STUDY

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European Parliament

Esports

Background Analysis

Culture and Education

Policy Department for Structural and Cohesion Policies
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RESEARCH FOR CULT COMMITTEE

Esports

Background Analysis

Abstract

Esports has become an integral part of the digital society. Esports is a fast paced and heterogenic phenomenon and a cross-sectional topic linking gaming, entertainment and media, culture and art, education, business, diversity and inclusion, and sports.

In this background analysis, the authors explain what esports is, what the different ecosystems look like and what the opportunities and challenges are.

Esports can be utilised as an integral tool to shape the modern digital society and act as a key element of a digital European identity.

This document was requested by the European Parliament's Committee on Culture and Education.

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DISCLAIMER

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LIST OF ABBREVIATIONS

AO	Abgabenordnung (German Fiscal Code)
AoV/HoK	Arena of Valor/Honor of Kings
Apex	Apex Legends
BeschV	Beschäftigungsverordnung (German Ordinance on Employment of Foreigners)
CoD	Call of Duty
CS:GO	Counter-Strike: Global Offensive
DACH	The region consisting of Germany, Austria, and Switzerland
ESBD	eSport Bund Deutschland (German Esports Association)
IOC	International Olympic Committee
LEC	League of Legends European Championship
LFL	La Ligue Française League of Legends (French League of Legends League)
LoL	League of Legends
LoR	Legends of Runeterra
NBA	National Basketball Association (USA)
NHL	National Hockey League (USA)
NLC	Northern (European) League of Legends Championship
Nö WettG	Niederösterreichische Wettgesetz (Lower Austrian Betting Act)
PUBG	PlayerUnknown's Battlegrounds
RennwLottDV	Rennwett- und Lotteriegesetz-Durchführungsverordnung (Implementing Ordinance to the German Racing Betting and Lotteries Act)
TFEU	Treaty on the Functioning of the European Union
TO	Tournament organiser
USK	Unterhaltungssoftware Selbstkontrolle (German entertainment software self control)
VAL	Valorant

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EXECUTIVE SUMMARY

KEY FINDINGS

- Modern esports is about 25 years old and therefore relatively young.
- The descriptive esports definition has three fundamental elements: (1) a human element, as in players, (2) a digital element, as in video games, and finally (3) a competitive element. The key characteristics of esports are based on these elements.
- Esports is an independent product of digitalisation with its own principles and rules. It is a cross-sectional topic that ranges from gaming to entertainment and media, culture and art, education, business and talent, diversity and inclusion, and sports.
- Esports is not a single, homogeneous ecosystem but is highly heterogeneous (in terms of the content of video games, the way they are played and the publisher's strategy behind each ecosystem) and therefore has few universal industry standards.
- The question if esports is sports is insufficient as it lacks a necessary frame of reference. Due to their broad scopes, both terms overlap. Therefore, a terminological/legal separation is needed. This can only be achieved by explicitly excluding video games from sports.
- A market analysis of the European esports industry is complex as the data is highly heterogenic. However, it is evidenced that the market is growing, and that the government funding is currently inconsistent and effectively insufficient.
- Esports represents opportunities and challenges for the European society.
- To develop a suitable strategy in this volatile and fast paced industry, an ongoing examination of the phenomenon in detail is required to ensure appropriate adjustments to the strategy.
- The esports industry is constantly growing and rapidly evolving. Therefore, it is necessary to address challenges as soon as possible.

Esports is an independent product of digitalisation with its own principles and rules. The industry is highly heterogeneous (in terms of the content of video games, the way they are played and the publisher's strategy behind each ecosystem) and therefore has few universal industry standards. Thus, esports is not a single, homogeneous ecosystem. Although the initial situation and the decisive roles are often very similar, the details of the structure depend on the strategy of the respective publisher. Esports athletes participate in competitions directly (in game or in an external setting) or as employees/contractors of a club (or "clan", "guild", etc.). Those tournaments are either organised by the publisher or with the publisher's permission (or unpaid toleration) by third party providers. The publisher's different philosophies range from micro-managing every aspect of the ecosystem to being completely absent. Federations are currently primarily lobbying groups.

Modern esports is about 25 years old. The industry is therefore relatively young and is constantly and rapidly developing due to technological progress. A market analysis of the European esports industry is complex as the data is highly heterogenic. However, it is evidenced that the industry is growing.

There is an ongoing debate regarding the definition of esports. The definition of a phenomenon depends on what the defined term is to be distinguished from. It is recommended to form a so-called descriptive term that contains the fundamental characteristics of the phenomenon. For esports, these

are: (1) a human element, as in players, in order to differentiate from machines or artificial intelligence, (2) a digital element, as in video games, in order to differentiate from analogue types of competition, and finally (3) a competitive element in order to differentiate from non-competitive gaming. Superficially, the digital aspect can be separated into hardware and software. On both levels, there is a great heterogeneity. Esports is not only about sitting in front of a digital device but can require full-body movement as well. Competition is about comparing mental and/or physical performance. Video games based predominantly on luck or external factors cannot be considered esports as there is no comparison of performance.

The question of whether esports is sports is insufficient as it lacks a necessary frame of reference. Due to their broad scopes, both terms overlap. In addition, both industries have their own rules and simply replicating existing sport systems is potentially damaging for the development of both industries. Therefore, a terminological and legal separation of sports and esports is necessary. This can only be achieved by explicitly excluding video games from traditional sports. In comparison, esports is more international and more heterogeneous than traditional sports while having less industry standards and being equally dependent on external funding (although traditional sports are much more subsidised by the state).

Notably, esports can be more than just competition for its own sake (e.g. gaming, entertainment and media, art and culture, education, business, diversity and inclusion, as well as sports). Furthermore, esports is part of the platform economy and can be used as a tool for employer branding, talent acquisition, or as an internal innovation driver. Esports is both global and local with the potential to act as a medium for communication, the revitalisation of cities, bridging borders, and educating young and old. Similar to traditional sports, esports is a platform for learning and engaging in positive social values such as fairness/fair play, willingness to perform, and teamwork. The skills needed in esports are required for digital work as well, such as creativity, focus on performance, motivation in the face of a challenge, strategic thinking, reaction speed, focus, working memory, visual and (English) language skills as well as teamwork. Large parts of esports offer great potential for inclusion with assumably less barriers such as physical characteristics and identity than in traditional sport. Consequently, esports can be an object of study and a test laboratory to explore digital or hybrid societies and a digital European identity.

On the other hand, esports poses challenges such as the stigma against women, precautions against cheating, the discrepancy between the publisher's control and the use of its product as a contribution to society as well as environmental sustainability. If esports is to be promoted and utilised, society needs to be educated on the topic as there is still widespread stigmatisation associated with it. Without support in legitimation the divide between the industry and society will grow. For a suitable strategy in this volatile and fast-moving environment, a constant examination of the phenomenon in detail as well as constant adjustments to the strategy are required. As esports is constantly and rapidly evolving, it is necessary to address these and future challenges as soon as possible.

1. INTRODUCTION

KEY FINDINGS

- Modern esports is about 25 years old and therefore relatively young.
- Esports is an independent product of digitalisation with its own principles and rules.
- Esports is not a single, homogeneous ecosystem but is highly heterogeneous.
- Esports is a cross-sectional topic that ranges from gaming to entertainment and media, culture and art, education, business and talent, diversity and inclusion, and sports. Therefore, it can be utilised to explore digital societies and a digital European identity.
- Esports poses challenges (stigma against women in esports, precautions against cheating, legal power of the publisher, ecological sustainability, etc.).
- For a suitable strategy in this volatile and fast-moving industry, a constant examination of the phenomenon in detail and constant adjustments to the strategy are required.
- The esports industry is constantly and rapidly evolving. Therefore, it is necessary to address challenges as soon as possible.

Video games have become an integral part of society over the past few decades. The spectrum of players ranges from hobbyists to professionals. Video games inspire young and old, regardless of gender, origin, or sexual identity. Since the late 1990s, one form of gaming in particular has become increasingly professional: competitive gaming, or "esports". Although there have been competitions before, this period can be considered the birth of modern esports – for example, with the founding of the Electronic Sports League (now ESL) in 2000. Set back by the global financial crisis between 2007 and 2009, the esports industry has been developing at an unprecedented pace since around 2014 – flanked by the development of digital content creation and influencer marketing – into an economically relevant market and a platform for the whole of society, despite there still being a focus on men under 35 (Besombes, 2019; Scholz, 2019; Taylor, 2012).

Esports is more than just competition for its own sake or with a sole economic focus. It is anchored in gaming, entertainment and media, art and culture, education, business, diversity and inclusion, as well as sports, and thus represents a digital cross-sectional topic. Esports can serve as an object of study and a test laboratory for research into digital or hybrid societies and a European identity. Esports can be utilised by companies as a tool for employer branding, talent acquisition, or as an internal innovation driver. At the same time, esports poses challenges for society and legislators. For example, the stigma against women, new (digital) means of compromising the integrity of the competition, or the powerful position of the publisher, i.e. the company that has complete legal control over the esports title due to the bundling of all exclusive and unrestricted rights of exploitation, utilisation, and commercialisation (which is unknown to traditional sports). In addition, esports highlights one of the main problems of digitalisation: environmental sustainability. It is up to the legislator to create a system that promotes the opportunities and advantages of esports and mitigates the risks and disadvantages. Furthermore, the development of esports will be shaped by the actions of all stakeholders in the different esports ecosystems.

Esports is a product of digitalisation that is as independent as it is heterogeneous. It is important to regard esports as a phenomenon of its own, which on the one hand generally follows the laws of the digital world, and on the other hand requires a look at the individual esports ecosystems and their developments. Due to the individual strategy of each publisher, each of these ecosystems is structured differently. This is one of the reasons why the term "Wild West" is often invoked (Yu, 2021). While this phrase has negative connotations, the term stands for the "unlimited opportunity for the strong, ambitious, self-reliant individual to thrust his way to the top" (Slotkin, 1973, p. 5). Both interpretations are accurate to a certain extent. Esports is characterised by a lack of (consistent) industry standards and is a scarcely cultivated field with vast potential outside traditional ways of thinking.

The following is a Background Analysis of the status quo of esports[1]. The authors also address the opportunities and challenges that esports represents for the European society. To be more precise: Chapter 2 defines what esports is, what the unique features are as compared to traditional sports and non-competitive gaming, and how these specifics currently affect the esports ecosystems. Finally, there is a market overview. Then, based on the insights of Chapter 2, Chapter 3 presents the opportunities and possibilities provided by esports, while Chapter 4 focuses on the challenges.

It must be mentioned in advance that esports is characterised by a high degree of heterogeneity and complexity. Even the questions of what esports is or how it is written (the report uses the spelling "esports", but the authors do not necessarily share the opinion that this is the only correct spelling) are much debated. In addition to the heterogeneity, the rapid development of the relatively young esports industry, which is characterised by a lack of industry standards, should be mentioned as well. This means that the following remarks may be obsolete in a few years, at least to some extent. For a suitable strategy to promote a healthy development of esports, a constant examination of the phenomenon in detail is required.

The data on esports are heterogeneous and partly insufficient despite the obvious potential for actionable data in this digitally driven context. Much data and information are either not available or do not exist in a citable form. This report, therefore, draws not only on academic publications and data collected by commercial statistics companies or esports stakeholders but on ethnographic research that goes back to the early days of modern esports. The authors have been involved in esports as academics and practitioners for many years. Therefore, many statements are based on insider knowledge gained from conversations, consultations, expert activities, etc., and on numerous national and international lectures, presentations, and publications.

[1] This Background Analysis is complemented by a Recommendations Briefing on 'Esports'. These two research papers were commissioned by the Policy Department as a part of concomitant expertise aiming to support the work of the CULT Committee on the own initiative report on 'E-sport and videogames'.

2. ESPORTS AND ITS STATUS QUO

KEY FINDINGS

- The descriptive esports definition has three fundamental elements: (1) a human element, as in players, (2) a digital element, as in video games, and finally (3) a competitive element. The key characteristics of esports are based on these elements.
- The distinction between esports and traditional sports is based on the digital element that is mandatory for esports. The distinction between esports (i.e. competitive gaming) and non-competitive gaming is based on the competitive element.
- Superficially, the digital aspect can be separated into hardware and software. On both levels, there is a great heterogeneity of different platforms, peripherals, and game content. Esports can also require full-body movement.
- Competition is about comparing (mental and/or physical) performance. Video games based predominantly on luck or external factors cannot be considered esports.
- The question of whether esports is sports is insufficient as it lacks a necessary frame of reference. Due to their broad scopes, both terms overlap. Therefore, a terminological/legal separation is needed. This can only be achieved by explicitly excluding video games from sports.
- Esports is not a single, homogeneous ecosystem but is highly heterogeneous (in terms of the content of video games, the way they are played and the publisher's strategy behind each ecosystem) and therefore has few universal industry standards.
- Although the initial situation and the decisive roles in the different ecosystems are often similar, the details depend on the individual strategy of the publisher. The different strategies range from micro-managing every aspect of the ecosystem to being absent.
- Players participate in competitions directly or as employees/contractors of a club. Tournaments are either organised by the publisher or with the publisher's permission (or unpaid toleration) by third party providers. Federations are primarily lobbying groups.
- A market analysis of the European esports industry is complex as the data is highly heterogenic. However, it is evident that the market is growing, and that the government funding is overall inconsistent and primarily insufficient.

2.1. Definition of esports

The first question is how to define esports. However, forming a definition is exceptionally complex as modern esports is evolving rapidly and is highly heterogeneous in many respects (e.g. the content and gameplay of the video game or the ecosystem of the respective esports title). In addition, there is rarely one single, universally valid definition of a phenomenon. The reason for this is the purpose of a definition, namely, to distinguish one phenomenon from another.

2.1.1. Forming a definition

Each feature of a definition is to be understood as a demarcation that can distinguish it. However, the term from which a delimitation is made depends on the individual situation; more precisely, on the specific interest of the person or institution forming the definition. For example, there is no standard

definition of traditional sports because the term is used by different federations and different (sub)sciences with differing interests regarding the use of the definition. Chess, for example, can hardly be classified as (traditional) sports in the context of movement and training sciences. Still, a subsumption of chess under the sports definition of sports pedagogy is more conceivable. If esports is to be regulated in a piece of legislation, the definition must be formed and later interpreted in accordance with the meaning and purpose of the respective law. Therefore, the same term may have a gradually different meaning in different pieces of legislation (sometimes even within one legal code). This is called the "relativity of legal terms" (Nothelfer and Schlotthauer, 2020).

Consequently, it is recommended in methodology to form a so-called descriptive term that contains the essential characteristics of the phenomenon. For this, the status quo and any potential for development must be subjected to an unbiased and non-evaluative examination. These characteristics are the fundamental foundation of the phenomenon to be defined. However, the fixed characteristics can actually develop over time. For example, as will be demonstrated, esports always requires competition between human players; therefore, a clash between artificial intelligences (AI) (i.e. mere computer simulations) is not sufficient. However, as AI evolves, or human biology becomes more intertwined with technology, it is feasible that debate on the definition of 'human' will evolve. On the one hand, this shows the timelessness of a descriptive term (because esports will always require human players). On the other hand, it shows the flexibility regarding the development of the phenomenon described, particularly given the inherent digitality involved.

The type of scientific definition described above has a very broad scope. However, the term can be functionally restricted for the individual case. For example, when implementing the term in a new law it may be necessary – depending on the meaning and purpose of the law – to narrow down the scope of the term by adding further defining features. Such a restriction must be made objectively; otherwise, there is a risk of violating the general principle of equal treatment of higher-ranking law.

