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Nordic Innovation Centre

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NORDEN - A CREATIVE POWERHOUSE

- Professionalising creative industries
- IPR are the goods of the new economy
- Facilitating investments

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NORDEN - A CREATIVE POWERHOUSE

Culture is business

- And we are talking big business



Petra Nilsson



Nina Etelä

A fact that meets us in the post-industrial reality is that one of the most promising and emerging markets is the creative one. Creativity and innovation is now the driving forces of both the economy, and the society.

The map needs to fit the terrain

We need to orient ourselves in the landscape we actually are in. This is not optional, but a given. At the Nordic Innovation Centre (NICe) we have recently carried out 6 extensive mapping analyses together with 65 Nordic knowledge environments. We have done this to gather vital information regarding the current status of the Nordic creative industries (CI), and its future aspirations. Worldwide the creative industries are growing faster than other economic sectors, thus reflecting the changes in today's wealth-generating economies.

With concerted Nordic effort and cooperation, the Nordic region has the capacity to become one of the worlds most dynamic and important regions for creative industries, but this chance only comes around once. We must act now, or accept defeat.

No longer is the Nordic region marked primarily by its industrial features, but are characterized by the shift from industrial manufacturing to service industries centred on information technology. Defined as a permanent process of developing and applying new knowledge to work, life, products and services - innovation has become society's driving force. There is a rapid growing demand for the products the creative industries sell. Firms and jobs based on these activities are an important future source of economic growth and competitiveness for the Nordic-Baltic region.

Culture is driving the economy

Culture plays an increasingly important role in the knowledge economy. The creative industries provide potential for economic growth and prosperity. It is a growing sector that continues to provide more jobs, and adds increasing value to products and services within the Nordic region. This potential is not yet sufficiently recognised. We need to connect creative industries with other sectors in the economy in order to help creative entrepreneurs turn innovative ideas into profitable business.

Culture as a domain for expression, reflection and exchange is becoming the key context from which social and economic developments obtain their value. What is called for is a new agenda, which recognises the interplay between culture, innovation and the public domain in the knowledge economy.

Recommendations for success

We propose three core areas where actions should be taken with regards to the creative industries; these are paramount if we are to position ourselves in the forefront of the CI-sector.

Professionalising creative industries

Firstly we must focus on the creative entrepreneur; establishing awareness within the creative sector that these industrial players operate in an economic playing field that necessitate business knowledge. The creative actor needs to acquire business smarts and interact, learn and benefit from other industrial areas.

IPR are the goods of the new economy

Secondly, there is a need for an intensified focus on the area of intellectual property rights (IPR). This can be viewed as the raw material fuelling the creative age. The commercial opportunities in this field must be realized.

Facilitating investments

Thirdly, in order for the CI-sector to grow to its full potential, the flow of capital needs to be increased. For this to happen, financial venture capital needs to be enticed to invest in the creative industry. It is necessary to facilitate an open dialog to generate a common ground and meeting place for investors and creative industries alike.

We strongly recommend a Nordic policy for the CI-sector that facilitates these strategic moves. If we are to position ourselves in the global race for creative industries dominance, these strategic implementations are not optional. They are necessities.



Petra Nilsson

Senior advisor
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6 PROJECTS

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Creative Directions

- A Nordic framework for supporting the creative industries

The Nordic region has the capacity to become one of the world's most dynamic and important regions for the creative industries (CI). The objective of this project is to create a framework for how policymakers can think about the creative industries, and deals with the creative industries from an industrial and economic perspective.

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In Search of the Experience Economy

- The reality of tourism is changing

Throughout Europe all the major cities compete intensively to attract and host international events. The aim of this project was to demonstrate the economic importance of events, show the employment effects that events manifest, and produce knowledge from actual events in the Nordic cities. This was done through both a quantitative and a qualitative study focusing on 19 events in the Nordic region.

