RAPPORT

Gotland and the game industry

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Region Gotland

1. Introduction

[SWE]: Trots att Gotland är värd för den äldsta speldesignutbildningen i Sverige, är det idag bara ett par speldesignföretag som är verksamma i regionen. Genom analys av nyckeldata och strukturerade intervjuer med nyckelpersoner från Region Gotland, svensk spelindustri, internationell akademi, och regional industri och start-ups, försöker denna rapport identifiera strukturella utmaningar, möjligheter och presentera förslag till vidare studier och analys. Studien genomförs som en del av projektet ”Framåt - nu utvecklar vi Gotlands landsbygder tillsammans”, som drivs av GUBIS (Gotländska UtvecklingsBolag I Samverkan), med stöd från Region Gotland. Målet med studien är att etablera en gemensam och initial förståelse för potentiellt outforskade och underutforskade möjligheter för att etablera ett hållbart spelindustrikluster på Gotland. Dessutom syftar studien till att identifiera potentiella hinder som etablerandet av ett sådant kluster måste övervinna eller ta hänsyn till. Studien uppmärksammar om några av dessa problem kan lindras genom att etablera klustret på Gotlands landsbygd, utanför Visby.

I korthet visar rapporten att den svenska spelnäringen kan ge möjligheter för regionen att möta och övervinna några av de demografiska och ekonomiska utmaningar som den står inför både nu och i framtiden. Men för att göra det måste man först ta itu med några betydande strukturella hinder som de som vill etablera sig som en del av industrin på Gotland står inför. Om detta arbete lyckas kan både regionen och industrin dra nytta av varandra på synergiska sätt både nu och i framtiden. Det finns särskilda möjligheter för den gotländska landsbygden om potentialen för de mindre serviceorterna att tillhandahålla lukrativa ytor för näringen uppmärksammas och beaktas strategiskt.

[ENG]: Even though Gotland is host to the oldest Game Design education in Sweden, only a couple of game design companies are currently operating in the region. Through analysis of key data and structured interviews with key personell from Region Gotland, the Swedish game industry, international academia, and regional industry and start-ups, this report attempts to identify structural challenges, opportunity spaces, and suggestions for further study and analysis. This study is conducted as part of the ”Framåt”-project, which is run by the non-governmental organization (NGO) *GUBIS*, with support from Region Gotland. The goal of the study is to establish a common and initial understanding of potentially un- and underexplored opportunities for establishing a sustainable game industry cluster on Gotland. In addition, the study aims at identifying potential barriers the establishing of such a cluster must overcome or accommodate for. The study pays attention to whether some of these problems can be alleviated by establishing the cluster in a rural part of Gotland, outside of Visby.

In short, the report shows that the Swedish game industry can provide an opportunity for the region to face and overcome some of the demographic and economic challenges that it faces both currently and in the future. Yet, in order to do so, it will first have to address some significant structural barriers that those who wish to establish as part of the industry on Gotland are facing. If this work is successful, the region and the industry can both benefit in synergetic ways from each other both now and in the future. There are particular opportunities for the rural areas of Gotland if the potential for the smaller service towns to provide lucrative spaces for the industry are recognized and strategically considered.

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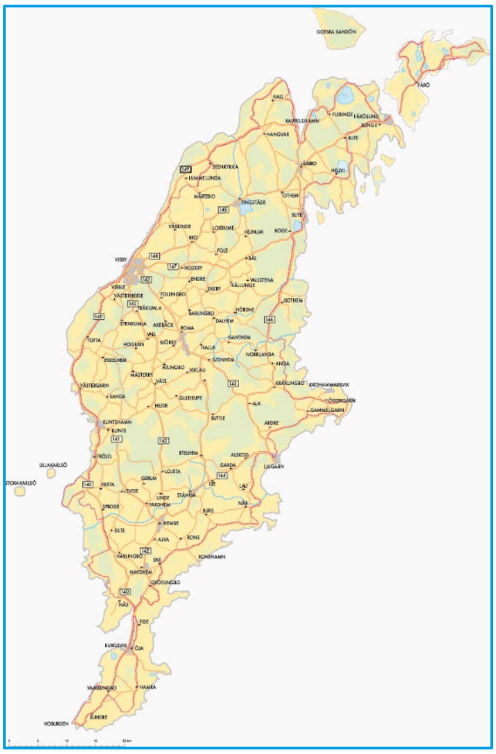
2. Methodology