2.1.2. Descriptive term of esports

The essential characteristics of esports and thus the defining features of the descriptive term are:

1. Human (i.e. players)
2. Digital (i.e. video game)
3. Competitive

Even though the definition of esports varies, these three characteristics are always fundamental – although they may sometimes be termed differently. For example, the phrase "sports" is often used instead of "competition", or the use of the term "digital technologies" instead of "video game". In one of the first definitions, Wagner speaks of "an area of sport activities in which people develop and train mental or physical abilities in the use of information and communication technologies" (2006, p. 3). The popular definition by Hamari and Sjöblom sees esports as "a form of sports where the primary aspects of the sport are facilitated by electronic systems; the input of players and teams as well as the output of the esports system are mediated by human-computer interfaces" (2017, p. 213). The South Korean "Act on Promotion of E-Sports (Electronic Sports)" from 2012 defines esports in its Article 2 as "games in which players compete with one another for a score or for victory with game products […] and activities incidental to such competitions." The first French esports law from 2016 defines esports as a video game competition where at least two players or teams of players compete for a score or a victory. The first German law on esports from 2020 (§ 22 No. 5 BeschV, which regulates visa facilitation for esports players) refers to the definition of the German Esports Association and reads in short: "direct competition between human players using video games under rules" (BGBL, 2020).

The first element is the **human element**, which refers to the players. The prerequisite of human players is the relevant distinction between esports and a clash between machines and/or artificial intelligences. Historically, esports has evolved from a desire to compete, which is inherent to human nature. Therefore, esports requires at least two human players who compete against each other. A clash of artificial intelligences is a mere computer simulation and cannot be considered esports. Such simulations primarily serve as a connecting point for betting ("virtual sports").

It will be interesting to see to what extent the understanding of “human” will change in the future. Humans become more and more digital. Artificial body parts already exist today and artificial applications to improve mental abilities are not inconceivable. Today’s understanding of “humans” may expand to some extent in the future, however, at present, it cannot be assumed that there will be a complete equalisation of artificial and human intelligence. The permissible degree of computerised assistance in competition (whether as part of the human or via mechanisms integrated into the video game such as aiming or passing assistants) also questions the integrity of the competition.

The second element is the **digital element**, which refers to the video games. The prerequisite of a “video game” as a digital means of competing is what distinguishes esports from analogue types of competition, namely (primarily) traditional sports. All specific characteristics of esports in comparison to traditional sports are therefore based on this aspect (in particular the exclusive and unrestricted rights of exploitation, utilisation, and commercialisation of the publisher in relation to the intellectual creation “video game”). Therefore, a terminological separation of esports and traditional sports (e.g. in laws) must be made based on this element (see 2.1.3). Superficially, the digital element can be divided into hardware and software.

The hardware can be divided into installed hardware, necessary peripherals, and other equipment. Here, the high degree of heterogeneity that characterises esports becomes apparent. Although computers are built into personal computers, consoles (home or arcade) and handhelds, they all have their own characteristics and thus advantages and disadvantages for esports. The same applies to the various input and/or recording devices needed to operate the game: computer mouse and keyboard, controller, joystick, virtual reality eyewear, screen, etc. Accordingly, the possibilities for playing esports are highly heterogeneous: (1) the player operates a static input device while sitting/standing, (2) the player operates a non-static input device while sitting/standing, (3) the player has a certain freedom of movement at the input device, but is bound to a specific location (especially when using virtual reality technology) or (4) the player enjoys complete freedom of movement and is not bound to a particular place as long as he/she is connected to the Internet (especially mobile games with occasional use of augmented reality technology) (Kurt and Nothelfer, 2020).

Any generalisation is not expedient (although it can be stated that most of the currently successful esports titles are played sitting down at a static input device). Laws relating to the whole of esports must take this into account. For example, the health risk of an esports athlete who operates a computer mouse and keyboard in a seated position is different from that of an esports athlete who moves with the entirety of their body (due to extended reality technology). Peripherals need to be differentiated as well. Controlling an avatar with a computer mouse and keyboard is more precise than controlling an avatar with a console controller. When controlling with a computer mouse, more joints can be utilised (including shoulder, elbow, wrist, and fingers). On the other hand, conventional console controllers primarily make use of finger joints. In cross-platform competitions (i.e. competitions in which, for example, PC players compete directly with console players), console players are therefore often supported by the video game itself in order to achieve a supposed equality of opportunity (e.g. the

already mentioned above aim or pass assistant or "bullet magnetism[2]"). It can be assumed that the peripheral devices will continue to develop. For example, there are racing simulators (i.e. chair constructions in which players sit down), some of which even move depending on the players' input, which can pose new health risks. In case the esports athlete qualifies as an employee, this is relevant, among other things, in terms of the employer's duties with regard to occupational health and safety (Kurt and Nothelfer, 2020).

In relation to software, a relevant question is whether it can be classified as a (video) game. There are different opinions on the requirements for such a qualification. In esports, this question arises, for example, in competitions based on the spreadsheet software Excel, which are labelled as esports by the rights holder Microsoft (Tuting, 2021). The software is used as a platform for a competition, although it was not intended as such in the creation process. In the context of forming a descriptive term, a broad view must be applied, which focuses on the actual use as a game and not on the intention while creating the software. If this opinion is followed, it will considerably expand the scope of the definition. Where exactly the line is drawn needs to be discussed. So far, programming competitions ("hackathons"), for example, have not been considered esports, as the focus lies on the creation of a new product through software. However, most of the legal implications will only arise in the professional sector and a professional esports ecosystem based on software not intended as a video game will probably remain the exception. It should be noted that Article 220 of the French General Tax Code would probably not consider an Excel competition to be an esports (due to the lack of an artistic element and the lack of a translation into animated images). Irrespective of the question of whether such phenomena are esports, it must be determined whether they also deserve special legal regulation due to their similarities to esports.

Concerning the software aspect, i.e. the content component of the games, there is a great deal of heterogeneity as well. From shooting to sports simulations to digital competitions in agriculture, all types of game content are feasible. In general, games can be divided into different genres. As with the esports definition, the purpose of the categorisation depends on the individual situation. A uniform, generally accepted and definitive categorisation does not exist. The categorisation can be based on the content of the game, the game mode or even the style of game play. Common genres and subgenres are:

<u>Genre: Strategy Games</u>

- Real-Time Strategy (RTS) such as Warcraft III or StarCraft II
- Multiplayer Battle Arena (MOBA) such as the base game of League of Legends or Dota 2
- Autobattler such as Teamfight Tactics (League of Legends game mode) or Hearthstone Battlegrounds (Hearthstone game mode)
- Card Games such as the base game of Hearthstone or Legends of Runeterra (League of Legends game mode)
- Etc.

The importance of game modes for the categorisation can be demonstrated very well using the examples League of Legends and Hearthstone. League of Legends has both a MOBA game mode (called "League of Legends") and an autobattler mode (called "Teamfight Tactics"). Hearthstone has a variety of modes, including a standard card game mode (which is called "Hearthstone" and can be played with varying card restrictions) and an autobattler mode (called "Battlegrounds").

[2] Bullet magnetism is the effect that ensures that a virtual bullet that was not fired with perfect precision will still find its virtual target.

Genre: Shooter Games

- First Person Shooter (FPS) vs. Third Person Shooter (TPS)
- Squad vs. solo
- PC Shooter vs. VR Shooter
- Battle Royale games such as Fortnite
- Tactical Shooter such as Counter-Strike
- Hero Shooter such as Valorant or Overwatch
- Etc.

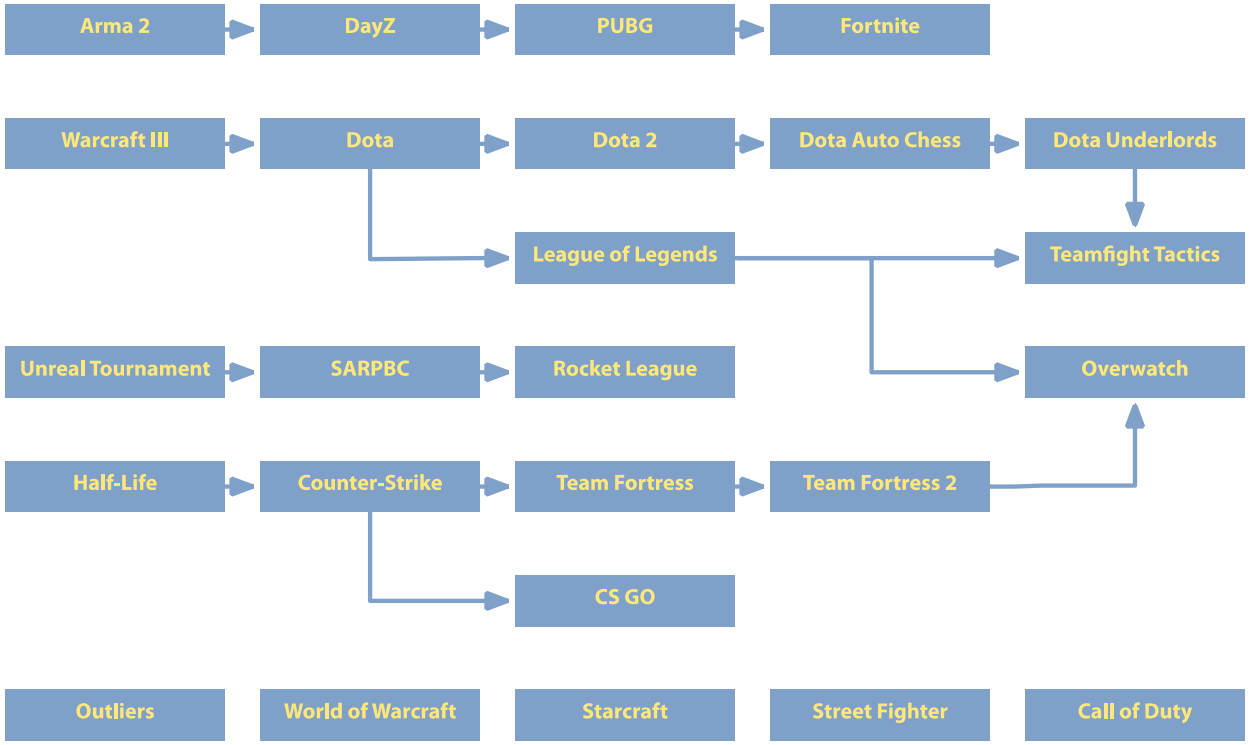
The different types of categorisations can be illustrated with the help of the various shooter games. The distinction between first person shooters and third person shooters is about the perspective of the game and the division into squad or solo is about the number of players. Battle Royale games (as well as squad vs. solo games) do not necessarily have to be shooters but describe the competitive mode (e.g. Fall Guys, which is a non-shooter Battle Royale game).

Genre: Sports Games

- Traditional sports (such as the FIFA or NBA2k series) vs. new sports (such as Rocket League or certain video games from the Mario series)
- Pure simulations vs. simulations in which the referential movement of the traditional model is required
- Etc.

There are many other genres, such as fighting games, role-playing games (player vs. player, or player vs. environment in the speedrun competition setting), jump 'n' run games, puzzle games, rhythm games (e.g. with a focus on dancing, singing or music), and much more. It is to be expected that the most popular esports genres of the future will only be invented in the coming years; often by the community itself. For example, some of the most successful esports titles find their origins in modifications of other video games. Figure 1 shows that esports disciplines evolve over time and innovations and cultural developments often come from the community.

Figure 1: Evolution of popular esports titles



Source: Adapted from Ashton 2019.

For the subsumption of a game under the definition of esports, the categorisation in a genre is basically irrelevant. Equally irrelevant for a descriptive term are normative considerations. Especially video games with depictions of violence are often the focus of public debate, although the threshold to legally relevant glorification or trivialisation of violence is only crossed in rare cases (and sanctioned accordingly). Thus, the term formed here basically includes all video games regardless of their age ratings. As an exception, illegal video games are not included, as they are not allowed to be distributed and thus must not be relevant when examining the phenomenon. This can be argued otherwise, but when using an esports definition - for example in a piece of legislation - such video games would be excluded anyway (Nothelfer and Schlotthauer, 2020).

The third element is the **competitive element**. The prerequisite of "competition" is the relevant distinction between esports and non-competitive gaming. Competition means the comparison of performance. Depending on the esports title, this can be both mental and physical. Any generalisation that contradicts the heterogeneity of esports in its entirety is not expedient. For a performance comparison, the player's knowledge and skills are relevant. Video games in which luck or external factors predominantly influence the outcome of the competition do not qualify as esports. Such a game is not a comparison of skill, but rather of luck (game of chance or gambling). The classification as either a game of chance or a game of skill requires separate scientific research for each video game in question. Virtual card games are often the focus of discussion in this regard, as they usually involve randomised drawing of cards or even cards with random effects. However, skill-based elements may not be ignored, such as the construction of the card deck, the selection of the champion or the knowledge of frequently played card decks of potential opponents ("meta").

Many current esports definitions additionally demand the existence of fair rules as a constitutive requirement. As in traditional sports, no objective comparability can be demanded here, but rather it must be assumed that all players accept the conditions as fair. Certain game specific mechanics (e.g.

aim or pass assistants or “bullet magnetism”) or randomised effects (e.g. critical hits by non-player characters controlled by the AI) do not generally oppose a subsumption under the esports definition. The same applies to any pay-to-win elements (i.e. video games that offer the possibility of micro-transactions for real money that give a direct advantage in the competition). Irrespective of this, there is of course the possibility that such an esports title is not well received by the community and thus remains economically unsuccessful. However, this is irrelevant for the subsumption under the descriptive term. Equally irrelevant is whether the competition is direct or indirect, as long as a certain competitive context is maintained. Indirectness is especially present in turn-based games (such as most card games or autobattlers) or in forms of competitions in which the player is in direct competition with the video game, but their performance is then compared to that of another player (e.g. speedrun competitions, especially in the form of World First Races).

The mere comparison of performances over a long period of time ("high score") is not sufficient: a competitive connection with an event of some sort is required. The level of professionalisation or number of viewers is irrelevant for the definition as well. It is therefore not important whether the competition takes place at hobby, amateur or professional level. The levels listed only differ in their quality or prize pools. Making clear distinctions between them is difficult due to the lack of clear dividing lines. It must be noted that parts of the professional esports scene only categorises professional competitive gaming as esports. From a scientific perspective, there is no objective justification for this (at least in the context of a descriptive term). If one were to follow the professional-only approach, the discussion on a regulation regarding the non-profit status of esports organisation would be pointless since the advantages of such status could only be enjoyed by non-professional organisations.

2.1.3. Is esports sports?

The question of whether esports can be considered sports is insufficient because the frame of reference is missing. It is unclear under which definition of sports esports is to be subsumed. In the field of law, the question would, for example, be oriented towards the respective piece of legislation in which sports is regulated as a constituent criterion. The question must then be: can esports be considered sports within the meaning of this exact piece of legislation? In most cases, it will hardly be a question of subsuming the entirety of esports under sports, but of subsuming a specific esports title (or even game mode). Both the definition of esports and traditional sports are extensive umbrella terms that overlap but do not entirely coincide (Nothelfer and Schlotthauer, 2020).

Due to their broad scope, the terms are not clearly separable. If a separation is not ensured terminologically, the two terms will frequently overlap. This has various disadvantages. Firstly, the phenomena do not follow the same principles and rules. Secondly, in many EU member states, there are heated debates between the stakeholders of both industries paralysing their further developments. Traditional sports federations do not want to lose status and influence or share state subsidies. Moreover, the forced integration of esports into the traditional sports system would not be reasonably achievable. While the IOC is trying to use esports (in the form of virtual sports simulations) in the context of the Virtual Olympic Series, complete integration within the next few years is not realistic (and not advisable either). The IOC's opinion that it is in charge of physical competitions by means of virtual reality video games is not justified, since there are exclusive and unrestricted rights of exploitation, utilisation, and commercialisation that lie with the publisher as well. A collaboration between a sports federation and a publisher (as in the case of the Virtual Olympic Series) or even becoming a publisher itself would be possible.

