellout of potential IPs (EGDF2020B). As such, policy recommendations advocate for better conditions and a unified taxation system as startups do not have the resources to navigate each unique member country's taxation scheme (EGDF2021C; EGDF2021A).

Platformization of game development is also raised as a concern by some of the analyzed documents, especially the most recent ones from the corpus (COE2024, EGDF2024A, EGDF2024B, EGDF2024C). The video game industry has traded the publisher-studio relationship for the platform-studio one, making it much easier for indie studios and SMEs to develop and release games (Chia et al. 2020; Heslinga 2024; Nieborg, Young, and Joseph 2020; Werning 2019). However, the App Store, Google Play, Steam, GoG, and Epic all take a share of sales ranging from 12–30% depending on the distributor/platform. This takeover of the value chain is becoming a serious problem, as it works against state aid ambitions. It does not differentiate between indie and AAA studios with these fees, which contributes to structural issues of competition as indie studios and SMEs are being held at a global disadvantage (EGDF2024A).

Artificial intelligence and its use in video game development is another current issue (COE2024, EC2021A, EC2023, UK2022), which is being discussed primarily at the EU level, but any regulation can impact also national industries and clusters. Platform companies are also key actors in regulation with regards to these emerging issues. For example, Steam issued new rules in January 2024 requiring developers to disclose use of generative AI in games distributed through the platform (J. Porter 2024). Another related issue is the use of blockchain (COE2024), however, it is barely mentioned in the analyzed policy documents.

4.5.2 Are there new questions (market conditions, social issues, etc.) that may yield new influencing issues?

There are multiple prospective concerns that clusters may be able to address in the coming years: For example, the increasing demand for skilled workers in the video game industry highlights an urgent challenge. Sweden, for instance, projects a shortage of 25,000 developers within the next decade unless proactive measures are taken. Similarly, the UK has reported skill shortages in key video game development professions, such as graphic design, programming, and IT systems (SAC2011, UK2011). This reliance on international talent, with many workers migrating from outside the EU, raises questions about labor mobility, visa policies, and the future of workforce development (VGE2022, 17). This is only worsened by the declining investment in smaller studios and negative portrayals of the video game industry, particularly after layoffs, which is discouraging young talent from pursuing careers in game development. These perceptions challenge the industry's ability to attract and retain talent, necessitating cluster efforts to reshape public narratives and advocate for the industry's potential (EGDF2024C, 17).

Another issue, which has been central throughout the policy review is the fragmentation of global markets and increased regulation that are shaping funding mechanisms. Grants, loans, tax incentives, and public equity investments each have advantages and challenges, but a lack of cohesion across European funding structures risks undermining competitiveness. Expanding state aid instruments, like those under the General Block Exemption Regulation (GBER), could help counteract global competition (EGDF2024B). This issue is proliferated with the demand for sustainability and climate reporting. The push for climate change accountability introduces new reporting obligations, such as carbon accounting. These requirements could impose additional costs and complexity, particularly for smaller firms. Effective policy mechanisms, like grants or tax incentives, may be necessary to support compliance (EGDF2024C, 36). All in all, the reoccurring issue of funding calls for a systematic understanding of global public funding practices in countries like the U.S., China, and Japan is lacking. Comprehensive research into funding landscapes could yield insights for a European competitive edge and aligning policies with global standards (EGDF2020B, 5).

Lastly, AI innovation is reshaping copyright laws, potentially impacting business models. In the UK, for example, new exceptions for text and data mining aim to foster AI innovation while preserving rights holders' safeguards. This introduces new regulatory challenges for businesses reliant on licensing models, requiring them to adapt to changing intellectual property landscapes (UK2022, 14).

5 REVIEW OF EXISTING POLICY RECOMMENDATIONS

This section provides an overview of existing policy recommendations based on inductive thematic analysis of the policy-related documents. **CUNI** identified three major groups of themes based on their specificity and focus with regards to video game industry clusters. The first area of generic recommendations comprises policy recommendations that could be applied to other related industry sectors. The second area focuses on policy recommendations specifically aimed at the video game industry. This second group often highlights the specific characteristics of video game production compared to other fields of CCI and ICT and highlights the need for specific policy interventions. The final third area deals with recommendations for formulating policy recommendations.