The chosen methodology for this report is a close reading of selected sources as well as qualitative interviews of key people. 13 interviews were conducted, with informants from the game design industry of Gotland and mainland Sweden, from academia in Sweden and abroad, from Dataspelbranschen (Swedish Game Industry), from digital startup entrepreneurs on Gotland, and from graduated students. The interviews were conducted in both English and Swedish and most were just under an hour long. The majority of the interviews were conducted online, and recordings were made. For the interviews conducted in person, notes were taken by the interviewer. Before the report was published, the informants got to read through it in order to make sure that their views and comments were represented accurately.

Primary Sources:
OECD Territorial Review 2022:
OECD Territorial Reviews: Gotland, Sweden | en | OECD
Swedish Game Industry Reports:
Rapporter — Dataspelsbranschen
"Game Developer Index 2022"
"Vägar In I Spelbranschen"
Regional Development Strategy: "Vårt Gotland 2040":
https://www.gotland.se/110035 (Swedish)
https://www.gotland.se/110992 (Abridged English)
General Plan – Gotland Municpality:
https://www.gotland.se/oversiktsplan2040 (Swedish)
"Level Up" - Project Sketch:
[Only available in Pdf]
"Kraftsamling Dataspelbranschen" – RISE/Vinnova
Regionfakta[.]com
Statistikmyndigheten SCB (Statistics Sweden) scb[.]se

3. Gotland



Gotland is an Island in the Baltic Sea. It is the largest of the Swedish isles, and together with adjacent, significantly smaller isles, it makes up the region of Gotland as well as the municipality of Gotland. The public services and governmental duties are all covered by *Region Gotland*, which has both regional and municipal authority. While this double role affords Region Gotland opportunities for dynamic action that other regions might lack, it also comes with specific challenges, as there is only one public actor in the region that can address structural problems.

3.1 Uppsala University

Uppsala University, Campus Gotland is home to approximately 2200 students, of which about 1500 students are physically on-site in Visby. Approximately 300 of these students are from other countries than Sweden. At Campus Gotland there are courses in humanities, law, technology and science, social science, language, game design and educational science. At present there are 20 degrees offered at Bachelor’s level and 13 degrees offered at Master’s level. In addition, there are about 300 courses that are offered as free standing. 6 of the Bachelor’s courses and 8 of the Master’s courses are taught in English, while the rest are taught in Swedish. Campus Gotland employ about 230 people, 170 of which are academic staff and/or researchers.

About 350+ of the students are enrolled in degree courses at the Department of Game Design. The department offers the following degrees:

- Bachelor’s Degree in Game Design – 180 Credits
- Bachelor’s Degree in Game Design and Graphics – 180 Credits
- Bachelor’s Degree in Game Design and Programming – 180 Credits
- Bachelor’s Degree in Game Design and Project Management – 180 Credits
- Master’s Degree in Game Design (1 year) – 60 Credits
- Master’s Degree in Game Design – 120 Credits

About 120 students graduate every year, meaning that about 20% of all students graduating with a higher education game design degree in Sweden, get their degree from Uppsala University Campus Gotland. If one adds the vocational higher education students (YH) to the total, the number for Campus Gotland is still 10% of the national total.

3.2 Population

The population of Gotland has been increasing over the last decade, growing approximately 6,83% since 2014. This is a little below the national population growth rate, which showed 7.87% in the same period.