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Creative Capital

- Bridging the gap between the creative industries and venture capital

The Nordic economies have in recent years seen increased economic contributions been made by the creative industries (CI); the media, entertainment and artistic sectors. The shift to a creativity-based economy has not successfully managed to bring with it the investors, the financial institutions of banking and the venture capital funds. Three educational tools aimed at bridging the communication gap between investors and the creative industries has been created by this project.

Nordic Baltic Innovation Platform for Creative Industries

- Focusing especially on design

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Societal and market trends have led to an increased industrial reliance upon creative skills as a major source of value creation. Design has increasingly been recognized as a strategic tool for companies in the Nordic Baltic region, and design is a key field to bridge the gap between creative disciplines and traditional businesses. By establishing a Nordic Baltic platform for creative industries (CI), the interaction between traditional industries and creative disciplines across the Nordic Baltic region could be stimulated and strengthened.

Nordic Playground

- Connecting computer game industry and game research
with Nordic culture

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To compete in the global market the Nordic countries need to foster the development of new products created in the convergence between computer games, toys and game research, educational resources and cultural production. A joint Nordic effort can offer a wider and more credible selection of game related knowledge, in addition to a forum for the dissemination of research results.

Medical Imaging

- How to bring cutting edge 3D-graphics to surgeons

18

The technology utilized in gaming is expected to emerge to a new world industry sector with a fast annual growth. This project's scope was a closer investigation of the possible synergy effects between the two sectors medical imaging and computer games. This was facilitated in order to search for new business chances, cost savings and faster progress in the development of new medical imaging products.

Creative Directions

- A Nordic framework for supporting the creative industries

The following researchers have participated in the project:

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Dr. Mark Lorenzen
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Finland

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Iceland

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Dr. Johan Jansson
Prof. Anders Malmberg
Uppsala University

Pernilla Rydmark
VINNOVA (Swedish Agency
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Background

The Nordic region has the capacity to become one of the world's most dynamic and important regions for the creative industries (CI). This is something we must work together to achieve.

Worldwide governments and regional authorities have begun to take seriously the notion that cultural and creative activities are crucial areas of economic activity. The Nordic economies have in recent years seen increased economic contributions been made by the creative industries; the media, entertainment, design and artistic sectors. These sectors are seen to be increasingly worthy of not just cultural policy, but also industrial policy support. The creative industries have attracted much attention due to the fact that they seem to be at the forefront of a series of wider industrial and market changes affecting Nordic industry.

The Nordic countries have seen a large number of manufacturing jobs disappear from the labour market over the last decades, and many observers believe that for all industries based in high-cost advanced countries, the role of creativity and innovation has become more important than ever. There is a widespread belief that knowledge intensive industries offer the best prospects for economic growth in countries suffering from increased global competition.

However, the Nordic countries are not alone in noticing the potential such industries have for generating new jobs, and for contributing to overall industrial competitiveness. Many countries are investing heavily in their creative industries. The Nordic countries are faced with ever more fierce economic competition from countries which often have the same quality technological and production standards, and considerably cheaper labour and general costs. It is therefore important for Nordic firms and economies to seek out new opportunities and new ways of selling, designing and promoting our products on global markets.

Scope

The objective of this project is to create a framework for how policymakers can think about the creative industries. The report deals with the creative industries from an industrial and economic perspective: taking our point of departure in research on industrial competitiveness and transformation (business strategy, institutional and evolutionary economics etc.) in general and modern research in particular. The aim was to produce a series of policy recommendations and concrete measures to help the creative industries further develop. The approach has been to separate from cultural or artistic appraisals of creativity, and to focus only on these activities as commercial and industrial endeavours. It follows from



this that non-profit cultural/creative organisations are not generally included. Creative industries thinking reflects an attempt to widen the debate on the value of culture in policy, away from a traditional focus on cultural policy as funding for fine arts and heritage institutions.