5.1 Generic Recommendations

The area of generic recommendations is the largest one and as such it is divided into six subcategories based on a shared theme. Thematically there is some overlap with the second area of specific recommendations, which are discussed in the next section.

5.1.1 Funding

Regarding funding, several policy recommendations emphasize the need for developing funding opportunities. On a general level, these include long-term strategies for funding and overall, a more unified and cohesive approach to funding as opposed to short-term and scattered initiatives:

- Develop long-term funding instruments that support cultural projects beyond short-term initiatives, ensuring continuity and stability (EGDF2024C).
- Cohesive, aligned policies that integrate cultural and economic incentives to foster sustainable growth across the video game industry, supporting global competitiveness before intra-EU competition. (EGDF2024C)
- Unified funding mechanisms and policies across Europe to support small and midsize game companies (EGDF2024C).
- Coherence in public support systems' eligibility and selection to earn the trust of private investors (EGDF2024C).

Some policy recommendations suggest changes to specific mechanisms of funding, including the aid intensity thresholds or an increased support for crowdfunding:

- Increase all SME aid intensity thresholds to at least 60% (EGDF2021E).
- Better access to finance by supporting crowdfunding (including implementation of fiscal incentives/tax shelters) and public-private cooperation (EC2017).

In terms of the recipients for funding, the documents sometimes suggest a focus on start-ups:

- Focus on new, first-round start-ups to create a breeding ground for new success stories (EGDF2024C).
- Provide resources, mentorship and funding opportunities for start-ups and independent game developers to stimulate innovation and diversity within the industry (WIPO2024).

There is some division regarding the eligibility of EU funding for outside companies and markets. Some documents recommend a broader approach, while others advise strengthening regulatory mechanisms to prevent siphoning of EU funding.

- Support cultural and creative sectors (CCS) cross-border operations and expansion beyond EU-markets (EC2017).
- Require state and European funding to be used within the EU and not subcontracted outside (EGDF2020B).

5.1.2 Regulation

The theme of regulation is sometimes connected to the accessibility of funding opportunities, bridging the first two subcategories.

- Robust regulatory frameworks that balance market access with the promotion of European cultural identity (EGDF2024C).

A major issue, which was already mentioned in [Section 4.5.1](#), is the dominance of platforms in the video game industry. In this regard, individual policy recommendations take different stances toward the underlying trend of industry consolidation as can be also seen on specific policy recommendations in the next section, which focus directly on the video game sector. However, platforms present a larger issue not only in video game production, but also in film and television and other areas of audiovisual culture.

- Be open to industry consolidation. Antitrust issues notwithstanding, recognize and support the role of industry consolidation in achieving scalability, resource optimization and market expansion. Ensure that consolidation efforts are balanced by fair competition practices. Policymakers should focus on facilitating the type of consolidation that is healthy for consumers, so as to enhance global competitiveness (WIPO2024).
- Regulatory measures concerning online platforms should be set up on a sectoral basis (EC2017).

5.1.3 Leadership

Policy recommendations address issues of leadership regarding clusters and industry sectors. Leadership is interlinked with issues of funding and regulation as these two categories create conditions for the development of clusters and through allocation of funds and regulation such policies also influence which actors can assume leadership roles in a video game cluster. One dimension of this policy issue is the harmonization of various agendas and needs for cluster development and growth. Policy documents often emphasize the need for collaboration and bridging the realms of public authorities (on various levels, including national and local governments), educational institutions, and industry.

- Develop adaptive strategies that balance local autonomy with collaborative pan-European efforts, integrating financial and psychological support mechanisms to nurture sustainable ecosystems (EGDF2024C).
- Leverage diverse perspectives and foster resilient leadership to support innovation and growth (EGDF2024C).
- Cluster manager organizations should serve as intermediaries between public authorities and the industry (BGI2020A).
- Network the knowledge and its bearers in clusters through cluster management organizations (IIT2014).
- Foster collaboration between the universities and the respective companies of the sector (BGI2020A).
- Facilitate familiarization between digital industries and providers of finance (AUS2002)
- Encourage and support entrepreneurial ventures within the video game sector (WIPO2024).

In terms of leadership and collaboration, policy documents also highlight the desirability of cross-industry initiatives, which further tie into a more holistic approach to cluster policy mentioned in the funding subcategory.