	2014	2015	2016	2017	2018	2019	2020	2021	2022
Gotland	57 255	57 391	58 003	58 595	59 249	59 686	60 124	61 001	61 167 *

Table: Population, source: SCB. *Nov 1st. 2022

While the population is growing, it is also older than the national average. Gotland has a lower percentage of every age group between the ages of 0 and 49, a similar percentage in the age group 50-54, and a higher percentage in every age group from 55 to 94, than the national average. For age groups above this the selection becomes too low to gather any statistical significance from.

	Gotland				Sweden	
	Number		%		%	
Age	Women	Men	Women	Men	Women	Men
0-4	1 350	1 466	2,2	2,4	2,7	2,9
5-9	1 531	1 675	2,5	2,7	2,9	3,1
10-14	1 654	1 707	2,7	2,8	2,9	3,1
15-19	1 553	1 649	2,5	2,7	2,7	2,9
20-24	1 408	1 730	2,3	2,8	2,6	2,9
25-29	1 547	1 772	2,5	2,9	3,2	3,4
30-34	1 803	1 887	3,0	3,1	3,6	3,7
35-39	1 616	1 577	2,6	2,6	3,1	3,3
40-44	1 646	1 594	2,7	2,6	3,0	3,1
45-49	1 797	1 802	2,9	3,0	3,1	3,2
50-54	1 946	1 878	3,2	3,1	3,1	3,2
55-59	2 191	2 095	3,6	3,4	3,1	3,2
60-64	2 048	1 964	3,4	3,2	2,7	2,7
65-69	2 138	2 073	3,5	3,4	2,6	2,6
70-74	2 014	2 038	3,3	3,3	2,6	2,5
75-79	1 945	1 783	3,2	2,9	2,4	2,2
80-84	1 176	999	1,9	1,6	1,5	1,3
85-89	754	509	1,2	0,8	1,0	0,6
90-94	381	168	0,6	0,3	0,5	0,2
95-99	88	31	0,1	0,1	0,1	0,1
100-	17	1	0,0	0,0	0,0	0,0
Total	30 603	30 398	50,2	49,8	49,7	50,3

Table: Population by age and gender, compared to national average (31.12.2021). Source: SCB.

About 40% of the inhabitants of Gotland live in the small town of Visby (App. 26.000 in.). In Visby is also where Uppsala University has a campus that offers courses in a variety of subjects. While over 20 different departments at Uppsala University offer courses at Campus Gotland, the department of Game Design is the only one located in its entirety on the island. About 120 game design students graduate at Campus Gotland every year.

3.3 Economy

In difference from many other rural region islands in Europe, Gotland's economy has been growing steadily for several years. Still, it is growing at a slower pace than other, more urban Swedish regions. In 2020 the GDP per inhabitant in the region was SEK 359.000,-. Compared to the national GDP per inhabitant of SEK 487.000,- , we find that the relative GDP on Gotland is 74% of the national average. This places Gotland at the very lowest end of the scale compared to other regions in Sweden.

	2012	2013	2014	2015	2016	2017	2018	2019	2020
Gotland	303	312	320	332	335	346	347	367	359
Sweden	393	398	412	435	445	460	475	491	487

Table: GDP in SEK 1000, source: SCB.

In their territorial review in 2022, the OECD said the following about Gotland's economy:

> *Gotland represents 0.8% of Sweden's land area. With a population of about 60 970 (0.6% of Sweden's national population), Gotland is the smallest region in terms of inhabitants and the smallest regional economy (contributing 0.43% of the national GDP) in Sweden. The region displays lower productivity and population growth than Swedish mainland regions but, across many indicators, it outperforms many comparable benchmark regions (EU islands and OECD remote rural regions). For example, since 2009, Gotland's GDP per capita has grown by an average of 1.2% per annum, compared to 0.23% in peer island regions and a contraction (of -0.67%) in remote regions. (OECD, Executive Summary)*

To summarize, the Gotland economy, while doing better than comparable regions within the OECD area, is performing significantly worse than the Swedish national average.

3.4 Employment

Similar numbers can be found when looking at average wage in Swedish regions, where Gotland has been the region with the lowest average wage for several years. In 2020, the average wage on Gotland was SEK 314.000,- , while the national average was SEK 402.000,- .

