Searching *for the micro multinationals*

A PwC report on behalf of
Microsoft and Baltic Development Forum

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ICT Think Tank
for the Baltic Sea Region

Top of Digital Europe was launched at the 16th Baltic Development Forum Summit in Turku, Finland, 3-4 June 2014. Top of Digital Europe is part of Baltic Development Forum (BDF) that has for years been driving ICT policy discussions in the Baltic Sea Region.

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Foreword

The countries in the Baltic Sea Region (BSR) have established themselves as front runners in many aspects of the ICT sector. Over the last decade they have succeeded in attracting huge foreign direct investments in this highly competitive sector. The BSR is still among the world leading ICT regions with high level competences, talents, start-ups, and track record. However, as we are entering a new era with new challenges and tougher global competition, how can the BSR maintain and further develop its leading role?

There is a need to focus on joint business-society opportunities and take action on key areas within the digital economy to continue to be internationally competitive and further growth the potential.

On the initiative of BDF and Microsoft the regional ICT think tank "Top of Digital Europe" has been established to support and promote the Baltic Sea Region as a leader in the ICT sector. "Top of Digital Europe" is a neutral, non-profit think-tank. It facilitates dialogue on how the region's role can be strengthened and provides concrete recommendations as to how this role can be pursued and how to further fuel the digital economy.

This report is the first delivery from "Top of Digital Europe", and is a study on the state and ecosystem of ICT-related start-ups and SMEs, the so-called "Micro-multinationals" in the Baltic Sea Region. It is a first and much needed step towards a better understanding of the potential within the fast growing digital market.

Our hope with the report is to put a spotlight on some of the growth barriers and opportunities of SMEs in the ICT sector and the challenges they are facing when they want to expand their business to new markets. But also to inspire key policy makers and businesses cross borders to join forces and to act on some of the concrete policy recommendations.

Launched together with this report at the BDF Summit in Turku, Finland, June 2014, "Top of Digital Europe" welcomes partners within business, politics, academia and other actors with an interest in ICT as a driver for growth and competitiveness in the Baltic Sea Region and beyond.

This report is elaborated by PriceWaterhouseCooper (PwC) in Sweden, Finland, Estonia and Denmark, on behalf of Microsoft and BDF. PwC is responsible for the report, except for foreword and afterword. An Advisory Group for "Top of Digital Europe", key representatives within the digital sector in the region, has contributed with comments to the policy recommendations.

The work is conducted by Microsoft and BDF. Joakim Lundblad, Chamber of Industry & Commerce in Southern Sweden, has given priceless support and advice to the scope and content to the report.

Hans Brask
Director, Baltic Development Forum

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Executive Summary

The global market place has changed dramatically for smaller and mid-sized companies with the evolution of the Internet. Today, almost any company can potentially sell its products and services anywhere in the world. With Internet as a channel for sales, marketing and production, small and medium-sized companies can expand their business across the globe and become a so-called "micro multinational".

The ICT-sector has a relatively large number of micro multinationals. The aim of this study was to learn more about the entrepreneurial environment within the ICT-sector in order to better understand how public policies in the Baltic Sea Region could enable and strengthen the ICT related SMEs' growth. The countries in scope for this study were Sweden, Finland, Denmark, and Estonia.

The results of the study indicate that there are several cross border obstacles which SMEs in the studied countries face on their way to becoming international. Some examples of these findings are:

Difficulties in finding competence on the labour market and securing highly specialised skills.

A need for extended understanding of and connection with other markets.

Difficulties in obtaining seed financing and financing for the development or realization of new products or ideas.

A need for affordable business support services within such areas as accounting, legal advice, and marketing.

A central cross border finding is also comprised of the fact that a number of the interviewed SMEs, regardless of the sub-region, do not, at present, have the intention or wish to grow or expand their businesses. This is an important finding as public policies in such cases may not have the desired effect on the ICT sector.

Based on our findings, we have suggested eight cross border recommendations in order to facilitate and stimulate the international growth of SMEs in the ICT-sector. Among the eight recommendations, there are three initiatives that we would like to highlight below that we believe will be of greater benefit to help ICT SMEs to grow within the Baltic Sea Region:

"Baltic Sea Region Information Society Business Academy"

An academy for SME employees that primarily aims at further developing ICT-related niche competencies, but also to enable cross border networking within the sector. This academy should be a cooperative effort between existing universities and private companies, whereby the training takes place in different Baltic Sea Region countries, and should include a large number of virtual courses.

Baltic Sea Region crowd funding platform

Financing at early stages in the business life cycle, so called "seed financing", is a perceived problem for many SMEs. We, therefore recommend that a Baltic Sea Region crowd funding platform is implemented, committed to SMEs in the region. This platform should then operate on a multinational level to promote Baltic Sea Region SMEs.

Tax reduction for business support services

In order to facilitate the access to, and use, of business support services that SMEs need to grow their business into a micro multinational we recommend a tax reduction for the SME that uses these services. The idea is inspired by the tax reduction currently available, for example, in Finland and Sweden where people who hire services for repairs, conversion, and extension or cleaning, maintenance and laundry can have a tax reduction of a certain percentage on the labour costs, limited to a certain amount.

Contents

Introduction to the Study

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A few decades ago the global market places were dominated by larger corporations; size mattered when starting up activities in new countries. A physical presence was often needed in order to complete sales transactions across borders. For smaller and mid-size companies, local markets were the easier choice and often the only choice. This has changed dramatically with the Internet and Internet enabled technologies such as cloud computing, social media, big data analytics and mobile services.

In today's digital economy, almost any company can potentially sell its products and services anywhere in the world, regardless of financial strength, number of employees, or even production facilities for that matter. Most products and services, regardless of industry sector, have an ICT component. Even a small one-man soap producer in the Baltic Sea region, that normally falls outside of an ICT sector definition region, can manufacture its products in China and, then, sell them to customers in Indonesia, Mexico or Chile at the click of a button. With the Internet as a channel for sales, marketing, and sometimes even production, any great idea can be spread to the four corners of the world. The common term for these companies is "micro multinationals". A business segment with a relatively large number of such Micro Multinationals is the ICT-sector ("Information, Communication, and Technology").

The aim of this study is to learn more about the entrepreneurial environment within the ICT-sector in order to better understand how public policy could enable and strengthen the ICT related SMEs' growth and empowerment within the Baltic Sea region. One of the underlining assumptions is that existing entrepreneurs may foster and inspire an entrepreneurial neighbourhood peer effect[1], and thus increase entrepreneurship in the long run.

Our approach in this study has been to conduct a country analysis for each of the four regions in scope, Sweden, Finland, Estonia, and Denmark. The individual country analysis is based on a desktop study where different statistical sources have been measured in order to draw conclusions on the state of the ICT environment in each country. Parallel with the desktop analysis, we have also conducted 115 interviews (30 interviews in the sub-regions Malmö, Tallinn, and Helsinki; 25 interviews in Copenhagen) with SMEs to obtain a better understanding of the practical difficulties entrepreneurs may have in growing their companies into micro multinationals.

Observations and recommendations which we believe could facilitate growth for these ICT related companies going forward have been formulated from these countries analyses. Recommendations proposed in this study are not intended to be complete reforms ready to be implemented in each country. The proposals are based on common issues within the countries aimed at promoting hands- on policy initiatives both within and between the countries. Each country has its own policy environment with its own framework to be considered. Also, the recommendations are formulated on the basis of the desktop research and the interviews, both focusing solely on SMEs within the ICT sector. In shaping implementable policy, consideration must be given to the fact that the issues addressed are part of a larger business environment which is not covered in this study.

Brief Description of our Approach

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In accordance with the Commissioner's request, PwC has conducted this study in two parallel work streams, a desktop study per country; Sweden, Denmark, Estonia, and Finland, as well as through 30 interviews with local entrepreneurs in each of the sub-regions; Malmö, Tallinn, and Helsinki. A total of 25 interviews were conducted in Copenhagen.

2.1

DEFINITION OF THE ICT SECTOR

Varying attempts have been made to define the ICT sector, but there is a general lack of relevant public statistical information about ICT related companies and Micro Multinationals. The public statistics offices in Sweden, Denmark, Estonia and Finland gather information about companies' activities as such, but are not able to collect information as to the degree to which the companies rely on ICT related products and services to support their business models.

To overcome the short comings of the existing classification systems, the OECD has developed a definition for the wider ICT sector or the "information society" that has become commonly accepted and is being used by the OECD and the International Telecommunication Union ("ITU"). The definition is based on the International Standard Industry Classification ("ISIC 4"), but captures the cross-sectorial nature of the ICT-sector. This makes the definition useful as it provides a map between novelties and existing traditional statistical sources.

PwC has, with regards to the limitations in the data collected from third parties, based the analysis on the above mentioned OECD definition [2,3].

2.2

THE DESKTOP STUDIES

The desktop study was completed by local PwC teams in Denmark, Estonia, Finland and Sweden to ensure that PwC made full use of local statistical material, previous studies and contextual understanding. In a broad sense there were five areas that this part of the study should cover:

The amount of (ICT-related) SMEs, potential micro-multinationals, and their share of the economy,

Start-up rate

Firm growth and expansion

Fail rate

Specific policy programs for SMEs (ICT related)

For this purpose, and on the basis of the OECD definition of the ICT sector, the official statistical sources provided the most relevant information for our purposes. The majority of the statistics were also comparable between countries, to a large extent due to the fact that the national bureaus have to report data to Eurostat. However, in some cases local statistics offices have been able to provide data specific to a certain area which their counterparts in other countries have not been able to produce with reasonable cost and effort.

2.3

THE INTERVIEWS

In order to capture an entrepreneurial view of the ICT SME environment, 115 interviews were conducted, divided between the four sub-regions of Malmö, Helsinki, Copenhagen (25 interviews), and Tallinn.

These interviews were mainly held by telephone or through personal meetings. All sub-regions used the same template of questions so that cross sub-region conclusions could be drawn from the received information. All interviewees were provided with the questions in advance. The interviews were held in the local language and the transcripts were then translated into English. The interviewer had the possibility to freely elaborating on areas of interest or "digging deeper" where they felt necessary. On average, the interviews took about 50 minutes.

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Sweden and Malmö

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3.1

KEY FINDINGS

Sweden has a relatively large ICT sector at 6.40 percent of GDP in 2010, compared with the EU27 average of 4.38 percent. In 2012, a total of 66.09 percent of the companies were SMEs and of those, 5.34 percent, were active in the wider ICT sector including content and media production[4].

ICT SMEs seem to be a bit more resilient than average SMEs, showing a lower fail rate both in the start-up phase and in later stages. Content and media companies in particular demonstrate a higher resilience with an average fail rate over the five year period of 2008-2012 of 3.45 percent. In the same period, the overall average fail rate for SMEs was 5.27 percent.

Sweden in many aspects provides a good environment for potential micro multinationals with an open economy, high Internet maturity and a good climate for innovation. Taxes, labour market regulation and, in some instances, education weighs down Sweden's ranking in international comparisons. These are also the areas most often brought up by our interviewees as needing improvement. However, it is not just a question of lowering taxes and improving education. For instance, the awareness among SMEs of public enterprise support is, in general, fairly low. Also, public support structures are considered to be outdated and lacking in the relevant knowledge and approaches to help potential micro multinationals.

3.2

CHARACTERISTICS AND ATTITUDES OF THE INTERVIEWED COMPANIES

The interviewees from Malmö mainly consisted of representatives from companies working with systems development, programming and IT consultancy. Media and content companies have often declined interviews, stating they do not see themselves as belonging to the wider ICT sector even though PwC approached the companies by explaining its definition and the scope of the study. Another often cited reason for declining to participate in the interview study was that the company did not have any interest in growing or expanding its business. A significant portion of SMEs whom we have approached appear to be content with their current size and scope of business.

In general, it has also been difficult to convince female entrepreneurs to agree to interviews. The same goes for young entrepreneurs and those with non-Swedish backgrounds. One reason for this is that there are not many individuals from these groups who are entrepreneurs in the ICT sector.

3.3

THE GENERAL BUSINESS ENVIRONMENT

Sweden ranks number 20 in the Index of Economic Freedom 2014 and number 21 in the Economic Freedom of the world report 2013. Economic freedom is limited by comparatively high taxes and the size of government[5].

This is also reflected in the interviews where the level of taxation is soften brought up. But there is also a general perception that it is fairly easy to do business in Sweden.

> ***"In general, the Swedish market is relatively good from an entrepreneurial point of view."***

Sweden keeps its position as number 14 in the World Bank's and International Finance Corporation's Doing Business Index 2014[6]. But according to OECD's Indicators of Product Market Regulation, Sweden is losing grounds when it comes to both barriers for entrepreneurship, where the country has fallen from 12th to 19th place between 2003 and 2013, and as regards barriers to trade and investment where the fall is even greater, from 13th to 23rd place in the same time period[7].

The number of start-ups measured in terms of the number of companies per million of inhabitants shows a small increase between 2008 and 2012, from 8,594 to 9,276.

Sweden scores high in all international comparisons regarding Digitalisation and ICT maturity. The International Telecommunication Union ranks Sweden at second place in its ICT Development Index[8] and The World Economic Forum ranks Sweden at third place in its Network Readiness Index. Sweden is especially strong in the areas of availability of the latest technology, business absorption of new technology, number of ICT patents

Basic Data

Population (2012):
9,482,855

GDP (PPS per capita 2012):
32,200 €

Number of ICT SMEs per million of inhabitants (2012):
3,911

Share of ICT SMEs failing (2012):
3.3%

ICT sector's share of GDP (2010):
6.4%

Persons employed in the ICT sector (share of total employment 2010):
4.41%

EPO ICT patents per million of inhabitants (2010):
39

FIGURE 1

NUMBER OF START-UPS
per million of inhabitants[1]

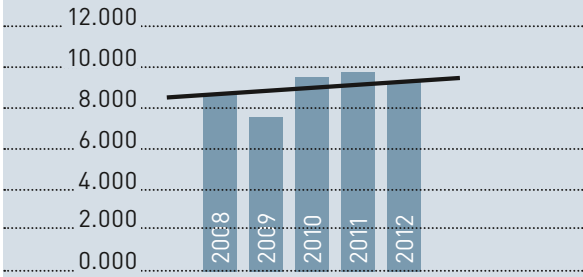


TABLE 1

MOST IMPORTANT IMPROT SOURCES[13]
Share of imports

Germany	16,1%
Netherlands	9,0%
Norway	8,2%
Denmark	7,2%
United Kingdom	6,0%
Finland	5,5%
Russia	5,1%
China	4,9%
France	4,4%
Belgium	3,9%

applications and individual use of ICT. Among the weak areas are the government's procurement of advanced technology, government's online services and e-participation[9].

Given its high ranking in international comparisons, it can be seen as surprising that Sweden only ranks at 20th place when it comes to the number of digital natives i.e. a youth aged 15 to 24 inclusive, with five years or more experience using the Internet. Only 89.4 percent of the youth (11.7 percent of the total population) are considered digital natives. This can be compared to Finland with 98.3 percent, Denmark, 96.9 percent or Estonia at 96.0 percent[10]. The share of digital natives correlates, among other things, with enrolment in secondary and tertiary education, areas found to be weak points for Sweden in, for example, the Network Readiness Index[11].

According to the European Union Digital Agenda Scoreboard, Sweden ranks high in many areas. Even though the costs for Internet connections are among the highest in Europe (22nd place out of 28) Sweden has the highest rate of connected households at 87 percent and the second highest rate of mobile broadband connection at 102 subscriptions per 100 persons. The ICT skills are high with 63 percent of the individuals having medium or high computer skills and 22 percent having written a computer program[12].

3.4 ICT SMEs

There were 37,084 SMEs in the ICT and content and media sector in 2012 (ICT SMEs). The share of ICT SMEs in Sweden has been relatively stable the last few years at around five percent of all SMEs.

Since 2008, the share of ICT start-ups has diminished from 5.15 percent in 2008 to 4.40 percent in 2012. That the share of ICT SME remains constant or even shows a small growth can be explained by a slightly lower fail rate among ICT SMEs, 1.03 percent (2008-2012) compared with 5.21 percent (2008-2012)

The risk of failure is higher in the first few years of a company's activities. The average fail rate in the start-up phase is 11.30 percent (1010-2012) for SMEs, in general, and 10.88 percent (1020-2012) for ICT SMEs. Notably there is some ICT SMEs that fail within the first year, while this has not been reported for other SMEs but ICT SMEs appear more stable in the later stages of the start-up phase.

In later years, the importance of the ICT sector for employment has diminished as has the sector's contribution to Sweden's GDP. After the financial crisis the sector has, as share of the GDP, recovered somewhat and also shows signs of improved productivity.

3.4.1 Markets and Growth Plans

Even though Sweden has fallen in rank when it comes to barriers to trade and investment, it ranks sixth in the Doing Business Index when it comes to trading across borders with both less paperwork, fewer days for both import and export and lower costs than the OECD average.

A majority of the Swedish exports are made to other European countries with neighbouring Norway, Finland and Denmark all being among the top five export markets. Just as with exports, the majority of imports come from European countries with Germany, Netherlands, Norway and Denmark being the largest sources for imported goods and services.

The majority of the interviewed companies have their main activities in Sweden. The ones having activities in or exports to other markets often list Denmark, Norway and sometimes Finland and the US as their other important markets. Many of the interviewees say their companies have been international from the start, others that it took them between six and 24 months to become international.

For future expansion, Denmark and Germany are said to be the most interesting markets. However, it is also stated by several of the interviewees that Denmark is a difficult market to expand to due to the cultural differences between the countries.

The Baltic countries (Estonia, Latvia and Lithuania) are not perceived as attractive. The reasons for this are said to be difficulties in getting paid, low purchasing power and the proximity to Russia. Poland is in some interviews mentioned as more interesting for expansion than the Baltic countries, mostly since it is considered to have a higher purchasing power and a further developed market.