- Create and support cross-industry clusters through, for example, innovation vouchers (IIT2014; WIPO2024).
- Encourage cross-sector collaboration between the EU video games sector and other EU sectors to maximize innovation and social benefit (EC2023).
- Support for spillovers effects between ICT and CCS (EC2017).

5.1.4 Education

Policy documents also generally advise education as a way for growing industry clusters as has been already discussed on the example of Grenaa (BGI2020A) or Dundee (SAC2011). These recommendations range from general investment in education to specific skills that are considered key for CCI and the video game industry.

- Strengthening the education and training offer to support the sector's future workforce (EC2023).
- Provide mentorship and education. Focus on education and gender diversity initiatives to cultivate local talent. (WIPO2024)
- Invest in media/digital literacy (EC2017).
- Invest in entrepreneurial education and skills (EC2017).

The issue of education and skill transfer is sometimes addressed through labor mobility and by bringing skilled talent from abroad to the cluster.

- Attract more talents from other countries (BGI2020A).
- Implement policies that facilitate the movement of talent within the industry thereby enhancing knowledge transfer and fostering innovation (WIPO2024).
- Support the integration of foreign talent into local hubs to address skills gaps (WIPO2024).

5.1.5 Data

A recurring theme among the policy recommendations is the need for data for both developing policy recommendations and assessing the effectiveness of policy interventions as well as for the industry and its access to various support programs and funding opportunities. The former includes the following policy recommendations:

- Provide data on the impact of public support instruments (EGDF2024C).
- Provide data and analysis on business models, technologies, and opportunities (EGDF2024C).
- Data collection and information provision (AUS2002).
- Make knowledge visible through forecast analysis (IIT2014).

In this regard, it is important to establish effective KPIs to measure various aspects of cluster policies and cluster development. The analyzed documents do not feature many concrete recommendations for KPIs, except for the EC2020, which adapts a set of example indicators from various other reports and studies (see Figure 6).

ELEMENTS OF DIRECT/BEHAVIORAL EFFECTS	EXAMPLE INDICATORS
COLLABORATION AND COLLABORATIVE DYNAMICS	- Engagement of different actor groups (level/critical mass and diversity) - Linkages and dynamics of linkages between actors over time (# and types of collaborations) - Capacity to collaborate
INNOVATION AND INNOVATIVE CAPACITY	- Competence development of staff - Knowledge exchange (between companies and universities/other actors) - Capacity to innovate; collaborative research and innovation projects - Introduction of new products/services
ELEMENTS OF INDIRECT EFFECTS	EXAMPLE INDICATORS
COMPETITIVENESS AND INTERNATIONAL ATTRACTIVENESS	- Entrepreneurship; new companies - Attraction of investment or talent - Entry into new markets
FIRM-LEVEL ECONOMIC PERFORMANCE	- Revenue growth - Productivity growth - Employment growth - Export growth
SYSTEM LEVEL	- Broader spillover effects on the region (e.g. regional GDP growth, resilience/capacity for transformation) - Changes to regional/national innovation system or policies

Figure 6 – Overview of typical elements and indicators in cluster program monitoring and evaluation from (Wise, Wilson, and Smith 2017) and cited in EC2020

Better availability of information about support programs and funding opportunities can drive cluster growth by increasing transparency and thus decreasing the resources necessary to successfully set up and operate businesses in respective industry sectors:

- Data and analysis on successful international models enhance market penetration and cultural diplomacy efforts, adapting strategies to local contexts and market dynamics. (EGDF2024C)
- Support transparency through the legal environment (EC2017).
- Develop a policy and regulatory “lighthouse” for small business to navigate regulatory requirements (EC2023).

Lastly, the point about success stories was previously mentioned in the context of support for start-ups, but in itself this recommendation is concerned with sharing data about the industry.

- Promotion of European industry success stories (EGDF2024C).

5.1.6 *Other*

The last subcategory brings together policy recommendations that fall outside the five major themes of funding, regulation, leadership, education, and data. Some of these recommendations focus on the cultural dimension, this theme is further discussed in the next section.

- Support localization and cultural adaptation (WIPO2024),

Another dimension of policy is the balancing of consumer rights and industry support:

- Greater political-level understanding for industry challenges and for its opportunities for strategic, technological, commercial and soft power advantages, complementing the established consumer rights policy focus with a global-context producer focus (EGDF2024C).