	2012	2013	2014	2015	2016	2017	2018	2019	2020
Gotland	252	257	264	271	276	281	293	313	314
Sweden	323	329	337	346	356	365	377	389	402

Table: Average wage in SEK 1000, source: SCB.

The education levels among the working population can go some way towards explaining the wage gap, as the average level of education on Gotland is lower than the Swedish average. Whereas on Gotland 38,1% of the working population has an education beyond high school levels, the same number for Sweden as a whole, is 45,2%.

	Gotland		Sweden
Education Level	Number	%	%
Primary/Middle School	3075	10,5	10,4
High School 2y	6437	22,1	18,3
High School 3y	8102	27,8	23,6
Higher Ed. Up to 3y	4139	14,2	15,6
Higher Ed. 3y+	6798	23,3	28,2
Ph.D. or equivalent	172	0,6	1,4
Not disclosed	440	1,5	2,6
Total	29163	100	100

Table: Education levels 25-64 year olds, 2021. Source: SCB.

48,4% of Gotland’s population is part of the workforce, which is comparable to the national average of 48,9% (SCB 31.12.21). Unemployment numbers for Gotland are lower than the Swedish average.

	Unemployed	Long Term Unemp. *	In Work Program	Total
Gotland	2,4%	1,8 %	2,4%	4,8%
Sweden	3,2%	3,1%	3,7%	6,9%

Table: Unemployment, yearly average 2022. Source: SCB. *Longer than 1 year, 6 months for <25

3.5 Cost of Living

As a result of cost for providing services to the public being higher than other regions in Sweden, the municipal and region income tax rates for 2022 (33.60%) are higher than the national average (32.24%). If one compares Gotland to densely populated urban areas, the difference becomes greater, as these areas on average tend to be below the national average (e.g., Stockholm 29.82%). The Gotland income tax rate is comparable to other rural regions in Sweden.

When it comes to housing costs, Region Gotland is more comparable to high-cost urban areas than to other rural regions. According to *Svensk Mäklarstatistik*, in 2022 the region came second behind only Stockholm in cost per m2, both with regards to apartments (bostadsrätter) and single-family homes. With regards to average unit cost, Gotland places 4th in both categories.

With regards to price development on apartments, Gotland had the second highest growth, with a 12 month change of –1,4%, with Region Jämtland being the only region in Sweden to record a positive price development in 2022. The national 12-month average in the same period was –8.6%. With regards to single-family homes, the 12-month price development on Gotland was –14%, with only Region Halland recording a greater fall in property prices. The national 12-month average in the same period was –9,9%.

According to *SCB* the average cost of renting an apartment on Gotland I 2022 was SEK 1188,- per sqm. This is very close to the national average of SEK 1182,- per sqm.

3.6 Infrastructure

The population of Gotland relies quite heavily on cars to cover their transportation needs. As such it is the region in Sweden with the highest registered number of cars relative to population size. With 605 cars per 1000 inhabitants, it ranks well above the Swedish average of 477 per 1000. This might also go some ways to explaining how Gotland is also the only region in Sweden where 100% of the public roads are hard-surfaced.

Public transport within Visby is well developed, and there are higher frequency bus routes that go from Visby to the larger service towns around the island. The population that live close to one of these major routes enjoys the same frequency. In addition there is a mesh of bus routes that are primarily developed to transport school children to and from school.

Travel to and from the island is done either by use of Visby airport or a ferry service from Visby to the mainland.

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In 2021, 88,7% of homes, and 88,1% of work places were connected to high speed fiber optic broadband. At the same time the Swedish national average was 84,5% for homes and 82,2% for work places. In other words, the fiber optic network on Gotland is highly developed and spread more or less across the entirety of the island.