Conclusions & Recommendations

Policies implemented and coordinated at a Nordic level have a great potential to improve the competitiveness of the creative industries.

5 Steps to Success

Policy recommendations are presented that address five distinct but interrelated areas:

1) Knowledge and innovation in the creative industries; 2) Cooperation and collaboration between creative industries firms; 3) Connecting creative industries firms with other industries; 4) Helping Nordic creative industries reach the market; and 5) Encouraging and investing in entrepreneurship.

Nordic Reign Possible

With concerted Nordic effort and cooperation the Nordic region has the potential to become a globally important centre for education, research and innovation in the creative industries.

Crucial Time

We believe that it is crucial that the Nordic countries start building immediately on the strengths and opportunities their creative industries represent, and contribute in a meaningful way to the further expansion of these important industries. Coordinated and collaborative action at a Nordic level can greatly benefit the competitive base for the firms that make up these exciting growth industries.



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In Search of the Experience Economy

- The reality of tourism is changing

The following researchers have participated in the project:

Denmark

Peter J. Hansen (project leader)
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Lars Carmén
Malmö Turism

Finland

Pirkko Nyman
Helsinki Tourist & Convention
Bureau

Norway

Heidi Thon
Oslo Promotion

Iceland

Svanhildur Konrádsdóttir
Visit Reykjavik

Background

Events are big business. Throughout Europe all the major cities compete intensively to attract and host international events. In comparison, all the Nordic cities are just European provincial towns. But the event-economy presents a big opportunity: Sports and cultural events have become means to generate tourist turnover, foreign-exchange earnings and jobs. In addition, events have been recognised as a way to mobilize urban development, and to manifest cities culture and identity internationally. This is why most big cities in Europe compete intensively to attract and host international events. The Nordic cities have already entered the event-economy, hosting some of the most prestigious international sports, - and cultural events over the past decade. But events can also be a risky business. Knowledge and tools are paramount when cities are to decide on investing in the event economy.

Scope

The objective for the project was to clarify the significance of events for destination development, clarify the tax effects as a result of a given event, and map the similarities and differences between events with regard to proportion of tourists, export proportion, average length of stay, average tourist consumption and so forth.

In addition, the scope was to demonstrate the economic importance of events, show the employment effects that events manifest, and produce knowledge from actual events in the Nordic cities. An event study of a comparative nature was carried out on 19 selected events in Nordic cities. The events ranged from conferences, to sport events and concerts. The study consists of both quantitative and qualitative elements.

The project as a whole aimed at strengthen the Nordic cities competitiveness as event destinations, and to lay the foundations for long-term cooperation between these cities that may result in more joint projects in the event area.

Conclusions & Recommendations

Main results from the quantitative study show that events create growth. The majority of growth is created within the trade, hotel and restaurant industry, - in addition to within the actual event organisation itself. It was also shown that events create employment; the specific tourism economic turnover for the 19 events studied gave rise to around 1,300 jobs.

Necessity of Support

The main results from the quantitative case studies show the importance of cooperation and support by involved players, both in public and private sector. Furthermore, the budgeting for new events showed to be a challenge, and in such situations it would be good to draw on the experience of previous host organisations.

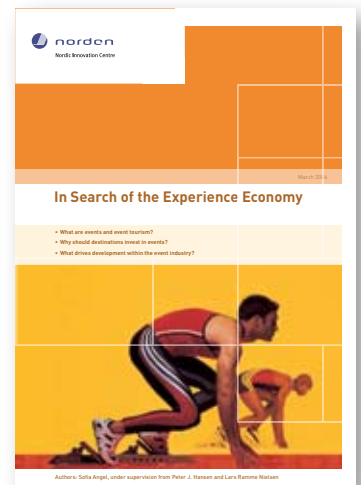
Marketing Important

For large public events, marketing is a key factor in order to reach the full potential of the event. It is therefore important that marketing has its own budget, which is not used even if other cost turns out to be higher than expected. Different types of events require different types of marketing, and event organisations should be provided with budgets and skills that correspond to the task.