Finally, the wellbeing of workers is also considered in the policy documents. This issue affects CCIs more broadly, but is also present in the video game industry:

- Ensure social protection of creators in an increasingly precarious working environment (EC2017).

5.2 Video Game Industry-Specific Recommendations

Regarding specific recommendations, the documents emphasize the need for proper video game industry policy given its unique characteristics and challenges. Video game production has many overlaps with other CCIs as well as ICT, but the combination of these features and the current state of the industry in the global scope requires specific attention. This starts by raising the awareness of governments and public authorities about video game production and sometimes explaining negative connotations associated with gaming.

- Putting the game industry on the government's policy map (BGI2020B).
- Strengthen mechanisms to support structured policy dialogue within the sector (EC2023).

This approach then continues in the call for industry-specific support programs and mechanisms or by adapting existing tools for the video game industry:

- Channel targeted financing solutions to strengthen the competitiveness of video games, with a focus on scaling up emerging and small game developers (EC2023).
- Review state aid provision for the video game sector (EC2023).
- New, game centric support systems created from the ground up, based on the games industry's own vocabulary and definitions of value, balancing business, cultural and innovation aspects (EGDF2024C).
- Tax relief for video game industry (SAC2011, UK2011).
- Implement GBER for video games at the EU level (EGDF2024B).
- Build up an accelerator for game developers (BGI2020A).

As mentioned, digital distribution platforms present an important policy issue regarding effective regulation:

- Platform regulations that ensure fair visibility and promotion of European games alongside global content (EGDF2024C).

One specific issue related to the video game industry is the lack of representative data about the sector. This issue has also been addressed on a more general level, but in video games it is also connected to more concrete steps for potential improvement:

- Improve data and insight into the European video games sector to enable evidence-based policy interventions (EC2023).
- Develop improvements for NACE (EC2023, EGDF2021B).¹¹
- Provide data on global video game industry distribution channels (EGDF2024C).

Other policy recommendations address issues like labor mobility, working conditions, gamification, or the role of video games as cultural heritage:

- Optimizing the immigration process to Finland for highly qualified experts, including tax relief on moving costs paid by the employer (BGI2020B).
- Promote inclusion and diversity in the video games workforce (EC2023).
- Create a sandbox for gamification solutions in an open data format (BGI2020A).
- Facilitate the safeguarding of video games as cultural heritage (EC2023).

¹¹ The NACE classification of industrial activities currently only recognizes video game publishing (under label 58.21), which is only one part of the video game industry.

5.3 Meta-level Recommendations

Meta-level recommendations do not deal with specific policy recommendations but instead advise how to set up effective policy interventions. These suggestions highlight the complexities of creating an effective cluster policy and raise both recommendations and warnings. The most thorough reflection on the meta-level of policy recommendations appears in EC2020 (see Figure 7). Additional recommendations suggest the following:

- Policies for digital content and applications industries must address the issue of our positioning in global marketplaces, including in the downstream distribution channels where large multinational firms dominate (AUS2002).
- Policies must have regard to the capabilities of our industries to deliver commercial outcomes in the new global digital value chain (AUS2002).

The meta level of creating effective policy recommendations is further discussed in the next section.

 Do's	 Don'ts
• Clearly spell out the specific objectives pursued by cluster policy and the corresponding underlying intervention logic.	• Don't take for granted the benefits of clusters and cluster policy in general (otherwise more efficient ways of unlocking the potential of clusters cannot be identified).
• Integrate and embed monitoring and evaluation in the cluster policy setting right from the beginning.	• Don't consider monitoring and evaluation as separate processes.
• Support continuous strategic learning on the basis of output from the monitoring and evaluation system.	• Don't confuse evaluation (as a strategic learning tool) with audit (i.e. an exercise limited in time only aimed at verifying and justifying public expenditure).
• Make sure to understand and account for clusters effects in terms of collaborative dynamics and the influence of cluster policy on it.	• Don't rely only on traditional quantitative metrics.
• Mobilise a basket of evidence and methodologies to deal with issues in the causation chains between policy input and expected impact.	• Don't rely only on a single methodology or stream of evidence.
• Adopt a participatory approach by involving relevant stakeholders to ensure ownership and embeddedness in the policy setting and learning at all stages of the monitoring and evaluation process.	• Do not consider evaluation as a purely external exercise