4. The Swedish Game Industry

From humble beginnings a couple of decades ago, the Swedish game industry has grown to become both a valuable industry with regards to employment and tax income within Sweden, and an important actor in the international game design landscape. Spearheaded by companies like Embracer Group, King, Paradox, Mojang, Stillfront, and G5 Entertainment, as well as a number of mid-size companies, the Swedish game industry has claimed its position as a recognized provider of both high quality AAA titles, as well as innovation and commercial success. The *Swedish Game Industry*, which is Sweden's trade association for game companies has two registered game company members on Gotland; *Eat Create Sleep* and *Jumpgate*.

The Swedish game industry has been growing rapidly for years, from employing 1203 people in 2010, to employing 7994 people in 2021. This evens out to an annual growth of almost 19%. At the same time, the domestic revenue has grown from 1.181 million SEK in 2010 to 27.522 million SEK in 2021, constituting an on average yearly growth of over 30%. Meanwhile the number of companies has grown from 106 to 785. A new development is that Swedish game design companies are growing faster outside of Sweden than they are domestically, and there are now more non-domestic employees in Swedish game design companies than domestic ones and the non-domestic revenue in 2021 was more than double that of the domestic.

In 2021, Swedish game design companies hired 1348 people in Sweden, while only 616 students completed a game design degree in the same year. In a recent report, the Swedish Game Industry states that within 10 years the industry will be at least 25.000 game designers short, based on their projected growth in the time period.

	2021	2020	2019	2018	2017
Number of Companies	785	667	586	513	442
Domestic Revenue MEUR	2713	2115	1682	1393	1351
Global Revenue MEUR	5805	3311	2318	1871	1403
Revenue per Employee in Sweden in 1000 EUR	342	321	284	262	289
Domestic Result in Mill. EUR	288	630	369	273	434
Global Result in Mill. EUR	-123	720	493	335	446
Employees Sweden	7994	6596	5925	5317	4670
Employees Abroad	11158	7177	3253	2604	668

Table: Key Figures for the Swedish Game Industry. Source:" Game Developer Index 2022"

The game industry is an industry that requires highly skilled employees. This is also reflected in the educational levels of the employees, which is relatively high. Students who wish to study game design within Sweden have several options, ranging from vocational higher education, and the Swedish *folkhögskola*, to university degrees at Master's level. The numerous different schools are also fairly widely spread in a geographical sense.

Among the Higher Education we find the *University of Skövde, Blekinge Institute of Technology, Chalmers Institute of Technology, Stockholm University, Malmö University, Linköping University, Södertårn University, Luleå Institute of Technology, Gothenburg University,* and *Uppsala University.* Of these, potentially the most comparable to Campus Gotland is the University of Skövde which has about 500 students. The University of Skövde has also been central in the development of Sweden Game Arena. Among the Vocational Higher Education schools (Yrkeshögskolan) we find *The Game Assembly* (Stockholm and Malmö), *Futuregames* (Stockholm and Boden), *Yrgo* (Göteborg), *PlaygroundSquad* (Falun), *Visual Magic* (Skellefteå), *Forsbergs Skola* (Stockholm), and *Xenter Botkyrka* (Botkyrka).

	HVE (YH)	University	Both HVE and University	Phd / Doctoral	Other
Graduated in Sweden	49%	34%	9%	0%	7%
Graduated in other countries	NA	82%	6%	1%	11%

Table: Educational Levels in the Swedish Game Industry. Source:"Vägar In I Spelbranschen 2023"

5. Results and Discussion

Throughout the interviews conducted, the informers suggested a range of additional people to interview, sources to include, conferences to attend, and aspects to explore in more detail. While these suggestions were all relevant and interesting, the scope of this report sadly meant that only a very select few of them could be included. It seems clear though, that there is ample opportunity and need for a larger scale exploration of the topic in this report, and numerous adjacent topics.

