

Finnish GAME INDUSTRY

Policy recommendations
for 2019–2024



neogames
HUB OF THE FINNISH GAME INDUSTRY



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Three ways to bring Finland to the forefront of the digital shift

1. WORLD'S TOP TALENT TO FINLAND

- **STATE:** Moving to Finland must not take more than seven days. A hundred million euros must be invested in both attracting top talent to Finland and streamlining the immigration process during the next parliamentary term.
- **REGIONS/STATE:** Young people must be presented with a well-resourced and effective path from game development clubs to educational institutions and further, to the top of the industry.

2. WORLD'S BEST AID INSTRUMENTS

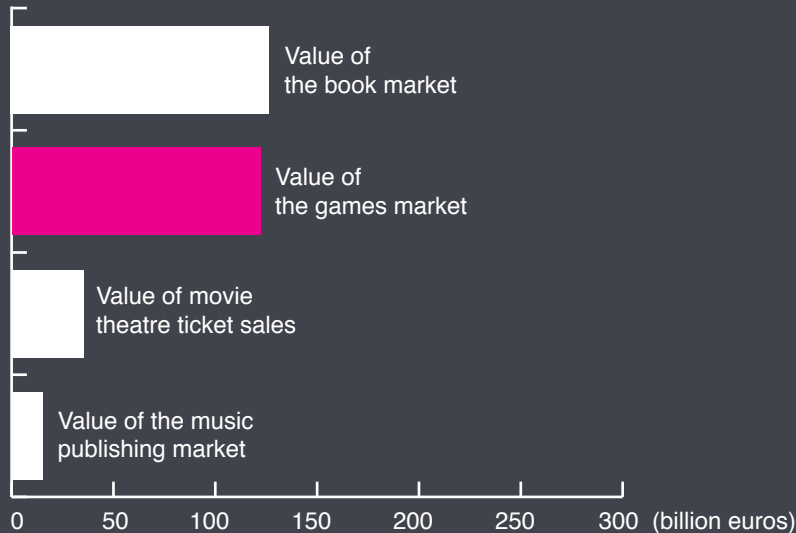
- **REGIONS/STATE:** Finland's presence at key game industry events must reflect the fact that Finland is one of the leading game development countries in the world. Sufficient funding must be secured for trade missions and seminar trips for amateur game developers.
- **REGIONS/STATE:** Regional seed funds must be set up to support the establishment of first-round start-ups.
- **STATE/EU:** To complement the EU's Creative Europe funding, The Finnish Ministry of Education and Culture must create a separate national production aid instrument dedicated to games.

3. MAKING FINLAND THE BEST STEPPING STONE TO THE WORLD

- **STATE:** The Finnish tax authorities, data protection authorities and consumer protection authorities must provide the world's best and most comprehensive support services for operating on the global digital market.
- **EU:** The European Union must become a unified Single Market based on uniform, innovation-friendly and technology-, content- and business-model-neutral regulation.

More than half of all Finns and nearly a third of the global population play games actively

GLOBAL MARKET FOR CONTENT INDUSTRIES



<p>122 Bn</p> <p>In 2018, global games spending will total around 122 billion euros.</p>	<p>+10%</p> <p>Over the next three years, the global games market is expected to grow at an annual rate of more than 10%.</p>	<p>3.</p> <p>The EU/EEA is the third-largest game market in the world after China and the United States.</p>	<p>2,2 Bn</p> <p>In 2018, the number of people actively playing games totalled 2.2 billion people.</p>	<p>+1 Bn</p> <p>An estimated one billion-plus people have played a game developed in Finland.</p>
<p>+2 Bn</p> <p>In 2017, the aggregate annual revenue of the Finnish games sector totalled over 2 billion euros.</p>	<p>190 M</p> <p>In 2017, the Finnish domestic game market was valued at approx. 190 million euros.</p>	<p>11€</p> <p>The average Finnish player spends 11 euros per month on playing games.</p>	<p>60,5%</p> <p>60.5% of the adult Finnish population plays a digital game at least once a month.</p>	<p>5 hours</p> <p>The average Finnish player plays slightly under 5 hours per week.</p>
<p>38 years</p> <p>The average age of active players of digital games in Finland is 38 years old.</p>	<p>> 50%</p> <p>Even in the above-50 age group for Finland, more than half play digital entertainment games.</p>	<p>1,8%</p> <p>Active eSports gamers (who play once a month or more) total 1.8% of Finns.</p>	<p>♂ & ♀</p> <p>Men play digital games more than women and outnumber women in active players in Finland. However, more women are into puzzle games (51.6%), music and party games (55.6%) and edugames (73.4%).</p>	

Sources:

Tampereen Yliopiston pelaajabarometri 2018
 State of the Polish Video Game Industry 2017
 Newzoo 2018

IFPI Global Music Report 2018
 MPAA THEME-report 2018
 Bookmap 2017

The Finnish game industry is the success story of the 21st century

98%
Exports account for 98% of the industry's revenue

The game industry is one of Finland's top export industries. Neogames estimates the export share of Finnish game development to be 98%. In terms of export, the game industry is by far the largest of the Finnish content creation industries. Games are a major influence on popular culture, and an estimated one billion people around the world have played a game developed in Finland. Games present a unique opportunity for Finnish cultural production to reach a global audience at a scale unattainable by any past content or cultural products.

0,6%
of the Finnish GNP

According to Culture Satellite Accounts, the game industry also has macroeconomic significance. In 2015, the game industry accounted for 0.6% of the gross national product, while all other cultural production sectors put together constituted 2.9%. In terms of turnover, the game industry is equal to, for example, the production of metal ores and industrial minerals, which generated approximately 2 billion euros in 2016. The negative environmental impact of the game industry, which posted a turnover of around 2.4 billion euros, is much less than that of the mining industry.

20x
Public investments in game development come back in tax revenue at least 20-fold

The Finnish public sector has supported the game industry for around twenty years through Business Finland (formerly known as Tekes – the Finnish Funding Agency for Technology and Innovation). Between 2004 and 2016, Tekes invested around 100 million euros in game companies, while the industry's cumulative turnover was around 8.5 billion euros. The largest Finnish game company in terms of turnover, Supercell, alone paid 622 million euros in corporate income tax between 2012 and 2016. Furthermore, Supercell employees and owners have paid around 400 million in individual taxes, and Supercell's corporate restructuring has generated another 670 million euros in tax revenue. This tax revenue from corporate income taxation and taxation of persons is 17 times the direct public investment in the industry from 2004–2016. The game industry has thus been a highly lucrative investment for the Finnish State.

Builder of Finland's digital future

Generating potential tax revenue was not, however, the only reason the public investments were made. In today's increasingly digitalised world, a global knowledge- and skill-intensive sector such as the game industry is a driver of the digitalisation of society, bringing technological innovations, new business models and unprecedented artistic content to people's everyday lives.