"We prefer to focus on markets that are known and understandable. The Baltic market is unknown and considered to be unsure."

FIGURE 2

NUMBER AND SHARE OF SMEs

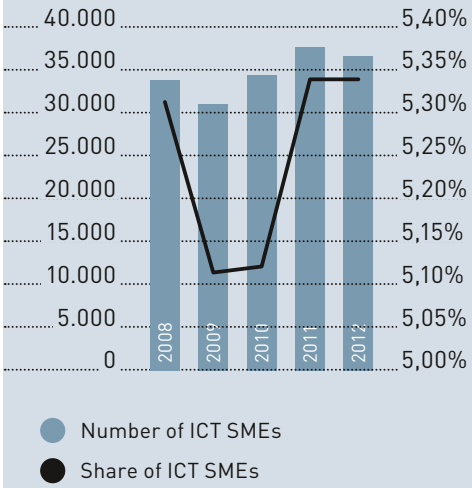


FIGURE 3

ICT SECTOR'S SHARE OF GDP AND EMPLOYMENT

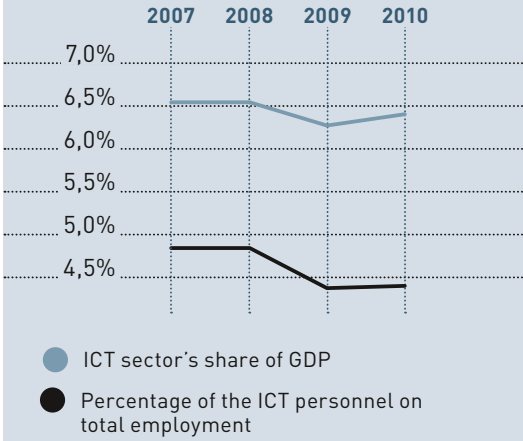


TABLE 2

MOST IMPORTANT EXPORT MARKETS[14]
Share of exports

Norway	10.3%
Germany	10.2%
United Kingdom	7.5%
Finland	7.2%
Denmark	7.0%
USA	6.1%
Netherlands	5.6%
France	4.9%
Belgium	4.8%
China	3.4%

It should, however, be noted that the concerns regarding the Baltic countries are, to a large extent, based on preconceived notions as most of the interviewees did not have any experience from doing business with these countries. However, since this was a reoccurring opinion among the Swedish interviewees, it could have a negative effect on the attempts to promote the Baltic Sea Region as an internationally competitive growth region.

3.4.2. Securing of Skills and Knowledge

In the Economic Freedom of the World Index Sweden ranks 127th in labour freedom[15], and in OECD's Indicators of Employment Protection Sweden has a score of 2.52 out of 6 regarding protection of permanent workers against individual and collective dismissals. This can be compared to the OECD average of 2.29[16].

According to data from Eurostat, the main reason SMEs in Sweden looking for personnel with ICT skills are finding it difficult to recruit is the lack of academic ICT related qualifications and/or training. The interviewees, for example, commonly state that it is difficult to find skilled programmers and developers, especially those who are passionate about their work and have experience within the field. In a survey conducted in 2007, a total of 70 percent of the respondents reported this as a reason for difficulties in filling vacancies. This is higher than the EU28 average of 62 percent[17].The lack of qualification among applicants for ICT related positions can partially be related to a low enrolment rate in secondary and tertiary education, where Sweden ranks 39th and 18th according to the Network Readiness Index. The quality of the Swedish math and science education also ranks low, 36th place compared to Sweden's overall Network Readiness rank of three[18].

"It feels like when I hire a person, I also become responsible for this person's entire life. This responsibility, together with all the necessary administration and accounting, often becomes overwhelming since I do not have knowledge or experience in managing these sorts of things. This is associated with a lot of anxiety for me as the owner of an SME."

The interviewees are reluctant to hire new personnel as they think that this is associated with large risks and high costs. Those looking to hire in spite of this state that it is difficult to find people with the right qualifications. The qualifications available are often too narrow. SMEs need people with skills, for example, in both programming and business, as well as with an understanding of the entrepreneurial environment. It could be argued that this is partially due to a generation gap and that several educational programs have been implemented to deal with this issue, e.g. engineering management programs at the universities. Some problems with these educational programs, however, is stated by the interviewees to be that the students graduating from these programs are 1) having theoretical business knowledge but still lack experience and 2) are educated in how to manage large enterprises and not how to manage SMEs.

3.4.3 Use of Networks

There is a large variation in how and which networks are used by the interviewees. In general, it can be said that informal networks are considered to be the most valuable and these are used for advice and inspiration, as well as a source for recruiting.

"Informal networks are fundamental for SMEs and are one of the main drivers behind this business sector"

There are, however, some cases where smaller, formal networks with peers in similar situations have been considered to be highly valuable. For example, one interviewee has been using a forum/think tank where people from different markets and industries with different skills and knowledge are able to lift problems and help each other with problem solving which is considered to have been highly valuable. Other interviewees use similar concepts, although in virtual form on social media such as LinkedIn.

When it comes to formal and/or government supported networks, the views tend to vary. These vary from interviewees requesting more government supported forums where entrepreneurs who want to start a business can come together, to those thinking there are too many meetings and seminars about ideas without any real support of the kind start-ups actually need i.e. support with product development and the practical testing of their idea or product.

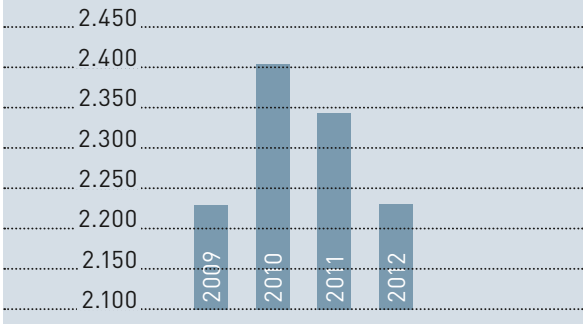
3.5 INNOVATION

Sweden is among the top nations when it comes to innovation, ranked 2nd with 61.36 points in the Global Innovation Index 2013. Its weakest areas are considered to be in trade and competition, and creative outputs, especially intangible assets, but the country is still among the top 40 nations even in its weakest areas. In spite of these weak points, Sweden displays a general strength in all pillars in the Global Innovation Index, and is also among the leaders when it comes to the quality of innovation, ranking number eight among high income countries[19].

Sweden is, together with Denmark, Finland and Germany, one of the innovation leaders in Europe. However, Sweden has among the lowest innovation performance growth. The country's largest relative strength is, according to the Innovation Union Scoreboard, "Human Resources" meaning a relatively high quota of new doctorate graduates and youths who have completed tertiary and secondary education. The largest relative weaknesses are stated as "Firm investments" i.e. R&D expenditure in the business sector and Non-R&D innovation expenditures, and "Economic effects", such as sales of new to market and new to firm innovation, and knowledge intensive service exports[22].

FIGURE 4

NEW PATENTS ORIGINATING FROM SWEDEN
per million of inhabitants[20]



3.6

PUBLIC POLICY AND SUPPORT

3.6.1 Public Policy

The Swedish Corporate tax rate is 22 percent, putting it below both the OECD average of 25.5 percent[23] and the EU27 average of 23.0 percent[24]. The tax burden or "tax wedge" on labour income for single persons without children earning 100 percent of the average wage is 42.9 percent compared to the OECD average of 35.9 percent[25]. In total, Sweden ranks number 41 as regards paying taxes in the Doing Business Index. Important factors to this ranking are the high tax levels but also the number of hours (122 per year) that it takes for a company to file their tax returns[26].

3.6.2 Financial Support

There are many different forms of public financial support available to startups and SMEs, loans, grants and venture capital. The table below shows some examples of these. At the Swedish "Point of Single Contact" Verksamt.se there is a fuller guide to the different forms of support available[27].

Of the interviewed companies, very few have used any form of external financing. However, many of the interviewees also state that they have had the need for it while others have actively chosen not to use external financing as they feel the cost is too high and they do not want to lose control over their company and in the direction in which it should be developed. Most of the interviewees think they have access to external financing if they would need it but some say they would like to have more knowledge about the kind of financing options that are available. Those who already have used external financing have often done so to finance a new idea or project.

> ***"It is difficult to find proper financing in Sweden as most of the venture capitalists available want a high return on investment and significant influence businesses that they do not know anything about."***

3.6.3 Non-Financial Support

As with financial support, there are many variations of non-financial support. At Verksamt.se[28] the government has gathered all information and e-services for starting and running a business, as well as providing several on-line tools and templates. Besides the on-line help, for example, Almi, The Swedish Trade and Investment Council and several regional organisations offer advice and support for SMEs.

A need for support that reoccurs in several interviews is the need for support when entering new markets, for example, help with cultural understanding, marketing and tax regulations.

3.6.4 General Awareness of Available Support

Most of the interviewees are aware of the possibility to seek public support but they can only name a few of the possible sources, if any. The most commonly named are Almi and Vinnova. Those who have some knowledge about the different forms of support are often negative. They say the public support is not used in an efficient manner and that the individuals involved in the decision making regarding support lack adequate knowledge of entrepreneurship and innovation.

In addition, it can be concluded that even though most of the interviewees state that they are aware of possible sources of public support, none of the interviewees have mentioned Verksamt.se. Since, several of the interviewees have requested the type of support offered by Verksamt.se, it can be concluded that the general awareness of this single-point-of-access for information and support is low among the interviewed SMEs.

> ***"A source of information to which SMEs can turn to in order to obtain information and help, such as the customer services department at the Swedish Tax Agency, would be helpful."***

TABLE 3

SOURCES OF PUBLIC SUPPORT

Provider:	**VINNOVA**	**VINNOVA**	**ALMI INVEST**	**ALMI**	**SWEDISH PUBLIC EMPLOYMENT SERVICE**
Name:	*Research & grow*	*VINN NU*	*Venture capital*	*Export loans*	*Start-up support*
Phase:	Start-ups (>1 year)	Start-ups (<1 year)	SMEs in the seed, start-up or expansion phase	SMEs wanting to expand to new markets	Star-ups (The first 6 months)
Limitations:	Targets start-ups older than 1 year.	Targets start-ups younger than 1 year.	115-230.000 EUR in the seed phase and up to 460.000 EUR in the expansion phase.	Export loans to companies with less than 250 employees.	The entrepreneur must be unemployed and fulfill certain requirements.
Goal:	The aims to promote sustainable growth by improving the conditions for innovations.	The aims to promote sustainable growth by improving the conditions for innovations.	The vision is to create possibilities for all sustainable ideas and companies to develop.	To help SMEs expand by exporting their products and services to new markets.	Helping unemployed persons with a business idea to start their own company.

3.6.5 Requested Policies and Support from the Interviewees

In general, the interviewees request "more carrot and less stick". The government must show that entrepreneurship is something good and that they want small companies to grow. There are several ways that the government can do this according to the interviewed companies: simplifying the procedure around taxes, making it easier and less expensive to employ people, reducing the regulation associated with e-commerce, introduce apprenticeship educations for ICT and expanding the forms of non-financial support offered.

3.7

PERCEIVED OBSTACLES FOR ICT SMEs AND POTENTIAL MICRO MULTINATIONALS

Lack of competence :

The lack of competence comes in many different forms. The interviewees have listed the lack of ICT skills, that the candidates applying for a position are too specialised to work in a small company, that it is difficult to find personnel who have an understanding for entrepreneurship and SMEs.

Difficulties to expand to new markets:

Many lack the necessary knowledge in their own company or the resources to pay for professional services required to venture into new markets. The companies need, for example, knowledge about cultural differences, the local market place and tax and other regulations.

High risk and high costs associated with hiring:

The interviewed companies who have hired or thought of hiring personnel believe that the costs and risk for doing so are excessively high. Some also say that potential employees regard accepting a position in a start-up or SME to imply a higher risk than working for a larger company. Many think it is too big of a responsibility to hire people and say that they rather work with subcontractors and as a part of a network with other SMEs.

4

Denmark and Copenhagen

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DK

4.1

KEY FINDINGS

The most important aspect for the Danish ICT interviewees was the use of their networks to secure a customer base, business support and advice as regards their activities.

The largest barrier seemed to be the difficulty in securing financing for their companies and, in particular, due to the fact that the Danish banks increased their requirements for SME financing in Denmark in 2009.

4.2

CHARACTERISTICS AND ATTITUDES OF THE INTERVIEWED COMPANIES

The interviewees from Copenhagen mainly consisted of representatives from companies who deliver or act as advisors for different IT support systems to other SMEs geographically spread around Denmark. No obvious pattern was noted as regards the companies participating in this study. However, the initial hit rate, when approaching companies and asking them to participate in the study was very low. Less than 1 percent, wanted to participate.

4.3

THE GENERAL BUSINESS ENVIRONMENT

Denmark ranks as number 10 in the Index of Economic Freedom 2014 and as number 14 in the Economic Freedom of the World Report 2013. The economic freedom is limited by the comparatively high taxes and size of government. Denmark ranks high when it comes to investment freedom (2nd), financial freedom (1st) and property freedom (2nd), as well as freedom from corruption (2nd)[29].

In 2013 and 2014 Denmark ranked as number 5 in the World Bank's and International Finance Corporation's Doing Business Index[30].

In the Doing Business Index, Denmark ranks well in comparison the OECD average in several areas that can be of importance to start-ups and SMEs looking to become micro multinationals.

However, on a global level Denmark ranks as number 40 in 2014 with 4 procedures and 5,5 days to start a business and a minimum capital for a limited company in the equivalent of 23.9 percent of income per capita in Denmark. This can be compared with the OECD average of 5 procedures, 11.1 days and a 10.4 percent capital requirement or New Zealand, ranking as number one, with 1 procedure, 0.5 days and no capital requirement.

According to the Doing Business Index Denmark also has some work to do in simplifying and speeding up the processes around enforcing contracts, the country ranks as number 32 with 35 procedures and ranks as number 32 with 410 days to enforce a contract. The index also includes the cost of enforcing a contract as a percentage of the claim. With a cost factor of 23.3 percent Denmark ranks as number 32 in the area of enforcing a contract.

It was particulary emphasized by our interviewees, that the administrative burden of establishing and running a company in Denmark is quite low. This information is supported by the fact that between 2001 -2010 the government has succeeded in cutting companies' administrative burdens by 25 percent[32]. The governmental focus of minimizing administrative burdens for Danish companies is still a very high priority.[33]

The Danish Business Authority (Danish Ministry of Finance) launched several different new initiatives in 2012 aimed at decreasing company administrative burdens[34]:

Company forum –
A forum which all companies can contact regarding requests for simplification of administrative demands and tasks.

Prevention of burdens –
The Danish Business Authority established at task force called Team Effective Regulation (TER) with the objective to make sure that new rules do not imply unnecessary new burdens for businesses.

EU smart regulation –
In extension to TER in Denmark, the Danish Business Authority cooperate closely with the EU in regards to limiting administrative burdens.

AMVAB –
Which is the Danish equivalent of the SCM method (Standard Cost Model); a tool for measuring and pin-pointing administrative burdens.

Basic Data

Population (2012):
5,602,628

GDP (PPS per capita 2012):
32,100 €

Number of ICT SMEs
per million of inhabitants (2012):
2,878

Share of ICT SMEs failing (2012):
N/A

ICT sector's share of GDP (2010):
4.8

Persons employed in the ICT sector
(share of total employment 2010):
4.47%

EPO ICT patents
per million of inhabitants (2010):
21

FIGURE 5

NUMBER OF START-UPS
per million of inhabitants[31]

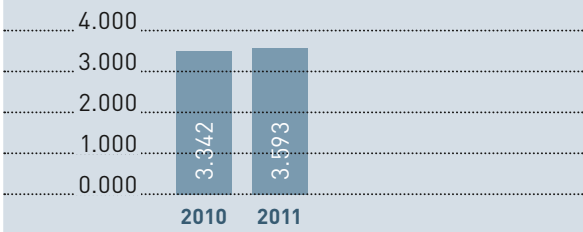


TABLE 4

MOST IMPORTANT EXPORT MARKETS
Exports in millions DKK

Germany	101,275
Sweden	74,348
United Kingdom	52,888
USA	43,714
Norway	41,867
Netherlands	26,760
France	20,159
China	19,240
Finland	17,773
Poland	15,340

The digitalisation strategy –
The Danish public sector is going through a major digital transformation in all areas in order to digitalize as many processes as possible in order to save both time and resources for government, companies and citizens.

However, even though these initiatives have been put into place, there is still room for improvement. In 2014 Denmark ranked at 9th place in the EU regarding the perceived administrative burdens enforced by government. In comparison, Finland, Estonia, and Sweden ranked as the top three countries in the EU, with the least perceived burdens in regard to administrative demands.[35]

4.3.1 Markets and Growth Plans

According to the interviewees from the Danish survey the companies are fairly equally distributed between those who do not currently have growth ambitions, companies that find it adequate to only expand in Denmark within the next 5 years, and companies who wish to expand internationally. The primary export markets that have been considered relevant by the interviewees are mostly Scandinavian countries, but Germany is also mentioned as a potential market for expansion.

4.3.2.Securing of Skills and Knowledge

"Our company is comprised of very talented and specialized technical personnel, so staffing is definitely a barrier. This applies particularly if we have to attract foreign specialists to come to work in Denmark, where labour costs for technical consultants are unreasonably high in comparison with other countries, due to the high Danish income taxes."

According to the Economic freedom of the world index Denmark's regulatory environment is one of the world's most efficient. Relatively flexible hiring and dismissal regulations sustain an efficient labour market. In the above mentioned report Denmark is ranked as the 5th best nation in regards to labour freedom and the 2nd best in regard to busines freedom.