Some key quantifiable takeaways:

- Of the Swedish game industry employees that have graduated in Sweden, 93% have an educational level above high school, while of the employees that graduated abroad, 89% have the same. In comparison 38,5% of the current population on Gotland have an educational level above high school.
- The average revenue of an employee in the Swedish game industry was in 2021 almost 11 times higher than the average GDP of a Gotland inhabitant. (EUR to SEK 06.02.23 = 11,37) Adjusted for work force participation, the number falls to 5,2, which is still relatively very high.
- While a number for the exact age of the average employee in the Swedish game industry cannot be ascertained, it is a young industry that yearly hires more than double the amount of people that the Swedish education system manages to graduate. In other words, it is general knowledge that the average age of an employee in the Swedish game industry is relatively low. In comparison, the average age of a person in the workforce on Gotland is relatively high.

From these numbers we can understand that the game design industry can provide a promising opportunity space for a region that is scoring below average on education levels and GDP, and has a population and workforce that is older than the national average. Even small and partial success could go a long way towards creating opportunities that can prove valuable to the region.

5.1 Societal Awareness

A couple of the informants referenced how other places with similar opportunities as Gotland had been consciously building awareness of and knowledge about the game design industry in their local and regional societies. An example that came up several times revolved around building awareness among primary and middle school educators about game design as a potential future career for the students who wish to stay on or return to Gotland as they grow up. To which degree these considerations are already implemented in the regional schools is something that is not covered in this report, but it is a theme that absolutely should merit further study.

With regards to societal awareness, other informants brought up the need for regional banks and financial actors to understand the particularities of game design development cycles, as they heavily influence the financial cycles of the companies. The question of financing and investment is particularly interesting, as it can also be seen as a strong opportunity for Gotland to attract investment not only from mainland Sweden, but also from foreign sources. The informants from the industry mostly share an understanding of there being readily available investment capital in the industry, but this is very hard to access before the company has reached a certain level of development and size. In other words, regional financing in the early stages of a company's development can have the potential to unlock larger amounts of investment capital from other sources, and this capital would then enter the regional economy of Gotland. Further study into how influx of capital in this way could influence the regional economy of Gotland is needed.

5.2 Interorganizational Awareness and Shared Understandings

Informants from both industry, academia, and the public sector shared experiences of not feeling knowledgeable about the others, nor feeling that they shared an understanding of the current situation, challenges, opportunities, and future goals with them.

This point shares similarities with the previous one about societal awareness, but it differs with regards to what measures can be taken in order to alleviate the situation. In this case, there are relatively few organizations that would need to be brought together in order to nurture such a shared understanding. One can envision this happening in many different ways, but the initiative might have to be taken by Region Gotland in order to muster sufficient weight to instill change. A first step would be to create or identify a structure within Region Gotland that is given the responsibility for this work.

5.3 Housing

An issue that was mentioned by several of the informants, and all the informants who are connected to Gotland today, is a shortage of adequate affordable housing. This issue came up both with regards to graduated students wishing to stay and develop their companies here and for existing companies when seeking to attract new hires. As mentioned above, the average rent on Gotland is comparable to the national average, but it is challenging to find housing year-round.

This challenge stems from property owners earning significantly more by renting out their properties for visitors and tourists in the summer season, than to year-round renters. It is fairly common that property owners earn more over the 3-month summer period than over the 9 other months. This challenge is particularly strong in Visby and in other tourism oriented places on the island, but it is to a degree present across the entirety of the island.

Affordable housing for younger families and people who have recently graduated is not an easy challenge to address, and any change would most likely require significant and directed effort. There is little financial incentive in the market itself for developers to provide this type of accommodation, and there is no financial incentive for the private property owners to choose to rent out their properties year-round. This is a situation that has cemented itself over a number of years, and it has proven resilient when faced with strong external economic events such as the global recession (2007-2008), the Eurozone crisis (2009-2019), the pandemic (2020-), and the recent inflation/interest changes (2022-).

In other words, one cannot expect this situation to change without active political decision that addresses the conditions that are supporting it. The choices could either be made as a regulatory body (e.g. tourism taxes, de-incentivizing short term rental) or as a free actor (e.g. building and owning low cost housing directly), but the bottom line remains that conditions would have to be changed in order to facilitate and encourage a change in development in the future.