From the 1980s to the 2010s

TECHNOLOGY

- 1980s: PCs and consoles
- 1990s: the Internet
- 2000s: mobile phones
- 2010s: smart phones and tablets, Big Data, machine learning, community-driven product development, and data analytics

MARKETS

- 1980s: retail
- 1990s: digital distribution, monthly subscriptions
- 2000s: pay-per-download
- 2010s: free-to-download, data analytics

DIGITAL CULTURE

- 1980s: computer and console games
- 1990s: online games and actively managed digital communities
- 2000s: mobile games
- 2010s: game apps for smart phones, location-based augmented reality games, and e-sports

INFLUENCE ON SOCIETY

- 1980s: games bring computers into the home
- 1990s: games accelerate the development of processor technology and more widely make digital content a driver of technological development
- 2000s: games accelerate the adoption of mobile phones and smart phones
- 2010s: games lay the foundation for data analytics in the consumer market, while community management paves the way for the sustainable management of digital communities

ENABLING POLICIES

- 1990s: youth politics support game development as a hobby
- 2000s: network neutrality and state aid for game development
- 2010s: Europe-wide harmonisation of data protection and digital consumer rights

1979-
1986

1. The beginning

FROM FINLAND TO THE INTERNATIONAL MARKET

The first well-known Finnish digital game was released as early as 1979: **Chesmac**, a chess game designed by **Raimo Suonio**. However, serious game development efforts did not start until home computers gained popularity the following decade.

At first, game development was mostly a hobby, but in the mid-1980s, developers released the first commercial games. These early game releases targeted the domestic market. The first game to be distributed internationally was **Sanxion**, which debuted in 1986.

2. Professionalism

FROM INDIVIDUAL DEVELOPERS TO GAME DEVELOPMENT TEAMS

Up until the early 1980s, games were typically innovations led by a single developer. However, towards the end of the decade, game developers began to cooperate, giving rise to the first game development teams.

A major boost came from game developer events, including the notable **Assembly**, which was first organised in 1992 and continues to date. These game teams, i.e., demo groups, also gave rise to the first Finnish game studios. The oldest Finnish game companies still in operation, **Housemarque** and **Remedy Entertainment**, are strongly rooted in these demo groups.

1987-
1995

3. First wave

THE FIRST SUCCESS STORIES AND MOBILE GAME STUDIOS

In the mid-'90s, games were mostly developed for home computers. However, 1999 witnessed a major shift when **Nokia** introduced the WAP standard, which seemed like a promising platform in terms of game development. Several game studios were set up in its wake, and the Finnish game industry saw its first boom.

WAP did not, however, meet expectations, and with the downfall of WAP went the mobile game studios of the first wave. Successes, though, were had on other fronts. In PC and console games, **Housemarque's Supreme Snowboarding** and **Remedy's Max Payne** proved to be big hits, and **Sulake's Hotel Goldfish (Habbo Hotel)** became an internet sensation.

1996-
2000

4. The difficult years

FLYING HIGH AFTER HITTING ROCK BOTTOM

Despite a few successes, the early 2000s were a difficult period for the Finnish game industry. Risky investments in game development were halted, and despite a promising start, mobile game development also ground to a halt. Publisher-driven PC and console game development was too challenging for most small game studios.

Then Nokia came to the rescue. Nokia was confident that its **N-Gage PDA**, launched in 2003, would revolutionize mobile games and therefore invested in the development of game content for the handset, including investments in Finnish companies.

The N-Gage failed. The device was expensive to manufacture, clumsy to play on and games were distributed only in traditional brick-and-mortar stores. Still, the foundation for the mobile game ecosystem had been laid, and a number of new game studios were established between 2003–2005, including **Sumea**, **Mr. Goodliving** and **Universomo**.

2001-
2004

2005-
2009

5. Moderate growth

THE ERA OF A MATURE MARKET

Towards the end of the 2000s, the Finnish game industry ecosystem continued to grow steadily. What was once a hobby had finally transformed into a serious sector of its own, the game industry.

Growth was relatively slow, however. The turnover of the game industry grew from around 40 million euros in 2004 to approximately 87 million euros in 2009. The relatively slow growth is explained by the value chain of the distribution of the games, which was functional but not particularly profitable for the game developer. But change was coming.

2010-
2011

6. A system in turmoil

BALANCE OF POWER REVOLUTIONISED BY MOBILE DIGITAL DISTRIBUTION

The digital distribution of games was the true driver of change in the game industry. Digital distribution began on a PC platform but later expanded to consoles and smartphones through *Apple's App Store* and *Google Play*.

The new distribution methods represented a change in the balance of power within the industry. With digital distribution, game developers were able to reap 70% of profits instead of the former 15–25%. This made a huge difference, and *Rovio's Angry Birds* and its sequels were among the first to benefit from these new opportunities.

As markets opened and international investors started to take interest and make investments in Finnish companies, the number of game studios exploded. The turnover of the industry increased significantly in just three years, from around 87 million euros in 2009 to 350 million euros in 2012.

2012-
2016

7. The perfect storm

MICROPAYMENT MODEL

Supercell was the first game company to successfully apply the micropayment model, skyrocketing *Hay Day* and *Clash of Clans* to the top of the most profitable games list, where they stayed for several years.

Supercell's success further increased international interest in Finnish game development, and both investments and the industry turnover surged from 2012–2015. In 2015, the Finnish game industry crossed the landmark of two billion euros in turnover.

Despite the strong focus on mobile games, Finnish companies continued to design games for other platforms, too. *Remedy* success stories *Alan Wake* and *Quantum Break* and *Colossal Order* success story *Cities: Skylines* are excellent examples of Finnish competence in design for non-mobile platforms.

2017-
2019

8. The era of establishment

FINNISH GAME INDUSTRY FROM 2017 ONWARDS

The year 2017 was a year of stabilisation for the Finnish game industry. A key milestone was the listing of four Finnish game companies – and also a sign of a new level of maturity in the business.

The industry also went through structural development, and the “prosperous middle class” of game companies grew significantly. The number of companies that employ more than 50 people and have a turnover of more than 10 million continued to increase.

The number of employees in the industry grew to almost 3,000 people. In international comparison, Finland remained within the top-three game developer countries in Europe.

The future will be created during the next term of government in Finland

The foundation for tackling the challenges facing us at the end of this century will be laid out in the 2020s. Instead of letting other game markets lead the way and shape our digital future, Europe and Finland must become the most attractive destinations in the world for top talent, and our educational system must be equipped to foster the builders of the future. At the same time, the regulation of the digital Single Market must be implemented wisely.

Among the biggest obstacles to growth in Finnish and European game companies is talent shortage. To meet the shortage, highly skilled international professionals must be attracted here and domestic professionals must be trained.

If Europe wishes to retain its key role in building the digital world heritage it assumed in the past decade, **Europe and Finland must open their borders to top talent and become the world's most enticing work destination by 2024.**

At the same time, the European – and Finnish – educational system must be prepared to educate world-class talent. However, education providers are increasingly struggling to provide their students with a sufficient level of competence. The key skills required in the game industry cannot be achieved merely by means of education; expertise in the field also relies strongly on genuine interest and participation in playing and developing games as a hobby. Without these, it is almost impossible to become a top professional. The focus of the education system must therefore be shifted from educational degrees towards lifelong learning, thereby providing everyone the chance for constant skill-set improvement as well as recognise talents' self-acquired competence. Game development-related education should also increasingly make use of the same materials companies provide for internal training.