Road Ahead

There is also need for more detailed knowledge of the marketing of events and their contribution to the destination's brand work. In addition, a study of how the event affects inhabitants' perceptions of their own town, and what is required for the local population to have a positive attitude to the organisation of events, is desired. Benchmark studies should be carried out focusing on the conditions that must be met in order for European cities to be "event destinations". It is also recommended to produce a competitor analysis with focus on event arenas.

Cooperation between the cities is the only way forward. The Nordic tourism economies are already linked and integrated in sense of infrastructure, major players and catchments areas. This gives an excellent starting point.



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Creativity meets Capital

-Bridging the gap between the creative industries and venture capital

The following researchers have participated in the project:

Sweden

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Martin Svensson
Film i Väst

Finland

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Management Ltd

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Background

The Nordic economies have in recent years seen increased economic contributions been made by the creative industries (CI); the media, entertainment and artistic sectors. Products based on cultural production have gained increasing ground, both in national and international trade. In the last 10 years, the creative industries have consistently outperformed the general economy in employment growth and new firm start-ups. Value creation in the knowledge economy is increasingly being based on intangibles such as ideas and knowledge. Ideas, knowledge, artistic expression, expertise and talent hold qualitative different characteristics from traditional tangible goods. It is the ability to generate, commercialise and protect such intangible values that will generate economic growth for creative industrial firms, industries and countries in the creative age.

However, the shift to a creativity-based economy has not successfully managed to bring with it the investors, the financial institutions of banking and the venture capital funds. Within the CI-sector, investment capital remains difficult to attract due to the specific nature of intangible assets, which conveys challenges in terms of determining value and profit potential. It is necessary to facilitate an open dialog that can generate a common ground and meeting place for investors and creative industries alike.

Scope

The objective was to provide a blueprint for the creative industries on how to present themselves to investors, and how to think of new ways to capitalize on intellectual property rights. The project set out to develop increased awareness between the two groups of entrepreneurs (creative and capitalist) through developing learning, communication and awareness generating tools.

Intellectual property rights (IPR) were the main area of focus and exploration. IPR can be seen as the goods of the new economy, and are what creative entrepreneurs need to capitalize. The exclusive right granted by intellectual property legislation, creates opportunities for investing in cultural activities. Industries heavily resting on intellectual creations run the risk of failing to achieve its full potential, if the value of intangible assets fails to be communicated to capital providers and potential partners.

Conclusions & Recommendations

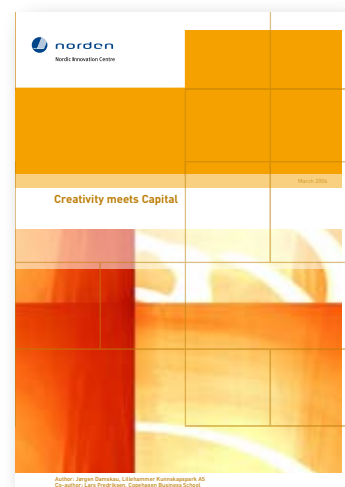
The project developed three educational tools aimed at bridging the communication gap between investors and the creative industries. The first tool is a teaching DVD providing a concrete benchmark for how a successful creative activity (i.e. a book) was developed into a huge economic package of IPR products. The second tool is a 360 degrees interview with representatives from one of the few venture capital firms in the Nordic countries specializing in developing business opportunities within creative industries. The third learning-tool is an IPR- role-play and accompanying teaching manual.

Nordic Investor Survey

The creative industries in the Nordic countries need strengthening by empowering the entrepreneurs with IP-tools to use in the dialogue with investors and other financial actors. Furthermore, the incubators need to be reinforced. There is also a need for increased information on the investment side, something that could be reached by imitating NESTA`s survey of the interpretation of the investment opportunities in the creative industries. NESTA is the UK national endowment agency for science, technology and the arts, working to increase national innovation capacity. By asking 100 investor companies in the Nordic countries a specially designed questionnaire, essential investment information could be gathered.