Figure 7 – Do's and don'ts for establishing effective cluster policy monitoring & evaluation system (EC2020)

6 DISCUSSION

While this report identifies calls for policy interventions aimed at the video game industry at various levels (the EU, national, as well as more local), the policy-related documents suggest various approaches and areas for such interventions, including funding, regulation, leadership, education, or data (for the purposes of evaluating performance of the video game industry and the effects of policy mechanisms). Beyond providing an in-depth look at the cluster policies in action and general cluster dynamics and effects, **GAME-ER** have also outlined key areas of previously proposed policy recommendations. **GAME-ER** findings show that the global context is important to consider when designing policy interventions as the video game industry is highly globalized and countries compete in attracting video game companies. **GAME-ER** have also identified some conflicting recommendations, such as regarding industry consolidation and platform dominance. In this case, available academic literature is more critical of the effects of industry dominance by a handful of corporations (Chia et al. 2020; Heslinga 2024; Nicoll and Keogh 2019; Nieborg, Young, and Joseph 2020; Thorhauge 2023).

Even the issue of funding, which ranks among the most salient topics based on our review, is contested regarding its effectiveness, even among some policy makers. For example, scholars David Nieborg and Jeroen de Kloet have documented in their research that some policy makers believe that *“the lack of state subsidies makes game studios more profit-oriented and thus more self-sustainable.”* (Nieborg and de Kloet 2016, 211) Furthermore, previous research has also suggested that some cluster policies have been inefficient in attracting video game companies into cities or regions that receive support. Scholars Aphra Kerr and Anthony Cawley (2012) have noted that the Digital Hub in Dublin hosted only a few of Ireland’s video game companies. However, here it is important to note that we do not have access to more recent data about the situation in Dublin’s Digital Hub. Kerr and Cawley have spoken about the state of the industry in the early 2010s.

Previous research has also suggested that cluster policies can have adverse effects on non-subsidized industries within cluster structures (Audretsch et al. 2019) as well as cluster-neighboring regions (Lehmann and Menter 2018; Swann 2006). This is an important observation and a warning against such potentially harmful policy interventions. Scholars David Audretsch et al. recommend the following two measures to compensate for the indirect negative effects of cluster policies:

“First, policymakers might compensate non-subsidized industries to offset performance losses. Second, policymakers might enhance support mechanisms of clusters and broaden the focus of public cluster policy by developing the entire region, e.g. through regional infrastructure development, that might as well compensate respective performance losses of non-subsidized firms.” (Audretsch et al. 2019, 160)

This generally aligns with the identified calls for cross-cluster development (see also Klimas et al. 2025). Such approaches encourage the finding of synergies between related industries and provide a more comprehensive policy strategy than just focusing on one, even promising sector. At the same time, video game industry trade organizations understandably argue for more specific measures for supporting video game production. Many of their suggested policy recommendations target only the video game industry. Such interventions should be evaluated regarding their effects on other fields as well as on unsupported regions or cities. In many cases, this call for direct support is being justified by the existing barriers in accessing policy mechanisms aimed at other related CCIs.

Another key issue of the video game cluster policy landscape is the inconsistency in terminology or rather the use of different terms to address geographic concentrations of businesses. While “cluster” generally has a clearer meaning aligning with academic definition (see M. E. Porter 2000), “hub”, for example, implies spatial co-location of multiple companies, but might otherwise lack the scope, scale, and integration of other institutions compared to clusters. However, sometimes these terms are used interchangeably in the analyzed policy-related documents (e.g. EGDF2024C). Still, based on the review developed, hubs often denote smaller groupings and relate to specific initiatives such as incubators or co-working spaces. Theoretically, hubs can serve as core institutions or de facto coordinators of a cluster, but the existence of a hub does not necessarily mean that there is a notable video game cluster in the same location compared to other parts of the country or region. Based on the information available in the policy-related documents, it is sometimes hard to make the call whether a hub can be considered a cluster or whether it is rather an early-stage initiative to establish and develop a cluster. From a terminological perspective, “hub” due to its less defined meaning can take many shapes and forms, while “cluster” has a more recognized definition. For other tasks within **GAME-ER** (such as the cluster mapping in WP2), it might be worthwhile to investigate the relationship between the two terms and to what extent hubs overlap with clusters.