The 2020s

TECHNOLOGY

- Wearable technology will become a key user interface (haptic suits and controllers)
- Head-mounted AR/VR displays will become a key contender for traditional displays
- Mobile 3D scanners will seamlessly combine digital and physical realities
- Playful Internet of Things; for example, autonomous cars will become a game platform
- An increasing share of music and graphics content will be generated by algorithms
- Voice-based interfaces will become more common

MARKETS

- Games as a Service
- Cloud-based games
- Chat games
- Machine learning will become a key feature of game analytics and functionality.
- The return of monthly subscriptions
- The chat platforms of the 2010s were only the beginning; Chinese digital content distribution platforms will assume global leadership
- Virtual reality will become more common, thanks to virtual reality halls
- Serious games will become more common

DIGITAL CULTURE

- Virtual reality games
- Augmented reality games
- Sensors introduced by the Internet of Things (IoT) turn our sensory everyday environments into game platforms (playful environments)
- Personally tailored game content

INFLUENCE ON SOCIETY

- Improved access to the internet makes global gamer communities increasingly multinational
- Games are paving the way for augmented reality and virtual reality in the consumer market, bringing virtual reality to the mainstream and making augmented reality part of everyday life
- Similarly to the 2010s (e.g., data analytics and community managers), the game industry is a pacesetter for new work
- The threshold for becoming an amateur game developer will continue to fall
- Carrying out profitable games-related business operations will be increasingly challenging as competition gets tougher

ENABLING POLICIES

- A sustainable solution for solving the talent shortage
- Prevention of digital exclusion
- Platform regulation (e.g., the conditions for contractual terms regarding distribution platforms)
- AI regulation (e.g., transparency, liability of the digital service provider)

1

100 million euros for solving the talent shortage

MAKING FINLAND THE WORLD'S TOP WORK DESTINATION – WITHOUT THE PEER SUPPORT OF TOP FOREIGN TALENT, FINNS WILL NEVER RISE TO THE TOP THEMSELVES

REGIONS: A single brand for the Helsinki Metropolitan Area

- In game cluster localities, the higher education institutions, local government and immigration services must cooperate closely to facilitate migration. In particular, the municipalities of the Helsinki metropolitan area must engage in more determined joint marketing efforts.

STATE: Finland should have a booth at the top-three game industry events in the world.

- Finland must be actively marketed to top industry talent as the world's best place to work.

FASTEST ENTRY PROCESS – SWEDEN ALREADY AHEAD OF FINLAND

REGIONS: Every university town must have an International House

- New key challenges in regional politics are how to strengthen labour migration and how to ensure that companies in the region have access to highly -skilled workforce that are committed to working there.
- Every university town must have an International House, which will offer services for immigrants on a one-stop basis.
- All key information about municipal services must be translated into English.

STATE: Residence permit in seven days

- Streamlining and improving the immigration process must be one of the key measures and projects of the Finnish government, which needs to secure funding of a minimum of 100 million euros.
- An employee's employer-paid relocation expenses should not be considered additional remuneration subject to income tax but standard recruitment expenses that are tax-free to the employee. Employee-paid relocation costs must be made tax deductible.
- The service design of the immigration process must be developed in a collaboration group consisting of different government authorities and led by the service design team of the Finnish Immigration Office.
- Investments must be made in the digitalisation of institutional processes to the effect that a person who relocates to Finland need only once enter their details into a single system. In solving simple cases, algorithm-based decision-making must be adopted, with humans solving only the complex cases. Identification using online banking codes must not be the only method of strong electronic identification allowed in government-directed processes.
- Finland must offer a clear and smooth path to citizenship. Competence in the Finnish language must no longer be a requirement for citizenship.

EU: Residence permit applications at any EU delegation

- It must be possible to submit a residence permit application for an EU country at any EU delegation.
- The EU Blue Card must only set the minimum level of criteria for labour migration. Member countries must be allowed to apply less stringent criteria if they so wish.
- A university degree must be removed from the criteria for obtaining a Blue Card, as the university system and degrees lag behind in technological development and the related skills needed. Instead, relevant skills must be made a criterion for approval.

MAKING RELOCATION AN ATTRACTIVE CHOICE FOR THE WHOLE FAMILY

REGIONS: Every child living in Finland must be guaranteed access to education.

- The children of a family moving to Finland must be provided with a place in a school/day-care facility before they find a place to live, even midway through a term.
- If Finland is able to offer accessible, high-quality non-Finnish-language education and multiple leisure opportunities that are open to expatriate children, Finland-based companies will be better able to recruit international top talent.
- The support services provided to the spouses and domestic partners of top talent moving to Finland must be greatly improved and receive much more investment than currently.

STATE:

- Entry for the whole family based on one residence permit application.