Therefore, a separation between traditional sports and esports both terminologically and from a legal and, above all, federation-related perspective is important. The sectors have parallels and differences. The parallels refer to the competition between people, whilst the differences refer to the mandatory requirement of a video game in esports. A suitable separation of the phenomena can only be achieved by explicitly excluding video games from the definition of traditional sports (Nothelfer and Petschinka, 2021)

Northern Macedonia became the 66th country to recognise esports as sports in 2022 (Brennan, 2022). To this day, no EU Member State has fully recognised esports as sports; at most, esports has been given partial legal equivalence in rare cases (see 2.4). This means that in many Member States esports titles still must be subsumed under laws concerning sports. However, many authorities and courts do not carry out such a subsumption in an appropriate manner (regardless of the result) but refer to the unclear regulatory situation.

2.2. Unique features of the esports industry

The unique features of the esports industry compared to traditional industries are based on the essential characteristics of esports already addressed. Compared to traditional sports, the digital component is relevant (1.). Compared to non-competitive gaming, the competitive component is relevant (2.).

2.2.1. Distinction from traditional sports

Esports is differentiated from traditional sports by its mandatory digital attribute, which is why all unique features of esports compared to traditional sports are related to the existence of the video game (Nothelfer and Schlotthauer, 2022).

Generally, digitalism implies complexity, whether from a technical perspective or in terms of a legislative process. Thus, in addition to the question of which legal system is applicable in individual cases, the question arises as to what extent laws created for an analogue reality are suitable for a virtual one. Data, and data protection, are of great importance in esports. In addition, physical doping and betting fraud as well as digital misconduct such as cheating (e.g. by manipulating the code of the video game or by using unauthorised tools), exploiting (i.e. the exploitation of bugs in the video game) or teaming (i.e. the illegal joining of forces in a competition where everyone is against everyone) threaten the integrity of competition. On top of this, the known challenges of the world of work 4.0, which is characterised by a lack of temporal and physical differentiation between work and free time, can be applied to esports. The act of playing is a hybrid between "classic" digital work and "classic" competitive sports/work, which can intensify the physical and psychological risks of both elements (Kurt and Nothelfer, 2020).

Due to the easy access to digital networks and the easy distribution of online games nowadays, esports is generally even more international than traditional sports, especially in the amateur sector (see 2.2.2). The fact that the publisher bundles all of the exclusive and unrestricted rights of exploitation, utilisation, and commercialisation to the intellectual property "video game", and therefore influences all of the other stakeholders in the ecosystem (particularly the role of federations), also plays a special role. Traditional sports does not have a comparable stakeholder (see 2.2.3). Furthermore, due to the strategy of the publisher, the individual ecosystems are structured more heterogeneously than in European sports (see 2.2.4). As modern esports is relatively young and characterised by different strategies, only a few industry standards have been able to emerge so far (see 2.2.5). Moreover, no esports ecosystem has the economic clout to sustain all stakeholders without external sources of investment (see 2.2.6). Last but not least, esports hardly takes place on traditional platforms, it rather

takes place on the platforms of the so-called "unreachables", who owe this name to how difficult it is to reach them via traditional media and who have enormous potential in terms of purchasing power (see 2.2.7).

2.2.2. International nature of esports

The internet does not stop at the borders of individual nations and the applicability of the respective legal system. A consequence of esports' digital attribute is the particular internationality of the sector, which exceeds that of traditional sports. This discrepancy is particularly significant at the hobby and amateur level since international matches are a matter of daily routine at this level.

At the professional level, there is a difference in that national competitions are less important in esports than in sports. In esports the attention often lies with continent-level competitions. As a result, there is frequent identification with the respective region (e.g. EU) and a friendly rivalry with other regions (e.g. North America). In both esports and traditional sports, however, the first signs of a new trend can be observed. In football, the efforts to create a Super League showed the interest in a continental competition that would go beyond previous ones (e.g. UEFA Champions League or UEFA Europa League). At the same time, in successful esports titles such as League of Legends, increasingly popular leagues are developed below the continent-level of the League of Legends European Championship (LEC) such as the French LFL, the Prime League in the DACH region, or the newly founded NLC in northern Europe. This is probably due to the enormous increase in fans rather than any rejection of a continental concept. The grouping of European competitors into one region is standard across many esports ecosystems and will probably remain (due to shared culture and geographical circumstances) in the foreseeable future

2.2.3. Legal power of publishers and the role of federations in esports

At first glance, the structures in the esports industry look like those of traditional sports. For example, there are players ("esports athletes") who usually, but not always, play for esports organisations (often called "clans" or "guilds") - from a functional perspective, these can be compared to traditional sports clubs that participate in competitions organised by companies ("TO" for tournament organiser). However, there is one key difference. In esports, the publisher has full legal control over the esports title due to the bundling of all exclusive and unrestricted rights of exploitation, utilisation, and commercialisation regarding the intellectual property, namely the "video game". Either these rights originate with the publisher because he also develops the video game, or the publisher has the rights transferred to him by an independent developer in return for payment. Traditional sports does not have a comparable stakeholder, because sports federations do not hold such rights regarding the different sports disciplines.

The publisher either organises the competition itself (publisher model) or allows a third-party company to organise it through licensing or unpaid toleration (third-party provider model) (Francken, Nothelfer and Schlotthauer, 2019). Irrespective of this, the legal position of power of the publisher has an impact on all downstream stakeholders in many respects. For details, see the explanations of the ecosystems in esports under 2.3. In the absence of regulatory power, esports federations are mostly qualified as pure lobby organisations. Smaller tournaments held by national federations are considered less important (with the exception of the LoL KeSPA Cup in South Korea). However, the Global Esports Federation could play a unique role going forward due to support from the industry giant Tencent Gaming, which holds many shares of successful publishers all around the world.

The importance of the publisher is reflected in their power over the video game. For example, it is up to the publisher - regardless of the objectivity of a justification - to take the video game off the servers

and thus terminate it. If it is not a video game on the blockchain that enables an actual (and possibly even legal) allocation of game content to a person, the player's rights are always to be considered as simple usage rights that expire when the video game ends. However, this power does not exist without any limitation. It is important to note that if the publisher binds itself contractually (whether as a tournament organiser with the participants or as a rights holder with a third-party tournament organiser in the context of a licencing agreement), the publisher is typically obligated during the term of a contract not to discontinue the esports. It must be mentioned that these contracts must of course be compatible with the law (more on competition law below). Moreover, a publisher wishing to develop a thriving esports ecosystem cannot have any interest in acting like a dictator to its sole advantage. Such behaviour is often harshly punished by the communities, which strongly counteracts an economically successful system. The happier consumers are, the more success this means for the publisher. Many video games can now be played for free. Furthermore, publishers consider their product as game-as-a-service (Clark 2014). New content is continually added, and players can purchase virtual items in-game that create revenue (e.g. skins, i.e. cosmetics for avatars or weapons). A business model has emerged that creates certain fairness between the players but at the same time is profitable for the publisher. From this duality, a sustainable business model can emerge.

Furthermore, it must be mentioned that the publisher's rights refer to the individual esports title but not to the basic game idea, which is classified into genres. If a publisher terminates its game, it is relatively easy for the community of hobby and amateur gamers to switch to a comparable game of the same genre. Such a switch is more complex for professional gamers but possible (as shown by the migration of players from CS:GO to Valorant in 2020). In the future, video games based on a blockchain could even transfer characters and items from an old video game to a new video game (of the same genre), at least in theory.

Objections to legal benefits for esports (as enjoyed by traditional sports) are often raised on the grounds that these always benefit the publisher, i.e. a for-profit company. However, this is not convincing in a modern, digital world, in which exclusive and unrestricted rights of exploitation, utilisation, and commercialisation are occurring ever more frequently (particularly regarding software). If the legal rights regarding a software automatically excluded the possibility of receiving legal privileges, this would also apply to the use of educational software or similar.

While there is a big difference between publishers and sports federations from a legal point of view, it is important to note that many sports federations (e.g. FIFA) have a great deal of de facto control over their sports ecosystems. It is virtually impossible to build a rival product to these systems. Various attempts to build sports leagues that are independent of the established systems have failed. Furthermore, it is important to understand that the legal position in relation to the individual competition in professional esports and professional sports are almost identical. In both, the tournament organisers hold all rights related to the competition, from entry to the competition to commercial exploitation. That is the reason why most professional sports entities in Europe act as for-profit corporations and not as associations (a trend that is becoming increasingly important even for US college sports). Consequently, the question of whether competition law is relevant also arises in esports – comparable to traditional sports such as football, where there is only one federation structure. The potential applicability of national and/or European competition law (particularly Art. 101 and 102 TFEU) would further restrict the position of power of the publisher in certain situations. For example, contractual clauses that determine an unrestricted and unilateral right to change specific contractual conditions or the joint selling of media rights (although media rights have so far only played a subordinate role in esports revenue) would not be possible anymore. The decisive legal question in this regard is whether the point of reference (i.e. the "relevant market") is the esports title, the esports genre

or the entire phenomenon of esports. This seems to be disputed and has not yet been decided on by the federal or European courts. At this point, it is noteworthy that there has been no ruling on esports at all by a higher court in Europe. In traditional sports, the applicability of antitrust and competition law to the activities of federations has been undisputed at least since the ECJ's "Meca-Medina" decision (Ruling of the European Court of Justice dated 18 July 2006 (C-519/04 P David Meca-Medina i.a./Commission)). From a legal perspective, the exclusive and unrestricted rights of exploitation, utilisation, and commercialisation to the esports title held by the publisher go beyond the legal and de facto position of power of the sports federations.

Another example of a question that arises in esports and traditional sports is the issue of collective bargaining law. Most European legal systems assume a two-sided social partnership system in which the (collective) employer (side) negotiates collective agreements with the collective employee side (labour union). In esports and traditional sports, however, the regulatory power concerning the competitions is in the hands of the organisers, which do not have a direct role in these negotiations. A collective bargaining agreement that violates the organiser's terms and conditions of participation will hardly have any impact for the contractual partners, who depend on participation in the competitions (Nothelfer and Wörner, 2020).

2.2.4. High degree of heterogeneity in esports

Heterogeneity does not only concern the respective ecosystem controlled by the publisher, but the content of the games and the way they are played. An overview of this was already provided under section 2.1.2. Compared to esports, traditional sports is more restricted due to it being bound to physical laws. Nevertheless, traditional sports is naturally heterogeneous as well, so this characteristic is of limited importance.

2.2.5. Lack of industry standards

Each publisher pursues its individual strategy with esports, which is why there is a lack of industry standards. Some publishers view esports purely as a marketing tool, others as its own revenue stream that either relates only to the competition or places the game at the centre of a potential (media) metaverse. From the franchise system with revenue-share known from the US to the complete inactivity of a publisher tolerating competition from third party providers, there are many different forms of structures. The design of the different ecosystems is therefore highly divergent (see 2.3). This means that there is a lack of uniform industry standards. This effect is further reinforced by the relative youth of the individual competition structures. An example: Riot Games requires that the participating organisation in the League of Legends European Championship provide a minimum salary of EUR 60,000 to their starting players and that the clubs must employ players with employment contracts. Participating in the Virtual Bundesliga (the FIFA competition of the German Football League) only requires a contractual relationship (but not necessarily an employment contract) between clubs and esports athletes (since 2021). In other ecosystems, there are no regulations at all regarding the requirements for the legal relationship between esports athletes and their clubs. This cannot be compared to the European system for the traditional sports. The latter has various models as well, but within these models' traditional sports is much more established and bound than esports.

2.2.6. Dependence on external capital

Apart from the publisher and top esports athletes, few of the professional stakeholders in esports are economically sustainable. This is particularly true for the clubs and third party tournament organisers, of which some (but not all) have not been able to make any financial profit for years. The financial reports of the listed organisations on the stock exchange provide evidence for this. According to their

information, the British clan Guild Esports (traded on the London Stock Exchange since 2020) posted a loss of 3.6 million USD in 2020 according to its public financial reports and a loss of 11.8 million USD in 2021 (Guild, 2022). According to its public financial reports, the Danish clan Astralis (traded on the Danish Nasdaq First Growth Market since 2019) posted a loss of 7.78 million USD in 2020 and a loss of 5.08 million USD in 2019 (Astralis, 2022). At the same time, insiders report that 2021 was the first year of profits for some tournament organisers and clans. For this reason, there is still a heavy focus on external financing. This can come from various sources. In the absence of relevant income from media rights, sponsoring and investors/venture capital still make up a large part of organisations' income (see Figure 7 in section 2.4). At the same time, it is not just about financing rounds happening in the background; many esports clubs today are more media companies than they are mere participants in esports competitions. They generate and distribute their content (some not related to esports at all). This even influences the employment of professional esports athletes, who are usually employed not simply as athletes but also as content creators (artists/influencers). This dichotomy of obligations results in some unique particularities in the drafting of professional contracts. This contractual structure is rather unfamiliar to traditional sports. In addition, there is a more significant focus on merchandising, both in haptic form (e.g. fashion lines) and digital form (e.g. NFTs).

It must be noted that few traditional sports in Europe – despite their longer history – would survive without state support (Baade, 2003). This was made clear by the COVID-19 pandemic (Alam and Abdurraheem, 2021). The difference to esports is that traditional sports receives considerably more state subsidies.

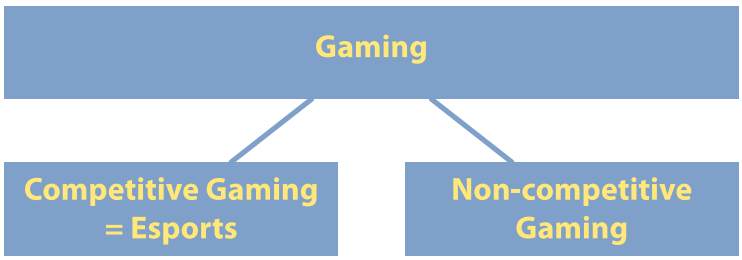
2.2.7. Digital platforms

Since traditional media have long denied esports access to their platforms (e.g. TV), the industry has developed platforms of their own (e.g. Twitch, YouTube [Gaming] or Facebook Gaming) (Hintermüller and Horky, 2020). This has evolved beyond only gaming and esports content with lifestyle and existing sports content increasingly featured as part of the cultural mix on these platforms. Here it is traditional sports that is seeking to adopt esports practices to attract youth audiences, reflecting the innovative and disruptive nature of esports.

2.2.8. Distinction from non-competitive gaming

"Gaming" is the umbrella term for "competitive gaming" (esports) and "non-competitive gaming." The sub-terms fully meet the definition of the umbrella term. The sub-terms, however, must be differentiated from each other. The differentiating feature is "competition", which is inherent to esports and sets it apart from the rest of the gaming sector (see Figure 2).

Figure 2: Categorisation of gaming



As a result, esports requires competitive structures. These can be inherent to the game (i.e. a competitive play mode in the video game) or external to the game (i.e. there is no competitive play mode in the video game and the competition arises from the external setting that a tournament

organiser has created, e.g. speedrun competitions). The latter means that almost any video game can form the basis for esports if a corresponding setting has been organised.

To demonstrate the difference between competitive gaming and non-competitive gaming consider the case of a professional esports athlete employed by a club through an employment contract. This contract typically contains an obligation to create content such as an obligation to engage audiences through livestreaming for a certain time per week. The part of the content that consists of playing against other people is considered esports (although not necessarily in a professional setting), whilst the content that consists of livestreaming the playing of a non-competitive game would qualify as the mere streaming of games (and not esports).