IPR and Aesthetics

More work should also be done on the interpretation of the products and services of the creative industries in the continuum between IPRs and aesthetic visions and statements. Especially comparing the Nordic countries and the UK/US in these matters would be useful in order to adopt and adapt certain models for investment in IPRs.



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Nordic Baltic Innovation Platform for Creative Industries

- Focusing especially on design

The following researchers have participated in the project:

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Norway

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Thomas Dickson
The Royal Academy of Fine Arts

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Background

Design has long been an integral part of cultural lives in the Nordic and Baltic countries. Societal and market trends have led to an increased industrial reliance upon creative skills as a major source of value creation. Design has increasingly been recognized as a strategic tool for companies, and design is a key field to bridge the gap between creative disciplines and traditional businesses.

By establishing a Nordic Baltic platform for creative industries (CI), the interaction between traditional industries and creative disciplines across the Nordic Baltic region could be stimulated and strengthened.

Design is often presented as being in the centre of three factors overlapping each other, business, technology and human factors. Creative industries can provide new means of differentiation for companies, and assist to create new products based on cultural understanding and values. This is why there is an increased industrial reliance upon creative skills as a source of value creation.

Scope

The purpose of the project is to examine the possibilities the current status of the creative industries the Nordic Baltic region provides, and explore design innovation systems that would contribute to the building of an innovation platform for this region. To illustrate the prevailing situation, this project reviews creative industries, design innovation systems and actors, design promotion and measures taken in each country, - such as research programmes and innovation transfer systems.

The project aims in reviewing and discussing the possibilities of whether a Nordic-Baltic network could be developed further, and if this would provide means for a platform. The aim of the platform would be to strengthen the creation and development of strong Nordic and Baltic creative businesses, and to create new businesses of similar types as well. The platform would offer new possibilities for the "traditional" industry in the Nordic and Baltic area, in their constant struggle for improving their competitiveness. In addition it would contribute to overall economic development.

Such a Nordic and Baltic platform could stimulate the interaction between traditional industries and creative disciplines (especially design), both within the respective countries itself and across the region. The outcome could be a win-win situation for all involved.



Conclusions & Recommendations

The building of a Nordic-Baltic innovation platform for creative industries is in need of constant development of national innovation systems in each country, as the differences between the development stages in economies and education in the participating countries hinder further activities. All the participating countries recognize design as a competitive asset, but even so there are few innovation systems implementing design in the surveyed countries.

Coherent Innovation System

Concrete steps towards a more coherent innovation system should be taken. One example of recent activities in this field is the Innovation University concept in Finland. This is a joint venture between Helsinki University of Technology, Helsinki School of Economics and University of Art and Design Helsinki. The aim is the establishment of multi-task research institutes, which develop new businesses utilising the new knowledge created in the respective universities. We further recommend the development of new research programmes to create new knowledge, and application of this to the industry.

Nordic Baltic Focus

We advise that a Nordic Baltic design focus is implemented in the national innovation systems, and that further research regarding measures aimed at closing the present gaps, is effectuated. Currently there is a lack of proper tools transferring the new design knowledge and ideas to actual utilization. Further work is needed in the field of development of new innovation transfer tools.



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Nordic Playground

- Connecting computer game industry and game research with Nordic culture

The following researchers have participated in the project:

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KooPee Hiltunen
Neogames
Ilkka Kaakkolammi

Iceland

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Background

If the Nordic countries are to compete in the global market in this growing industry, fostering the development of new products created in the convergence between computer games, toys and game research, educational resources and cultural production is vital. One of the fastest growing markets today is the interactive entertainment industry. In some countries this market has already exceeded well-established industries as film and television. The Nordic region has in recent years gained ground on bigger game development countries such as UK, US and Japan. A joint Nordic effort can offer a wider and more credible selection of game related knowledge, in addition to a forum for the dissemination of research results.