2

A smooth path to professionalism

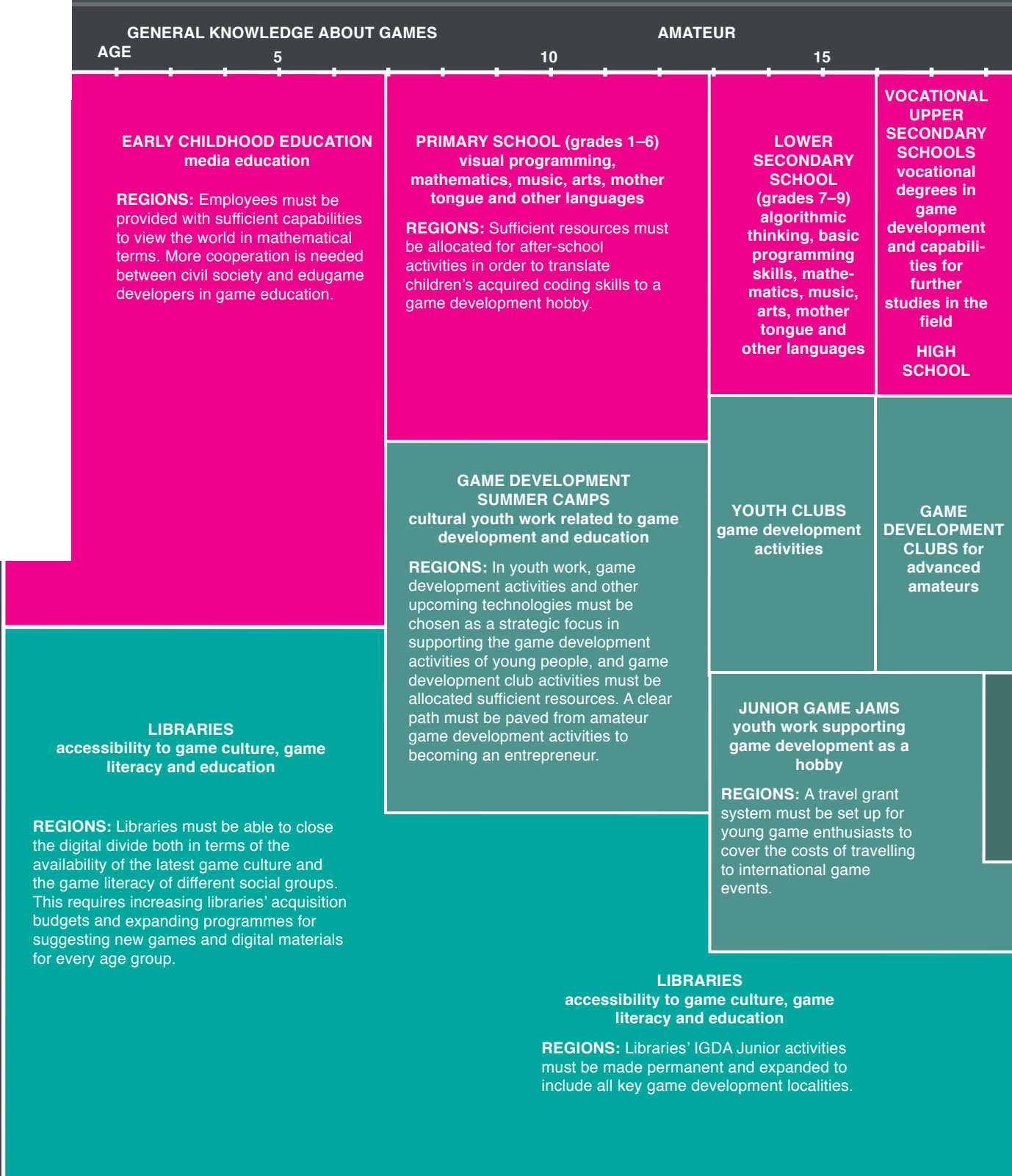
PRIMARY AND LOWER SECONDARY SCHOOL

Creating and being literate in games and other digital content, as well understanding the business models behind them, have become a key civic competence.

- **REGIONS:** Teachers must be provided with sufficient resources for including digital culture in the curriculum.
- **REGIONS:** Refresher training for teachers must include gamification as a tool for education and wide-scale digital culture studies.
- **REGIONS:** Every school must be provided with a 1 GB wireless network and up-to-date tools for using the latest learning tools.

UPPER SECONDARY EDUCATION

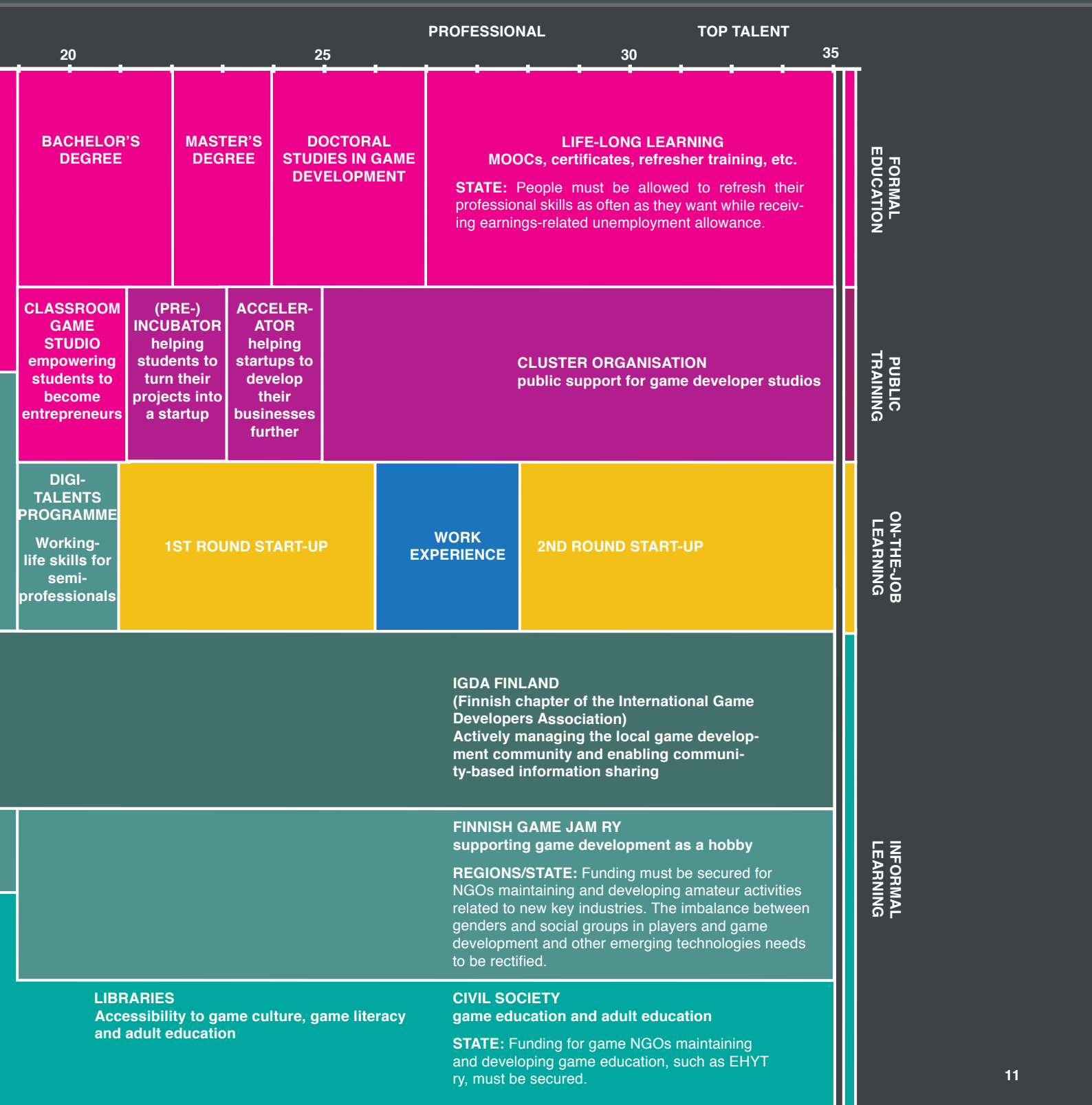
- **REGIONS:** Upper secondary education must aim for self-initiated continued learning well beyond the current degree requirements, and, therefore, support for interest and skills in extra curricular activities must become a key part of secondary education.
- **REGIONS:** Sufficient budgets for professional tools and devices
- **STATE:** Work experience in the field must be made a key recruitment criterion for teachers of game development.
- **STATE:** An educational model suitable for a quickly developing field such as game development must be piloted by creating a degree in game development.
- **STATE:** Programming must become an independent subject in high school as well as in vocational institutions.



HIGHER EDUCATION

- **STATE:** Higher education must ensure that new employees have sufficient skills to handle the online courses companies use for internal training (for example, courses by Coursera). General information on the requirements of such courses must be made available to everyone.
- **STATE:** The development of higher education must be based on increased field-specific collaboration instead of mutual competition. Closer cooperation between educational institutions and between educational institutions and companies is needed.
- **EU:** In addition to student and teacher exchange, the European Union must create a system for sharing educational content (for example through open online courses such as MOOCs by the University of Helsinki).