In regard to personal and collective dismissals Denmark ranks as number 18 in 2013. This Danish figure is almost equivalent to the OECD average, which is 2.29 on a scale from 0-6.[36]

The below chart, illustrating, in percentages, the different reasons why vacancies have been hard to fill, indicates that Denmark lacks a sufficient number of applicants with ICT skills and with academic ICT related qualification.

TABLE 5

MOST IMPORTANT IMPORT MARKETS
Imports in millions DKK

Germany	112,609
Sweden	68,069
Netherlands	40,840
China	35,843
Norway	30,819
United Kingdom	28,304
Italy	18,517
Poland	18,438
France	15,751
USA	12,686

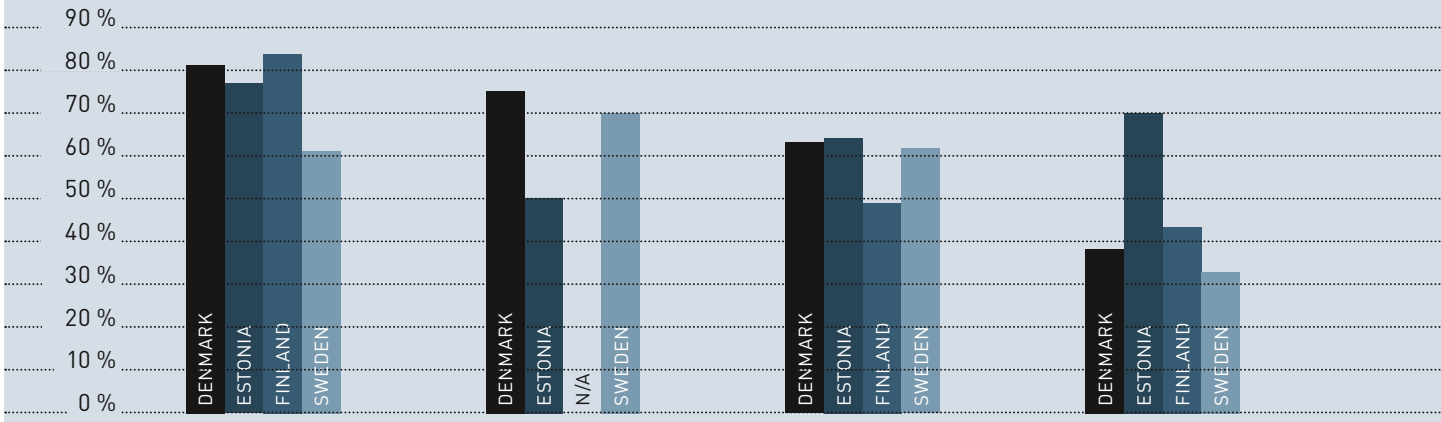
As shown in Figure 7 (page 16), the portion of ICT professionals in the Danish workforce is below the figures from Sweden, Finland and Estonia, but still well above the EU average of less than 4 percent.

The interviewees contacted in our study were divided according to their perception of the difficulty in finding competent staff for their businesses. Some found it, for example, very difficult to find a competent lead developers at affordable salary rates for a small and young company, whereas others saw no issues in the accessibility to IT skilled employees in the current state of the market.

A total of 81 percent of the population in Denmark is using the Internet daily, which is well above the EU average of 59 percent. People that have never used the Internet

FIGURE 6

EUROSTAT SURVEY 2014 (PERCENTAGE OF ENTERPRISES WHICH HAD HARD-TO-FILL VACANCIES FOR JOBS REQUIRING ICT-SPECIALIST SKILLS)[37]



Enterprises where main reason for hard-to-fill vacancies for ICT specialist jobs was lack or too low number of applicants with ICT skills

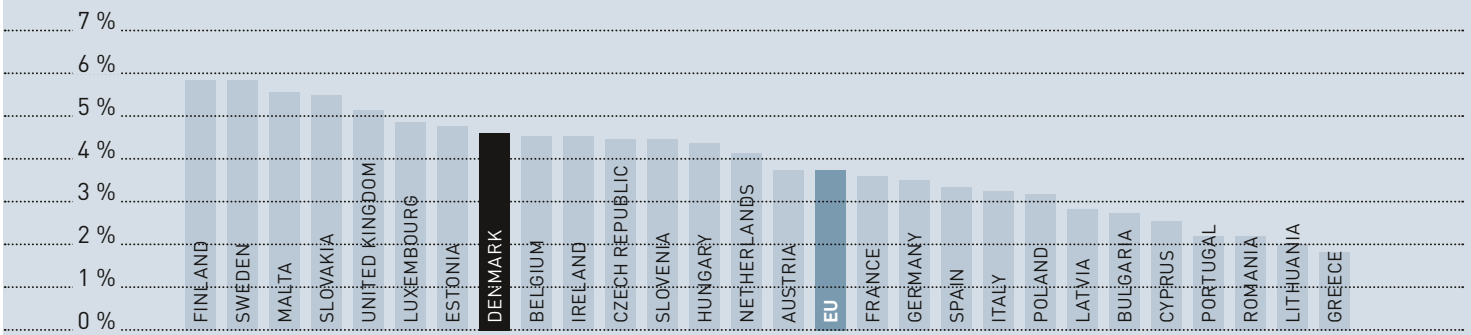
Enterprises where main reason for hard-to-fill vacancies for ICT specialist jobs was lack of ICT related qualifications from education and/or training

Enterprises where main reason for hard-to-fill vacancies for ICT specialist jobs was lack of work experience in the field of ICT

Enterprises where main reason for hard-to-fill vacancies for ICT specialist jobs was salary requests too high

FIGURE 7

SHARE OF ICT PROFESSIONALS IN THE TOTAL WORKFORCE IN EU27, 21.



Source: Empirical calculations based on Eurostat Labour Force Survey, 2011

account for a small 6 percent which is well below the EU average of 22 percent.

New data on mobile use of the internet shows that in Denmark, a total of 61 percent of the population accessed the Internet via mobile devices in 2012, one of the highest rates along with Luxembourg, Sweden, and the UK and well above the EU average of 36 percent. In the same manner, 63 percent of the companies in Denmark provided their employees with portable devices to access the Internet in 2012, which put Denmark amongst the top countries together with the Czech Republic and Finland, and well above the EU average of 48 percent.

According to a survey conducted by the European Schoolnet, more than 80 percent of Danish 8th grade students have broadband connection of more than 10 mbps. In comparison, this only applies to less than 40 percent of the EU 8th grade students[38].

Based on studies by World Economic Forum in 2013, Denmark ranked in the network readiness index at an overall 8th place with a score of 5.58, yet is only 4th among the Nordic countries. Down four places from the previous year, the country worsened its ranking in almost two-thirds of the indicators comprising the Network Readiness Index, however the level of networked readiness remains quite good overall. On a global comparison level, Denmark tops the individual usage score, boasting some of the highest rates of Internet usage (6th), households with personal computers (6th), broadband Internet subscriptions (3rd), and mobile broadband subscriptions (6th).

4.3.3 Use of Networks

The use of networks and relevant acquaintances have been considered as one of the most important aspects for an SME by all of our interviewees, both in terms of establishing customer contacts, but also very much in terms of support and advice regarding entrepreneurial barriers.

> ***"In terms of non-financial support, we have been extremely satisfied with the support we have received from the Danish consulate in Chicago, which should really be exposed as a best practice example. They have offered us a large number of growth based initiatives and they are generally a super professional incubator for our company in the Chicago region."***

4.4 ICT SMES

The number of ICT SMEs per million inhabitants was approximately 2,900 in 2011. This was a minor increase compared with 2010.

Furthermore, the number of ICT SMEs was approximately 5.8 percent of all SME's in Denmark in 2011. All in all, there were approximately 16,000 ITC SMEs in Denmark in 2011 and approximately 277,000 SMEs in total.

FIGURE 8

NUMBER OF ICT SMEs
per milion of inhabitants[39]

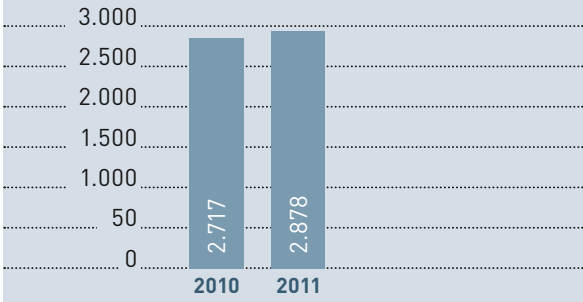
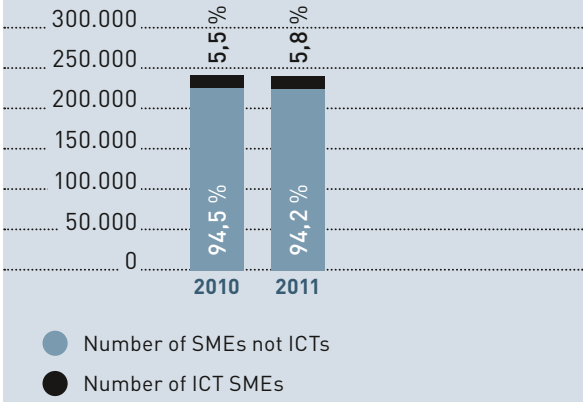


FIGURE 9

NUMBER OF ICT SMEs[40]



4.5

INNOVATION

The innovation aspect has generally not been commented upon as a pressing issue during the majority of the interviews. Innovation has mostly been referred to as a response to growing market competition. As an example, the market for standard ERP and software infrastructure consultancy solutions is quite saturated in Denmark, whereas the market for cloud based solutions is not yet as saturated, which provides added possibilities for growth in this new market.

"The competition in the traditional Microsoft infrastructure market is very tough both locally and globally since it is something that has been around for quite some time. As a consequence of this, and other factors, we have chosen to intensify our focus on the cloud based solutions, given that the local market is not as tough."

4.6

PUBLIC POLICY AND SUPPORT

"We are living in a whole new era – the financial downturn in 2008 has changed the way businesses operate and make money. Before we focused on the 'functions' our clients needed, now it is all about being the cheapest"

4.6.1 Public Policy

The Danish Corporate tax is 25 percent and will be gradually reduced to 22 percent by 2016, putting it below both the OECD average of 25.5 percent[42] and the EU27 average of 23.0 percent[43]. Furthermore, the effective rate might be lower, as business expenses and depreciations are tax deductible[44]. The tax burden or "tax wedge" on labour income for single persons without children earning 100 percent of the average wage is 38.2 percent compared to the OECD average of 35.9 percent[45]. Eurostat reports that the tax wedge for single persons without children is 67 percent of the average wage. Measured as such, the Danish tax wedge in 2012 was 36.6 percent compared to the EU27 average of 39.9 percent[46].

4.6.2 Financial Support

Vækstfonden (The Danish Growth Fund) is a government funded venture fund that aims to create and support more start-ups as well as growth among companies in Denmark by providing capital and industry expertise. Since 1992, Vækstfonden have provided more than DKK 12 billion through co- investments to approximately 5,000 companies. As a part of Danish entrepreneurial environment and to reach as wide as possible, Vækstfonden collabourates with other venture funds, private investors, financial institutions, innovation communities and regional growth hubs such as Accelerace and CONNECT Denmark, which primarily support start-ups with entrepreneurial and venture experience.

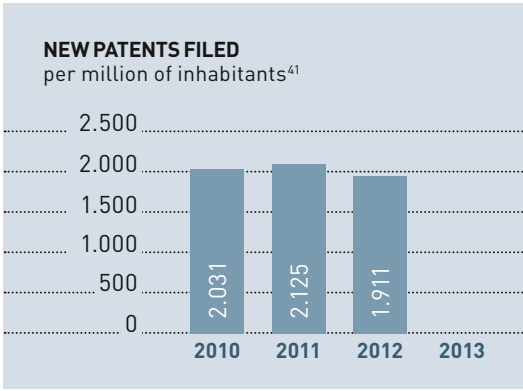
Another early-stage investor is DTU Symbion, which is Denmark's largest pre-seed venture capital investor. Its primary areas of focus are life science, ICT, medico and technologies within cleantech. Like other Danish pre-seed investors, DTU Symbion mostly invests government capital on behalf of the Danish Agency for Science, Technology and Innovation.

The venture funds mentioned above are drivers for many startups in Denmark. Nevertheless, the ICT companies interviewed for this report have solely relied on bank loans and were not in a dialog with any venture funds. Our interviewees' initial financing of the ICT startups were mainly done via banks, which allowed an overdraft for the company, but since the financial crisis, banks in Denmark have greatly intensified the demands in regard to risk and security for new company startups. Because of the recent sharpened demands by Danish banks, the difficulty of finding financial support was regarded as the largest barrier for almost all of our interviewees.

4.6.3 General Awareness of Available Support

Our interviewees did not mention any real viable alternative to finance their company startups other than via Danish banks. Denmark does have initiatives in place to assist companies during their start-up phase, e.g. The Growth Fund (www.vf.dk), which some of our interviewees mentioned. This however, was not considered to comprise a better alternative than their bank.

FIGURE 10



4.7

PERCEIVED OBSTACLES FOR ICT SMES AND POTENTIAL MICRO MULTINATIONALS

Financing seems to be the largest obstacle for Danish ICT SME's according to interviewees. In particular, it was noted that the Danish banking sector has changed drastically since 2008 in regard to credit policies, which has made it far more difficult for the ICT SME's to secure financing.

Also, the strict immigration policies make it very difficult for ICT SME's to attract international labour to Denmark.

Furthermore, the high income tax rate in Denmark also makes it very difficult for ICT SME's to attract international labour to Denmark. Immigration policies and income tax also comprised a major motivational factor for some of the interviewees to actually consider establishing themselves abroad, as they perceive that Denmark is disadvantageous as a base when running an international ICT company.

Public funding offerings and bank loans seem to be an equally attractive (or unattractive) alternative for ICT SMEs to finance their businesses, which implies a risk for slower growth if the Danish ICT SMEs go unfunded.

5

Finland and Helsinki

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5.1

KEY FINDINGS

Finnish industries are heavily dominated by SME companies as they represent some 99.8 percent of the nation's corporate-base. This is also the case within the Finnish ICT sector. SME ICT companies represent some six percent of total SME companies. During the past few years, the Finnish ICT SMEs have, on average, outpaced the SME segment in terms of revenue growth; between 2010 and 2013 the Finnish ICT companies grew some 7.4 percent compared to 5.6 percent of all of the SME companies. Furthermore, on average they employ more people than other industries, with 35 employees compared to 28 employees, respectively, applying the same time period.

During the past few years, Finland has undergone a cultural shift that has raised awareness of and interest in the ICT industry, especially as regards software entrepreneurship. Most notable are companies such as Rovio, the developer of Angry Birds franchise, and Supercell which was one of the most profitable mobile game developers in 2013 with their games Clash of Clans and Hay Day and who has served as an example for new, young entrepreneurs. The key personnel and founders of these successful, new companies are committed to building the basis for the future development of Finnish ICT industry. According to this study, these examples and new start-up initiatives have a positive impact on the attitudes and growth ambitions of Finnish technology entrepreneurs.

It should be noted that the small size of the Finnish domestic market requires growth companies to expand into new geographical markets rather swiftly and their expansion often begins with other Northern European countries.

5.2

CHARACTERISTICS AND ATTITUDES OF THE INTERVIEWED COMPANIES

The interviewed companies in the Helsinki sub-region consist mainly of ICT companies employing a maximum of ten people and they have been founded after 2000. The majority of the companies operate within software development, IT consulting or data infrastructure. Technology entrepreneurship has traditionally been male-dominant and less than 10 percent of the interviewees were female.

For this study, over 300 companies were contacted in order to conduct 30 interviews. Roughly speaking, early-stage companies (founded after 2011) with high growth plans were more willing to give an interview than companies that have been operating for a longer period of time and who do not have high growth ambitions.

5.3

THE GENERAL BUSINESS ENVIRONMENT

Finland ranks number 19 in the Index of Economic Freedom 2014 and number 9 in the Economic Freedom of the World Report 2013. Economic freedom is limited by the comparatively high taxes and size of the government[47].

In the World Bank's and International Finance Corporation's Doing Business Index 2014 Finland kept its place at 12[48]. In areas important to start- up businesses, for example, the ease of starting a business, Finland fell from 48 to 55 between years 2013 to 2014. In Finland it takes 14 days to start a business and a minimum capital for a limited company is to be equivalent to 1.1 percent of the Finnish income per capita. This can be compared with the OECD average of 5 procedures, 11.1 days and a 10.4 percent capital requirement or New Zeeland, ranking as number one, with 1 procedure, 0.5 days and no capital requirement.

However, in many indicators, Finland hovers close to the OECD averages. For example, in terms of the cost of establishing a company as percentage of income per capita and paid-in minimum capital (percentage of income per capita), Finland ranks fairly averages with 1.1 and 7.0 compared with the OECD averages 3.6 and 10.4. In protecting investors, Finland ranks at 68. In the OECD ranking regarding enforcing contracts, Finland kept its 8th place and was ranked 3rd in resolving insolvency, but only 42nd in securing credit.

Finland was ranked 5th globally by the International Telecommunication Union[49] in ICT development index, 7th by the Web Index of the World Wide Web Foundation[50] and 1st in the World Economic Forum Networked Readiness Index[51] while ranking reaches the top of the NRI rankings for the first time, thanks to improvements across the board. It shows progress on two-thirds of the 54 indicators of the NRI and posts a very consistent performance across all categories of the NRI. Especially interesting are the high rankings in laws relating to ICTs (4), availability of latest technologies (3), impact of ICTs on new services and products (1), number of procedures to start a business (10) and venture capital availability (13). However, rankings in total tax rate, percentage profits (81) and intensity of local competition (68) are not as flattering.