2.3. Ecosystem

Although the initial situation and the key roles in the different esports ecosystems are very similar, the individual structures are highly heterogeneous when it comes to the details which can be highly complex. Esports should therefore not be viewed as an individual, homogeneous ecosystem.

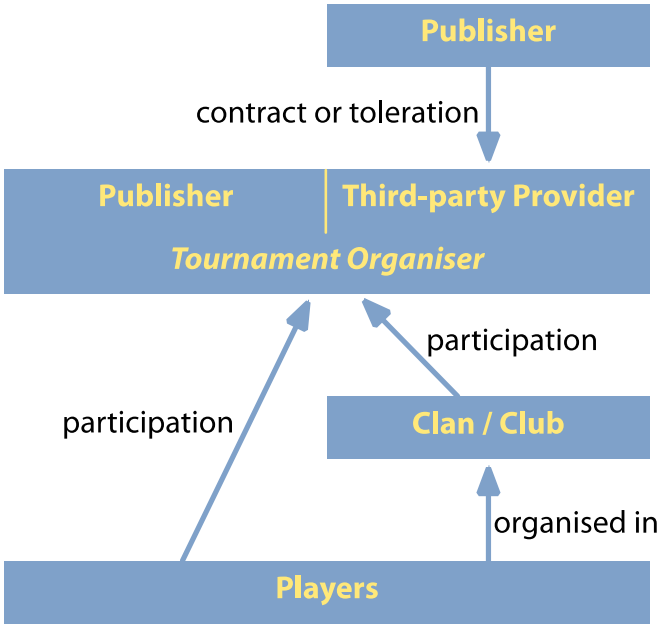
Similar to traditional sports, there are various disciplines (esports titles or game modes) that differ from each other fundamentally in their content, in how they are played, and in the structure of their ecosystems. Below, the typical distribution of roles in the esports ecosystems will be described (see 2.3.1). Based on this, the different governing structures will be roughly categorised (see 2.3.2). Then, the remaining core stakeholders will briefly be described (see 2.3.3 and 2.3.4). Finally, the focus turns to federations in esports (see 2.3.5).

2.3.1. Typical distribution of roles in esports ecosystems

Multiple stakeholders play a role in every esports ecosystem, although not always the same role. If one looks at the stakeholders and not the technical level, the players (and not the video game) are the basis of every esports ecosystem (see Figure 3). They either participate directly in a competition or play for an esports organisation (“clan”, “guild”, “club”), which – at least from a functional perspective – can be compared to a traditional sports club. In the latter case, this organisation participates in the competition. The legal relationship between the player and the clan can take various forms, from obligations under corporate law to obligations under labour law. In professional esports in Europe – regardless of what the contract is called – an employment situation relevant to social security can typically be assumed (for German law, see Francken, Nothelfer and Schlotthauer, 2019; Koops and Nothelfer, 2021).

At the level above, there are the tournament organisers. In traditional sports these are sports federations while in esports a dualism exists that is based on the legal power and strategy of the publisher as the holder of the exclusive and unrestricted rights of exploitation, utilisation, and commercialisation to the video game: the publisher either organises the competition themself (publisher model) or allows a third-party company to organise it through licensing or unpaid toleration (third-party provider model) (Francken, Nothelfer and Schlotthauer, 2019). In the publisher model, third-party companies are active at most as service providers in the context of the publisher’s organisation (white label work). Since they have no regulatory power, esports federations are to be qualified as pure lobby organisations. As stated before, the Global Esports Federation could possibly take on a unique role here in the future. Finally, it must be mentioned that most tournament organisers take over the broadcasting duties as well.

Figure 3: Role distribution in the esports ecosystem



This core competition system is supported by commercialisation partners such as streaming and TV platforms, sponsors, investors, advertising and merchandising partners, influencers, bookmakers and betting providers (alongside consumers). In addition, player agencies, agents, news outlets and community platform operators also play a role in esports in the broader context. Although these stakeholders must consider the unique features of esports in terms of content, their roles are largely comparable to their roles in traditional sports.

2.3.2. Existing governing structures (publisher and tournament organiser)

Each esports ecosystem is determined by the respective strategy of the publisher. Yet, it should not be assumed that publishers holding the rights to multiple esports titles would use the same strategy for each title. For example, Activision Blizzard's strategy for the esports title Overwatch is very different from their strategy for World of Warcraft. In Overwatch, the publisher regulates all aspects of competition very strictly, whilst in World of Warcraft, the publisher only organises a World Championship for the Arena game mode (with less tight regulation for the participants), while it does not create any competition structure for the World First Race (which is invented by the video games community) at all.

Some publishers even have different strategies within one game mode (often with respect to different levels of professionalisation). In 2019, for example, the publisher Riot Games arranged the highest level of competition in League of Legends into closed franchise systems divided according to different regions (in the EU region, this is the LEC) and organised the tournaments themselves (publisher system). There are various nationally-oriented leagues below this level, such as the Prime League in the German-speaking DACH region and the newly established NLC in Northern Europe, both of which are organised under a corresponding licence by third-party provider Freaks 4U Gaming GmbH (third-party provider model). Of course, the strategy of a publisher can change over time. This can be well illustrated in the overall development of the strategy for esports title StarCraft II in Figure 4.

Figure 4: Evolution of the esports title StarCraft II

Freedom	Oversaturation	Centralisation	Opening Up	Outsourcing
Leagues without Licensing	Too many licensed leagues by third-parties	Publisher operates World Championship	Certified tournaments by third-parties	Tournaments are operated by one third-party

Although every esports ecosystem varies in their details, alongside the general classification into publisher model and third-party provider model, three philosophies have emerged in the past that facilitate a specific categorisation of the level of control of publishers. In practice, the transitions between the systems are however fluid (based on Peschel-Mehner and Fringuelli, 2021):

1. "Highly controlled": the publisher organises the competition themselves (publisher model) and imposes a very narrow set of rules on the participants. All matters arising in the relationship between the publisher and the clan and many matters arising in the relationship between the clan and the player are regulated there. Competitions outside of this system are either not possible or only possible in a hobby context.
2. "Controlled": the publisher organises the competition themselves (publisher model) and imposes a narrow set of rules on the participants. An opening up of the system to the third-party provider model can often be observed as the level of professionalisation decreases.
3. "Laissez-faire": the absence of the publisher (to a large extent) leads to the competition being organised by third-party providers and/or clans (third-party provider model). This system can be implemented primarily in three ways:

   3.1. Founding of a joint venture

   3.2. Founding of an association

   3.3. Contract between the participants (and a potential third-party tournament organiser)

   While the joint venture ensures entrepreneurial ownership for the cooperating stakeholders, the partners are often culturally very diverse and disagree on many issues. The resulting corporate tax also makes a joint venture unattractive. The main advantage of an association is its flexibility, but the structure is typically not ideal for economic exploitation. Therefore, the most attractive model is the one known from traditional sports in the US: the participating parties enter into a contractual relation. This allows for maximum flexibility in both legal and economic terms. The so-called "Louvre Agreement" (ESL Pro League in CS:GO), for example, is organised like that while publisher Valve Entertainment is mostly absent.

Figure 5 takes an evaluative look at different strategies observed in practice:

Figure 5: Governance structures in esports

	Counter-Strike		League of Legends	
Ignoring	Laissez-Faire	Fate of the Niche	Regulating	Overregulating
World of Warcraft	Warcraft III	Starcraft II	Heroes of the Storm	Overwatch

Source: adapted from Scholz, 2019, p. 51.

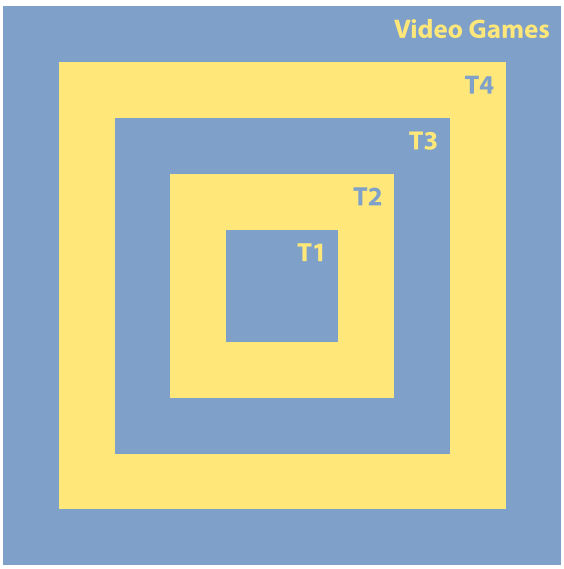
2.3.3. Players

The core activity of an esports athlete is to play the video game competitively. The underlying motivations are diverse (hobby, training and competition, PR activities, content creation, etc.) and can be cumulative. The players operate in one of four levels of professionalisation: hobbyist, amateur, semi-professional, and professional – although the transitions are fluid. The exact form of the activity, and thus its legal classification, is largely in line with the level of professionalisation.

The details of the activity are mainly influenced by the competitive mode (or game mode) of the esports title and partly by the competition conditions set out by the tournament organisers. For individual esports athletes there is a significant difference between individual and team competitions. The latter, for example, requires coordination between team members, team skills, teamwork, etc., both within and outside the video game. (Semi-)professional players are often not only athletes but also content creators (and therefore artists and influencers), whose contractual obligations include marketing, PR, and advertising services. These can, but do not necessarily have to, be related to playing the specific esports title they compete in.

Figure 6 shows a categorisation of esports in terms of the level of professionalisation. Players organising themselves and competing against each other online, without any external organisation, is referred to as casual esports (tier 4). If this develops into a regular, formalised collaboration within a club, this is referred to as amateur esports (tier 3). This is where the first fixed structures and legal implications (especially in connection with founding a club) arise. The distinction between amateur and semi-pro esports (tier 2) is not clear-cut; this category could be omitted, but then the range of amateur esports would be highly heterogeneous. Esports is assumed to be semi-professional when the organisation begins to form the first professional structures and external support (coaches, sponsors, etc.) is added. This level comprises the talent pool for professional esports (tier 1), i.e. the highest performance level. Of course, just as in traditional sports, different levels, leagues and formats exist in professional esports.

Figure 6: Categorisation of esports



Video Games
Everybody who plays video games.

Tier 4: Casual Esports
Players compete against each other as a hobby without a formalised organisation.

Tier 3: Amateur Esports
Players have formed a formalised organisation and compete against other players under this brand.

Tier 2: Semi-Pro Esports
The organisation obtains its first professional structures (e.g. external support) and specialises on its esports discipline. Talent pool for Tier 1.

Tier 1: Professional Esports
Professional organisations participate in the highest level of competitions with their contracted players.

It is difficult to clearly distinguish between tiers 2 and 3 and tiers 3 and 4. Professionalisation is often related to the income of a player. In traditional sports, court rulings in Germany for example, often focus on the possible earnings of a player. A player is considered amateur if their payment for training and playing is only slightly higher than their expenses (Ruling of the German Federal Fiscal Court dated 23

October 1992 (VI R 59/91)); higher earnings indicate a higher level of professionalisation. These principles can be applied to esports as well. The legal relationship between the player and the clan can take various forms, from obligations under corporate law to obligations under labour law. In professional esports in Europe – regardless of what the contract is called – an employment situation relevant to social security can typically be assumed (for German law, see Francken, Nothelfer and Schlotthauer, 2019; Koops and Nothelfer, 2021). The activity profile of a (semi-)professional player can be divided into two areas: competition-related (training and competing) and commercial (promotional activities such as content creation). A contractual obligation to perform these activities can exist toward one contractual partner or, as in the case of sponsorship, toward multiple contractual partners. It should be mentioned that, in some European countries (e.g. Germany), there may be an obligation to contribute to an artists' social insurance fund.

Finally, it must be noted that esports athletes do not necessarily play one esports title exclusively. Sometimes, players switch to a new esports title relatively easily, especially within a certain genre. This was recently seen when professional Counter-Strike and Overwatch players switched to Valorant and now play successfully at the highest level in this title (Matthews, 2021). Such a switch between different genres is rare but potentially could increase as more titles emerge in this developing context.

2.3.4. Clubs/Clans

Players often organise themselves – either as individual or team players – in esports organisations that can be compared, from a functional point of view, to traditional sports clubs and which are often referred to as "clans" (or "clubs", "guilds", etc.). The term "team" is used frequently, but it is imprecise, as it refers to a lower organisational level of an organisation (e.g. the Counter-Strike team of the G2 Esports organisation).

At the amateur level, clans are primarily affiliations of players under corporate law. In contrast, at the professional level, clans are usually joint-stock companies in which the players are shareholders only in exceptional cases (e.g. South Korean League of Legends star player Lee Sang-hyeok known as "Faker" in the T1 organisation). Professional clubs are rarely economically sustainable and, due to the lack of state funding, often search for different ways of financing their activities – typically from outside capital or by expanding their business model to include media activities (see 2.2.6).

2.3.5. Federations

As previously mentioned, the federations in esports cannot be directly compared with those of traditional sports. They are primarily (more or less successful) lobbying groups dedicated to promoting esports. There is no fixed regulatory body. On very rare occasions, they organise smaller competitions. In exceptional cases, smaller competitions are organised. The Global Esports Federation could take on a unique role for a federation on the global level. Table 1 gives an overview of esports federations in Europe:

Table 1: Formalized esports federations on the national level in the European Union

Country	Federations	Established
Austria	eSport Verband Österreich	2007
Belgium	Belgian eSports Federation	2006
Croatia	Hrvatski eSport Savez	2020

Czech Republic	Česká asociace esportu	2018
Denmark	Esport Danmark	2007
Estonia	Eesti Arvutispordi Liit	2020
Finland	Suomen Elecktronisen Urheilun Liitto	2010
France	France Esports	2016
Germany	eSport-Bund Deutschland	2017
Greece	Hellenic Esports Federation	2021
Hungary	Magyar Esports Szövetsé	2017
Ireland	Ireland Esports	2020
Italy	Italian eSports Association	2015
Latvia	Latvijas Esporta Federācija	2013
Lithuania	Lithuanian Esport Federation	2017
Luxembourg	Luxembourg Esports Federation	2020
Netherlands	De Nederlandse Esportsbond	2010
Poland	Esports Association Poland	2016
Portugal	Federaçao Portuguesa Do Desporto Electronico	2016
Romania	Romanian Esports Federation	soon
Slovakia	Slovenská Asociácia Elektronických Športo	2018
Slovenia	Esportsna zveza Slovenije	2020
Spain	Asociación Española de Videojuegos	2017
Sweden	Svenska esportsförbundet	2017

In 2020, the European Esports Federation was founded in Brussels by 23 federations (Etchells, 2020). So far, however, no noteworthy activities are evident. With this European federation appearing to be relatively inactive to date, the first federations have been founded at a sub-national level – e.g. in the German federal states of Schleswig-Holstein and North Rhine-Westphalia. An advantage of such federations could be their physical proximity to the clubs based within the region. However, the various developments at the federation level have not yet been so well established that they can be evaluated conclusively. It can be assumed that the quality and quantity of their work varies significantly from one federation to another.