When considering the potential to increase availability of housing for the mentioned groups, looking at the rural areas of Gotland can absolutely be an effective strategy. Further work would be needed to uncover exact numbers, but one can easily imagine that the in general lower land and building costs would reduce the overall costs of such projects in the rural areas.

5.4 Transport

If one does seek to develop housing outside of Visby, one will have to address the challenges of transport. Even if both the housing and the place of work are close and in the same rural areas, employees will still wish to be able to travel to and from Visby, and this is of course even more the case if either of the two are in or in the vicinity of Visby. Quite a few activities and services, such as for instance some sports, specific cultural activities, and some health services, are only available in Visby.

As mentioned previously, the dominant means of transportation on Gotland is private cars. Informants brought up how owning a car (and even a driving license) is not a given when you have just graduated or moved to a rural region from a city.

Research and data around what level of public transport is needed for urban minded young professionals to choose it as their primary means of transport is available, but it falls outside of the scope of this report. Further study to determine the specificities around how this affects the potential for attracting people to settle on Gotland is required and suggested. It would be particularly interesting to look at how industry development in one of the service towns could affect transport and housing patterns across the island.

5.5 Cluster Creation

One point that several of the informants brought up with regards to start-up companies was how an existing cluster of companies of the same type could go a long way towards making the start-up both easier to complete and the resulting company more robust over time. The importance of this cluster sharing a culture of support, trust, and sharing was heavily emphasized. Places like Skövde in Sweden and Kajaani and Oulu in Finland were brought up as examples of successful creation of such clusters and suggested as objects for further study.

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Malmö was also mentioned as a place with a culture of sharing across companies, but the informants were not in agreement as to how suitable Malmö was for comparison with Gotland, the argument being that rather than a cluster growing from many small companies, Malmö was a case of one big company "playing nice" and a cluster of smaller companies growing up around it. Of the mentioned places, Skövde might be the example to provide the most relevant inspiration for Gotland. The University of Skövde is comparable to Campus Gotland both in number of degrees and students, and with regards to inhabitants the municipality of Skövde is comparable to the region of Gotland. *Sweden Game Arena* is central to the game company cluster that has developed in Skövde, and their experience can be very useful for places like Gotland when seeking to build their own. Since its inception it has played a part in nurturing a game development ecosystem that has led to the creation of over a 100 new companies.

Another part that was mentioned by several as crucial for such clusters to succeed was the existence of a public funded incubator with specialized knowledge about the game industry, for example through the employment of industry veterans or seniors. In connection to this, shared events between the industry and potential financial actors and investors was also brought up, with "shark tank"-like pitching competitions mentioned specifically by several informants. This is also one of the recommendations in OECD's 2022 Territorial Review.

The physical location of a cluster does not only determine where people work, but it will also determine what parts of the region's housing market that will be available to those who work there. When considering where such a cluster could be established, one should also look beyond Visby, not only for the increased availability of lower cost office and studio spaces, but also for the increased availability of lower cost housing with attractive qualities.

5.6 The Creative Island

Gotland has a thriving and growing Cultural and Creative Sector (CCS). In 2018 there were over 1000 companies in the sector active in the region, continuing a long tradition of cultural production that is geographically widely spread across the island. Of particular interest with regards to synergy with the game design industry, is the large number of audiovisual companies and the long established film production sector.

In their territorial review in 2022, the OECD also brings up how the CCS plays a crucial role in innovation ecosystems, and they mention game design in particular as one of the creative fields that ties well into business development:

> *"For example, video game developers working on projects to develop "serious games" for training airline pilots and surgeons, and visual artists working with health professionals to develop therapeutic strategies such as the provision of cognitive stimuli to Alzheimer's patients. Especially in a context like Gotland, where training options might be limited, the development of serious games could benefit skills development and be used to help develop needed skills on the island. Alongside these direct contributions to innovation, creativity and culture have important unforeseen external effects (spill-over effects) on economic activities, companies, organisations and communities, as ideas, skills and knowledge developed in the CCS are taken up by other sectors. Research on rural regions has demonstrated, for instance, that promoting the arts does facilitate innovation in rural regions."*

In other words, one of the defining attributes of CCS eco-systems is how they not only promote growth and collaborations across different cultural expressions, but that this also spills over to other sectors, increasing innovation and cross sector collaboration. The game design industry could benefit a lot from connecting with the existing CCS sector on the island.