- **STATE:** The education in game development offered by universities of applied sciences must be built on game projects that cross subject lines. Setting up a business must be an option for the final project of universities of applied sciences and for university bachelor studies.
- **STATE:** More funding must be allocated for academic studies in game development.
- **STATE:** An entrepreneur loan system similar to that of the study loan must be created for students who are finishing their studies and looking to set up a company.
- **STATE:** Cheap apartments must be provided for a maximum period of two years to students who are about to graduate and are planning to set up a company (for example, through a local student housing body).



3

Making Finland the best place on Earth for building the digital future of humanity

BEST PUBLIC SERVICES IN THE WORLD

The global tax race is transforming into a service race. This means that the EU and Finland must have the best governmental services.

REGIONS: In addition to incubators, we also need “uncubators”

- Regional clusters must develop their support functions for starting a business and growing a business, as well as for the managed discontinuation of a business.
- The Helsinki metropolitan area is the last key area without permanent game development support functions, while elsewhere in Finland, established support functions already exist. The operating conditions of support organisations for game development in the metropolitan area must be secured and its continuity must be ensured.

STATE: The world’s number-one tax, consumer protection and data protection authorities

- Sufficient resources must be secured for the data protection and consumer protection authorities, as well as for the tax authority to assist game developers with, for example, the application of data protection legislation.
- The services provided by the consumer protection and data protection authorities must be brought to the level of those of the tax authority, at minimum.

EU: Consultancies cannot have sole rights to accessing legislation and guidelines

- The EU and its member countries’ network of delegations must monitor the development of the regulatory environments of these countries and provide European companies with one-stop access to the acquired information.
- All the e-services of the member countries must be safe to use, and particular attention must be paid to data protection.
- The EU must fund research projects that create model contract terms for different fields.

BEST INFRASTRUCTURE IN THE WORLD

Europe must not regress into a developing country in terms of data network infrastructure

- **REGIONS:** Europe is quickly falling behind Asia in data network transmission rates. The availability of 1 GB broadband access in every home in Finland and the EU must be set as an objective.
- **EU:** In order to build data-intensive mobile services in Europe, the EU must require that all data plans within the Union are fixed-price and offer unlimited monthly data.
- **EU:** No compromises must be made on the network neutrality.

EUROPEAN COMPETITIVENESS MUST BE A GUIDING LIGHT FOR STATE AID RULES

Global competition for capital, world-class talent and the most promising growth companies increases by the year. The most remarkable technological innovations emerge from comprehensive public funding.

EU: State aid rules must focus on securing European competitiveness

- At the moment, the EU is only the third-largest market for the game industry, and most of the toughest competitors come from Asia or the US. In the future, the US will likely be able to maintain its strong position, while Asia, China in particular, will gain additional momentum. The EU state aid system must take this into account and move the focal point of the current system, which focuses on minimising competition between member countries, towards improving the global competitiveness of the Union.
- The Union needs a state aid system optimised to enable the success of European companies on the global market.
- The definition of “SME” (Small and Medium-Sized Enterprise) must abandon the criterion of partner enterprise status and switch to only applying the definition of a “linked enterprise”.
- Support instruments for the game industry must be included in the exemption made for the audio-visual industry in the Block Exemption Regulation.

BEST PUBLIC AID SYSTEM IN THE WORLD

	SUPPORT FOR THE ECOSYSTEM	SUPPORT FOR THE CORE OF THE INDUSTRY	SUPPORT FOR THE INDUSTRY'S PIONEERS
ENABLING RISK-TAKING AND EXPLOITING MARKET DISRUPTION	<p>Support for game communities</p> <ul style="list-style-type: none"> - REGIONS/STATE: In order for the transfer of knowledge of the opportunities involved in the market shift to be effective, municipalities and the state must allocate sufficient funding for maintaining local and national game developer communities. 	<p>Enabling ambitious Research & Development & Innovation projects</p> <ul style="list-style-type: none"> - EU: Because it is harder for game companies operating in Europe to acquire risk investments, the HorizonEurope programme must continue to provide R&D&I funding on a grant basis instead of as a loan. 	<p>Direct support for industry-revolutionising trailblazers</p> <ul style="list-style-type: none"> - STATE: The funding for direct R&D aid instruments must be increased. - STATE: StepDemo funding must be made permanent, and a parallel production funding instrument for more established teams must be created. - EU: The Creative Europe programme is currently the only production support instrument available to the Finnish game industry. Its funding must be expanded. - EU: The loan instrument provided by the Creative Europe programme must be partly converted into an investment instrument. The further north one travels, the less interested banks are in exploiting the loan instrument. - EU: More funding must be allocated to the Horizon 2020 SME instrument
ENABLING GROWTH	<p>Securing growth-enabling funding</p> <ul style="list-style-type: none"> - REGIONS: Municipalities must allocate sufficient funding to game clusters, hubs and accelerators, enabling, for example, trade missions. - EU: The Commission must ensure that the transition period between the old and new funding framework is minimal in order to ensure the continuity of research projects and the product development processes of regional game clusters and companies that depend on EU funding. 	<p>Securing growth-enabling funding</p> <ul style="list-style-type: none"> - REGIONS: Cities must adopt a public seed-phase fund. - STATE: Seed and soft loan funding for game start-ups must be increased to give a larger number of promising teams a chance. Although gender is not an obstacle to funding, many of the few women entrepreneurs in the game industry are screened out in the early stages of setting up their first business because competition for funding is so tough. 	<p>Enabling top talent</p> <ul style="list-style-type: none"> - EU: The Erasmus+ programme must create mobility instruments that encourage individuals to set up multinational start-up teams and work as trainees in other member countries. <p>Overcoming obstacles to market access</p> <ul style="list-style-type: none"> - REGIONS: All cities must implement a grant system for company trade missions
CONTINUOUS DEVELOPMENT AND RENEWAL	<p>A safety net in case of failure</p> <ul style="list-style-type: none"> - STATE: Carrying out business operations must be allowed for people who receive earnings-related unemployment allowance (e.g. as an unemployment fund's investment into a company) - STATE: The social security system must enable safe failure. - STATE: Personal guarantees for Finnvera loans must no longer be allowed in order to prevent failure leading to debtors' prison. 	<p>First-business funding</p> <ul style="list-style-type: none"> - STATE: Investments within the game industry would benefit from tax reliefs in exit situations or from a lowered tax rate similar to R&D tax instruments for profits from the second financial year. Taxes on income from options must in the future fall under tax on capital income. 	

4

Europe must drive the global regulation of digital markets

PRINCIPLES OF DIGITALISATION-READY LEGISLATION

European and Finnish platforms and device manufacturers have almost disappeared from the global market. However, in digital content, and particularly in games, Europe remains a trailblazer.

The success of European game studios relies in particular on the fact that obstacles to market access have been few. Therefore, increasingly fragmented global digital market regulation poses a significant threat to the success story of European and Finnish game developers. The European Union and Finland must in the future focus more and more on building a global regulatory framework for the digital market instead of finetuning Single Market regulation.