The Digital Agenda for Europe measures digitalisation in multiple categories[52]. In exporting of ICT services, Finland comes in at 7 percent of total exports in 2012. The levels of computer skills are relatively high with the percentage of population with high computer skills being 41.3 percent, well above the EU27 average of 25.6 percent. Finland has the highest share of ICT-professionals in the total workforce at just below 6 percent.

Finland's strong competitiveness is built on flexibility and openness. The economy continues to be amongst the world leaders in several of the 10 economic freedoms, including business freedom, property rights and freedom from corruption. The sound regulatory environment encourages

Basic Data

Population (2012):
5,426,674

GDP (PPS per capita 2012):
29,400 €

Number of ICT SMEs per million of inhabitants (2012):
2,281

Share of ICT SMEs failing (2012):
N/A

ICT sector's share of GDP (2010):
5.47%

Persons employed in the ICT sector (share of total employment 2010):
3.95%

EPO ICT patents per million of inhabitants (2010):
31

entrepreneurial activity and innovation. Commercial operations are handled with transparency and speed, and corruption is perceived as almost non-existent[53].

Several companies interviewed for this study noted that the overall business environment in Finland is supportive towards ICT companies as innovativeness and entrepreneurship are both highly valued in the country. Further, Finland was seen as a safe business environment due to stable legal and regulatory environment. Several interviewees saw a need for a change in the overall business culture as larger corporations are, according to the interviewees, reluctant to buy from or partner with small companies. This can be challenging for the smaller companies to grow their business in the already small market.

5.4 ICT SMES

In recent years' economic turmoil the ICT-sector's share of GDP declined steeply by almost 4 percent. The decline in ICT-sector personnel has not been as drastic; however, it remains to be seen if personnel cuts will follow or if the portion of GDP will grow once again.

5.4.1 Markets and Growth Plans

"The simple fact is that the domestic market in Finland is insignificant. We need to look other markets for growth in order to survive in the global competition. If we don't grow we won't exist after 10 years."

Sweden, Russia and Germany continue to dominate as Finland's most important trade partners. International trade is an important factor for businesses, something that was also reflected in the conducted interviews. The vast majority of the interviewed companies considered the Finnish domestic market to be rather small.

Based on the interviews it can be stated that early-stage companies with high ambition levels and growth plans regard the Baltic and Scandinavian countries as their logical first steps in expanding their businesses and building international presence. However, these early-stage companies have plans to operate in larger markets, such as in the United States and China, within 5-10 years. Companies that have remained small in terms of annual revenue and employment often do not share this view of expanding the business rapidly to other geographical markets.

However, in the Doing Business rankings by OECD, Finland renewed its ranking at 9 in 2014[54] in trading across borders. ICT services account for 7 percent of total exports (above the EU average) while goods account for a total of 4 percent (below EU average)[55].

5.4.2 Securing of Skills and Knowledge

In the 2014 Index of Economic Freedom, Finland was rated 151st in terms of labour freedom[56]. The non-salary cost of employing a worker is high in Finland, but severance payments are not overly burdensome. According to OECD's Indicators of Employment Protection 2013 report, Finland has a score of 2.17 out of 6 regarding protection of permanent workers against individual and collective dismissals. On average the score among OECD countries was 2.29[57].

According to studies by Eurostat, 85 percent of ICT enterprises considered the reason for hard-to-fill vacancies for ICT specialist jobs to be the lack of, or too few, applicants with ICT skills, well above the EU28 average of 71 percent. The salary requests of ICT professionals in Finland were not as big a concern, 43 percent of ICT enterprises considered the requests to be excessive. This is below the EU28 average of 53 percent but higher than Sweden's 33 percent[58].

FIGURE 11

ICT SECTOR'S SHARE OF GDP AND EMPLOYMENT

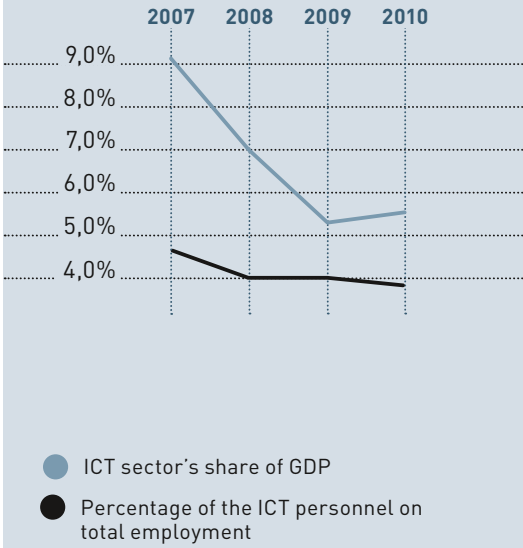

TABLE 6

MOST IMPORTANT TRADE PARTNERS
(Statistics Finland)

MOST IMPORTANT TRADE PARTNERS	IMPORTS M€	SHARE OF TOTAL IMPORTS (%)	EXPORTS M€	SHARE OF TOTAL EXPORT (%)
Russia	10 520	18,1	5 353	9,6
Sweden	6 674	11,5	6 475	11,6
Germany	7 323	12,6	5 427	9,7
Netherlands	3 354	5,8	3 460	6,2
China	3 676	6,3	2 764	4,9
United States	1 960	3,4	3 560	6,4
United Kingdom	1 851	3,2	2 907	5,2
France	1 917	3,3	1 827	3,3
Estonia	1 683	2,9	1 747	3,1
Belgium	1 231	2,1	1 922	3,4
Other countries	18 046	31,0	20 553	36,7
TOTAL	**58 236**	**100**	**55 994**	**100**

Vast majority of interviewees felt they had access to the skills and knowledge necessary for the business at this point in time. For scalable businesses, the most sought after skills were experienced software development and sales and marketing. As regards to software development skills, the interviewees referred primarily hands-on development work as opposed to "software (systems) management" work.

Roughly half of the interviewees primarily representing the companies with high growth plans acknowledged that they might have difficulty in obtaining a skilled and experienced workforce in the future as the company grows. Young innovative ICT companies seem to require that employees can self-educate themselves rather rapidly as the companies do not have significant resources to facilitate company-wide training. Also, it was pointed out that as the industry is constantly in rapid development, employee self-management and training is critical.

"The two most important skillsets for us are sales and marketing, and software development. Both of these require a deep understanding and previous experience in the field. Sales and marketing have to understand the technological products and software developers the need of the customer."

Young start-ups also seem to rely somewhat on outsourcing different tasks even in software development and local companies may utilize the workforce of other young companies through rather informal company partnerships.

5.4.3 Use of Networks

Traditionally, networks of ICT companies have been built through formal industry organisations, such as The Federation of Finnish Technology Industries[59] or The Finnish Software Entrepreneurs Association. These organisations have different offerings to facilitate the networking of their member companies e.g. training, networking events, business development forums and growth clinics. However, these organisations are also heavily geared towards trusteeship in order to impact the governmental and industry-level decision making.

In addition, during the past few years Finland has seen new forms of networks being established. Instead of trusteeships, these networks and organisations aim to foster start-ups and growth entrepreneurship in Finland and the Baltic Areas. Most notable, has been the network being formed within the operations of the Startup-Säätiö[60] Foundation. The foundation was established in 2012 with the help of Finnish technology entrepreneurs and well-known and well-established business executives. Startup-Säätiö is a not-for-profit organisation that aims to foster start-up and growth entrepreneurship in Finland and develop capabilities for international growth. The Foundation is in charge of organizing the annual start-up and technology conference Slush, the start-up acceleration program Start-up Sauna and the internship program employing university students and researchers in ICT start-up companies, Startup Life.

"The conference (Slush) is playing a key role in Finland as it attracts international venture capitalists and smart money to the region and serves as a gathering for startup entrepreneurs where you can exchange ideas and get inspired"

Awareness of these formal and informal networks seems to be high amongst ICT entrepreneurs. According to the interviews, the importance of networks varies. Many see networks important for inspiration and motivation and peer-to-peer support and pressure are regarded as important. The concrete benefits of such networks for business development purposes are few. Several early-stage growth companies with high ambition levels mentioned that they felt the new networks, such as Slush, to be significantly important. The reason for this is that the networks build a more favourable culture in which start-up companies can operate. This makes it easier for the companies to look for venture capital and recruit talented young people.

5.5

INNOVATION

"The problem with Finland is not innovation, it is growth. We need to focus more on how to grow businesses, to create products others want to buy and then sell them. We have focused too heavily on just research and development."

In the 2014 Innovation Union Scoreboard[61], Finland ranked 4th and ahead of Finland were only Sweden, Denmark, and Germany. Its innovation performance is above the EU average for most indicators, although its performance relative to the EU has been declining from its peak of 131 percent in 2008 to 123 percent in 2013.

Finland had a relatively high number of patents filed per million of inhabitants in 2010-2012, with 341, 328 and 337 respectively, compared to Sweden with 273, 249 and 257. The EPO ICT patents at the national level have been fewer, around half of that of Sweden, with 531, 496 and 163 in 2008-2010[62].

In the Global Innovation Index (2013)[63] Finland is ranked 6th out of the 142 countries compared, behind the 2nd ranked Sweden but before other Nordic and Baltic countries. Particularly high rankings were received in institutions (2) and human capital and research (1). Market sophistication and business sophistication were ranked out of the top-10 at 19 and 14, respectively, which may indicate that Finland has high levels of research with lower capabilities of monetizing the results.

Finnish society and general perception has long been very appreciative towards innovation and innovation-led business. Clear indication of this is that Finland's R&D expenditure has been over 3 percent of GDP during the last 10 years and with a peak in 3.96 percent in 2009[64]. The government has had a systematic approach to promoting innovation for years, with a national innovation strategy, various technology programmes, and a network of regional science and technology parks[65].

5.6

PUBLIC POLICY AND SUPPORT

The taxation policy in Finland should, by all accounts, be relatively competitive at OECD level. In the Doing Business ranking Finland placed 21st in paying taxes –category[66]. The corporate tax rate is 24,5 percent. Finland is strong in supporting early stage companies through government programmes and initiatives.

"There are several things Finland could and should do to in terms of taxation policy changes in order to boost growth in ICT startups. We could benchmark Estonian taxation and see what we could learn from our neighbors."

Public support for early stage companies in Finland is strongly driven through the Ministry of Employment and Economy and organisations operating under it. Ministry for Employment and Economy (MEE) is responsible for creating a supportive environment for entrepreneurship and innovation in Finland. It oversees the employment market and regional development in a global operating environment. The ministry was formed in 2008 by merging the Ministry of Trade and Industry with the Ministry of Employment and the regional development functions of the Ministry of Interior. The Ministry is responsible for innovation and technology policy, international development, technical safety, market functionality, as well as competition and consumer affairs.

5.6.1 Financial Support

Tekes, ELY Centres, Finnvera plc, Finnish Industry Investment Ltd and Finpro provide financing, expert services and networking services for launching a business and further developing it.

Tekes (the Finnish Funding Agency for Innovation) funding can be applied for by companies, research organisations and organizers of public services operating in Finland. Tekes provides funding for research, development and innovation. Its most important target group consists of small and medium-sized enterprises seeking growth from globalisation. The funding is offered for business planning, research and product development and international growth. In 2013 Tekes dealt 577 million euros in funding, of which 133 million went to what Tekes categorizes as young growth companies and 67% of funding to SME's[67].

ELY Centres (Centres for Economic Development, Transport and the Environment) are responsible for the regional implementation and development tasks of the central government. They seek and evaluate inventions and innovative ideas by private individuals and startup companies, and assist in developing them for business purposes at the startup phase.

Finnvera is a specialised financing company owned by the State of Finland. It provides its clients with loans, guarantees, venture capital investments and export credit guarantees. Finnvera is the official Export Credit Agency (ECA) of Finland. Its funding is offered for purchases, investments and working capital during the early stages of a business. In accordance with Ministry of Employment and the Economy policy, Finnvera will phase out its investment fund activities and Tekes has begun making preparations for launching these activities. Finnvera will continue its direct investment activities in early-stage, technology-intensive small enterprises with initial and follow-on investments until the end of 2017.

Finnish Industry Investment Ltd is a government-owned investment company investing in Finnish companies, both directly and through private equity funds. It invests in rapid growth, internationalisation, spin-offs, major industrial investments, as well as sectorial, corporate and ownership restructurings. Since 1995, it has made investments totalling one billion euros. The portfolio currently comprises altogether 510 companies[68].

Finpro is the national trade, internationalisation and investment development organisation in Finland. A public-private organisation and part of the Ministry of Employment and the Economy Group, Finpro also works closely with other players in Finnish innovation ecosystem such as ELY-centres, Tekes and the Ministry for Foreign Affairs.

Vigo is an acceleration program designed to complement the Finnish innovation ecosystem. The programme aims to bridge the gap between early stage technology firms and international venture funding. The backbone of the programme is formed by the 11 Vigo Accelerators, independent companies run by experienced entrepreneurs and executives. These accelerators help the most promising startups to grow into the global market. The accelerators invest in the companies they work with to guarantee common goals and a dedicated development effort. The Finnish Ministry of Employment and Economy launched the Vigo Programme under Tekes in 2009.

The Ministry of Employment and the Economy and the aforementioned parties have introduced the Growth Track service model to ensure that companies venturing into international business have faster access to services meeting their needs. To enable enterprises to grow, Finpro provides expert services supporting entry into international markets. ELY Centres seek and evaluate inventions and innovative ideas by private individuals and start-up companies, and assists in developing them for business purposes.

For this enterprise segment, Tekes offers funding for young innovative companies, while Finnvera focuses on financing targeted at SMEs' working capital and exports, and investments. It provides venture capital for new innovative companies. Finnish Industry Investment promotes the growth and internationalisation of companies by means of capital investments and through international networks.

In addition to these, there are accelerators and incubators operating under universities, but their efforts are more focused on developing the companies and less on raising and offering funding. However, their impact has been more important in raising awareness and interest towards entrepreneurship among students and the wider general public. Accelerators, such as Startup Sauna and student organisations, such as Aalto Entrepreneurship Society, have played an important role among entrepreneurs, and even politicians, in trying to create a more supportive atmosphere for entrepreneurs[69].

Many of the interviewed companies had utilized the wide offering of public financial support. The most well-known organization to support ICT companies was Tekes and its different financial instruments. Overall the public financial support was seen as important to support the growth of small companies. However, some noted that the support is currently geared too heavily towards innovation activities, such as research and development, while the companies would be in the need for support of international sales activities.

5.6.2 Non-Financial Support

There is wide range of different public organisations operating on national or city / local level and who provide non-financial support to ICT SMEs. Many of these organisations can be categorized as incubation or acceleration programs. Some operate under a certain city e.g. in Helsinki this is done through the city's subsidiary Enterprise Helsinki, in Aalto University through Aalto Startup Center and in the Jyväskylä region through KasvuOpen. Based on the interviews legal and taxation advice received through such organisations have benefitted the companies. Other non-financial support, such as business development or sales and marketing assistance, has not seen as critical, or even something that can be described as rather helpful.

5.6.3 General Awareness of Available Support

Overall, the companies consider themselves to be up-to-date on the support that is available through public organisations,

such as Tekes and Finnvera. This is not surprising as both of the organisations are generally known in the business world. The question remains how well the companies know which instruments and programs are available to be utilised in their business operations. To elaborate, the young innovative companies (YIC) program by Tekes was widely recognized by many of the interviewees that fulfil the requirements of that program, however, newer instruments such as the Vigo program were not as familiar.

5.6.4 Requested Policies and Support from the Interviewees

The policy and support recommendations can be categorized in three main categories: 1) developing early-stage and growth funding instruments and programs 2) developing taxation to boost growth for new companies and 3) changes to labour laws.

The seed and venture capital market has been developing in Finland during the past few years but can still be described as rather small. The Finnish Funding Agency for Technology and Innovation, Tekes, plays a key role in funding early-stage innovative ICT companies. According to the interviews Tekes and other public organisations providing financial support are seen as bureaucratic sources of funding. In order to receive funding from these organisations, the companies have to deal with a significant amount of paperwork and usually the funding will be delivered in exchange for receipts for work performed i.e. the company has to carry a financial risk and first be able make payments and receive funding from Tekes afterwards. Many of the interviewees were hoping to see these processes to become more efficient and transparent. In addition, the inclusion of a smart money component was widely requested. Examples were given where the government would take more active part in private investment. One way could be that the government would match the private arm's length investments with grants, rather than equity.

Taxation and labour laws were also seen as too heavy for early-stage companies. It was hoped that Finland would pay closer attention to helping to grow young businesses through taxation and some suggested Finland should benchmark Estonia for these purposes. Hiring full-time workforce was seen challenging by many companies. Firstly, after the employee trial period has ended it might be difficult to adjust the workforce and secondly the indirect wage costs impose a financial risk to the company.

5.7

PERCEIVED OBSTACLES FOR ICT SMES AND POTENTIAL MICRO MULTINATIONALS

Constant need to find and recruit experienced workforce

Companies operating in the rapidly developing ICT industry need to have high standards for their recruitment. According to the interviewees, skills and a deep understanding in software development and systems require constant learning and update on knowledge. According to some, software development and entrepreneurship should be taught in school from early on in order to have skilled workforce in the future. Furthermore, Finland should more effectively attract and grant immigration visas to talented people (who might be moving from outside of the European Union e.g. Russia or India).

Insufficient smart money (from starting the company to scaling the operations)

The vast majority of interviewed companies stated that resources and capital are restricting their growth and global expansion. From global viewpoint, Finnish public funding programs can be described as unique instruments that have been designed to help innovative ICT companies. However, these programs and funding vehicles should, according to the interviews, be more effective and be more integrated into smart money investments.