2.4. Market overview

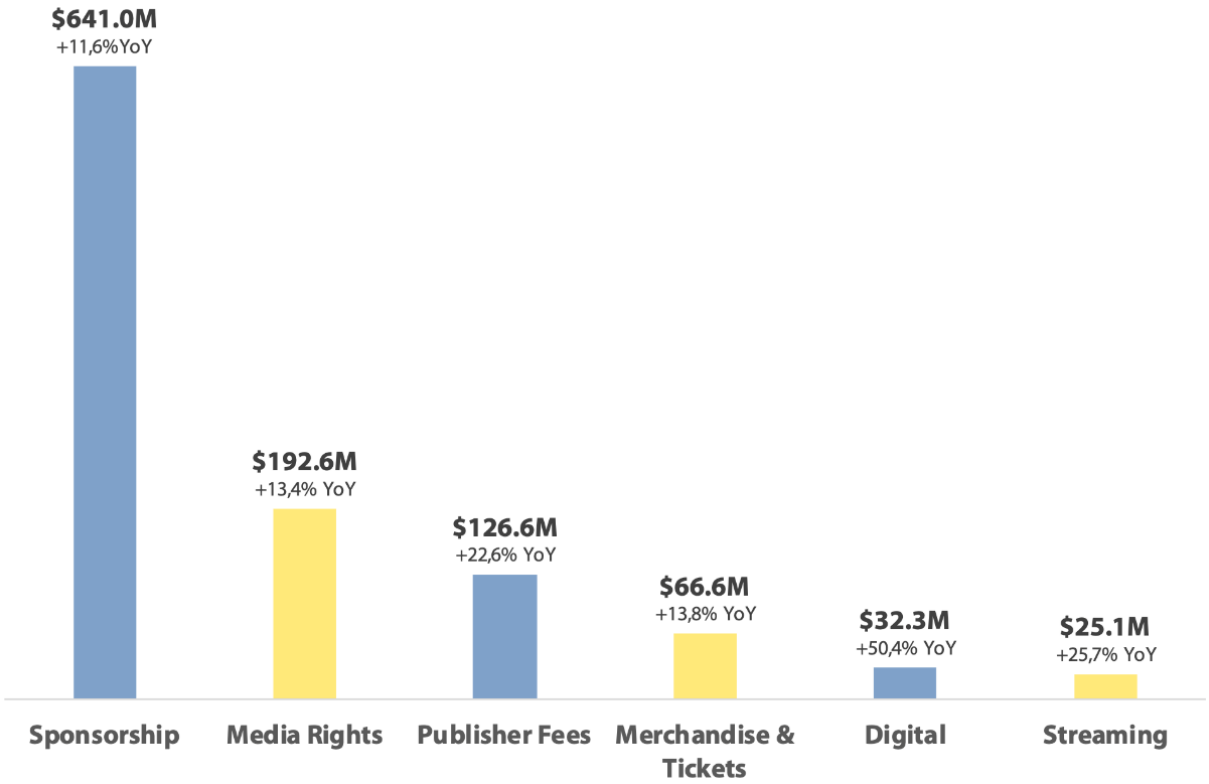
For several years now, various companies and institutes have been recording data in gaming and esports, but a coherent market analysis proves difficult for several reasons. Firstly, reliable information is often lacking, as many stakeholders in the esports industry keep their figures strictly confidential for reasons of competition (Ahn, Collins and Jenny, 2020). Furthermore, data availability varies greatly from country to country. For example, there is a lack of representative pan-European surveys and comparisons. Moreover, the meagre public funding – regardless of whether you choose to take this into account or exclude it – is not centrally catalogued. As a result, many figures must be estimated. In addition, each institution recording data in these fields bases its data collection on its own definition of esports and subject of interest. Some definitions are very narrow and only relate to the events side of the industry, whereas others are broader. The situation is exacerbated because esports, as part of the gaming industry, cannot simply be viewed in isolation. Even publisher revenue from esports cannot easily be separated from other, non-competitive gaming revenue of a publisher. As a result, some institutions do not include specific stakeholders in their calculations. Other revenue streams - for example, income from content creation, NFTs, etc. - are scarcely captured in the data at all. However, these can relate to both the competitive and non-competitive work of a clan. A precise delineation is impossible due to a lack of information on the details pertaining to each deal.

Furthermore, some companies evaluate esports as one industry, while others assess it based on individual esports titles. Moreover, some institutions use metrics taken from traditional sports. Esports, however, is a phenomenon of its own, even in terms of its development: "Esports is an independent, if heterogeneous, phenomenon rooted in sports, culture, media, entertainment, and the economy, embedded in a digital environment. So, it's important to view esports as esports – as part of the digital world" (Nothelfer and Scholz, 2020). Superdata also contributes to this: "To think that a new phenomenon like esports can be described in terms of the old is to misunderstand it entirely" (Superdata, 2015, p. 3). All this leads to the ongoing discourse about the true economic scope of esports, and the gaming industry as a whole. Therefore, the following is only intended to provide a brief overview of the various inquiries. It must be noted that the institutions and companies that collect data do high-quality work that is much needed and should be supported. The authors would like to thank YouGov and Nielsen for their support in preparing the market overview.

Newzoo (2020b), for example, asserts that roughly 2.7 billion people played video games and that revenue of around 160 billion USD was generated by the gaming industry in 2020. Yet, Newzoo (2020a) values esports at only 1.1 billion USD. Ahn et al. (2020) claim that Newzoo's figures are too low for the year 2020; they value esports at 24.9 billion USD. Newzoo uses a very narrow definition of the industry: "We define [esports] industry revenues as the amount the industry generates through the sale of sponsorship deals, media rights, digital, streaming, tickets and merchandising, and publisher fees. Currently, only teams account for digital revenues. […] Our revenue numbers exclude prize pools and player salaries. […] The revenue numbers also exclude fan contributions to prize pools. […] Finally, we do not include capital investments in esports organisations" (Newzoo, 2020a, p. 15). Ahn et al. (2020) argue that the publisher should be included in the valuation.

Newzoo (2021) presents the various revenue streams (as seen in the metrics for traditional sports) globally, with a focus on the top level of the esports industry (see Figure 7).

Figure 7: Esports revenue streams globally in 2021



Source: Newzoo, 2021, p. 30.

Esports is not only a part of the video game sector, but of other sectors as well, including media (streaming platforms and reporting), culture (pop culture), sports (competitions and tournaments), the economic sector (advertising, marketing and gambling) or education (learning of digital skills). Some institutions define an esports athlete as someone who plays professionally, whereas, for others, it is enough if they play competitively. The focus is often on enthusiasts, occasional viewers and fans. However, what defines an enthusiast, an occasional viewer or a fan varies from one surveying institution to another. For Newzoo, an enthusiast is someone who watches professional esports content more than once a month, whereas an occasional viewer watches such content less than once a month. For YouGov, an esports fan is someone who states that they are at least somewhat interested in esports. Table 2 compares the proportion of esports fans in countries that are perceived by the esports industry as particularly active, relevant or unique in other respects to the proportion of fans of specific traditional sports leagues in the general population. For the percentages in green, the proportion of esports fans among respondents in the respective country was greater than the proportion of fans of the particular sports league. However, it should be noted that in the following data esports is grouped as one category, and is not subdivided into individual esports titles.

Table 2: Percentage of esports fans and fans of different sports leagues in selected countries among the general population

Country	% of fans (at least somewhat interested in …) in sample of general population							
	Esports	**Summer Olympic Games**	**FIFA Football World Cup**	**La Liga (Spain)**	**Formula 1**	**NBA (USA)**	**NHL (USA)**	**European Golf Tour**
Brazil	**35.0**	48.5	64.7	33.2	42.8	29.2	12.5	11.8
China	**41.4**	59.3	34.3	23.0	22.7	35.4	15.0	12.0
France	**7.0**	44.7	39.1	16.3	18.7	11.3	5.2	4.3
Germany	**8.0**	36.0	47.8	11.2	22.7	8.6	6.8	5.1
Japan	**8.0**	41.5	29.3	9.6	13.5	9.5	4.4	6.6
Poland	**19.9**	63.7	63.2	28.8	33.3	20.5	15.5	11.1
Saudi Arabia	**27.6**	33.5	57.8	41.9	30.2	22.2	15.3	16.0
South Korea	**15.8**	48.8	58.1	22.4	16.3	25.0	10.7	14.4
Spain	**12.5**	49.0	47.0	50.0	38.1	26.3	7.0	9.0
Sweden	**9.7**	46.7	42.5	16.0	17.0	6.9	17.9	8.3
UK	**3.9**	46.2	38.4	8.4	21.8	4.5	3.5	6.1
USA	**10.3**	36.9	17.3	9.7	12.1	24.2	19.1	7.4

Green numbers indicate that the proportion of esports fans among respondents in the respective country was greater than the proportion of fans of the particular sports league.

Source: YouGov, 2022.

Table 3 below shows how many of the esports fans also consider themselves fans of the traditional sports leagues. What is interesting here is that, across all countries and sports leagues, compared to the general population surveyed (Table 2), esports fans were also more fans of the traditional sports leagues. For example, in the general Spanish sample, 50% stated to be fans of "La Liga", whereas 71% of the Spanish esports fans stated to be fans of "La Liga". This suggests that esports fans are interested in traditional sports and that collaboration between esports and sports is possible.

Table 3: Percentage of esports fans and fans of different sports leagues in selected countries among esports fans

Country	% of fans (at least somewhat interested in …) in sample of esports fans							
	Esports	Summer Olympic Games	FIFA Football World Cup	La Liga (Spain)	Formula 1	NBA (USA)	NHL (USA)	European Golf Tour
Brazil	100.0	68.4	84.5	57.7	64.8	48.8	25.8	24.4
China	100.0	70.0	43.5	31.4	33.5	51.2	23.0	18.3
France	100.0	67.7	68.7	46.5	51.8	42.6	28.9	23.9
Germany	100.0	58.4	66.8	40.0	52.4	38.0	33.7	29.8
Japan	100.0	68.0	60.4	44.5	49.9	40.8	28.5	35.8
Poland	100.0	79.3	81.9	59.8	63.6	50.7	43.4	38.0
Saudi Arabia	100.0	60.1	77.2	62.5	61.3	47.1	36.1	37.0
South Korea	100.0	67.9	77.3	53.9	48.5	56.5	39.0	42.1
Spain	100.0	69.5	70.3	71.0	63.2	52.9	31.5	31.7
Sweden	100.0	58.8	62.6	44.3	39.1	32.7	43.3	25.8
UK	100.0	63.8	63.9	36.1	49.4	28.7	24.4	23.1
USA	100.0	61.3	55.0	45.6	45.3	60.2	43.7	35.4

Green numbers indicate that the proportion of fans of the respective sports league in the country was greater among esports fans than among respondents of the general population (i.e. greater than the respective percentage in Table 2).

Source: YouGov, 2022.

Newzoo (2021, p. 31) reports that the number of esports viewers across all platforms in 2021 was around 474 million, divided into approximately 234 million enthusiasts and 240 million occasional viewers. This number is expected to increase to 577.2 million viewers in 2024. In Europe alone, the viewership for 2020 was shown to be approximately 92 million (Newzoo, 2020c).

As Table 4 shows, most viewers surveyed by YouGov (2022) were male (e.g. 71.2% in Sweden and 58.6% in Poland) and the age group 25–34 was highly represented (e.g. 31.5% of German esports fans surveyed). In the USA, Japan and the European countries shown in Table 4, the proportion of the age group 18–24 in the esports sample was two to three times as high as in the general sample (G). For example, only 10.2% of all French respondents were between 18 and 24 years old, but 29.3% of French esports fans in the sample were in this age group. In Brazil, China, Saudi Arabia and South Korea, however, the proportion of 18–24-year-olds in the esports sample (although still slightly overrepresented everywhere) does not differ much from the respective proportion of the general sample. This suggests that in the USA, Japan and the European countries listed, a disproportionately large number of 18–24-year-olds are interested in esports, while in the other countries in the table, esports fans have a more similar age structure to the overall population. This is particularly striking in Brazil, where the proportions in the two samples (general population and esports fans) were almost identical for all age groups. The age groups 45–54 and 55+ were underrepresented among esports fans in almost all countries in the table. This means that there were fewer esports fans among respondents over the age of 45 in almost all countries.

Table 4: Demographics of the esports fans sample (E) compared to the general population sample (G) in selected countries

Country	% female		% age										% higher income	
			18-24		25-34		35-44		45-54		55+			
	G	E	G	E	G	E	G	E	G	E	G	E	G	E
Brazil	51.3	43.2	15.4	15.7	21.6	21.0	20.9	21.8	17.0	17.3	25.1	24.1	4.1	4.2
China	44.0	33.9	32.2	41.9	34.2	35.1	16.6	14.6	12.6	6.0	4.4	2.4	2.5	2.6
France	52.4	24.0	10.2	29.3	14.7	26.7	15.7	21.6	16.9	11.4	42.5	10.9	6.9	8.9
Germany	51.4	29.5	9.2	22.3	15.0	31.5	14.6	19.4	19.9	14.8	41.3	12.0	1.7	1.5
Japan	49.9	34.1	7.2	17.3	15.6	31.0	19.1	27.4	19.1	13.3	39.0	11.0	10.6	15.3
Poland	52.3	41.4	9.4	18.4	18.5	23.8	19.2	23.3	15.1	14.4	37.8	20.0	9.7	10.9
Saudi Arabia	39.7	38.3	18.9	20.5	25.0	28.7	27.3	29.2	21.5	17.3	7.3	4.3	8.6	14.4
South Korea	48.0	30.5	9.6	12.4	25.9	33.5	24.5	27.2	27.2	20.2	12.8	6.7	29.8	40.1
Spain	51.1	33.9	8.1	15.0	14.5	23.8	20.4	26.1	19.7	18.3	37.3	16.9	6.3	7.0
Sweden	50.0	28.8	8.2	19.5	20.2	38.7	14.3	18.1	16.6	11.7	40.6	12.0	39.8	42.2
UK	54.9	30.5	14.3	40.1	11.0	15.4	18.3	18.5	20.1	13.4	36.3	12.6	17.6	15.2
USA	51.4	33.5	11.9	26.3	18.8	36.0	19.5	23.9	13.0	6.2	36.8	7.7	7.0	10.8

Green numbers indicate that the proportion of respondents in the respective demographic group was greater among esports fans than among respondents of the general population (i.e. higher values in column "E" than in column "G" for the specific demo-graphic feature). Higher income refers to an income more than twice the median income of the country sample. Source: YouGov, 2022.

In all countries in Table 4, women are underrepresented among esports fans. This is particularly apparent in France, where the proportion of women in the sample of esports fans was less than half as high as in the general sample. According to France Esports (2021), the French player community is divided into the general population who regularly play video games (9.7 million), recreational esports athletes (2.7 million) and amateur esports athletes (1.5 million). The numbers in this study show that there is no even distribution of female players across the three groups: 51% of players in the first group are female, but only 35% in the second and 7% in the last group. There have been multiple attempts to explain this: toxic community behaviour towards women being one, and socialized gender role expectations that suggest that video games are not for women being another (Rogstad, 2021; Taylor and Stout, 2020; Hayday and Collison, 2020). As in France (France Esports, 2021), there is a gender imbalance in the German esports sector, which is not as severe in the overall gaming sector. Nielsen carried out a representative analysis in Germany in 2021 (Nielsen Sports, 2021) - in the survey, only 25% of esports fans were female, whereas females made up 43% of gamers.

Furthermore, according to Nielsen Sports (2021), approximately 24.2 million of 14–49-year-olds are gamers who play at least once a week (irrespective of the platform); 9.89 million people in this age group are esports and gaming viewers who follow gaming and esports videos/streams at least once a week. Nielsen Sports (2021) defines esports fans as people who follow gaming/esports videos/streams at least once a week and occasionally watch professional esports events or content from professional esports athletes. In Germany, this amounts to 6.71 million people in the aforementioned age group,

which is approximately half as much as all sports fans (12.72 million people who follow sports broadcasts at least once a week).