If the European Union and Finland wish to become genuine global forces, they need a clear and concrete vision of how to build a digital society. This vision must be based on the following cross-cutting principles:

STATE/EU: Preparation of legislation:

- **Neutrality:** All regulation must be based on strong technology-, content- and business-model neutrality.
- **Harmonisation:** The regulatory environment of the digital Single Market must be fully harmonised.
- **Uniformity:** The European Union and Finland must provide clear and unambiguous definitions for key concepts (e.g., personal data) used across policy sectors. The legislative environments for the different sectors must constitute a consistent whole.
- **Pro-innovation:** All initiatives must focus on imposing general principles and the details must be left to self-regulation by market players or to peer regulation by market players in cooperation with national authorities and the Commission.

STATE/EU: Implementation of legislation:

- **Mainstreaming digital growth:** The role of authorities promoting digital growth and innovations in the implementation of regulation must be as strong as that of tax authorities, consumer protection authorities and data protection authorities.
- **Reliability:** The conflicting interpretations national authorities propose for how the outdated legislation should be applied to new innovations is a threat to Single Market uniformity, and one growing by the year. For this reason, the interpretations of authorities must be increasingly coordinated at an EU-wide level.
- **Accessibility:** All acts, guidelines and court rulings concerning digital content creation must be available in a single European portal in all official languages of the EU.

COPYRIGHT – SAME RULES ACROSS THE EU

- **EU:** Copyright law must recognise that several artists participate in creating a game, and a single game may involve numerous artistic elements. The copyright protection of individual artistic elements must be harmonised at an EU-wide level in order to achieve a functional Single Market.
- **EU:** Software patents must be banned in Europe because they significantly slow down and hamper technological progress.
- **EU:** Clear copyright exemptions must be made for the use of game videos, images and games themselves in scientific research and for the long-term preservation of games and other digital content in memory organisations.
- **EU:** To enable the development of augmented reality applications, Europe must adopt a Single Market-wide freedom of panorama exception that enables the scanning of 3D models of all environments.
- **EU:** The European Union and its member countries must take a firm stance on fraudulent copyright registers.
- **EU:** The banning of geo-blocking must be done with caution
 - All cultural products must be treated equally in allowing geo-blocking to avoid the barriers of the 20th century to be passed on to the 21st century.
 - Before geo-blocking is removed, the impact of the move on the application of consumer protection legislation must be evaluated from the viewpoint of how VAT-included prices are to be indicated.
 - At the same time, it must be ensured that this does not force companies that are VAT exempt (because their net sales do not exceed the statutory VAT threshold).
 - A sufficient transition period must be included in the system to allow the technical challenges involved in minimising exchange rate risks to be solved.

TRADE AGREEMENTS – OVERCOMING OBSTACLES TO DIGITAL CONTENT TRADE

- **EU:** Every trade agreement concluded by the EU must include the requirement that any legislation or guideline issued by the authorities related to the digital market area must be translated into English and made available to SMEs in a single, simple portal.
- **EU:** The EU must commit its trade partners to adopting European consumer protection and data protection standards by means of trade agreements.
- **EU:** Trade agreements must prevent patent trolls (those operating in market areas that allow software patents) from acting in Europe.
- **EU:** Trade agreements must aim to control the spread of misleading copycat games.
- **EU:** The scope of trade agreement negotiations must not be extended to cultural state aid enabling the creation of experimental games.

CONSUMER PROTECTION – A PREDICTABLE AND UNIFORM REGULATORY ENVIRONMENT

- **EU:** Misleading copycats of European games, almost identical to the originals, are made in the Asian market in particular. Consumer protection authorities must be provided with more effective and faster ways to remove this type of fraudulent content from marketplaces.
- **EU:** Consumer protection legislation must be harmonised as fully as possible.
- **EU:** An exemption must be made in consumer protection legislation for game developers under the age of 18, allowing them to omit their physical addresses from their websites.
- **EU:** Consumer protection legislation must not overlap or compete with data protection legislation. Consumer protection legislation and its implementation must fall strictly in line with the General Data Protection Regulation (GDPR).
- **EU:** Game developers' liability must be limited to the sum consumers pay for a game.
- **EU:** The protection of vulnerable consumers must be increasingly based on self-regulation mechanisms such as the protection of minors age rating.
- **EU:** Consumer protection legislation must enable the operation of product pre-sale-based crowdfunding services.

REGULATION OF AI / MACHINE LEARNING – TRANSPARENCY IS THE WAY FORWARD

- EU:** Regulation of machine learning/artificial intelligence must be based on increasing transparency. Instead of the algorithms themselves, the following must be made transparent:
- the general principle of algorithm-based decision making;
 - the problems the algorithms are trying to solve;
 - the data input of the algorithms;
 - the criteria according to which the sustainability of the decisions made by the algorithms has been evaluated.

DATA PROTECTION AND PRIVACY – SHIFTING FOCUS TO THE IMPLEMENTATION OF NEW RULES

- EU:** Following the adoption of the GDPR and the possible e-privacy directive, the EU must allow the digital market to achieve a new balance between business operations and privacy before introducing new data protection or privacy initiatives.

REGULATION OF PLATFORM ECONOMY – NO MORE UNSUSTAINABLE OPERATING MODELS

- **EU:** In the long term, platforms must assume global responsibility for VAT on consumer sales.
- **EU:** The consumer protection and customer support related liabilities of platforms must be made clearer.
- **EU:** A comprehensive definition of “platform” must be included in European legislation.
- **EU:** Although an EU decision to remove a game from a service is mostly targeted at the platform provider, the game developer must also have the right to seek redress.
- **EU:** Platforms must not limit the market access of European services.
- **EU:** Platforms must enable European companies to file tax returns within a given timeframe and tax reports must no longer be based on estimates.

A TAX SYSTEM FOR THE DIGITAL ERA

- **EU:** A shift towards real-time, digitalised and automated taxation must be promoted. The taxation procedure must be predictable and effective.
- **EU:** Any changes made in taxation should promote technological advancement, not hinder it.
- **EU:** The problem related to the tax-at-source for software must be solved. Finland must have a tax agreement network with functionality and competitiveness that scores well in international comparison.
- **EU:** Data centres must be encouraged to minimise CO2 emissions by favouring low-emission energy sources.

5

Regulation is not always the solution

The technological development of the game industry has advanced extremely fast. It is therefore inevitable that the regulation of the digital market lags behind the development of the industry and most often fails in solving the challenges of the digital shift in any permanent manner.

Game industry companies consider responsibility as a key building block for the digital future. This involves, for example, constantly improving the accessibility of games as user interfaces evolve so that certain segments of the population, such as people suffering from virtual reality sickness or red-green colour blindness, can enjoy games to their full extent. Companies in the industry learned a long time ago that digital communities must not be left to their own devices; indeed, there's much to be gained in actively facilitating the communities to make everyone feel welcome. Companies in the game industry are also aware of their role in reducing the carbon footprint of humankind. At the same time, new business models are being developed that take players in vulnerable positions into account (such as children).

The game industry is building the future, and because foreseeing all possible outcomes is impossible, change sometimes only takes place through trial and error. However, it is impossible to remain at the forefront of the digital revolution without learning from one's mistakes.

ACCESSIBILITY

- Game developers aim to maximise their audience in a responsible manner, and accessibility considerations are therefore key elements of any game development process. This process also involves attending to the needs of special groups.
- The game industry already sports a large number of best practices for ensuring accessibility to special groups.