Bureaucratic and stagnated public structures and policies

Based on the interviews, it can be concluded that entrepreneurs see public policies and structures as having stagnated. The companies hope for better taxation policies to drive new growth. In addition, labour laws should be reviewed in order to make it possible for companies to operate swiftly and effectively.

6

Estonia and Tallinn

Author:
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6.1

KEY FINDINGS

Nearly 98 percent of Estonian ICT companies are SMEs. The total number of ICT companies is increasing, at the same time the total share of the ICT sector has not grown at the same pace. It is notable that the number of personnel working in ICT companies remained almost the same over the years. This leads us to conclude that the increase of ICT companies is caused by an employment market shift – instead of employment, ICT specialists prefer to act as subcontractors.

The new generation of ICT entrepreneurs is more focused on product development than on providing services. This shift has taken place with the help of support measures which young companies have often utilised, such as grants and/or mentoring programs.

Due to the small size of the internal Estonian market, many companies focus on foreign markets, mainly Scandinavia. Growth is hindered by the lack of qualified specialists and the lack of skills in business development, sales, and marketing. International expansion is also difficult due to the general lack of trust towards companies from Eastern Europe. Also, social security contributions are considered excessively high for ICT companies, which have started to negatively impact competitiveness.

6.2

CHARACTERISTICS AND ATTITUDES OF THE INTERVIEWED COMPANIES

It was relatively difficult to gain acceptance from the entrepreneurs for the interviews. Interview requests were usually turned down by companies who had zero employees and small turnover. Companies who had achieved some kind of success were keener to participate. Only one out of the 30 interviewees was a woman.

”In the future, the only barrier will be my old age.”

The activities of the micro companies participating in the survey were quite versatile and ranged from digital media production to software developing. Certain of the target companies required convincing that their business was related to the ICT sector, which meant that some background work was required by the interviewer.

Most Estonian companies were optimistic about the future and growth, but there was significant part of entrepreneurs who were satisfied with their current size and did not have plans for growth.

6.3

THE GENERAL BUSINESS ENVIRONMENT

The Doing Business Index ranks Estonia in 22nd position in 2014 and it was number 21 in 2013[70]. Estonia is a member of the European Union and the Eurozone. In the OECD Product Market Regulation, Estonia has improved its ranking when it comes to the Barriers to entrepreneurship indicator. In 2008 it had the 16th position and in 2013 the position was number 13. In “Barriers to trade and investment” Estonia ranked as 16 in 2008 and in 2013 the country fell to the 24th place. In State Control aspects Estonia was ranked at the 4th position in 2008, as well as in 2013. In 2008, the Estonian overall position in Product Market Regulation was at number 9 and during 2013 that position fell to number 13.

The Global Competitiveness Report 2013 ranks Estonia in 32nd place and points out the country’s excellent educational system, highly developed goods, and the financial market. On the public sector side, the positive note is Estonia’s strong commitment to advancing technological readiness and macroeconomic stability sustained by well managed public finances. Compared to the rest of the EU, Estonia has a more flexible and efficient labour market[71]. Starting a business takes only 6.5 days, while the OECD average is 11 days. New enterprises can be registered via e-services and the current record is 18 minutes and 3 seconds.

The number of start-ups measured, as the number of companies per million of inhabitants, shows a small increase between 2004 and 2011, from 4,351 to 6,443, with one exceptional year of 2008.

Based on studies conducted by World Economic Forum in 2009/2010, Estonia was ranked at 25th place with a score of 4.8 in the network readiness index. This score remained the same in the following year, although, the ranking had, then, declined to 26th place[72]. By 2012, the score had risen to 5.1 and the ranking to 24th place[73]. In 2013, the score remained the same but the ranking had declined to 22nd place[74]. The 2012 Global Information Technology Report classifies Estonia as a transitional country in terms of digitalisation, while other countries in the CEE region are classified as advanced although coming in at a lower level in the network readiness index.

The Digital Agenda for Europe applies a couple of categories to measure digitalisation. The summary of these categories points out the following: [75]

1) Broadband in 2013 – The take-up

Basic Data

Population (2012):
1,325,217

GDP (PPS per capita 2012):
18,200 €

Number of ICT SMEs per million of inhabitants (2012):
3,781

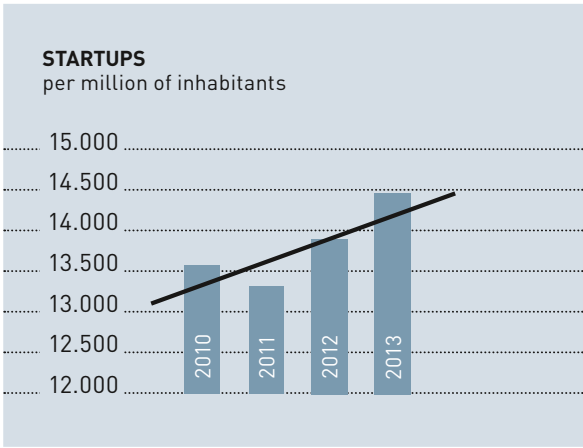
Share of ICT SMEs failing (2012):
6.74%

ICT sector’s share of GDP (2010):
6.8%

Persons employed in the ICT sector (share of total employment 2010):
6.8%

EPO ICT patents per million of inhabitants (2010):
3

FIGURE 12



of fixed broadband was lower than the average in the EU, although the 4G mobile broadband is more available and its take-up is above the EU average.

2) Internet usage and digital skills in 2013 – 75 percent of the Estonians use internet on a regular basis, compared with an average of 73 percent in the EU. Use of mobile devices to connect to internet was the same as the EU average, 37 percent. Use of internet banking in Estonia is 68 percent while in the EU the average is 40 percent. Computer skills are at the samelevel as the EU average. E-commerce was at a significantly lower level in Estonia compared with the EU, with an average of only 23 percent, while the EU27 average was 45 percent. Furthermore, Estonia is highly ranked in e-government rankings based on a citizen uptake of 55 percent using filled-in forms.

3) Education 2013 – Access to computers in schools is, on an average, at European level, but many of the schools have high speed broadband connections. Teachers use ICT equipment frequently in lessons and students often have their own laptops or mobile phones. Teachers have confidence in the skills of students and the school support for ICT tools is strong.

4) ICT R&D 2013 – In the period between 2007 and 2012, only 20 companies received financing from the EU Framework Program, and 7 companies received financing for R&D activities. A total of 52 percent of the funding went to research centres and universities. The main areas of funded activities were education, future and emerging technologies, and trustworthy ICT. Areas with low participation were photonics and organic and large area electronics.

As a result of high Internet penetration, there are many online financial services. A total of 94 percent of taxes are filed online, 98 percent of bank transactions are executed online, and parking fees and bus tickets can be paid by the use of cell phones. In addition, Estonia has 100 percent coverage of 3G network, with 4G growing rapidly.[76]

"Estonia is too small to produce out of the box products. Consequently, the company has to produce a lot of tailor-made software and this prevents growth."

During the interviews companies' perceived Estonian market as a good starting ground for business, due to the flexibility, simplified business founding rules and innovativeness. At the same time they admitted, that in order to thrive internationalization is a necessity.

6.4 ICT SMES

The Estonian ICT sector share was 5.9 percent of GDP in 2009, and during the following years this rose to 6.9 percent, but there was a setback in 2012 when the ICT sector share fell to 6.5 percent. In 2013, the sector share rose back to 6.9 percent. The share of ICT sector companies in terms of number of companies has been steadily rising from 4.58 percent of total enterprises, to 5.84 percent of total enterprises.

The number of ICT SMEs has grown over the period of 2010-2013. Due to this, the share of ICT SMEs has increased from 5.1 percent in 2010 to 5.8 percent in 2012. The number of startup companies per year increased from 752 in 2010 to 1249 in 2013. Later data is not available.

The number of ICT SMEs goes hand in hand with the total number of ICT companies. The proportionate share is somewhat stable around 97 percent but is slowly increasing and by the end of 2013 it was approaching to 98 percent.

Despite the fact that the number of companies has been increasing, the number of employees in ICT sector had significant growth in 2010 when it increased by 2,000. After that, it decreased by 498 in 2012. In 2013 it increased, again, by 771 and the size of ICT sector surpassed the 2,000 employee mark. The number of ICT companies grew, while the number of employees remained the same. Taking account of the fact that the ICT sector share grew at a slower pace than new companies being formed, points to the fact that each new company adds actually less value to the economy than what the previously newly founded companies added. This could be explained due to two factors: 1) companies have decreased their size, or 2) employees have founded their own companies and are working as subcontractors for larger ones and owners of new companies have founded the companies to manage their own personal finances

6.4.1 Markets and Growth Plans

According to the Economic Freedom Index, Estonia is ranked on 11th place in the world[77]. Estonia's main trading partners are the countries around the Baltic Sea. One of the more important sectors is logistics and there is heavy emphasis on transit of goods between Western Europe and Russia. Estonian companies are interested in the Scandinavian market as they can get better prices for their goods and services. Many Scandinavian companies have invested in Estonia and, therefore, a significant part of

FIGURE 13

ICT SECTOR SHARE OF GDP COMPARED TO NUMBER OF COMPANIES

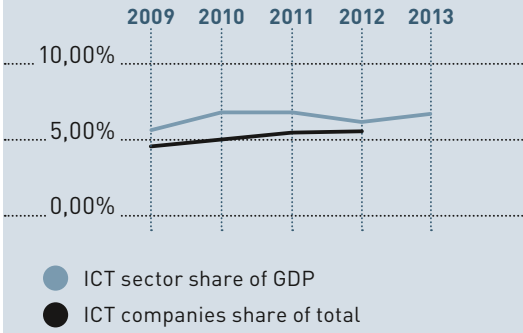


TABLE 7

ESTONIA'S MAIN IMPORT MARKETS
Share of imports (%)

Finland	14.90
Germany	10.58
Sweden	10.12
Latvia	9.52
Lithuania	8.94
Poland	7.94
Russia	5.77
United Kingdom	4.18
China	3.36
Netherlands	3.29

TABLE 8

ESTONIA'S MAIN EXPORT MARKETS
Share of exports (%)

Sweden	16.79
Finland	16.13
Russia	11.44
Latvia	10.37
Lithuania	5.84
Germany	4.56
Norway	3.65
United States	2.92
United Kingdom	2.40
Denmark	2.31

Estonia's international trade is undertaken between international parent companies and their Estonian subsidiary.

"Most significant barrier has been finding qualified labour. The second issue is product-market match and finding that match. These are everlasting problems."

Due to multiple language skills, Estonia is in a favourable position, where Russian can be used to conduct business in the East and English can be used to do business in the West. Both languages are quite widespread in the Estonian population. Also, the good knowledge of the Finnish language is a reason why Estonia has very good trade relationships towards the North.

According to the interviewees, growth plans are often oriented towards markets where companies already have a presence. Companies with developed and existing products are more inclined to enter new markets, their one major obstacle being sales channels. Companies offering development on an hourly or consultancy basis experience more difficulties as they need an actual manpower increase to sell their services in other countries.

Start-up companies have had a more outspoken plan in terms of heading into the international market. Mature companies have, in some cases, the same objective, but international expansion is more often a natural result of their growth. At some point in these mature companies' development, they consider their home market to be too small and, desiring larger profits, they seek clients outside Estonia. In some rare cases, companies were referenced by their clients, resulting in internationalisation taking place more or less by accident. There were also some rare cases in which the interviewed companies were created to undertake a one-time-project for an international client and, as a result of good performance, the owners deemed the operations to comprise a viable business and decided to further develop the company.

6.4.2 Securing of Skills and Knowledge

The Economic Freedom index ranks Estonia at the 111th position in 2014[78]. According to OECD's Indicators of Employment Protection, Estonia has a score of 2.07 out of 6 in terms of the protection of permanent workers against individual and collective dismissals, while the OECD average was 2.29.

According to data reported by Eurostat, the main reason why SMEs in Estonia, who are looking for personnel with ICT skills, considers it hard to recruit these skills is that there is a lack of candidates with ICT skills. The second reason is that the salary requests are too high. Hence, there is a problem for the Estonian economy in that there are not enough ICT specialists. It is predicted that by 2020, Estonia will need 4,500 experts within this field[79]. The lack of these specialists is a severe limitation to the development and growth of ICT companies.

The second identified issue related to skills, according to the interviews, is the lack of business development skills. This problem is currently primarily solved by including experienced people on the boards of the companies, either as investors of mentors.

"Largest barrier was, and still is the lack of business development skills and being Green and too focused on software development."

The third identified issue is related to marketing and international sales skills. There are not a lot of sales people available who have experience with international sales. The available sales personnel usually either do not have knowledge about the technology or they do not have knowledge about the target markets. This issue is usually solved by cooperation with foreign companies, in-house training, mentoring or the CEO taking over this role in the company.

6.4.3 Use of Networks

From the interviews, it has been noted that the awareness of formal and informal networks seems to be quite low. For example, during the interviews, the interviewer often had to explain the meaning of the term "network" and give practical examples. Among the companies who were aware of networks, they preferred informal networks that were based on personal contacts. Formal networking institutions were somewhat less valued and more suitable for the time when company had grown over certain size. Preference of informal and personal networks can be explained by the small size of the country where it is possible to get a hold on somebody by just one or two phone calls. This actually compensates official participation. The preference of personal networking can be observed in the case of trade fairs, which were highly regarded among interviewees. Instead of being a part in formal delegation companies often saw their chances in direct contacts that could be established in fairs.

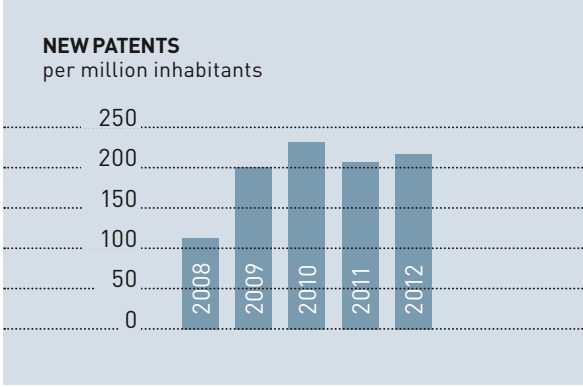
Most common types of networking were mentoring programs, accelerators and incubators. In addition, one company had created its own support network for foreign entrepreneurs in Estonia.

6.5 INNOVATION

The Global Innovation Index in 2013 ranked Estonia at 25th place with a score of 50.6, which is a decline from 2012 when it ranked at19th place and had a score of 55.3. The highest scores were in areas regarding creative outputs, which consisted of trademark registrations, business model creation, creative goods &services, and online creativity. Other strong aspects included the infrastructure where Estonia was ranked at 11th place. These areas consist of ICT use, e-participation, general infrastructure and ecological sustainability. Estonia was lagging behind in market sophistication where it came in at 42nd place. The components of this area are access to credit, investment and trade, and competition. Another area in which Estonia was lagging behind was in knowledge and technology outputs where Estonia was ranked at 40th place. This area consists of knowledge creation, knowledge impact, and the most seriously impacted score, knowledge diffusion. In other respects, Estonia was close to the final ranking of 25. Overall, Estonia was the most innovative country in the Central and Eastern European region; however, it was behind the Scandinavian countries in these areas.[80]

The Innovation Union Scoreboard 2013 undertaken at the request of the European Commission classifies Estonia as an

FIGURE 14



innovation follower, who is slightly below EU average. However, on average, Estonia has the fastest growth in this category. Estonia's main strengths are within financial and corporate investment categories. Additional strengths are in intellectual assets. Estonia's weaknesses are within the areas of research systems and the economic efects of innovation.[81]

6.6 PUBLIC POLICY AND SUPPORT

The tax for corporate entities in Estonia is 21 percent, although enterprises do not have to pay income tax on funds reinvested into the company. The enterprise income tax is only applicable to dividends. Several interviewees pointed out that the social security contributions are too high; the tax burden percentage of labour cost is around 40 percent. Considering the fact that wages in the ICT sector are higher than average, this becomes a significant burden according to some of the interviewed companies. Some companies have even mentioned that labour related costs can make up for 90 percent of a company's expenses.

> ***"Public procurement procedures should be changed so that they take account of quality, not only cheapest price."***

The current system is going through a reorganizing phase and some support measures are being discontinued while new ones are being created. The Estonian entrepreneurship strategy 2014-2020 has three goals: 1) Information and communication technology horizontally across sectors, 2) health technologies and services, and 3) efficient use of resources. In order to achieve these goals, a focus has been placed on developing networks, creating market demand for innovative products, supporting startup companies on how to find new sectors and niches. The main implementing agencies are: 1) Estonian Development Fund – long term policy and economic analysis, 2) KredEx– offers different financial instruments (loans, credit insurance, state guaranties, and 3) Enterprise Estonia (EAS) – implementation of innovation and entrepreneurial policy, consulting, training and grants. Full information on starting a company and applying for different support measures can be found in point of single contact eesti.ee.

6.6.1 Financial Support

Financial support measures in Estonia are divided in two groups: Grants and Financial instruments. The interviewed ICT companies preferred grants and only a few had considered financial instruments. The most widely used measures were start-up grants and development grants. Startup grants were necessary in order to create the company, while development grants were especially helpful when developing a product taking a long time to develop.

A couple of the interviewed companies mentioned that they had researched financial instrument opportunities but had not used them as these were considered to be more suitable for industrial enterprises.

6.6.2 Non-Financial Support

Mentoring programs organized by the EAS are offered to entrepreneurs who have been active 1-3 years and who have specific business goals in terms of what they want to achieve. Findings from the interviews indicated that younger entrepreneurs considered these to be somewhat valuable for but not crucial to their business. Privately founded business accelerator programs were not referred to the same degree, however, the interviewees spoke highly of them dwue to the strong focus on business development of such programs. On some occasions it was mentioned that founders of accelerators invested into companies..