The presented analysis has notable limitations, which affect the findings and the extent to which they represent the global video game industry cluster policy landscape. First, by focusing on European institutions and trade organizations when searching for the policy documents, the review has a clear bias. While the corpus of policy-related documents includes some texts from different geographical contexts, such as Australia (AUS2002) or the U.S. (WIPO2024), many other regions are missing from the review, including the Global South of the already highly developed parts (in terms of video game production) of East Asia, such as China, Japan, or South Korea. Some of these regions are at least acknowledged in the literature review (Baeza-González 2021; Chung 2008; Huang 2022; 2024; Kim and Lee 2020; Wong 2024; Yang and Chan 2021). Second, **GAME-ER** was in the end unsuccessful in its attempts to collect policy-related documents in other languages than English and French. This weakness is partially accounted for by the extensive number of documents from the EGDF, which represents many European videogame industry trade organizations and as such it likely communicates the needs of organizations, which might produce documents in their own languages.

7 CONCLUSION

The report sets out to answer the following three research questions:

- 1. What is the current state of art regarding policy, specifically in the form of policy recommendations, regarding the development and further growth of video game clusters?*
- 2. How is video game cluster policy conceptualized and operationalized on the level of policy recommendations?*
- 3. How have key industry and policy stakeholders addressed the question of video game cluster policy in the European Union (and possibly elsewhere)?*

Regarding the first question, **GAME-ER** has reviewed the existing policy recommendations in [Section 5](#), highlighting five broader policy areas of funding, regulation, leadership, education, and data as well as more video game industry-specific issues, including industry consolidation, platformization, or the lack clear NACE classification.

In answering the closely related second question, **GAME-ER** has discovered the complex connections between local, national, and EU-wide policy in terms of conceptualization and operationalization of policy recommendations. Clusters and their potential emergence and growth at the local level are influenced by more far-reaching policies. This means that cluster policy recommendations should ideally consider the bigger picture of the national and EU policy landscape in order to foresee and account for consequences of interventions. As mentioned in [Discussion](#), there is also the additional issue of adverse effects of policy mechanisms aimed at singular industrial fields. Given this overall complexity, it is important to acknowledge policy recommendations in the larger context and evaluate their, even unintended, impacts on other regions and industries.

The third question uncovered several key issues and challenges facing the cultural and creative sectors, particularly the video game industry, and possible ways to address them.

According to the documents analyzed, there is a lack of a dedicated policy strategy for the video game sector at the EU level, despite its reported economic and cultural importance. While some public support schemes exist, such as Horizon Europe and Creative Europe, the funding allocated is seen as insufficient. A major challenge also lies in accessing these programs, including Creative Europe, which is available for video game development projects, but is supposedly geared toward other cultural industries regarding the evaluation criteria. Disparities in public funding support across EU member states are also seen as a concern, with a call for greater collaboration and alignment to avoid unhealthy intra-EU competition. A related issue is the brain drain of talent to countries offering more generous incentives. The documents in this regard note the fight over French-speaking developers between Canada and France, with the latter country introducing tax credits to compensate for the former's policy support of the video game industry. Recommendations in this area include simplifying funding application processes, improving access

to venture capital, and developing dedicated national strategies to support the video game industry's growth and competitiveness.

Industry fragmentation limits collaboration and policy makers are thus urged to continue promoting the value of arts, culture, and creativity for the European economy and society. This approach aligns with calls for inter-clustering and cross-sectoral networking. Cross-cluster development and support for spillover effects is also a way to compensate for unintended adverse effects of overly narrow policy interventions.

There are also calls to address the “platformization” and “netflixization” of the video game industry, which could reduce the role of European video game studios to mere service providers. The strong role of hardware platform owners and distribution platforms such as Steam is threatening smaller companies whose profits end up being extracted out of the EU. Policy interventions need to take into account the role of platforms to avoid deepening the dependence of studios on a handful of global actors.