Scope

The overall purpose was to arrange and take part in cross- disciplinary meetings, workshops and seminars in the field of interactive entertainment in order to create Nordic synergies. By facilitating meetings between different actors in the network, the aim was to create a base for further research, and project applications. The extraction and dissemination of knowledge and experience between researchers and companies is seen as vital. Identifying areas of game design, modalities and technology development also held high priority.

Conclusion and Recommendations

Nordic Playground recommends further investments in cross-disciplinary events and projects in the interactive entertainment industry. In addition, networking is a fundamental strategic tool in order to create a dynamic and competitive Nordic interactive entertainment industry. A valuable network channel has been created through the project, facilitating cross-disciplinary contact across the Nordic countries. It is essential that this channel remains open.

Emerging Markets

There are some areas within interactive entertainment that are viewed as especially emerging markets, namely mobile games and pervasive games. The mobile game market has expanded during the last years, and is estimated to continue to expand over the next couple of years. This presents an excellent business opportunity for the interactive entertainment industry in the Nordic region.

Pervasive Games

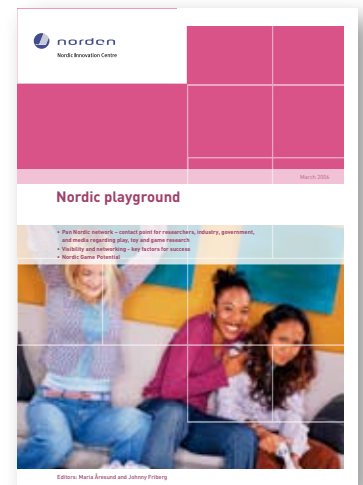
A newcomer in the market is pervasive games. The Swedish game company previously known as "It's Alive!", now "Daydream", gave life to the first commercial location-based game. In doing so, they coined the definition "pervasive games". Now game academics use the term "pervasive games" to describe games that pervade into reality through e-mail correspondence, fake websites or location-based activities

This type of new gaming experience is viewed as the most interesting game research area to explore, both currently and in the future. In a pervasive game, the game interaction stretches beyond the computer screen: together with spatial, temporal and social aspects in the game. When playing a pervasive game, you might as well use your mobile phone, physical objects with augmented computing functionality or other location-based activities.

Three Core Technologies

Building a pervasive game is a challenging engineering task because it touches many aspects of software computing and game design, from networking to the fields of human-computer interaction. Pervasive games are built upon three core technologies: mobile devices, wireless communication, and sensing technologies that capture players' contexts. The Nordic countries have a world leading position through Nokia and Ericsson when it comes to the infrastructure needed to make pervasive games a reality, namely wireless communication, mobile devices and sensing technology able to pick up changes in the players environment. Besides the existing infrastructure, research is needed to find a balance between the pervasive game conducted on the streets and the non-players who inhabit them.

Both mobile gaming and pervasive gaming are areas with great potential for the Nordic countries. The financial investments need to match the areas' economic possibilities.



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Medical Imaging and Computer Games

- How to bring cutting edge 3D-graphics to surgeons

The following researchers have participated in the project:

Sweden

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Acma
Sensegraphics
Karolinska Sjukhuset
IVF

Norway

Surgetech Norway
Leksvik Teknologi
IDM
Gründerparken
Sintef

Finland

Planmeca
EOS
Deskartes
TKK
Helsinki University

Denmark

RJ Computer consulting
Gamalocus
Zenaria
Cavi
Århus Sygehus
DTI

Iceland

Kine
Globodent
SmartVR
LazyTown Entertainment
CCPgames
IceTec

Background

Computer game fans have enjoyed superb 3D-graphics for quite some time. The same has not been the reality for reconstructive surgeons. These surgeons must work within tight time schedules to redesign tissue to new shapes. The patient's damage or deformity is pre-studied slice by slice from CT-scans, which give a poor 3D understanding. During the operations, the surgeons' information is limited to what they can deduct from the sight of the patient's open wound. To complicate matters more, the presence of blood limits the visual understanding. Currently most surgical operations are carried out this way, but a fast technology development is taking place. In addition, the training of future surgeons is time consuming and expensive. The use of simulation tools can speed up both the education, and the surgical skills.