6.6.3 General Awareness of Available Support

Overall, the awareness was quite high in regards to financial support measures. Companies knew about different agencies providing grants and about the related procedures. The most commonly mentioned support was the EAS grants, but since the EAS is a relatively well-known state institution, this is not surprising. Awareness of non-financial support was significantly lower. The support that was most often mentioned was mentoring and certain training programs, but, overall, this was not considered to be very important.

6.6.4 Requested Policies and Support from the Interviewees

The policy suggestions from interviews were primarily related to 1) grants, 2) tax, and 3) mentoring.

TABLE 9

GRANTS THAT WERE MENTIONED IN INTERVIEWS

Provider:	EAS	EAS	ESTONIAN UNEMPLOYMENT INSURANCE FUND
Name:	*Start-up grant*	*Development grant*	*Business start-up subsidy*
Phase:	Founding the company	Already established company	Before founding a company
Limit:	5 000 €	32 000 €	4 474 €
Goal:	The expected result of the program is achieving the goals of created companies in a manner described in the business plan.	The expected result of the program is launching the sales of the started companies on the export markets and achieving the results in a manner described in the business plan.	The subsidy is granted in order to develop an economic activity with the purpose to obtain a sufficient income.

Grant related measures included making the system more transparent and less bureaucratic. The main complaint towards the EAS was that since the application to receive any kind of grant from the EAS is too lengthy, it is hardly worth the effort to apply as the time spent had a higher value than the actual grant.

Tax related suggestions referred to tax exemptions on social security contributions for micro companies in order to make it easier to start a company. Another suggestion was to provide sector specific remissions.

The third type of suggestion was related to mentoring and advisory services. Several companies said that it would be of interest to have international mentoring programs. The suggestions included creating more specific chambers of information, either based on specific activities, such as a legal counsel, or based on target markets, such as exporters targeting the UK.

6.7

PERCEIVED OBSTACLES FOR ICT SMES AND POTENTIAL MICRO MULTINATIONALS

Lack of qualified labour

This problem has been mentioned in several interviews, as well as in many studies and newspaper articles. Essentially, companies want to expand but there are not enough specialists available. There have been many solutions proposed to deal with this problem, starting from improving to educational system, to making IT education vocational or easing up on the immigration of specialists.

Insufficient sales and business development skills

Several companies mentioned in the interviews that when they started they did not consult with anyone, although, at the same time, many said that they need someone with sales and business development skills in order for the company to grow. To deal with such issues, especially within the area of business development, mentoring programs were started, but unfortunately amongst the people interviewed, only a few had participated in these activities.

Niche education is lacking

Many companies requested more specific skillsets from the labour market, while only very general IT specialists were available. As a result, they had to focus on internal training programs to turn those general IT personnel into specialists in specific fields. Due to the small size of the country, this issue will probably not be solved by the educational system, due to very high costs of creating specific educational programs.

Trust

Companies trying to become international had encountered a serous barrier of trust as they were perceived as having inferior skills or being untrustworthy because of their base location.

"The most significant barrier, so far, has been convincing multinational clients that Estonian competencies are as good as British competencies."

Official networks are undervalued

Most companies were not part of the official networks. Some said that the official networking institutions like the association of Estonian ICT companies was suitable for medium and large companies. Despite lack of official networks most interviewees mentioned consultations with friends whom they knew to have entrepreneurial experience of working in same business area, so the value of informal networking was much higher.

7

European Initiatives to Support Digitalisation and SMEs

Within the European Union several initiatives have been taken to support digitalisation and pave the way for new and growing SMEs. Among these initiatives are the Digital Agenda, The Small Business Act for Europe, Enterprise Europe Network and Erasmus for Young Entrepreneurs. Entrepreneurship, innovation and new technologies are at the core of the Europe 2020 growth strategy and an essential part of many of the seven flagship initiatives. Successful ICT SMEs can also contribute to meet the challenges identified by providing for example solutions enabling a more resource efficient Europe or opportunities for jobs and social inclusion.

7.1

THE DIGITAL AGENDA FOR EUROPE

The Digital Agenda for Europe is one of the seven flagship initiatives of the Europe 2020 strategy[82]. The strategy was launched in 2010 and identified seven main obstacles for Europe to harness the full potential of digitalisation:

1) Fragmented digital markets
2) Lack of interoperability
3) Rising cybercrime and risk of low trust in networks
4) Lack of investment in networks
5) Insufficient research and innovation efforts
6) Lack of digital literacy and skills
7) Missed opportunities in addressing societal challenges[83]

The Agenda was updated in December 2012. The full implantation of the Digital Agenda is estimated to increase the European GDP with 5 percent or 1,500 Euros per person, over the next eight years creating 3.8 million new jobs in the long term.

In all the Digital Agenda contains 101 actions organised in seven pillars. Progress is measured towards 13 specific goals and reported annually in the Digital Agenda Scoreboard where achievements can be followed per member state[84].

In brief the seven pillars cover among other things:

1) Digital single market – boosting the content download business, open up public data resources for re-use, establishing a single area for online payments and further protect EU consumers in cyberspace

2) Interoperability and standards – improved standard-setting procedures, legislation on ICT- interoperability and the European Interoperability Framework implemented by member states

3) Trust and security – a coordinated European response to cyber-attacks and reinforced rules on personal data protection

4) Fast and ultra-fast Internet access – funding of high speed broadband, national broadband plans in member states and safeguarding the open Internet for consumers

5) Research and innovation – a new generation of web-based applications and services, web entrepreneurs action plan,

a more business friendly environment for start-ups and doubling the annual public spending on ICT research and development by member states

6) Enhancing digital literacy, skills and inclusion – digital literacy policies in member states, grand coalition for digital jobs and skills and prioritising digital literacy and skills in the 'New skills for jobs' flagship

7) ICT-enabled benefits for EU society –seamless cross-border e-government services, Points of Single Contact should function as fully fledged e-government centres and measures to support cultural and creative industries[85].

7.2

THE INNOVATION UNION

Another of the seven flagship initiatives is the Innovation Union. The initiative aims to make Europe into a world-class science performer, remove obstacles to innovation and revolutionise the way public and private sectors work together[86]. To reach the goals set out the initiative comprise 34 different action points covering for example education and skills development, mobility and cross-border cooperation, initiatives to ensure simple access and stronger involvement of SMEs in research and innovation programmes, and initiatives to enhance access to finance for innovative companies[87].

7.3

THE SMALL BUSINESS ACT FOR EUROPE

The Small Business Act for Europe from 2008 pre-dates the Europe 2020 strategy and was developed under the Lisbon Growth and Jobs strategy. It has since been enhanced and supplemented through a review process and with the Entrepreneurship 2020 Action Plan taking into account more recent developments and the Europe 2020 strategy[88,89].

The Small Business Act for Europe list ten principles to guide the conception and implementation of policies both at EU and member state level in order to create a level playing field for SMEs and improve the business environment throughout Europe:

1) Create an environment in which entrepreneurs and family businesses can thrive and entrepreneurship is rewarded
2) Ensure that honest entrepreneurs who have faced bankruptcy quickly get a second chance
3) Design rules according to the "Think Small First" principle
4) Make public administrations responsive to SMEs' needs
5) Adapt public policy tools to SME needs: facilitate SMEs' participation in public procurement and better use State Aid possibilities for SMEs
6) Facilitate SMEs' access to finance and develop a legal and business environment supportive to timely payments in commercial transactions
7) Help SMEs to benefit more from the opportunities offered by the Single Market
8) Promote the upgrading of skills in SMEs and all forms of innovationvv
9) Enable SMEs to turn environmental challenges into opportunities
10) Encourage and support SMEs to benefit from the growth of markets[90]

When the Small Business Act was reviewed in 2011 emphasis was put on actions in the areas of smart regulation, SMEs' financing needs, enhancing market access for SMEs, helping SMEs to contribute to a resource-efficient economy, and promoting entrepreneurship, job creation and inclusive growth[91]. Similar actions are also a part of the Entrepreneurship 2020 Action Plan built on three pillars:

1) Entrepreneurial education and training
2) Creation of an environment where entrepreneurs can flourish and grow, for example, through better access to finance, easier business transfers and unleashing new business opportunities in the digital age
3) Developing role models and reaching out to specific groups such as women, seniors, migrants, the unemployed, young people[92]

One example of a contribution to the Entrepreneurship 2020 Action Plan is Startup Europe, focusing on strengthening the business environment for web and ICT entrepreneurs[93].

7.4

NETWORKS AND EXCHANGE PROGRAMMES

There are two key network and exchange programmes available to SMEs and entrepreneurs. They are the Enterprise Europe Network and Erasmus for Young Entrepreneurs.

Enterprise Europe Network brings together 600 organisations in more than 50 countries[94] to offer advice, access to finance and research funding, and help with networking and matchmaking between potential business partners in new markets[95].

Erasmus for Young Entrepreneurs is a part of the Youth on the Move flagship initiative[96]. The programme aims to give young entrepreneurs the chance to learn from more experienced entrepreneurs in other countries. The exchange is meant to be beneficial for both parties where the young entrepreneur acquires the skill to run a small business and the host will get fresh perspectives and the opportunity to learn about a foreign market[97].

7.5

INFORMATION AND E-SERVICES

The European Union has worked purposefully to collect and disseminate information regarding regulations, business support and entrepreneurship to promote growth and the creation of new companies, as well as to promote the free movement within the Union. Information is available both at a EU level through the European Small Business Portal[98] and Your Europe[99] where it is also possible to find comprehensive information about the more important regulations and support systems in each member state.

On a member state level, each country has a point of single contact where it is possible to access e- services and find the information necessary to start and run a business[100].

Through the pilot project Simple Procedures Online for Cross- Border Services (SPOCS), the EU, together with the member states, worked between 2009 and 2012 to build the next generation of the points of single contact. The project resulted in a number of building blocks that can be used to offer cross border e-services through the points of single contact[101]. The result of SPOC is now being further developed within the e-SENS large scale pilot[102].

8 Observations

8.1 INTRODUCTION

The four countries in scope for this study are geographically close to one another and the four different country reports that have been presented above show that there are many common aspects of the SME ICT environment between the countries. The need for specialised competences is one such area which many of the interviewed entrepreneurs in all of the countires have seen as important to future growth.

However, there are also many ways in which these countries differ, both in terms of general business culture and in terms of more tangible aspects, such as, the manner in which the labour market policies and taxation laws are formulated. There are also a number of local initiatives in these countries that are already in place to promote the empowerment and growth of SME companies.

8.2 KEY OBSERVATIONS

8.2.1 Sweden

There is a broad consensus in Swedish politics regarding the comprehensive welfare state. A consequence of this is a higher than average tax pressure. Because of this, we are not suggesting any major changes in taxation.

Another challenge for Sweden is the high cost and extensive regulation of labour. Labour regulation is a coin of two sides. It can appear burdensome for the companies but it also provides security for the employees. There are room for reform within the Swedish model of collective bargaining but it would be irresponsible to take part in a race to the bottom regarding labour right. Instead Sweden ought to press for international agreements raising the level of worker protection.

The third challenge is within the educational system. Sweden fares badly in many international comparisons as regards both to enrolment, the quality of the education and the results achieved by the students. It is therefore important to focus available resources to improve both secondary and tertiary education.

8.2.2 Denmark

The interviewees in the Danish ICT sample were using their networks to a large extent to build and manage their customer base, but also in order to receive useful business support and advice. Networks are therefore deemed as an important aspect in order to grow their businesses.

Concerning the obstacles to growth, financing was brought forward as the major barrier to growth, especially since the new requirements from the post-financial crisis when it comes to bank loans.

Danish immigration policies were also highlighted as a barrier to growth, making it more difficult for Danish firms to use these means to overcome the lack of local competencies with the help of foreign labour. The relatively high income tax

rate further builds on this problem since it increases the motivation, according to some of the interviewees, for some companies to establish themselves abroad. They perceive Denmark to be disadvantageous in terms of serving as a base when running an international ICT company.

8.2.3 Finland

First of all, Finland should review its taxation, labour and funding policies in order to boost new growth in SME ICT companies.

Secondly, it should be made easy for companies to find (or train) skilled workforce, especially in international sales and marketing and software development. This could be facilitated through pan- Baltic education programs where different nationalities would learn key competencies and also build cross-country networks in their field of work.

Lastly, venture capital and 'smart money' investment activities should be made more effective and transparent. Baltic countries could have an effective asymmetric funding program/vehicles that would have more resources than current national funding schemes and which could attract interest from the wider public i.e. international venture capitalists. Boosting cross-border investments within the Baltic area and attracting international venture capital to the Baltic area could have a significant positive impact on the development of individual companies and on the area in general.

8.2.4 Estonia

Many entrepreneurs said that the pressure of taxes is high for start-up SMEs, but because the policy goal in Estonia is to keep the tax system as simple as possible; there are no suggestions for major changes in the system.

The first suggestion is to build cross-border coaching and networking in order to gain trust and establish contacts more efficiently. This type of coaching should lead to door-opening activities so the SMEs can leverage from the existing networks.

Secondly, any measure adding skilled ICT workers to the market is most welcomed. However, this requires long- term strategies and does not result in quick wins.

Concrete suggestions that could generate quick wins would be measures helping SMEs to gain skills in areas of international business development, sales, and marketing. These measures can be either investment support for the learning or hiring programs.

A third suggestion for measures is investment support for niche education abroad. This can help SMEs to secure necessary skillsets much quicker, supports growth and can help them to be more successful in Baltic Sea Region.

9 Cross Border Recommendations

9

CROSS BORDER RECOMMENDATIONS

The similarities and differences mentioned above under section 8 are, of course, making it challenging to formulate cross border recommendations applicable to all Baltic Sea Region states. Our objective, when formulating these recommendations, has been to address as many issues as possible as regards the common challenges faced by these entrepreneurs in all four countries.

Our ambition with these recommendations is to inspire reforms that can improve the business environment and help SMEs in the Baltic Sea Region to become micro multinationals. Our proposals do not provide a detailed road-map for each reform, but rather, recommendations and ideas that may require further studies and preparations. Some of these proposals may be technically easier to implement than others, since a functional framework upon which they can be built already exists. However, the fact that they are technically easy to implement does not necessarily mean that they are politically easy to bring to fruition.

It should also, however, be noted that a central cross border finding is that a number of the interviewed SMEs, regardless of sub-region, do not, at present, have the intention or wish to grow or expand their businesses. This is an important finding since public policies in these cases may not have the desired effect on the sector as a whole.

These recommendations are the results of a common effort by the four local PwC teams editing the country reports.

9.1

"BALTIC SEA REGION INFORMATION SOCIETY BUSINESS ACADEMY"

During the study, we have noted that several of the interviewed SMEs consider it to be difficult to secure highly specialized skills, as well as secure personnel possessing a broad range of knowledge (e.g. technology knowledge, as well as business knowledge). We have also found that there is a demand for better networks between peer, as well as between large companies. In order to meet these needs and barriers, we recommend the implementation of a niche education forum/academy, e.g. "Baltic Information Society Business Academy".

In our oppinion the academy should organize educational activities for SMEs in the Baltic Sea region in cooperation with universities and private companies. This could, for example, include educational programs with courses organized in varying countries to which the SMEs can send their employees in order for them to gain specific technology skills and business training, learn about the cultural differences, and network with SMEs in the other countries. Even though we believe it is important to include universities in this cooperation the training offered through the academy should not be limited to academic course. There is also a need for specialized vocational training. Other

offered activities should, for example, include virtual guest lectures from experienced entrepreneurs or the possibility to participate in courses sponsored by other companies.

One of the reasons behind this recommendation is that it is more cost efficient to organise this kind of exchange and training on a multinational level. The academy will increase the possibility for SMEs to further educate their employees according to their specific needs and, hence, reduce the problems related to finding and recruiting these types of skills and knowledge. It could also potentially facilitate cross-border networking between SMEs and, as a result, also open up new international markets and cooperation opportunities for the SMEs. In addition, the possibility for SMEs to offer "in-house" training for their employees could potentially increase the attractiveness of SMEs as employers.

9.2

LOWER REQUIREMENTS FOR EUROPEAN BLUE CARD

Several of the interviewees have mentioned that they have difficulties in finding the right competence on the labour market. Some have also pointed out the problems in hiring specialists from, for example, Russia or India due to current immigration regulations. They have also mentioned the need for ways to extend their understanding of and connections with other markets.

The European Union today has a common work permit regiment called "EU Blue Card" for highly skilled workers. The requirements for obtaining an EU Blue Card are:

Valid travel documents

A degree from an institution of higher education involving at least three years of study post- secondary education or at least five years of relevant professional experience

A valid work contract or binding job offer for highly qualified employment for at least one year

A salary equivalent or higher than 1.5 times the average gross annual salary in the member state

Evidence of having, or having applied for, sickness insurance

For many SMEs looking to hire specialists, these requirements can be too high. A skilled hacker can be more valuable than a person with an academic degree. Furthermore, a SME might not be able to pay the minimum wage required for an EU Blue Card or to promise employment for at least a year. Lowering the requirements to a minimum, for example, of a valid work contract or binding job offer matching the person's qualifications to a salary equivalent to at least an acceptable living standard in the member state, would increase the possibilities for SMEs to find the required competencies, as well as expanding their networks in other markets.

9.3

BRING AN SME ABROAD

One of the ways that some of the interviewees in this study have been able to become micro multinational is to work in close relation with larger corporations, either as a sub-contractor or as a supplier of products and services implemented by the larger corporation in its global activity. The benefits for the SME are many, but primarily this gives them access to new markets and knowledge about how to do business in these markets. Working with larger international corporations will also give well needed references in new markets when seeking other customers and skilled workers for the market in question.