The video game industry faces additional specific challenges, such as the lack of a clear NACE classification for the video game industry, complex digital rights management, high risk and difficulty in raising finance, and limited access to production and business skills, and combat negative perceptions of the video game industry. For example, an improvement to NACE classification could help in collecting data necessary for monitoring the growth of the video game industry as well as for evaluating effectiveness of direct funding support. Documents generally align in the calls for more monitoring instruments and frameworks.

Broader challenges include the need to better integrate cultural initiatives into sustainable business models, address global competition and market access issues, remote work and cross-border operations, and promote environmental sustainability. These individual issues relate to calls for improving regulation, optimizing industry and cluster leadership, and supporting education for the development of video game clusters.

In light of the issues, the policy review also shows how policy reports position video game industry clusters as a viable solution, in turn, calling for additional institutional cluster support.

8 PROSPECTIVE POLICY AREAS FOR THE GAME-ER PROJECT

Based on the review conducted of the existing policy-related documents and the design of the **GAME-ER**, it is recommended focusing on the following areas of video game industry policy to achieve the best possible impact on the policy landscape:

- **Cluster leadership** has been addressed by several analyzed policy-related documents with the general recommendation to balance commercial, governmental, and other goals and needs. **GAME-ER** brings together diverse video game industry clusters in this regard from those with institutionalized leadership to those with informal or yet emerging leadership structures. As such, there is a potential to compare these existing forms of leadership and based on the findings formulate policy recommendations for clusters at various stages of their existence.
- As part of the other tasks in **GAME-ER**, specifically WP2, the issue of **data availability** about video game clusters as well as related issues, including policy mechanisms and funding opportunities, has clearly become an obstacle to both identifying and mapping existing video game clusters as well as for promoting further industry development in this area. The project can in this regard address these gaps in available information about the video game industry from the cluster perspective and suggest policy improvements. A related issue is the relative vagueness of the previously discussed key performance indicators, which are considered central also for evaluating policy interventions. The project can further elaborate on how such KPIs should be defined.
- Based on the preliminary findings from WP4, **educational institutions** can play important roles in video game industry clusters. The project can further expand on this previously identified policy area beyond the previously recognized need for skilled talent, including the role of educational institutions and educators in the organization and governance, even on an informal level, of video game industry clusters.
- The video game industry and related policy is undergoing constant and to some extent **industry-specific changes**, most recently dealing with issues related to deepening market consolidation, platformization, the implementation of generative artificial intelligence as well as outsourcing. The project could evaluate how these new developments affect the previously proposed policy recommendations and whether there is a need for revision given these new conditions.
- Lastly, the complex and interlinked issues of **funding and regulation** to some extent exceed the scope of the project on the empirical research level. As mentioned, the cluster policy is not only affected by local interventions, but it is always contingent on national, regional, and global circumstances. Still, the project can assess the role of these policy areas leveraging comparative design. Here, the goal is perhaps not to propose entirely new policy mechanisms but provide guidance and more micro-level policy recommendations based on the available funding opportunities in various parts of the EU.

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10 APPENDIX A – CORPUS OF POLICY-RELATED DOCUMENTS

Official title of the policy document	Identifier	Relevance	Author(s)	Commissioner	Year
Creative Industries Cluster Study Stage One Report	AUS2002	Yes	Department of Communications Information Technology and the Arts; The National Office for the Information Economy	Australian Government	2002
Good Practice Catalogue on Favourable Framework Conditions and Policies for Game Business	BGI2020A	Yes	BGI Berliner Gesellschaft für internationale Zusammenarbeit mbH (DE)	Baltic Games	2020
Documented Change Processes Across the BSR With Updated Regulations, Strategies and Schemes	BGI2020B	Yes	BGI Berliner Gesellschaft für internationale Zusammenarbeit mbH (DE)	Baltic Games	2020
Creating clusters of change - How cluster managers drive innovation and increase impact	CAP2020	No	The Cap	NA	2020
Legal challenges and market dynamics in the video games sector	COE2024	Yes	European Audiovisual Observatory	Council of Europe	2024
The Economy of Culture in Europe	EC2006	Yes	KEA	European Commission	2006
Unlocking the potential of cultural and creative industries	EC2010	Yes	European Commission	European Commission	2010
Mapping the Creative Value Chains	EC2017	Yes	IDEA consult, KEA, imec-SMIT-VUB	European Commission	2017
Smart Guide to cluster policy monitoring and evaluation	EC2020	Yes	Deloitte, VVA, SPI, et al.	European Commission	2020
European Expert Group on Clusters – Recommendation Report	EC2021A	Yes	European Expert Group on Clusters	European Commission	2021