Given the fact that computer games are mass-produced, the assumption was made that the economic advantages of mass production could be exported to the area of medical imaging. The perceived effect was faster development of imaging products, and a reduction of costs. These two factors are also highly related to each other, since high costs slow down market introduction of new technology.

Scope

A closer investigation of the possible synergy effects between the two sectors medical imaging and computer games were called for. The technology utilized in gaming is expected to emerge to a new world industry sector with a fast annual growth. The project focused on whether cooperation between these two sectors could result in new business chances, cost savings and faster progress in the development of new medical imaging products. In addition, the possibility of a more efficient surgeon education, and improved surgical 3D-tools were prioritised areas. Potential synergy effects achieved by merging knowledge, contacts and business ideas and by identifying relevant challenges and barriers, were investigated. Networking in this cross-disciplinary field of medical imaging, surgeons and 3D-game developers was seen as imperative for the project.

Conclusions & Recommendations

By researching the current synergy possibilities between medical imaging and the gaming industries, we identified that direct cooperation was not advantageous at present. For the medical imaging industry to take advantage of technical 3D-animation expertise, other options of collaboration should be identified in order to benefit from the potential synergy perceived.

Educational Focus Important

Within research the focus should be at educational packages, with emphasis on smaller projects that can work as pre-projects and entrance tickets to later EC-projects. There should be a wider spread of the use of physical models, but the technology itself also need to develop for even more complex applications: An option could be more complex scanning applications, such as cardiac and combined scanner technologies where different current scanning technologies are utilized. This could for instance be the combination of Computerised Tomography scanning with Magnet Resonance (MR) scanning or Positron Emission Tomography (PET) scanning.

Industrial Frontiers Hub

The indirect synergies by similar technologies are strong, and further research programmes in these areas should be implemented. Three areas should be especially in focus: namely haptic design of implants, simulation and rapid manufacturing of implants.

The Nordic countries are industrial frontiers in computer games, haptic technologies and rapid manufacturing of implants; by allocating additional research funding, world-leading possibilities are within reach.

It is recommended that research programmes in the Nordic countries highlight the complete road from simulators in surgeon education, pre-operational planning and implant design, - to implant manufacturing by Rapid Manufacturing technologies. By building on these areas where the Nordic region already is strong, we could position ourselves even stronger for the future.



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norden

Nordic Innovation Centre

The Nordic Innovation Centre is the Nordic Council of Ministers' single most important instrument for promoting an innovative and knowledge-intensive Nordic business sector.

Our basic assumption is that each of the Nordic countries possesses knowledge, which through increased co-operation significantly will improve innovation capabilities and competitiveness for Nordic businesses.

Nordic knowledge platforms

Today, the Nordic Innovation Centre is an important player in Nordic knowledge platforms within the areas of Innovation Policy, Creative Industries, Biotechnology, Food Safety, Functional Food,

Micro- & Nanotechnology and Innovative building & construction. Establishing common Nordic knowledge platforms on strategically important areas give Nordic businesses access to the best knowledge possible and greatly enhance their innovation capabilities. We believe that building common Nordic knowledge markets are vital to all Nordic business life, enabling us to compete in a global market which is becoming more and more knowledge driven.

Investments

The total project portfolio of the Nordic Innovation Centre consists of approximately 120 ongoing projects and networks. These projects involve the Nordic Innovation Centre in nearly all strategically important Nordic innovation areas.