We recommend a mentor program initiative that can incentivise larger corporations to "Bring an SME abroad" more systematically. This can for example be modelled after, or built upon, the "Enterprise Europe Network". One can liken this concept to the remora fish that accompanies larger water living animals around the oceans. The benefits for the larger corporations are primarily CSR related ("Corporate Social Responsibility"), but there are also long term business advantages since the objective with such an initiative also is to strengthen the home market and develop valuable know-how and skills. For the larger corporations, the costs associated with such initiatives could, to a certain extent, be tax-deductible or shared through public financial support.

9.4

PEER TO PEER COACHING

It has been noted during the study that there seem to be a demand for support that can facilitate SMEs' entry into new international markets and help them to find new business opportunities. We have also found that the kind of networks that are most appropriate for SMEs are those where they can discuss actual challenges and lessons learned with peers in similar situations.

With this in mind, we recommend the implementation of a cross border peer-to-peer coaching network between SMEs in the Baltic Sea Region. The "Enterprise Europe Network" has a database with potential business partners and a list of events where networking can take place. The purpose of the network that we propose goes even further than this. It is intended to create a channel for SMEs to learn about regional differences from SMEs in the other countries. As a result, the SMEs will be able to help each other learn about the business culture on the different markets, establish customer and partner connections on new markets, and also enable and facilitate the possibility of cross border business initiatives.

Models for this can also be found in the "Nordic - Baltic mobility programme for public administration" and "Nordic – Russian cooperation programme in education and research". To initiate a programme like this, a certain amount of public funding and organisational support would be necessary.

9.5

CROSS BORDER BUSINESS CHECKS

Many startups and micro companies express the need for certain types of professional services that they, for different reasons, require to expand their businesses to new markets. Typically, these are general business development services such marketing and sales development or advice on legal and the regulatory environment of the new markets. To procure services on new and unknown markets can be difficult for individual startups and micro companies and there is not much public support offered for these companies wanting to expand into new markets and the support that is publicly available is, as

far as we can see from the interviews, not well known among the startups and micro companies.

We recommend that a cross border business check be introduced for the SMEs seeking to implement or grow their activities in other Baltic Sea Region countries. Even though this should be a cross border initiative, this should be administrated by local publicly funded organisations that have the possibility and competence to procure professional services. This can preferably be set up as a consumer-choice system, meaning that the user is free to choose a service provider among those procured by the public organisation. The procurement in itself could be made on a Baltic Sea Region level.

There are certain national and regional programs offering business advice and/or access to publicly procured professional services, often through different variations of "Business checks". These types of programs can serve as a model for developing cross border business checks offering startups and micro companies.

9.6

BALTIC SEA REGION CROWD FUNDING PLATFORM

Several of the interviewed SMEs considers it to be difficult to get seed financing and financing for the development or realization of new products or ideas. It is, for example, stated that the currently available options are either based on terms and conditions that are considered to be too demanding or that they are too complicated to warrant applying for them.

We recommend, in order to facilitate these types of financing for SMEs, the organisation of a Baltic Sea Region crowd funding platform. Such a platform allows SMEs to campaign for their ideas and, as a result, receive contributions of different sizes from anyone who would like to support the project or venture. The contribution could, for example, comprise funds provided as voluntary donations. It could also be implemented as an investment where the crowd is able to buy shares in the company. We suggest a Baltic Sea Region crowd funding platform committed to SMEs in the Baltic Sea Region, aiming to operate at a multinational level as a compliment to similar existing platforms. This could be further developed with the possibility for large companies and "smart money investors" to sponsor the program by leveraging the crowd's contribution with a corresponding amount.

We regard this as an initiative where the private sector needs to take responsibility for the implementation of the policy recommendation. Initially public funding may be necessary to act as a catalyst to get the crowd funding platform started. An important contribution where public resources would be of help, even in the longer term, is to market the platform internationally, for example through the business attaché network.

9.7

IMPROVED PUBLIC SERVICES FOR SMES

With the implementation of the Service Directive[103] all EU member states now have what is called a "point of single contact". Through this point, companies can obtain all relevant information and deal with all administrative formalities regarding the establishment of a business and cross border provision of services. Despite this, one of the most frequent requests from the interviewees is better and more accessible information and e-services. Our conclusion is that the interviewees' knowledge regarding each national point of single contact is low.

In addition, SMEs that have been in contact with public agencies experience that these agencies have a low degree of understanding of entrepreneur's situation and need. Structures and procedures are perceived as bureaucratic and difficult to approach.

We recommend an effort be made to raise the level of knowledge about the information and services already available through the point of single contact. One way of doing this is to provide information regarding the point of single contact on the tax agencies' web pages. The tax agency is the government agency with which all SMEs have reoccurring contact. It is also important to develop comprehensive channel strategies focusing on the relevant target groups, taking into consideration the fact that many SMEs do not even know that the point of single contact exists. In addition the SPOCS-project[104] must lead to useable results in order to serve its purpose.

We further recommend that civil servants working with SMEs receive training in understanding the entrepreneur's environment and the challenges of running a small multinational business. This will improve the civil servants ability to guide the entrepreneurs through the bureaucratic burden.

9.8

TAX REDUCTION FOR BUSINESS SUPPORT SERVICES

One commonly noted problem among the interviewed SMEs is that although they often possess the necessary knowledge about their specific technologies or provided services, they often find it complicated to handle other areas of their business, such as accounting, legal issues, and marketing. There is plenty of professional expertise available on the market for hire within these areas, however, since these are usually expensive, many of the SMEs are currently not able to use these services.

We recommend the implementation of a tax reduction for business support services in order to meet the needs described above. Such a recommendation is inspired by the tax reduction possibilities currently available in, for example, Finland and Sweden where people contracting services within the areas of repairs, extensions and conversions to homes, or cleaning, maintenance and laundry work can receive a tax reduction equivalent to a certain percentage of the labour costs, up to a certain amount.

In a similar manner, we suggest that the SMEs should be able to receive a tax reduction up to a certain amount for the cost of specific types of business support services, such as tax and legal advice, accounting services, translation services, light IT-consulting (e.g. web development), marketing and business development services within the new cultural context, and other services needed for SMEs to expand their businesses to new markets.

As a result, business support services would be more affordable for the SMEs and hence a larger number of SMEs would be able to make use of the professional services available on the market. In addition, one possibility to further enhance the benefits for SMEs could be that the tax reduction could be restricted to apply only to services purchased from other SMEs.

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80 *The Global Innovation Index 2013 http://globalinnovationindex.org/content.aspx?page=gii-full-report-2013#pdfopener*

81 *Innovation Union Scoreboard 2013 http://ec.europa.eu/enterprise/policies/innovation/files/ius-2013_en.pdf*

82 *http://ec.europa.eu/digital-agenda/digital-agenda-europe*

83 *Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: A Digital Agenda for Europe COM(2010)245*

84 *http://ec.europa.eu/digital-agenda/about-our-goals*

85 *http://ec.europa.eu/digital-agenda/en/our-goals*

86 *http://ec.europa.eu/research/innovation-union/index_en.cfm?pg=intro*

87 *http://ec.europa.eu/research/innovation-union/index_en.cfm?pg=action-points&view=all 88 http://ec.europa.eu/enterprise/policies/sme/small-business-act/index_en.htm*

89 *http://ec.europa.eu/enterprise/policies/sme/entrepreneurship-2020/index_en.htm*

90 *Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions: "Think Small First" - A "Small Business Act" for Europe COM(2008) 394*

91 *Communication from the Commission to the European Parliament, the Council, Economic and Social Committee and the Committee of the Regions: Review of the "Small Business Act" for Europe COM(2011) 78*

92 *Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Entrepreneurship 2020 Action Plan – Reigniting the Entrepreneurial Spirit in Europe COM(2012) 795*

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94 *http://een.ec.europa.eu/about/mission*

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96 *http://ec.europa.eu/youthonthemove/index_en.htm*

97 *http://www.erasmus-entrepreneurs.eu/index.php*

98 *http://ec.europa.eu/small-business/index_en.htm*

99 *http://europa.eu/youreurope/business/index_en.htm*

100 *http://ec.europa.eu/internal_market/eu-go/index_en.htm*

101 *http://www.eu-spocs-starterkit.eu/cross-border*

102 *http://www.esens.eu/about-the-project/project-background/*

103 *Directive 2006/123/EC of 12 December 2006 on services in the internal market*

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111 *http://ipstatsdb.wipo.org/ipstatv2/ipstats/patentsSearch*

112 *Index of Economic Freedom 2014, The Heritage Foundation and Wall Street Journal http://www.heritage.org/index/*

113 *Doing Business Index http://www.doingbusiness.org/*

114 *http://www.heritage.org/index/country/sweden*

115 *Global Competitiveness Report 2013 http://www3.weforum.org/docs/GCR2013-14/GCR_CountryHighlights_2013-2014.pdf*

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118 *World Economic Forum: Global Information Technology Report 2013*

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121 *The Global Innovation Index 2013 http://globalinnovationindex.org/content.aspx?page=gii-full-report-2013#pdfopener*

122 *Innovation Union Scoreboard 2013 http://ec.europa.eu/enterprise/policies/innovation/files/ius-2013_en.pdf*

123 *http://www.scb.se/sv_/Hitta-statistik/Statistik-efter-amne/Handel-med-varor-och-tjanster/Utrikeshandel/Utrikeshandel- med-varor/*

124 *http://www.verksamt.se*

125 *http://www.scb.se/foretagsregistret-en*

126 *Berit Westholm: Företagsdatabasen (FDB) Beskrivning av statistiken 2011 NV0101, Statistiska centralbyrån, Avdelningen för ekonomisk statistik*

127 *http://www.balanceconsulting.fi/*

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130 *Statistical source for the Copenhagen region: PwC database of all ICT CVR registered*

131 *Statistical source for the Helsinki region: Fonecta Enterprise Solutions Oy*

132 *Statistical source for the Tallinn region: Estonian Commercial Register*

133 *http://ec.europa.eu/enterprise/policies/sme/facts-figures-analysis/sme-definition/index_en.htm*

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Epilogue

WHAT'S NEXT?

We are in the middle of a fundamental shift. The combination of digitization and globalization is a worldwide game-changer in many areas, and in this report we have focused on its impact on enterprise and entrepreneurship. We set out to look for a new type of ICT-fueled SMEs with a global market and a scaling business plan - micro multinationals.

These new businesses often fall outside of traditional policy frameworks for promoting entrepreneurship, firm growth and internationalization. Historically, a company first developed and grew on a national market before expanding and opening offices in other countries. Micro multinationals, on the other hand, depend on international business models from day one, they access new customers and enter into contracts over the internet, they use data about their customers to improve their business, they are just as likely to deal in data as in physical products or services and they move fast.

In the wake of this ongoing shift, old policies are increasingly in risk of inhibiting new forms of entrepreneurship. ICT-driven SMEs have a new toolbox of opportunities at their disposal, but they are also extra sensitive to time-consuming and cost-driving bureaucratic processes and policy frameworks. Political reforms aimed at traditional business models are often too little, too late and sometimes even completely wrong. In fact, we know very little about the actual micro multinationals and their conditions in the Baltic Sea Region. Therefore, the primary ambition of this report has been to provide their perspective on the Baltic business climate.

The interviews and the research presented here provides a starting point for adapting the business climate to promote new, technology-driven and global business models and enterprises. Cross-border networks, education and recruitment of relevant skills and technology adoption in public support systems are three common core challenges among the interviewed companies. Even though they are in no way exclusive to micro multinationals, these challenges seem particularly important to promote a better ecosystem for ICT-driven startups and SMEs. Even with global communication, people need networks to do business, access new markets and recruit new talents. Almost all of the interviewees report difficulties in finding and recruiting people with a mix of business and technology skills. Finally, public support systems often lack knowledge about both new technologies and new business models. For instance, they could benefit from using crowd funding or crowd sourcing tools to better aid early-stage startups. Public actors need to become more tech savvy, both to understand micro multinationals and to be able to help them.

Micro multinationals have a remarkable, but often not fully realized potential to boost the economy in several ways. And The Baltic Sea Region has all the prerequisites to become a forerunner, both in the EU and globally, in promoting ICT-driven startups and SMEs. However, this requires that the region comes together to not only look for micro multinationals, but also to enable and accelerate them.

Top of Digital Europe

Appendix A – Methodology

DESKTOP STUDY METHODOLOGY

The first task in the desktop study was to identify sources that could contribute to answering the questions set out by the Commissioner. An á priori assumption was made that a mix of statistical sources and comparative studies, supplemented with reports regarding specific national conditions, would be necessary to produce the best results.

On this assumption, a set of statistical sources and international comparative studies was selected as the basis for the study. These sources were, then, supplemented for each individual country with national statistical sources and studies as described below.

Sources of Statistical Information

To create a better comparability between the different countries in the study, certain statistical information has been recalculated to indicate a value per capita or in terms of a specific number of inhabitants. The numbers used as the basis for the population parameter in this calculation are taken from Eurostat's population statistics[105].

In instances where national currencies have been converted to Euro, the European Central Bank's Euro foreign exchange reference rates annual averages have been used[106]. For background data regarding average annual wages we have used data from OECD StatsExtracts[107].

Data from OECD available in the OECD Tax Database[108] has been used to analyse and describe corporate taxes and taxes on labour.

Where possible, we have used statistics covering the entire Information Society (wider ICT-sector) as defined by OECD. However, certain statistics are only reported as ICT-sector excluding the content and media producers of the Information Society or are only available as statistics regarding SMEs in general. Often, there are no statistics available for micro companies i.e. companies with nine employees or less.

The Eurostat's Information Society Database[109] has been used to identify the reasons for difficulties in filling vacancies for ICT specialist jobs in SMEs, the ICT sector's share of GDP and Percentage of the ICT personnel on total employment. In this database, the ICT sector is limited to ICT manufacturing and ICT services and does not include the content and media sector. Data regarding innovation and patents has been retrieved from the Eurostat's Science, Technology and Innovation Database[110], and the World Intellectual Property Organization's IP Statistics Data Center.[111]

Comparative Studies

To compare the economic freedom and the rules and regulations pertaining to the countries, the following sources have been used:

2014 Index of Economic Freedom[112]

Doing Business 2014: Understanding Regulations for Small and Medium-Size Enterprises[113]

Economic Freedom of the World: 2013 Annual Report[114]

Global Competitiveness Report 201-2014[115]

OECD Indicators of Product Market Regulation[116]

The information society and ICTs have been studied and compared by the use of the following indexes:

The Digital Agenda Scoreboard[117]

Network Readiness Index in The Global Information Technology Report 2013[118]

Measuring the information society 2013[119]

Web Index of the World Wide Web Foundation[120]

Last, in order to compare innovation between the different countries, the following sources have been used in the study:

Global Innovation Index 2013[121]

Innovation Union Scoreboard[122]

Swedish Sources and Definitions

In addition to the above sources, the Swedish portion of the desktop study has also used publicly available statistics from Statistics Sweden (SCB) regarding imports and exports[123] as well as information regarding different kinds of public support to start/ups and SMEs available at the Swedish single point of contact Verksamt.se[124].

The data regarding ICT SMEs and SMEs in general has been sourced from SCB specifically for this study. The data originates from the Swedish Business Register[125]. The Business Register is comprised of data from several different sources where the most important contributors are the Tax agency, the Swedish Companies Registration Office and Svensk adressändring AB. The data in the database are updated with different intervals, some as often as every week while other data only is updated on a yearly basis[126].

There have been some difficulties in retrieving data to obtain the fail rate for ICT SMEs and SMEs in general. The reason for this is that a great deal of the information regarding a given company is deleted when it closes down. To obtain the fail rate, the data from the year in which a company closes down needs to be compared with the data from the previous year in order to re-introduce information regarding the number of employees, turnover and SNI codes (i.e. NACE codes).

In the Business Register the term for start-up is "newly activated". This means a company or place of business newly registered for VAT purposes, as an employer or, regarding businesses exempt from VAT, a business that has obtained a notice of assessment regarding corporation tax. This means that start-ups are more or less limited to businesses with actual economic activity.

As regards the fail rate, this is calculated on the basis of "terminated companies" meaning companies that have been closed due to bankruptcy, liquidation or merger and companies that have been deregistered, removed from the register

or dissolved. This number has then been divided with the number of comparable existing companies i.e. SMEs or ICT SMEs

Danish Sources and Definitions

In regard to the general broad statistical data regarding the number of SME's started up in Denmark and the data regarding the largest import and export markets for Denmark, we have applied the Statistical Bank of Denmark's statistics (dst.dk). All registered companies in Denmark are obliged to disclose information to DST, and this source is generally regarded as very reliable and contains a vast quantity of data as regards Danish companies.

In our analysis, a company is defined as having been started up when it is registered with a CVR number (VAT), which defines the company as being registered in the Danish tax registry. It has not been possible to extract statistics of failed SME's in Denmark. We did make a request for this data which we sent to the Statistical Bank of Denmark, but they were unable to provide this information.

Local Danish data used in the analysis is mainly comprised of known institutions which were referred to in the interviews. These include Vaekstfonden and the Danish Business Authority which are also considered to be rather reliable sources.

Some of the interviewees and other statistical data addressed the subject of bureaucratic difficulties of starting and running a business in Denmark. For this, we have supported the analyses with sources derived from initiatives taken by the Danish Business Authority, such as Enklere Regler (Simpler Rules), which is a task force launched to reduce the complexity and bureaucracy of Danish business regulations.

We regard all of our applied sources as very reliable and, therefore, do not consider that there are any major risks in regard to the validity of the data.

The sources primarily used in the Danish segment of the report are the following:

di.dk
doingbusiness.org
dst.dk
enklereregler.dk
epp.eurostat.ec.europa.eu
erhvervsstyrelsen.dk
investindk.dk
oecd.org
vf.dk

Finnish Sources and Definitions

In addition to the aforementioned sources, the Finnish country reported included information from various publicly available sources. These sources were mainly the websites of organizations relevant to this study i.e. the Ministry of Economy and Employment.