Final report of the Towards Green Transition facility	EC2021B	Partially	Towards Green Transition Facility Team	European Commission	2021
Developing EU cluster capacities to manage shocks	EC2021C	Yes	European Expert Group on Clusters	European Commission	2021
Report on the survey Identification of disruptions in value and supply chains	EC2022	No	European Cluster Collaboration Platform	European Commission	2022
Understanding the value of a European video games society	EC2023	Yes	Ecorys, KEA	European Commission	2023
How the grants for the video game development need to be fixed for the new programme?	EGDF2018	Partially	EGDF	EGDF	2018
2020 European video games industry insights report	EGDF2020A	No	EGDF	EGDF	2020
Foreign subsidies	EGDF2020B	Yes	EGDF	EGDF	2020
Enabling cross-border remote work	EGDF2021A	Yes	EGDF	EGDF	2021
Business statistics	EGDF2021B	Yes	EGDF	EGDF	2021
eGovernment	EGDF2021C	Yes	EGDF	EGDF	2021
National state aid instruments	EGDF2021D	Yes	EGDF	EGDF	2021
EGDF response on the Review of the Communication on the Framework for State aid for research and development and innovation	EGDF2021E	Yes	EGDF	EGDF	2021
Remote work ready EU data protection and transfer rules	EGDF2022	Yes	EGDF	EGDF	2022
Better state aid framework	EGDF2024A	Yes	EGDF	EGDF	2024
EGDF Position on Platform Levies	EGDF2024B	Yes	EGDF	EGDF	2024
Proceedings, Conclusions and Policy	EGDF2024C	Yes	Malte Behrmann; Erik Robertson	EGDF	2024

Recommendations from the first Games Policy Summit					
Protecting gamers and encouraging growth in the video games sector	EP2023	Yes	European Parliament	European Parliament	2023
The video games industry in Europe: current situation, issues and prospects	FRS2023	Yes	Foundation Robert Schuman	Foundation Robert Schuman	2023
Finnish Game Industry – Salary Survey 2022 Results and Conclusions	GMF2022	No	Game Makers of Finland	Game Makers of Finland	2022
Creative Industries: Policy recommendations – promotion of cross-innovation from creative industries	IIT2014	Yes	Thomas Lämmer-Gamp	Institute for Innovation and Technology	2014
Optimizing Finnish Immigration Process for highly qualified experts	NG2021	Yes	Jari-Pekka Kaleva, NeoGames	Neogames	2021
Video games industry in Scotland, Second Report of Session 2010–2011	SAC2011	Yes	Scottish Affairs Committee	House of Commons, UK	2011
Baromètre Annuel du Jeu Vidéo	SNJV2023	Partially	Syndicat National du Jeu Vidéo (SNJV)	SNJV	2023
A guide to public funding mechanisms for video game creators	SNJV2024A	Partially	Syndicat National du Jeu Vidéo (SNJV)	SNJV	2024
Référentiel des Métiers du Jeu Vidéo	SNJV2024B	No	Syndicat National du Jeu Vidéo (SNJV)	SNJV	2024
Government response to the Scottish affairs select committee's report on the video games industry in Scotland: second report of session 2010–12	UK2011	Yes	Secretary of State for Culture, Olympics, Media and Sport	UK Government	2011
New rules to better protect children from inappropriate video game content	UK2012	No	Department for Digital, Culture, Media & Sport	UK Government	2012

Artificial Intelligence and Intellectual Property: copyright and patents: Government response to consultation	UK2022	Yes	Intellectual Property Office	UK Government	2022
2022 All About Video Games – European Key Facts	VGE2022	Yes	VGE	EGDF	2022
The Legal Status of Video Games: Comparative Analysis in National Approaches	WIPO2013	Yes	WIPO	WIPO	2013
Mastering the Game: Business and Legal issues for Video Game Developers	WIPO2021	No	WIPO	WIPO	2021
WIPR 2024: Making Innovation Policy Work for Development	WIPO2024	Yes	WIPO	WIPO	2024