The esports fans in the survey by Nielsen Sports (2021) tended to have a higher level of education than the gamers and the particular age group as a whole. As for the occupational distribution, 17% of surveyed esports fans were executives, whereas this was only true for 9% in the 14–49 age group as a whole. This is reflected in the income distribution of the samples in Nielsen Sports (2021) as well. The results by YouGov (2022) shown in Table 4 further support this observation: the percentage of respondents with an income higher than twice the median was slightly larger in the sample of esports fans than in the general sample for most countries. For example, in France, there were 8.9% of respondents in the "higher income" group in the sample of esports fans, but only 6.9% in the general sample. The average age of esports fans surveyed by Nielsen Sports (2021) was around 30, which is again in line with the findings of YouGov (2022) and shows that esports is not only a phenomenon of the youth. The findings of Nielsen Sports (2021) are also evident in a target group analysis using the online tool VuMa Touchpoints Monitor, based on the 2022 consumption and media analysis ("Verbrauchs- und Medienanalyse").

Table 5 shows some of the esports titles that esports fans in the survey by YouGov (2022) stated to follow. The percentages indicate the proportion of esports fans in each country who had stated to follow the respective esports title - the green numbers mark the highest percentage for each country. The figures clearly show that the popularity of individual esports titles can vary greatly from country to country. For example, the most popular esports title in China (Arena of Valor/Honor of Kings followed by 51.9% of Chinese esports fans in the sample) is not widely followed in other countries. Moreover, ranges of interest in different esports titles of esports fans seem to vary across the countries. For example, German esports fans indicated to follow on average 2.4 esports titles, while in Poland the average was 3.4.

Table 5: Esports titles followed by esports fans in selected countries

Country	Average	% of esports fans following …								
		CoD	CS:GO	PUBG	Apex	VAL	LoR	LoL	AoV/ HoK	FIFA
Brazil	2.3	14.8	9.2	3.5	4.1	3.8	2.0	11.1	3.8	28.3
China	3.5	15.1	19.3	19.9	7.6	1.5	1.5	45.0	51.9	4.3
France	3.0	27.5	12.5	5.0	9.9	5.6	3.3	18.3	4.1	22.0
Germany	2.4	18.1	15.1	5.5	7.8	5.1	2.4	12.4	4.5	16.2
Japan	2.1	10.6	5.4	7.1	15.1	2.6	3.2	4.6	5.1	7.0
Poland	3.4	20.3	21.4	4.4	7.4	6.3	3.4	25.4	3.1	32.9
Saudi Arabia	3.2	21.9	8.7	4.4	10.0	5.7	4.4	8.4	8.6	27.1
South Korea	2.8	11.1	6.4	18.6	5.5	3.5	5.5	34.9	3.7	13.4
Spain	2.7	20.9	10.4	4.1	7.7	5.3	2.9	19.7	3.9	22.6
Sweden	2.9	20.4	23.5	5.4	8.0	5.4	2.7	16.1	3.8	16.5
UK	2.2	19.0	14.1	5.2	6.5	6.7	1.7	12.7	2.5	12.5
USA	3.7	27.7	11.5	7.4	13.4	6.3	4.9	11.9	7.5	14.0

Average refers to the average number of esports titles (games/franchises) followed by each esports fan in the sample of the country. For each country, it is calculated by summing the percentages of all esports titles included in the survey and then dividing by 100. Green numbers highlight the most popular esports title in each country. Due to the possibility of selecting multiple esports titles and the fact that only a selection of the esports titles included in the survey are listed here, the values do not add up to 100%. Regarding the abbreviations of the esports titles, we recommend a look at the list of abbreviations. Source: YouGov, 2022.

As regards public funding aspects, it is not possible at this point in time to determine the status of state funding or institutionalisation of esports in Europe. Either there is no clear political allocation or this allocation changes frequently. This is due to the cross-sectional nature of esports and the fact that esports is often not assigned to any specific ministry. Thus, it is difficult to find accurate data on public funding. Strategies for esports are even rarer to find.

Denmark is to some degree an exception. The total funding volume is unknown, but the use and distribution of funding can be observed to a certain extent. Esports clubs have the option of receiving the non-profit status, esports is promoted in schools (as afternoon sports), and there is funding for club infrastructure and coach training in clubs through Danmarks Idrætsforbund (Danish Sports Federation). In addition, various ministries are dealing with esports. The Ministry of Culture and the Ministry of Industry, Business and Financial Affairs published a national strategy for esports in 2019, which called for the creation of sustainable structures to promote the development of esports on both the amateur and professional level. In addition, another motion for a resolution on the national esports strategy was debated in parliament on 20 April 2022. Furthermore, the Ministry of Industry, Business and Financial Affairs promotes esports tournaments and the Danish Prime Minister Lars Løkke Rasmussen gave the opening speech at the BLAST Pro Series Copenhagen in 2018. He described the players there as athletes (Rasmussen, 2018).

Regarding state subsidies for esports in Europe, Germany will be used as an example in the following. Overall, the situation in Germany is inconsistent. At the national level, there is no funding explicitly for esports, however, since 2019, there has been the German Games Fund (EUR 50 million annually,

although for two years there were significant procedural problems and, as a result, very little was paid out). Therefore, funding takes place primarily on the federal state level and is very fragmented (as in large parts of Europe), as outlined below:

- Schleswig-Holstein has been funding esports since 2019. The total amount for 2019-2022 was EUR 1.05 million, of which EUR 340,000 was allocated to the new Schleswig-Holstein State Centre for eSports and Digitalisation. Schleswig-Holstein also funded the eSports Nord e.V. performance centre, spaces within traditional sports for esports, training for coaches and an esports league in a youth association (Ministerium für Inneres, ländliche Räume, Integration und Gleichstellung, 2022). Recently, the Schleswig-Holstein State Centre for eSports and Digitalisation has implemented the Breaking Borders project with partners from Denmark and received EUR 50,000 (LEZ SH, 2021). In addition, the city of Kiel funded youth work between 2020 and 2022 to the amount of approximately EUR 160,000 (information provided verbally by the ESBD).
- Saxony-Anhalt funds esports in connection with traditional sports to the amount of approximately EUR 15,000. The Saxony-Anhalt Esports Hub was also supported in 2020 and 2021 with funding from the digital agenda with an economic focus, to the amount of EUR 200,000 (Kreativwirtschaft Sachsen-Anhalt, n.d.)
- North Rhine-Westphalia funded an esports project by state association Sportjugend between 2020 and 2022 to approximately EUR 440,000 (Land.nrw, 2020). In addition, there is an esports project organised by Sportjugend in collaboration with the Ministry for Children, Family, Refugees and Integration (without financial support). North Rhine-Westphalia has co-founded the Esports Player Foundation, which is responsible for training esports talents; seed capital of EUR 200,000 was released here (Küpper, 2020).
- Lower Saxony and a few other states have made smaller amounts available for different projects or events. Some projects also receive small support on a regional level. However, the detailed scope of the funding is unclear.

This provides an indication that a coherent strategy is required. This applies to almost all Member States of the EU. At the same time, however, a development can also be observed at city level. Some cities support esports in order to position themselves as esports locations, e.g. Jönköping in Sweden (known as the "City of Dreamhack") (McCauley et al., 2020), Katowice in Poland (host of IEM Masters), and Paris, which has initiated an incubator with its "LvL 256". A similar picture emerges outside of Europe - state institutionalisation has only been established in a few countries. One example is South Korea (Huhh, 2008), where structures have emerged that resemble those of traditional sports. This is evident in South Korea's "Act on Promotion of E-Sports (Electronic Sports)" (2020), which provides a far-reaching strategy that regulates the following (among other things):

- "Art. 4: The State and local governments shall establish and implement policies necessary to promote e-sports.
- Art. 5: In order to invigorate e-sports activities so that local residents enjoy leisure time and promote amity among themselves, a local government may create an environment for e-sports facilities, etc. establish and operate e-sports organizations, and hold e-sports events.
- Art. 6: In order to achieve the purpose of this Act, the Minister of Culture, Sports and Tourism shall formulate and implement a master plan as a basic and comprehensive plan for the medium/long-term promotion of esports (hereinafter referred to as "master plan") and an

annual implementation plan for each type of esports in detail (hereinafter referred to as "implementation plan").

- Art. 8: The State and local governments shall endeavor to secure funds required for effectively implementing the master plan and implementation plan.
- Art. 13: In order to develop the e-sports industry, the Minister of Culture, Sports and Tourism may designate an institution that falls under any of the following subparagraphs as an e-sports industry support center.
- Art. 15: In order to promote the development of e-sports and facilitate healthy leisure activities for people, the State shall seek measures necessary to promote professional e-sports and e-sports for all.
- Art. 18: The Minister of Culture, Sports and Tourism may select individuals, organizations, enterprises, etc. that have significantly contributed to the development of e-sports to reward them for their contributions."

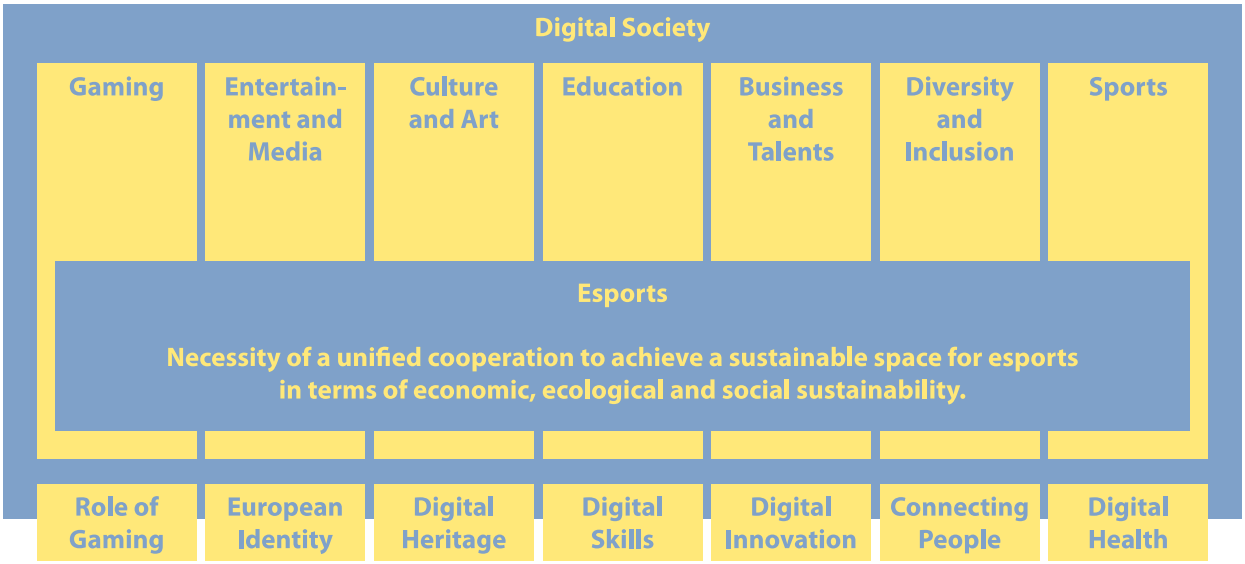
3. OPPORTUNITIES

KEY FINDINGS

- Esports is a cross-sectional topic that ranges from gaming to entertainment and media, culture and art, education, business and talent, diversity and inclusion, and sports.
- Esports can help shape the digital society and create a digital European identity.
- The relatively small size, the hierarchical structure and the open communication make esports an optimal test lab for building sustainable structures for the esports industry and the digital world as a whole.
- Esports is global as well as local and can be a medium for communication, the revitalisation of cities, bridging borders, art, the preservation of culture, educating the young and old, etc.
- The skills needed in esports are also required for digital work: creativity, focus on performance, motivation in the face of a challenge, strategic thinking, reaction speed, focus, working memory, visual and (English) language skills as well as teamwork.
- Esports can be utilised to solve problems of European SMEs, especially concerning human resources and organisation (e.g. employer branding, talent acquisition), and problems of traditional sports clubs (e.g. attracting new members).
- Similar to traditional sports, esports is a carrier of positive values such as fairness/fair play, the willingness to perform, and teamwork. Large parts of esports offer great potential for inclusion and gender equality.
- It must be noted at this point that neither the opportunities nor the challenges that esports can pose have been scientifically studied in detail so far. Research or financial support for such research is urgently needed. The creation of a central research institution at European level is strongly advised.

Esports is a digital cross-sectional topic that ranges from gaming to entertainment and media, culture and art, education, business and talent, diversity and inclusion, and sports. Through this cross-sectional connection, esports can shape and develop the digital society. Esports connects people across a wide range of topics and is more than just competition and leisure activity. As a result, esports has many spillover opportunities that can be a key part of building a sustainable digital society. Figure 8 shows that many of these opportunities concern issues fundamental to society.

Figure 8: Esports as a cross-sectional topic in the digital society



It must be noted at this point that neither the opportunities nor the challenges that esports can pose have been scientifically studied in detail so far. Research or financial support for such research is urgently needed. The creation of a central research institution at European level is strongly advised.

3.1. Gaming

Esports is often denied state support, arguing that esports is exclusively for profit and that the state does not want to support companies worth billions of euros. One example of many is the rejection of the LEC finals by the Munich city council in 2022 (Noack, 2020). As already stated, there is a discrepancy between the publisher's control and the use of its product as a contribution to society. Although the power of the publisher is also restricted to some extent (see 2.2.3.), it is nevertheless essential to solve this contradiction inherent to the system, because esports can offer added value for society in many ways. This can be viewed as a fundamental challenge for the digital society as a whole. Almost all relevant platforms are operated by private for-profit companies as the conception, implementation, support, and further development of video games often involves enormous costs. If such a platform constitutes a personal intellectual creation with a certain level of quality, it may be subject to intellectual property rights. The companies then bundle all exclusive and unrestricted rights of exploitation, utilisation, and commercialisation with themselves – as does a publisher – and are (fairly) free to determine the product. Accordingly, video games are an interesting testing field for the role of software developers, owners, and users in a digital society. Without a video game, there is no esports, and without players, there is no video game - both sides have an interest in a sustainable video game sector. This has led to the need for publishers to constantly develop their products and has ultimately led to the concept of games-as-a-service.

Whilst video games can add value to society in many different ways, many publishers need to rethink their role in this regard. Legal benefits based on adding value to society can only be granted to publishers who add value to society through their product. This entails various obligations. For example, publishers should allow tournaments at the hobby and amateur level (free of charge). Another example would be to provide esports titles (free of charge) to retirement homes or youth centres, or funding programmes for women and other minorities in esports. This way, gaming and esports become a common good despite the rights held by a for-profit company. In return, there must be incentives for those publishers.

3.2. Entertainment and media

Esports is a medium, especially in terms of entertainment. Almost anyone can interact, play, stream or (with permission or unpaid toleration) organise tournaments in esports. Borders are initially irrelevant. This also applies to the aspect of international and intercultural communication. This was clear during the Covid-19 pandemic when the platforms of the digital world turned out to be a valuable social resource and not, as often propagated before, anti-social hotspots (although such hotspots do exist). Since large parts of the esports community have been in contact with people from all over the world from an early age, the community is not afraid to interact with people from other countries or backgrounds.

Rather than focusing on how people look - their physical appearances - players give meaning to the capacities and personalities of the people they are playing with in a team. This is because the matchmaking systems inherent to the video games do not allow players to know what other players look like in real life. In this way, discrimination on the basis of physical appearance, such as racial or ethnic discrimination, is avoided to a certain extent, and international cooperation in competitions is facilitated and favoured.

The main focus in esports is often on continental competitions. The result is a sense of identification with the respective region (e.g. Europe) and peaceful rivalry with other regions (e.g. North America). Here we can already see an early form of a digital European identity. As such, esports can be utilised as a digital microcosm and a test lab - how can a digital Europe be shaped and how can a European community be created without meeting in an analogue environment? The EU can test ideas and concepts to foster a digital European identity as many players in esports see themselves as Europeans ("We are EU").