INCLUSIVE DIGITAL COMMUNITIES

- Year by year, fan communities play a bigger role in product development and marketing. For this reason, game companies have for many years invested the safety and health of game communities.
- The experiences gained by the game industry show that the mere introduction of moderation tools is not enough; active community management measures are also required within the game community in order to improve its operations.

RESPONSIBILITY

GREEN TECHNOLOGY

- Low-carbon data centres will not be built if there is no demand for them. For game companies, carbon footprint is an increasingly popular criterion in the selection of a data centre.
- Game companies retire large volumes of hardware annually. The aim is to recycle such hardware whenever possible.

SUSTAINABLE BUSINESS

- Someone who stops playing because it requires too much time or money is, from a game company's viewpoint, a failure on the developer's end. Games are therefore optimised to be an optimal fit for their players.
- In the planning of business practices, game companies take vulnerable players into account by, for example, applying content rating for age appropriateness as a tool for self-regulation.



6

Serious games are a key to the future

Finland has an opportunity to be a trailblazer and secure a lead in serious games. Here “benefit” is the key term: the aim must be to generate income streams to the state, reduce costs (for example, costs related to education, healthcare and the ageing of the population) and to improve the quality of life of its citizens.

- 1. Validation and certification:** The Finnish State is a trusted global actor. If the state were to validate, i.e., analyse the impact of games, and grant certificates to serious games, those certified games would gain global visibility, credibility and a competitive edge.
- 2. The state must act as a pilot customer** and acquire and adopt more serious games, then carry out research on their effectiveness.
- 3. Quantified self:** The state should create an opportunity for citizens to gather as much data on themselves as possible through games and to utilise this information in, for example, studying or monitoring health.

EDUGAMES

Impact on education:

- motivation to learn,
- facilitation of learning,
- improvement of learning results,
- flexibility, as practically anything can be taught through serious games.

Measures:

- **REGIONS/STATE:** Games related education and training, and other fields alike, should make use of gamification, and more purpose-built serious games should be released and used.
- **STATE:** The state must invest in the gamification of education and training to accelerate learning processes. Benefits include improved motivation to acquire education and faster learning.

HEALTH GAMES

Impact on public health and related costs:

- lifelong playing of health games yields an accrual of, for example, personal health data, and comparison of data across populations helps to identify, for example, the early phases of illnesses;
- motivation for lifestyle changes and directing patients onto a care pathway;
- treatment of illnesses and maintaining the capacity of individuals.

Measures:

- **STATE:** Investment in the development of serious games.
- **STATE:** Adoption and validation of the effectiveness of serious games. Serious games with genuine impact reduce costs related to ageing and illnesses, among others.

SIMULATION, TEACHING AND TRAINING

Impact on, e.g., armies and military activity:

- armies will be acquiring more training to prepare for diverse situations and new equipment, and here serious games come into play, augmented, virtual and mixed-reality included;
- almost anything that can be modelled can be taught through serious games such as simulations.

Measures:

- **STATE:** The state must invest in the development of simulations.
- **STATE:** The state must adopt and validate the effectiveness of the simulations. The advantage of simulations is that they improve motivation for acquiring training and yield results more quickly.



The legacy of the 2010s – meeting the objectives of the Juncker Commission

Years 2018 and 2019 will seal the legacy of the Juncker Commission as the builder of the digital Single Market.

REGULATING THE PLATFORM ECONOMY – CLEAR FUNDAMENTAL RULES PROVIDE SECURITY FOR EUROPEAN ENTREPRENEURS

- **EU:** All platforms and the related terms and conditions of service must be comprehensible to SMEs.
- **EU:** Platforms must communicate clearly and in good time any changes in the terms and conditions of service.
- **EU:** Platforms must answer the questions of consumers and entrepreneurs alike.
- **EU:** Platforms must justify decisions clearly, and entrepreneurs must be able to seek redress.
- **EU:** SMEs must be able to apply European dispute resolution mechanisms in solving conflicts with platforms.
- **EU:** Platforms must not limit the European freedom to conduct a business nor the freedom of the arts by erecting obstacles to the market access of services and content.

COPYRIGHTS – COPYRIGHT FILTERS THREATEN VIRAL MARKETING

- **EU:** Increasing responsibility for content distributed through platforms is not the answer. Increasingly strict copyright filters would also mean that content game companies seek to spread would be removed. Copyright filters therefore pose a significant threat to viral marketing, which has become a key marketing solution for SMEs.
- **EU:** To enable the development of augmented reality applications, Europe must adopt a Single Market-wide panorama exception that enables the scanning of 3D models of all environments.

CONSUMER PROTECTION – PENALTY COMPETITION BETWEEN AREAS OF POLICY MUST BE AVOIDED

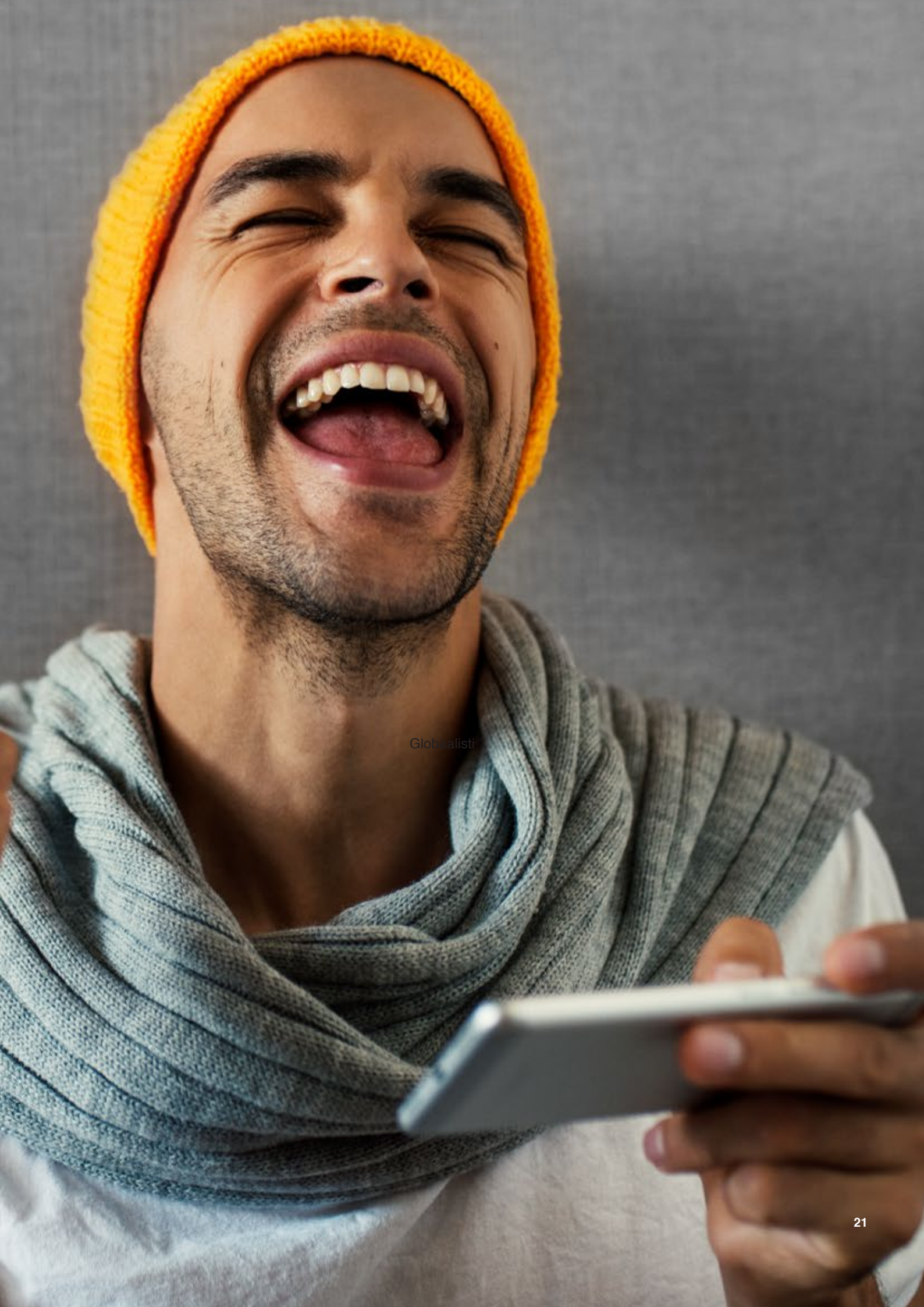
- **EU:** All references to fines must be removed from EU legislation.
- **EU:** Consumer protections related to physical and digital products must not be treated separately.
- **EU:** Amateurs must be able to publish their games free of charge without becoming subject to consumer protection legislation in the future.
- **EU:** The penalty competition between consumer protection and data protection legislation must be stopped in its tracks.