There were difficulties in obtaining information on statistical data. The selected statistical data provider was not able to produce reliable information on Finnish SMEs and ICT SMEs. This information included the number of active ICT SMEs and SME during each year between 2011-2014 and the fail rate on the same company categories and years. These difficulties extended to include challenges in receiving data on fail rates.

The growth rates and employment rates of Finnish SMEs and ICT SMEs were calculated based on the data provided by a Finnish statistical data provider, Balance Consulting, a service provided by Kauppalehti Oy[127]. These rates do not take into account companies with revenue less than 1.1mEur. The ICT sector was determined applying the same NACE Rev 2 codes as in the rest of the study.

Estonian Sources and Definitions

Two local sources were the Estonian Commercial Register and Statistics Estonia, both used the same statistical NACE Rev 2 codes as in study. The first of these covers all of the companies registered in Estonia, however only 39% of companies send their data to Statistics Estonia[128]. This is sufficient to undertake nationwide statistical analyses but the number of companies is smaller, compared to the information received from Estonian Commercial Register. Consequently, the goal was to keep the information covering one topic from one source, in order to make it comparable.

According to the Estonian Commercial Register, the ***inception of enterprise*** is defined as the registering of the business in register. Inception of enterprise is not due to a merger, division, creation of spin-offs or restructuration of existing company. Inception is not restoration of activities after period of inactivity.

Death of enterprise is, according to Estonian Commercial Register, the removal of enterprise from the register. The death of a company is not caused by a merger, acquisition, division, bankruptcy, and restructuration or when a company temporarily stops its operations.

The Fail Rate includes companies that have been deleted from the Estonian Commercial Register due to mergers or divisions as they cannot be allocated on data level without extensive manual work. In such cases, entrepreneurs who had been active through the deleted company will carry on their business through one (merger) or several (division) new legal entities.

The Fail Rate does not include non-active companies (companies that have failed to submit annual reports) as the period of the deletion process of such companies varies from approximately 2 to 5 years (this assessment is based on general practice and not on any official statistical data) as of the due date for the submission of the annual report. The process of the deletion of a company from the Estonian Commercial Register is described below.

The Estonian Commercial Register may issue a notice to delete ta non-active company from the register after 6 months have been passed from the due date of the submission of the annual report. The Estonian Commercial Register will prescribe a time period (which shall not be less than 6 months) to submit the annual report. If the non-active company fails to submit the annual report within the prescribed time period, the Estonian Commercial Register is entitled to publish a notice in the official publication *Ametlikud Teadaanded*. By publishing such a notice, the Estonian Commercial Register invites the creditors of the non-active company to inform of their claims and apply for the liquidation of the non-active company. The creditors of the non-active company must submit their claims and apply for the liquidation of the non-active company within 6 months as of the publication of the notice. Should the creditors fail to notify their claims or apply for the liquidation of the non-active company, the register shall issue a court ruling for the deletion of the non-active company from the Estonian Commercial Register. If the non-active company fails to appeal against the ruling within 30 days as of the service of the ruling, the register shall delete the non-active company from the Estonian Commercial Register.

TABLE 1

REATER MALMÖ REGION (SCB definition)	HELSINKI REGION (Cities of Metropolitan Helsinki Area definition)	COPENHAGEN CAPITAL REGION (Danmarks Statistik definition)	TALLINN (Defined as Harju County)
Burlöv, Eslöv, Höör, Kävlinge, Lomma, Lund, Malmö, Skurup, Staffanstorp, Svedala, Trelleborg and Vellinge municipalities	*Helsinki, Espoo, Vantaa, Kauniainen, Hyvinkää, Järvenpää, Kerava, Kirkkonummi, Mäntsälä, Nurmijärvi, Pornainen, Sipoo, Tuusula and Vihti*	*København, Frederiksberg, Albertslund, Brøndby, Gentofte, Gladsaxe, Glostrup, Herlev, Hvidovre, Lyngby- Taarbæk, Rødovre, Tårnby and Vallensbæk municipalities, part of Ballerup, Rudersdal and Furesø as well as Ishøj By and Greve Strand By*	*Aegviidu Parish, Anija Parish, Harku Parish, Jõelähtme Parish, Keila, Keila Parish, Kernu Parish, Kiili Parish, Kose Parish, Kuusalu Parish, Loksa, Maardu, Nissi Parish, Padise Parish, vPaldiski, Raasiku Parish, Rae Parish, Saku Parish, Saue, Saue Parish, Tallinn, Vasalemma and Viimsi*

INTERVIEW METHODOLOGY

From the desktop studies, many interesting aspects of the ICT environment in the Baltic Sea Region as a whole were identified in the desktop studies. In order to test some of the desktop hypotheses and to better understand the everyday challenges facing ICT entrepreneurs in the sub-regions, a total set of 115 interviews was conducted, divided between the four sub-regions of Malmö, Helsinki, Copenhagen (25 interviews), and Tallinn.

The four sub-regions consist of the districts presented in Table A.

Given the total number of ICT-related SME's in Copenhagen, Helsinki, Malmö and Tallinn, a total of 30 interviews per city is a relatively small sample when it is intended that it should cover companies of different sizes and in different stages of maturity. PwC believed the best way to reach an acceptable result was to choose the respondents through a stratified selection method with a proportional number of ICT-related SME's in Copenhagen, Helsinki, Malmö and Tallinn, a total of 30 interviews per city is a relatively small sample when it is intended that it should cover companies of different sizes and in different stages of maturity. PwC believed the best way to reach an acceptable result was to choose the respondents through a stratified selection method with a proportional number of respondents in each stratum.

In order to achieve a representative sample for the interviews, PwC first studied each sub-region's total number of ICT companies according to the OECD sector classification after which four sub-categories were created.

Division into Sub-categories

The EU definition of SME ("Small and Middle size Enterprises") is as follows[133]:

Micro (start-up); companies with 0-9 employees active for less than 36 months

Micro (mature); companies with 0-9 employees active for more than 36 months

SME (start-up); companies with 10-249 employees active for less than 36 months

SME (mature); companies with 10-249 employees active for more than 36 months

In addition to the criteria "number of employees", the sampling must take into account another three criteria in order to secure a correct stratification of companies:

1) Total turn-over must be lower than or equal to €50m

2) A balance sheet total of lower than or equal to €43m

3) Companies with less than 10 employees but with a balance sheet total of turn-over of more than €2m are categorized as an SME.

TABLE 2

NUMBER OF ICT COMPANIES IN EACH SUB-REGION DIVIDED IN SUB-CATEGORIES

	MALMÖ[129]	COPENHAGEN[130]	HELSINKI[131]	TALLINN[132]
Micro (start-up)	224	1,478	751	1,070
Micro (mature)	1,031	3,161	4,357	4,075
SME (start-up)	7	27	24	5
SME (mature)	228	559	932	212
Total	***1,490***	***5,225***	***6,064***	***5,362***

TABLE 3

NUMBER OF INTERVIEWS WITHIN EACH OF THE SUB-CATEGORIES PER SUB-REGION

	MALMÖ	COPENHAGEN	HELSINKI	TALLINN
Micro (start-up)	5	1	4	6
Micro (mature)	20	12	20	22
SME (start-up)	1	1	1	1
SME (mature)	4	11	5	1
Total	***30***	***25***	***30***	***30***

The number of interviews for each category reflected each category's total number of companies in relation to the total sample. The requirement was established that at least one interview had to be conducted in each category, regardless of the actual distribution of the sample.

The companies on the sample lists within each category were, then, randomized and approached in the order they occurred in the lists.

One of the principal scopes of the entire study was to obtain a better understanding of the challenges existing within the ICT sector environment. PwC, therefore, decided that a few additional criteria needed to be imposed.

First of all, companies with very little activity (or no activity at all) had to be eliminated. A minimum turn-over limit was imposed, set at 50 percent of each country's average production worker's salary134 (this limitation was set already during the initial sample selection).

Secondly, when studying the randomized sample lists some companies were fount that were part of larger groups (both local and international) and would therefore not be suitable for the study's overall purpose.

Thirdly, the Baltic Development Forum particularly wanted to interview companies with a multinational ambition and it was, therefore, decided that the interviewed companies must have a website written in more than the local language.

Danish Methodology Variation

The sampling of interviewees in Denmark was initially based on the construction of a contact list of all ICT companies between 1-250 employees based in the greater Copenhagen area. The list was generated from the PwC database of all ICT CVR registered companies listed in the Copenhagen area. This initial list comprised a total of 5,225 ICT companies in the range of 1-250 employees. A smaller sample of this list was then extracted in a randomisation process which produced a similar distribution of company sizes (employees) in the smaller list, and according to which we established contact with the companies.

In this way, we made sure that our company selection resembled the general profile of distribution in the Copenhagen area.

The number companies willing to participate in this study was, however, very limited. Five different employees from PwC have been engaged in booking these interviews, but have all had close to the same hit rate in regard to companies willing to participate. Several times, we tried to change the way in which we presented the study to the potential interviewees, but with no remarkable difference in terms of response.

With this initial approach we contacted more than a 150 companies by phone from the list, but with a hit rate of less than 1 percent. The tactic of contacting companies on the list and varying the presentation of the study was pursued for quite some time, before we concluded than the hit rate was too low and something different had to be done.

As a consequence we decided to send out a request to assist us with this study to our SME ICT clients through our PwC auditors, which ultimately secured a few more interviews. A request for interview participation was also sent out to several different online platforms through Microsoft's partner channels.

This strategy does entail a somewhat larger risk of generating a biased sample of interviewees as they are not selected from a randomized sample, but based on companies who are actively willing to participate in the interview.

The Interview

The interviews were mainly held by telephone or through personal meetings. All sub-regions used the same template ofquestions so that cross region conclusions could be drawn from the received information. All interviewees were provided with the questions in advance. The interviews were held in the local language and the transcripts were then translated into English. The interviewer had the possibility to freely elaborate on areas of interest or "dig deeper" where they felt it necessary. On average the interviews took about 50 minutes.

OECD Definition of ICT sector

The OECD definition is based on the ISIC4 standard and has, for the purpose of this study, been "translated" into NACE codes as follows.

The 2006-07 OECD ICT sector definition (based on ISIC Rev. 4)*	
ISIC Rev. 4	**NACE Rev. 2**
ICT MANUFACTURING INDUSTRIES	
2610 Manufacture of electronic components and boards	**2611** Manufacture of electronic components
	2612 Manufacture of loaded electronic boards
2620 Manufacture of computers and peripheral equipment	**2620** Manufacture of computers and peripheral equipment
2630 Manufacture of communication equipment	**2630** Manufacture of communication equipment
2640 Manufacture of consumer electronics	**2640** Manufacture of consumer electronics
2680 Manufacture of magnetic and optical media	**2680** Manufacture of magnetic and optical media
ICT MANUFACTURING INDUSTRIES	
4651 Wholesale of computers, computer peripheral equipment and software	**4651** Wholesale of computers, computer peripheral equipment and software
4652 Wholesale of electronic and telecommunications equipment and parts	**4652** Wholesale of electronic and telecommunications equipment and parts

ICT SERVICES INDUSTRIES	
5820 Software publishing	**5821** Publishing of computer games
	5829 Other software publishing
6110 Wired telecommunications activities	**6110** Wired telecommunications activities
6120 Wireless telecommunications activities	**6120** Wireless telecommunications activities
6130 Satellite telecommunications activities	**6130** Satellite telecommunications activities
6190 Other telecommunications activities	**6190** Other telecommunications activities
6201 Computer programming activities	**6201** Computer programming activities
6202 Computer consultancy and computer facilities management activities	**6202** Computer consultancy activities
	6203 Computer facilities management activities
6209 Other information technology and computer service activities	**6209** Other information technology and computer service activities
6311 Data processing, hosting and related activities	**6311** Data processing, hosting and related activities
6312 Web portals	**6312** Web portals
9511 Repair of computers and peripheral equipment	**9511** Repair of computers and peripheral equipment
9512 Repair of communication equipment	**9512** Repair of communication equipment

The 2006-07 OECD Content and media sector definition (based on ISIC Rev. 4)*	
ISIC Rev. 4	NACE Rev. 2
PUBLISHING OF BOOKS, PERIODICALS AND OTHER PUBLISHING ACTIVITIES	
5811 Book publishing	**5811** Book publishing
5812 Publishing of directories and mailing lists	**5812** Publishing of directories and mailing lists
5813 Publishing of newspapers, journals and periodicals	**5813** Publishing of newspapers
	5814 Publishing of journals and periodicals
5819 Other publishing activities	**5819** Other publishing activities
MOTION PICTURE, VIDEO AND TELEVISION PROGRAMME ACTIVITIES	
5911 Motion picture, video and television programme production activities	**5911** Motion picture, video and television programme production activities
5912 Motion picture, video and television programme post-production activities	**5912** Motion picture, video and television programme post-production activities
5913 Motion picture, video and television programme distribution activities	**5913** Motion picture, video and television programme distribution activities
5914 Motion picture projection activities	**5914** Motion picture projection activities
SOUND RECORDING AND MUSIC PUBLISHINGACTIVITIES	
5920 Sound recording and music publishing activities	**5920** Sound recording and music publishing activities
SOUND RECORDING AND MUSIC PUBLISHINGACTIVITIES	
6010 Radio broadcasting	**6010** Radio broadcasting
6020 Television programming and broadcasting activities	**6020** Television programming and broadcasting activities
OTHER INFORMATION SERVICE ACTIVITIES	
6391 News agency activities	**6391** News agency activities
6399 Other information service activities n.e.c.	**6399** Other information service activities n.e.c.

Appendix B – Interview Questionnaire

BUSINESS DESCRIPTION

What product or service do you provide?

What year did you start your business?

What do you consider to be your market?

What markets/countries are you active on today?

What is the proportion of your turnover on your biggest markets?

Who is your customer?

How would you describe your competition?

How many Full Time Employees do you have in your business?

SKILLS AND KNOWLEDGE

Do you have (or have access to) the skills and knowledge necessary for your business now/in the future?

Are there any skills necessary for your business that are difficult to obtain?

How do you secure these skills? (Recruitment, training, outsourcing, industry partnerships, Mergers & Acquisitions?)

GROWTH AND INTERNATIONALISATION

Do you have plans to grow or expand your business?

- If yes, where do you primarily plan to expand (new geographic markets or within your existing market, or both)?
- If yes, what is your growth strategy? (Organic, Mergers & Acquisitions, new products, new markets, etc.) o If no, why not?

Did your company start as a provider of local services/products and grew (or plan to grow) to be international, or was it international from the beginning?

- If it grew into an international company, how long was the process before you expanded internationally?
- What was the first new market you entered?
- What, if any, were the key barriers in your case?

What markets do you wish to enter next? What is the greatest barrier to enter that specific market?

What markets do you wish to enter in the next 5 years?

What do you perceive to be the greatest barriers to future growth/expansion (growth strategy)

Greatest barriers to internationalization? (Local regulations, lack of knowledge about markets and cultures, financing, certifications, the right competence, marketing, finding partnerships, language, administration, other?)

SUPPORT AND FINANCING

Have you ever sought external financing?

- If yes, what type of financing (VC, Loan, Family&Friends, Business Angels, Public (for example, Vinnova), Kickstarter, etc.?)
- Why did you choose that specific form of financing?

At what stage in the business life cycle (start up, growth, maturity, and decline) did you seek external financing? Did you get it? Do you know of any available sources of finance from public organizations?

- If yes, which ones?

Do you have "access" to external financing to the extent you would like to support your growth strategy?

- If no, why not?

What types of non-financial support, from public or private sources, have you benefited from.

For instance:

1. Public Procurement process education

2. Public internationalization programs/ services (international fairs, trade missions, international matchmaking etc.)

3. Seminars/workshops, training programs, public or private?

4. Incubators, science parks or other public organizations?

5. Networking platforms, public or private?

6. Informal networks, startup communities and such

7. Business coaching, public or private?

8. Others: _____

- How important were those non-financial support to your business (Not important, Important, Very important)?

Do you know where to obtain information and help regarding the rules and regulations pertaining to your business?

How do you perceive the regulatory burden for your business?

NETWORKS

Did you have any contact with other entrepreneurs when you started your business? o If yes, did they advise or inspire you to start your business in any way?

- If yes, did they advise or inspire you to start your business in any way?

Are you currently taking advice from any other entrepreneur or network regularly on how to develop your venture?

- If yes, what type of networks?

Do you mentor other entrepreneurs or startups?

Do you have more contact with similar/competing firms?

Do you have any formal and informal networks in your geographical region and across different regions?

- If no, have you tried to make such connections or do you wish to?

What type of formal and informal networks do you have in your business sector (locally, nationally or internationally)?

Have you hired employees from outside of your geographical region or other countries?

- If yes, from which regions/ countries?

Do you wish to do so?

Do you see any barriers to hiring from outside your geographical region or other countries?

BARRIERS (SHOULD CONSIDER ALL OF THE AREAS ABOVE)

We have already discussed barriers within some specific areas before, but looking at it in general terms;

What have been the most significant barriers so far for your business? (Locally? Nationally? Internationally? Politically and/or economically? Patents? Technical standards and certifications? Administrative and legal burdens?)

Do these barriers still exist?

- If no, what do you believe will be your most significant barriers in the near future for your business? (Locally? Nationally? Internationally? Politically and/or economically? Patents? Technical standards and certifications? Administrative and legal burdens?)

What policy changes or public policies would you propose to facilitate and stimulate growth for SMEs in the ICT-sector?

What kind of support would you propose to facilitate and stimulate growth for SMEs in the ICT-sector? (Governmental support, policy changes, structural changes or other support)

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