Esports is not only a digital and thus global phenomenon, but a local one as well. Increasingly more organisations are developing at the regional or local level. Much like a football club, an esports club can be a location for meeting like-minded people or an anchor for personal identification. Clubs and tournaments can translate a regional identity into the digital world and facilitate exchange through networking. The growing esports scene at universities must be mentioned here. In Europe, university league structures are emerging that are otherwise only known from college sports in the United States. These university groups are often the basis for an esports club in the respective city (in Germany, for example, Engines Stuttgart or eSports Cologne). The focus is not local but European, with the University Esports Masters European Series being the ultimate goal. Even in the early 2000s, there were Nations Cups and European Championships in which teams from Berlin competed against teams from Stockholm. This underlines both the local and the global nature of esports. Opportunities also arise in terms of urban development. Whether as a venue or an entertainment option for all citizens, in all respects, esports can contribute to the (re)vitalisation of (smaller) cities (or rural areas). In 2018, for example, the final of the Spring Split of the League of Legends European Championship was held in Rotterdam. According to the report by publisher Riot Games, a contribution of EUR 2.4 million was generated for the Rotterdam economy in just two days (Duran, 2019).

Overall, this shows the duality between the European and the local level. People in esports identify with Europe – something that is almost actively suppressed in traditional sports by the tendency to use sports for nation building (Arnold, 2021) – and their local region simultaneously. Playing in Europe embodies the European ideas of free (digital) movement, equality, playing by rules, solidarity, respect, and diversity. Thus, there is an open space for a digital European identity to efficiently grow through the possibilities of esports. Players can become ambassadors of such identities (Scholz, 2022a).

3.3. Culture and art

The preceding remarks already imply a possible added value for European and local culture. However, there are further implications. Every stakeholder in esports strives to add value to its fans. Besides the various forms of entertainment, it is often about building a healthy community. A prominent example is the ESL slogan "We are one" or the "Good luck, have fun" pledge against toxic behaviour.

At the same time, esports can also play a role regarding archiving history in a digital and fast-moving world. In this respect, esports is already highlighting the problems that society as a whole will face in the future in dealing with digital heritage due to its dynamic and volatile nature. For example, the core principles of the video game World of Warcraft have existed nearly unchanged for almost 20 years. However, the game and the possibilities of competing in it have constantly evolved through various versions, both technically and in terms of content. The question of how to archive these developments and make them usable for the future has not been satisfactorily resolved in the gaming/esports sector at present. The focus has been on the present and not on the future. When World of Warcraft publisher Activision Blizzard decided to make the first versions of the game accessible again, these had to be rebuilt almost completely from scratch. This was not only due to technical progress but also to poor archiving. Society will soon face a similar problem because the world is developing so fast that resources will primarily be directed towards developing rather than archiving knowledge. To answer the question of how this can best be solved on a large scale, the field of gaming/esports would be particularly suitable as a test laboratory. Here, “digital archivists” can be trained and educated.

At first glance, the connection between esports and art may not be obvious, but esports is a cultural phenomenon that creates and shapes its cultural value (Rea, 2021; Jin and Yoon, 2021). An example of the cultural creation value of esports is the “angel graffiti” on the Counter-Strike map Cache. When a player performs a unique move in a major competition, there is a chance that the location on the virtual map will be decorated with a graffiti. In the case of the “angel graffiti”, it was the result of a move made by arguably the best Counter-Strike player of all time, Oleksandr ‘s1mple’ Kostyliw, in the semi-finals of ESL One Cologne 2016, which was later immortalised on the online version of the map (ESL, 2020). A large part of the Counter-Strike community knows the graffiti and its history. In addition, references to culture and art are not limited to the esports title itself. In the case of League of Legends, for example, which was developed specifically as an esports title, the publisher Riot Games built an entire media universe around the core game with various game modes, its own background story (implemented in a successful anime series, among other things), and a music group. These examples show the added value that esports can provide on a shared cultural level. Technological progress will drive this even further.

A relatively new trend - that is also affecting gaming and esports - is the emergence of distributed ledger technologies that use cryptography. Besides cryptocurrencies or video games running on such a network, the most interesting development for esports organisations are NFTs or “non-fungible tokens”. This is a piece of information stored as a unique token on a blockchain. Either it represents an analogue asset (in which case the blockchain is reminiscent of a land register) or it is a digital asset that is created as a token. The latter means that the creation of a digital original is unique and unchangeable (at least on the respective blockchain) and depicts the ownership beyond doubt. These tokens can also contain the most diverse works of art, such as music, pictures or videos. In the past, such tokens have already been used in other entertainment industries. Meanwhile, they have made their way into sports and esports (e.g. NBAs Top Shot, ESLs NFT Team Gear or G2 Esports Samuray Army NFT). This shows that the boundaries between the analogue and digital worlds are blurring towards a society that may one day be influenced by the concept of a metaverse.

3.4. Education

Another example of the added social value of esports is in education – for children, young people, adults and senior citizens. Younger people can, for example, learn a wide range of (social) skills by playing esports. Similar to traditional sports, esports is a carrier of positive values such as fairness/fair play, the willingness to perform, and teamwork. Although there are still problems regarding toxic behaviour in online esports, this is not so much a problem of esports but rather an issue of a (supposedly) anonymous world (Kordyaka, Jahn and Niehaves, 2020; Maher, 2016). Toxic behaviour refers to any behaviour towards players or fans that is inappropriate from a social point of view. This can take many different forms such as flaming (i.e. insulting) or griefing/trolling (i.e. intentionally disrupting another player's game experience). The more professional esports becomes, the lesser anonymous it gets and the fewer problems there are with toxic behaviour. Analogue meeting places are in this way critical as they offer spaces where qualified trainers/educators can accompany and guide players. This requires financial and structural support, for example, through the recognition of the non-profit status of such clubs. This also helps to counteract the negative aspects of internet culture, which are based on (supposed) anonymity, amongst other things. This counteraction was, is and always should be the task of a stable European society. It should be noted that there are toxic players and fans in amateur sports as well.

Furthermore, skills can be trained in esports that are essential for a digital society. As early as 2007, IBM stated in a report that players who lead a clan or a guild acquire the capabilities necessary to potentially become top managers for companies in an era of digitalisation (IBM, 2007). This led to the concept of game leadership (Scholz, 2010). In addition, esports can help people train and learn the necessary digital skills and make them ready for the Information age (Engermann and Hein, 2017). In a study (Gray, 2016), the World Economic Forum identified ten essential skills for the digital future. Table 6 shows the connection between these skills and gaming/esports:

Table 6: Link between digital skills and esports

Skills for the digital society (Gray, 2016)	Exemplary scientific evidence in esports
Analytical thinking and innovation	Griffiths, (2017); Bányaiet al. (2018); Funk et al. (2018)
Critical thinking and analysis	
Active learning and learning strategies	Martoncik, (2015); Seo, (2016); Bányai, et al. (2018); Funk et al. (2018); Hallmann and Giel (2018)
Complex problem-solving	Baltezarević, and Baltezarević (2019); Polman et al. (2018)
Creativity, originality, and initiative	Griffiths (2017), Polman et al. (2018)
Leadership and social influence	Cunningham et al. (2018); Funk et al. (2018); Hallmann and Giel (2018); Scholz (2010)
Resilience, stress tolerance, and flexibility	Seo (2016); Hallmann and Giel (2018)
Reasoning, problem-solving, and ideation	Griffiths (2017); Bányai et al. (2018); Funk et al. (2018)
Technology use, monitoring, and control	Anderson et al. (2018); Komatsu et al. (2021)
Technology design and programming	

However, there is currently a disconnection between the way education is implemented and the skills needed for a digital world (DeArmond, Shelton and Hsu, 2022; Jenny, Gawrysiak and Besombes, 2021). Integrating esports into the curriculum can help develop these skills, without replacing traditional sports, which are essential for young people. Topics such as game-based learning (Engerman and Carr-Chellman, 2017) and gamifying teaching (Brunvand and Hill, 2019) open up new opportunities for teaching skills and knowledge. Esports-based learning can play a significant role here and be helpful in teaching digital social skills.

Esports can offer opportunities not only for young people but for senior citizens as well. They can immerse themselves in new digital worlds where possible physical limitations are not an obstacle. Moreover, the competitive aspect of esports can enhance stimulation and engagement.

3.5. Business and talent

Esports emerged in its current form in the mid-1990s and developed independently of conventional business structures. As such, people in esports could develop freely while using or critically questioning existing ideas from other industries and creating innovative concepts. This resulted in a certain mindset that is shared by many people in the industry and differs from other social sectors due to its global and digital orientation. Scholz and Stein (2017, p. 57) assign six characteristics to the economic actors:

- Esports athletes focus on their objectives.
- The (market) orientation is “glocal”.
- Esports athletes are capable of change.
- Resources are distributed bottom-up.
- Esports athletes are over-energetic, over-enthusiastic, and over-dynamic.
- Digitalisation is an integral part of esports.

It is evident that industry professionals see themselves as the most valuable resource in addressing the challenges of a digital world as well as the obstacles presented to them by representatives of traditional industries. They are “over-energetic, over-enthusiastic, and over-dynamic” (Scholz and Stein, 2017, p. 57). Regardless of this mindset, the skills that a successful esports athlete needs to have are consistent with those also required in the modern digital work environment. In addition to STEM affinity and digital literacy, these include creativity, focus on performance, motivation in the face of a challenge, fairness/fair play, strategic thinking, reaction speed, focus, working memory, visual and (English) language skills, and (in team esports) teamwork (Harvey and Marlatt, 2021; Nothelfer and Scholz, 2021). This makes esports relevant not only for marketing and sales but for employer branding and talent acquisition.

Esports is no longer just a youth phenomenon. The children who played esports have become working adults and solvent customers who are often still loyal to their esports passion. However, there is an even more important target group, the European SME sector. Talents gained through esports can shape future employees that could revive the respective companies and shape them in the future. The strive for talent is raging relentlessly and the large global companies seem to be winning it (Sommer, Heidenreich and Handrich, 2017). This applies not only to esports-endemic companies like Intel or Logitech but also to non-endemic companies like BMW, Red Bull, or DHL. In this context, esports can be the answer to typical problems of European SMEs, especially in the area of human resources and organisation. A positive side effect is a change towards a digital corporate culture, which is perceived both internally and externally.

3.5.1. Employer branding

It is difficult for SMEs (even if they are world market leaders) to stand out from the competition in the labour market, particularly in metropolitan areas (Schenkenhofer, 2022). By getting involved in esports (e.g. establishing a company team, sponsoring a tournament organiser or clan, creating esports opportunities at the workplace, organising in-house tournaments, etc.), a company can show that it is digital, modern, open-minded, receptive to new trends and that it can put up with a fast and constantly growing and changing industry (Nothelfer and Scholz, 2021). Access to such talent is possible at an early stage - sponsoring a regional school or university team is an example of an often cost-effective method of talent searching and enables talent scouting in the immediate neighbourhood. Moreover, in contrast to involvement with the local sports club, international visibility can be achieved early on with esports.

3.5.2. Talent acquisition

Large parts of esports and "classic" digital work are comparable to a certain extent. In both cases, work is often done on a PC with full focus and sometimes under tremendous pressure. In both cases, leaders are present, and teamwork is just as indispensable as the other previously described skills that esports requires. Such skills may be (better) tested in esports assessment centres than in traditional settings. When placed in a direct (digital) competitive environment, the pressures accompanied by such a setting would enhance the concentration demanded from players, by which they are more likely to show their true character traits than in a familiar or less competitive setting. Moreover, many esports titles offer the possibility of directly evaluating team and individual performance.

3.5.3. Personnel development

Esports involvement can make existing talent within the company visible. Innovative companies always start by identifying the expertise within their ranks. For companies of a certain size, it is very likely that they have someone on staff already dedicated to esports. For this employee, leading the esports project could represent an otherwise impossible career opportunity and gear them to excel. Furthermore, the company can apply the learnings from such a project to its organisation. For example, data and statistics play a significant role in esports. Just as personnel recruitment could be revolutionised, there is comparable potential in personnel development.

3.5.4. Employee retention

It is not only through new career opportunities that esports can ensure employee retention and the symbiosis of work and passion. As companies are often international, hybrid forms of work are becoming more and more relevant. At the same time, it is becoming increasingly difficult to find qualified personnel. Esports is neither bound to national borders nor dependent on physically real places of activity. Combining work and passion can strengthen identification with the company. Companies already offer sports opportunities. Esports teams might be one of them. Employees can grow from mere colleagues into communities that reach beyond departmental boundaries.

All these elements reveal the links to a digital world of work. Furthermore, it is essential to highlight that the current Covid-19 pandemic led to an enforced digitalisation that requires companies to find solutions for the hybrid work environment and transform their corporate culture into a digital corporate culture in which esports can be helpful (Scholz, 2022b).

3.6. Diversity and inclusion

Diversity and inclusion are much discussed in esports. While there are about as many women as men in gaming, a look at professional esports reveals primarily white men (Rogstad, 2021). Yet, large parts of esports – particularly those not based on full-body activity – offer great potential for inclusion. The technical barriers to participation are low and it is generally possible for anyone to participate in virtual competitions. However, there are underlying social barriers which lead to the fact that esports – at least on the highest professional level – mainly consists of white or Asian men (Choi, Slaker and Ahmad, 2020). Esports is, thereby, part of the toxic techno-culture and hegemonic masculinity that is common on the Internet (Massanari, 2017). Similar to STEM professions (Makarova, Aeschlimann and Herzog, 2019) female players often exit esports along the road to professional player and this is due to the social barriers like hegemonic masculinity, online harassment, expected gender roles (Rogstad, 2021) that reinforce the gender divide (Kruthika, 2019). These barriers highlight the strong inequalities within esports. That said, these barriers are only highlighting the fraction of female players actively participating in esports which are already a smaller number than in video games in general. There are also social barriers in society based on the perception that girls should not play video games, so these social barriers are developed at an early age and are reinforced over time (Cunningham, 2018). However, overcoming these social barriers would be an added value in society as “girls who are heavy gamers are more likely to study a physical STEM degree” (Hosein, 2019, p. 226).

Esports is working on building new structures to seize the opportunities described. Examples include the use of artificial intelligence to automatically punish toxic behaviour or the commitment of the community itself, such as the "Good luck, have fun" pledge against toxic behaviour. Initiatives such as Equal Esports or GG4all should be mentioned. These measures can only solve existing problems within the industry, but the stigmatisation of playing video games as a girl or woman needs to be tackled as well.

The inclusion of people with disabilities is generally possible in esports, as it is often not based on whole-body peak performance. The access to video games is based on having specific versions or customized input devices. It must be noted, that research is limited on that topic, especially concerning the social barriers (Johnson, 2019). The case of LilMix Para in Sweden, a CS:GO team made up of people suffering from the progressive muscle disease, Duchenne Muscular Dystrophy (DMD), illustrates the value of esports in allowing engagement with society that they may otherwise not have had.

3.7. Sports

Esports offers opportunities for traditional sports, where an increasing number of clubs are losing members (Breuer, Feiler and Rossi, 2021). Digital sports offerings, such as VR esports, can inspire people with a digital affinity to become physically active. In addition, esports activities offered in sports clubs encourage the mobility of gamers as they attend analogue sports venues. Additionally, translating the respective traditional sports into the virtual world can add value for sports club members, as recently shown by the Covid-19 pandemic. This primarily refers to the corresponding sports simulation.