5.7 Digital Nomads

The concept of Digital Nomads, where people who perform work tasks than can be done completely remotely can choose to perform their job from a geographical location of their own choosing, has been around for several years already and gained additional momentum with the Covid19-pandemic.

Several informants lifted this issue as interesting, but there seemed to be general agreement that digital nomadism was not something that Gotland could or should rely on in order to establish a game design industry. The reasons for this were varied, but the need to be present with a team in order for projects to be managed well came up several times. Another point that was made was the importance of employees with less experience to be onboarded onto, and learn the intricacies of a game development cycle. Such onboarding is very hard to accomplish without them being physically present with the rest of the development team.

This last point did open the door on the potential for senior developers to be able to work remotely from Gotland, but this is something that would develop from an agreement between the employee and the company they worked for, not grow from a game design industry on Gotland. There were some suggestions about what was needed for remote employees like these were to succeed, most of which were along similar lines as the cluster creation mentioned above. The need for shared physical spaces, shared events, and even shared trainings between employees from different companies was suggested as a good practice. In other words, if such an environment was established to support the founding of new companies, it might in itself attract digital nomads that rely on exactly the same structures.

Even though it might not be the main way forward for establishing a game industry on Gotland, the opportunities around attracting digital nomads to the region is something that absolutely warrants further work and efforts. Gotland have unique qualities that can be attractive for this type of worker, and there are several good examples in other parts of the world which the region can learn from.

6. Conclusion / Suggestions

If one considers the average age, average educational level, and average GDP of an employee in the Swedish gaming industry, it seems clear that attracting more of them to Gotland can help alleviate some of the demographic and economic challenges that the region is currently facing and will face in the future. In the following table the suggestions from the different subchapters in chapter 5, are organized by estimated time frame. Items towards the top of the table could be implemented fairly quickly.

Theme	Suggestion	Time Frame
Interorg. Awareness / Cluster Creation / Digital Nomads / Creative Island	Develop a structure with the strategic responsibility to facilitate collaboration between all parties connected to the establishment of a game design cluster.	3-6 months
Cluster Creation	Develop a collaboration between SPG and incubators in game clusters in other parts of Scandinavia, for example Skövde.	3-6 months
Housing	Conduct a feasibility study on ”Rural bomässa” – A Gotland specific rural housing fair.	6-12 months
Cluster Creation / Creative Island	Map out availability of office spaces and similar that can be suitable for the industry. Pay particular attention to the service towns.	6-12 months
Housing	Conduct a pilot study into how the housing market could be regulated to better serve the needs of emerging industries.	6-12 months
Societal Awareness	Integrate game design in regional schools. Make students who grow up on Gotland aware that it can be a career that allows them to remain on the island.	1-2 Years
Transport	Conduct a pilot study on how public transport affects the regions attractiveness to newly graduated students. Put specific focus on considering industry establishment outside of Visby and how technology can be adopted for public transport to serve high-tech cluster forming in the service towns.	1-2 years
Digital Nomads	Develop a specific strategy on how to showcase Gotland as an attractive place to live for Digital Nomads. Make proactive choices to create conditions for it.	1-2 years
Interorg. Awareness	Conduct a pilot study on the availability of mainland and foreign investment in the game industry on Gotland. Map out potential effects of an influx of capital.	1-2 years
Cluster Creation / Creative Island	Develop a strategy on how to build and market the potential of and opportunities on Gotland to the width of the Swedish Game Industry.	2-3 years
Housing	Conduct a feasibility study on how Region Gotland can act in the property market to secure low cost housing for entrepreneurs and newly graduated employees in emerging industries. Put specific focus on areas outside of Visby.	2-3 years

Table: Recommendations.

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