CORPORATE TAXATION – FINNISH COMPANIES MUST BE ALLOWED TO PAY THEIR TAXES IN FINLAND

- **EU:** The tax system must not undermine the data protection of EU citizens. The corporate tax system must not be based on burden of proof of consumers' location, and location data requirements must not be made stricter in value added taxation.
- **EU:** Europe needs to find a digital era-appropriate solution to corporate taxation. Corporate taxes must encourage member countries to support their companies' regeneration and competitiveness instead of encouraging them to invest in facilities or to avoid productivity-enhancing automation. Further, corporate taxation must not form a parallel system to value added taxation.
- **EU:** Even now, the VAT system channels the majority of tax revenue into the largest member countries. The corporate taxation system must not exacerbate this by channelling even more tax income from small member countries to large member countries, thereby reducing the small member countries' interest in supporting digital industries.

PROTECTION OF PRIVACY – INTENSE FOCUS ON TERMINAL DEVICES

- **EU:** The focus of the proposed regulation is very narrow, with only a few separate policies, and it does not, for example, recognise that mobile applications and websites have different operating logics. Instead of finetuning individual policies, the EU should provide a functional framework for protecting privacy and data in all areas of digital life.
- **EU:** In order to maintain a clear regulatory framework for the protection of privacy, the regulation should be limited to only apply to the processing and storage functions of terminal devices (for example, installation of an application or storing of cookies). Any personal data processing that does not fall within this limitation should be processed strictly within the limits prescribed by the GDPR.
- **EU:** In order for the regulation to endure and be technology-neutral, the information provided for privacy settings and alternatives should not be governed by means of a technically inflexible legal text.



Globalisti

In the 2030s and 2040s

TECHNOLOGY

- Brain-computer interfaces operated via the mind will gain a foothold in the market.
- The body, including every heartbeat, will become a game controller through human augmentation.
- Augmented reality lenses will take the form of contact lenses.
- Virtual assistants will become a key part of the multiplayer experience.

MARKETS

- Digital content will be a driver of the digital market shift.
- New technologies, tougher competition and new payment systems will continue to shape business models.

DIGITAL CULTURE

- The line between virtual and augmented reality will become blurry (i.e., extended/mixed reality).
- Digital games will become an inseparable part of physical reality (transreality).
- Nearly all of humankind will be on the Internet.

INFLUENCE ON SOCIETY

- Games are one of the key applications of brain user interfaces, augmented reality contact lenses and wearable electronics.
- Games make human augmentation applications mainstream.

ENABLING POLICIES

- Protection for the mind
- Protection for human augmentation
- Bridging the digital divide

From 2050s to 2090s

TECHNOLOGY

- Artificial intelligence will have replaced people in a significant share of the jobs that were prevalent at the beginning of the century.

MARKETS

- Digital Reality as Service

DIGITAL CULTURE

- Digital realities can no longer be discerned from physical reality (alternative reality).
- Digital realities will become increasingly individually tailored (synthetic reality).
- The line between entertainment and the rest of life will once and for all become blurred (life as a medium).

INFLUENCE ON SOCIETY

- Games and playing games are key tools for human self-expression.

ENABLING POLICIES

- Reliable maintenance of basic infrastructure
- Bridging the digital divide

Homo ludens: The 2000s, the century of the Playing Human

During its existence, the game industry has been a pioneer of state-of-the-art technological solutions, a trailblazer of new business models and a creator of digital culture. The digital future of both Finland and Europe are built through games, with the line between the digital and the physical reality blurring more and more as years pass, with geographical distance becoming increasingly insignificant and economic growth shifting from nature-burdening physical products to immaterial content.

The game industry is already looking beyond automation and the AI revolution. Now, in the first quarter of the new millennium, games are mostly entertainment that gives us a break from our hectic everyday lives. Towards the end of the century, life will become increasingly gamified by the year. The eSports profession, which has grown during the past decade, along with professional YouTubers and the Finnish success stories in game development, are only the beginning. When we reach the end of the century, more and more people will be earning their living either directly or indirectly from the game culture and the ecosystems built around it.

For the Finnish game industry, it is important that everyone finds their place in the world following the post-digital shift currently underway. This requires empowering citizens from early on to become digital culture creators, as well as a regulatory environment that guides wisely but is not too restrictive and, above all, personal ownership and participation in the impending shift.





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HUB OF THE FINNISH GAME INDUSTRY

**THE POLITICAL OBJECTIVES OF THE
FINNISH GAME INDUSTRY FOR COUNTY
ELECTIONS, PARLIAMENTARY ELECTIONS
AND EUROPEAN PARLIAMENTARY
ELECTIONS**

This objective of this paper is to provide, for a second time, a comprehensive overview of the political objectives of the entire ecosystem of the Finnish game industry. Because we operate in a rapidly evolving industry, this paper will be updated regularly. We more than welcome any feedback and suggestions: jari-pekka.kaleva@neogames.fi.

**NEOGAMES FINLAND RY – WE BRING THE
FINNISH GAME INDUSTRY TOGETHER**

Neogames is a member-based non-profit game industry organization. Our mission is to accelerate, coordinate and support the development of the Finnish game cluster. We exist to connect the industry players and serve their shared interests. Neogames receives support from the Ministry of Education and Culture for its activities.

Further information: www.neogames.fi

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