Regardless of this, the topic of health (physical and mental) is fundamental for all members of a digital society. Gamers, esports athletes, and digital workers in their home offices can suffer from a lack of exercise and high stress levels due to a lack of work-life separation. This must be communicated appropriately (especially to young people). Physical health is essential for a sustainable professional esports career. Most professional esports organisations require players to work out and are increasingly hiring professional chefs to ensure that their players have balanced diets.

3.8. Sustainability

One general challenge in our world is sustainability and that is the same for esports, however, we can see this as an opportunity to learn how to achieve the ecological, social, and economic sustainability in an efficient way (Nyström et al., 2022). As the industry is currently in a phase of significant growth, these factors do not seem to be prioritized. Especially the continuous influx of external capital does not suggest organic growth. Organic growth means that esports organisation have time to foster sustainable business models and integrate social and ecological elements into the ecosystem. If there is a steady stream of capital flowing into esports with an abundance of players available, the social sustainability aspect is often neglected (Darcy and Wolf, 2018). Esports is all about people and it should be people-driven. The relatively small size, the hierarchical structure and the open communication make esports an optimal test lab for building sustainable structures. Lessons learned could then inform other industries.

4. CHALLENGES

KEY FINDINGS

- Esports is constantly and rapidly evolving, making it necessary to address challenges as soon as possible.
- There is a discrepancy between the publisher's control and the use of its product as a contribution to society.
- Due to their broad scopes, the definitions of esports and sports overlap. If this situation is not resolved, problems will arise for both sectors. Therefore, a terminological/legal separation is needed.
- There is an urgent need for a coherent and functional strategy for esports. It is unclear which legislative body is responsible for esports. Esports urgently needs regulation (just like the legal benefits traditional sports enjoys) or it will continue to migrate to non-European countries.
- If esports is to be utilised, society needs to be educated on the matter and the industry needs to be supported. Otherwise, the divide between the industry and society will grow.
- Gamers and esports athletes, similar to digital workers in their home offices, can suffer from a lack of exercise and high stress levels.
- One of the biggest challenges of esports and the digital world as a whole is ecological, social, and economic sustainability.
- Neither the opportunities nor the challenges that esports can pose have been scientifically studied in detail so far. Research or financial support for such research would be highly beneficial. The creation of a central research institution at European level is strongly advised.

The following chapter will present challenges that esports poses in conceptual, social, and regulatory terms. Once again, it is essential to note that esports is constantly and rapidly evolving. This makes it necessary to address these challenges as soon as possible. It must be noted at this point that neither the opportunities nor the challenges that esports can pose have been scientifically studied in detail so far. Research or financial support for such research would be highly beneficial. The creation of a central research institution at European level is strongly advised.

4.1. Conceptual challenges

4.1.1. Publisher and society

The first conceptual challenge has already been addressed, namely the discrepancy between the publisher's control and the use of its product as a contribution to society (see 2.2.3 and 3.1). Although it is unclear how many publishers intend to control the esports ecosystem related to their video game in the future (as this requires extensive resources), and how many prefer a laissez-faire approach, an existing publisher will consistently profit at least indirectly from esports (even if only in marketing terms). This is not a peculiarity in a digital world where there are exclusive and unrestricted rights of exploitation, utilisation, and commercialisation regarding software or platforms. Moreover, traditional sports disciplines also get monetised and exploited by for-profit companies such as sporting goods

manufacturers or betting providers. While the community in esports will rarely program their own video game, golfers will rarely make their own golf clubs. However, the publisher's power does not exist without any limitation (see 2.2.3.).

An interesting question going forward is whether video games can completely be in the (legal) control of a community. This could be enabled through distributed ledger technology like blockchain. At this point, however, such a video game is still purely theoretical. At the same time, there is a consolidation in the gaming and esports industry (but also the platform economy). With the buyouts of Activision Blizzard by Microsoft or Bungie by Sony, there are fewer and fewer big game publishers and there is a massive centralisation of power. It is currently impossible to predict how this development will unfold in detail. Regardless of who has the power over the esports title, the entity needs to comply with European laws and values (see 3.1.).

Nevertheless, it is essential to distinguish between the product and the non-profit work done in clubs that are engaged in the product. Provided that certain specific requirements are met in this club, it deserves the (among other things, tax law) privileges that traditional sports clubs enjoy as well. As already explained, the mere existence of an economically active publisher cannot be an obstacle to this. In 2021, the German Federal Government, for example, endorsed this view (Deutsche Bundesregierung, 2021).

4.1.2. Esports and traditional sports

As already explained, the terms sports and esports are very broad collective terms and therefore overlap (see 2.1.3 and 2.2.1). At the same time, both industries have their own systems (see 2.3); simply copying the sports system to the situation in esports is not only inappropriate, but dangerous for the development of both industries. Especially from a political point of view, the situation is complicated because the federations of traditional sports do not want to lose influence and, at the same time, do not want to fully acknowledge esports as sports of the digital world. On the other hand, there are many points of contact, especially at the local level. Therefore, a separation of traditional sports and esports makes sense in terms of terminology as well as in legal and federation terms (Nothelfer and Petschinka, 2021). Such a separation would create (legal) certainty without preventing stakeholders from both sectors from working together. A working separation of the phenomena can only be achieved by explicitly excluding video games from the definition of traditional sports. Such a separation would require separate laws and funding but could at the same time reduce the supposed competition between the industries, enabling urgently needed collaboration at all levels of their structures.

Sports have been given a unique role in political terms. Although it is also a cultural asset and, to a large extent, of fundamental importance for people's health, it is often assigned to only one specific ministry. Competences tend to be at the local level unless it is a matter of representing the nation at the international level. For some time now, even the EU had competences regarding supporting, coordinating, and complementary measures (Article 6, 165 TFEU). Both traditional sports and digital sports (esports) need such a basis.

It is an interesting question on which level the main competences should be since esports is at its core more international than sports (see 2.2.2). Due to its compelling digital component, it cannot be integrated into the sports system (at least not in today's sports system). Therefore, a regulatory or at least a coordinating competence at the EU level would be appropriate, with certain regulatory matters having to be established in the Member States. A formal implementation should be relatively easy as there are hardly any specific laws on esports in Europe (see 4.3) but would possibly also require an adjustment of the European Treaties.

If the regulatory competences were in the Member States, however, it would be most suitable to incorporate them in the ministerial area of digital affairs (if one exists). Without a central allocation (as exists in traditional sports), many different ministries would have to deal with esports, depending on the topic in question. To prevent a patchwork of individual laws that are not compatible with each other - as is the case in Germany (see 2.4) - there is an urgent need for at least central coordination.

Previously, the relevance of health and physical exercise was explained (see 3.7). The less physical nature of most esports titles requires some form of balance. For professional esports organisations, this has long been an important topic. Integrating esports into existing sports clubs would help communicate the relevance of health and physical exercise at the amateur level and have positive impacts on these people's lives.

4.2. Societal, educational, and cultural challenges

Stigmatisations around esports and gaming are still widespread throughout society, which is why, if esports is to be promoted and utilised, such stigmatisations should be combatted (for example through education). An example of such a negative stigmatisation is the prejudiced perception of a gamer as an unhealthy and antisocial person who becomes radically involved (e.g. Ferguson, 2008; Przybylski and Weinstein, 2019; Drummond et al., 2020). Ferguson (2008), for example, addressed this stigmatisation and found no connection between gaming/esports and school shootings. This reveals a common misconception of gamers/esports. Of course, radical digital platforms and forums exist, but not because of esports - the Internet enabled esports to develop in its current form, so there are logical points of contact with general internet culture (Massanari 2017).

Another social stigma related to gaming and esports is gender. Women are severely underrepresented in esports, even though they strongly participate in video games (see 3.6). The challenge here is to destigmatise esports to make it more inclusive to all genders. Socialisation processes by parents and society (e.g. education, culture, tech industries) are relevant here, as these construct gender roles and border socially accepted behaviour, which discourages young girls/women from taking part in esports (Choi et al., 2020).

Furthermore, esports highlights the problems of sustainability in a digital society (Nyström et al., 2022). This concerns both ecological, social, and economic sustainability. Ecologically, the focus is on electricity consumption as well as the consumption of rare resources in the production of hardware, and the travel of esports teams to competitions. Concerning the latter, there is a link to economic sustainability as a large part of the income of professional esports clubs, which in most cases do not yet make a profit, comes from event-related (though not primarily media-rights-related) sources. Socially, the main risk is the belief that excessive playing is necessary to become a professional. It takes a lot of training to become a professional, but at the same time, this training must be part of a holistic and sustainable strategy. Currently, quite a few top players' careers end after only a few years due to physical or psychological exhaustion (for example, the well-known League of Legends star player Jian "Uzi" Zi-Hao, who had to end his career at the age of 22 due to physical problems in his right shoulder and his arms, among other things). This shows that engaging in esports is a new form of work, a hybrid between "classic" digital work and "classic" competitive sports/work, which can intensify the physical and psychological risks of both elements (Kurt and Nothelfer, 2020). This needs to be counteracted.

The previous chapter discussed esports' opportunity to promote a digital European identity. At the moment, there is a strong identification with the competitive region of Europe due to the transnational classifications by tournament organisers. To take advantage of this opportunity to foster a digital European identity, a coherent and dedicated strategy from the EU is required. Examples of such strategies include the support of European competitions and/or the promotion of esports clubs by the EU.

4.3. Regulatory challenges and examples of esports-specific regulations

The first challenge is the question of competence that has already been posed (see 2.2.3 and 2.4). Neither at the European level nor in most Member States, does a coherent and suitable strategy for the legal treatment of esports exist. Esports is not unregulated. There are regulations regarding advertising, protection of minors, events, etc. The same applies to traditional sports, yet these enjoy legal benefits in various respects. While a large part of the regulatory responsibility for traditional sports is rather local, a uniform regulatory costume for Europe could be appropriate for esports. The issue of where the regulatory authority concerning esports lies (or should lie) remains. In traditional sports, this tends to be local, but esports is much more international and heterogeneous.

Since there has been disagreement so far about whether esports belongs to a specific legislative competence, it is noteworthy that a partial transfer of competences to the EU would theoretically be possible (see 4.1.). An implementation of esports in the system of traditional sports should be avoided for various reasons that have previously been explained. In this context, the definition of sports in European primary law puts a greater emphasis on the physical component than is the case at most national levels. This further underlines a necessary separation. Regardless of this, the following EU legislative competences relevant to esports should be pointed out: competition law (especially Art. 101 and 102 TFEU) and consumer protection (especially Art. 169 TFEU) in addition to the competence regarding supporting, coordinating, and complementary measures in sports, as outlined in Art. 6, 165, 166, 167, 168 and 173, TFEU.

So far, examples of esports-specific laws are rare. Outside the EU, the focus has been on Asian countries. The South Korean "Act on Promotion of E-Sports (Electronic Sports)" is particularly noteworthy. It provides for a far-reaching strategy to promote esports. The purpose of this act is, according to its Article 1, to establish infrastructure for the culture and industry of esports, enhance competitiveness in esports, and contribute to increasing people's opportunities to enjoy leisure time with esports and the robust development of the national economy by providing for matters necessary to promote esports. For a list of the most important regulations, see 2.4. In the United States, existing rules mainly relate to gambling. In the South American region, there were discussions regarding special regulation of video games involving depictions of violence - so far, these do not seem to have entered into force. In the UK, there is currently no specific esports regulation.

Specific regulation within the EU, France, Germany, and Austria are particularly noteworthy:

In Austria, only one law has a direct reference to esports, at least in its explanatory documents: § 3 NöWettG (on this in detail Nothelfer and Petschinka, 2022). In six out of nine Austrian federal states betting on esports events may be offered legally as "society bets" (Nothelfer and Petschinka, 2021). The three other federal states, however, restrict legal betting to sports betting only. For Lower Austria, according to the documents on § 3 NöWettG, sports means any form of competition in which predominantly human skills decide on victory or defeat. In § 8 NöWettG, this is limited by a ban on betting on "virtual sporting events". However, such events are not esports, but "virtual sports", i.e. pre-programmed events without human players. A subsumption of esports under the definition of sports in this law is therefore possible (Nothelfer and Petschinka, 2021). It should be mentioned that in Austria, a working group was set up by the Federal Ministry of Arts, Culture, Public Service and Sports in 2021 to clarify the legal framework for esports in Austria (Entschließung v. 11.12.2020 betreffend Prüfung des rechtlichen Rahmens für den E-Sport, 123/E 27. GP). The report of this working group is final but has not yet resulted in any legislative procedures.

In France, there were relevant regulations in both 2016 and 2017. The Bill No. 2016-1321 of October 7, 2016 for a Digital Republic consists of two articles. Article 101 legalises offline video games

competitions and sets the requirements for the organisation as well as the minimum age for participation. Article 102 defines professional players and protects them as fixed-term employees; the esports organisation they are playing for needs the approval of the minister in charge of digital technology. In 2017, Decree No. 2017-871 and No. 2017-872 were passed in order to detail those matters. As a result, France has detailed laws regarding the organisation of and participation in esports competitions. The decrees stipulate, among other things: requirements for timely and proper notification regarding the intention to organise an esports competition, requirements for the authorisation by the minor's legal representative, for the minimum age for participation (from the age of 12) and for the protection of minors in general, requirements for the awarding of prize money, requirements for the employment of a professional player, and requirements for the approval of the respective minister regarding esports organisations that employ players. There is also a national strategy about esports for the years 2020 to 2025 by the ministry of economy and the ministry of sports to create a framework for grassroots esports, promoting esports opportunities, supporting the economic development of the esports industry in France, promoting French esports stakeholders inside and outside of France, and hosting big events.

In Germany, there are currently two laws that regulate esports explicitly: § 22 No. 5 BeschV from 2020, which regulates visa facilitation for professional esports athletes (on this in detail Nothelfer, 2020a, 2020b) and § 15 III RennwLottDV from 2021, which equates esports with sports, so that betting on esports events becomes taxable (for more one this see Brüggemann and Nothelfer, 2021). In addition, the documents on the German State Treaty on Gambling from 2021 open up the possibility of subsuming esports under sports and thus obtaining the necessary permission for betting. However, it must be noted that the responsible authority (Regierungspräsidium Darmstadt) currently refuses to carry out such an examination (for more one this see Maties and Nothelfer, 2021). Unfortunately, Germany lacks a unified and coherent strategy (Nothelfer and Petschinka, 2021). In § 15 III RennwLottDV, esports and sports are equated, in § 22 No. 5 BeschV, esports is given a regulation parallel to sports (which the last government did not consider necessary for other legal topics), and in the German State Treaty on Gambling, it is stated that some esports titles could theoretically be classified as sports. In all legal documents, esports is spelled differently. Moreover, with the new government, the ministerial responsibility for esports has changed for the third time.

It is important to note that in many countries, outside as well as within the EU, there are no or only a few specific laws on esports. The most comprehensive regulations can be found in South Korea and France. The situation in Germany shows progress but no clear strategy, with the German laws themselves not being very convincing (Nothelfer and Petschinka, 2021). In addition to laws regarding the promotion of esports as well as employment, event and gambling law, there are even more topics that require regulation. Just to name a few: clarifications in tax law (players' levies and taxation of prizes), visa regulations (detached from sports), regulation regarding the non-profit status of pure esports clubs at amateur level and generally parallel legislation relating to the legal benefits of traditional sports (if necessary and appropriate). Detailed legal research is required as a basis for a coherent legislative strategy.

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Esports has become an integral part of the digital society. Esports is a volatile and heterogenic phenomenon and a cross-sectional topic linking gaming, entertainment and media, culture and art, education, business, diversity and inclusion, and sports.
In this background analysis, we explain what esports is. How does the ecosystem look like? What are opportunities and challenges?
Finally, esports can be used to shape the digital society. Furthermore, esports can be utilised to create a digital European identity.

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