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REGIONAL LOGISTICS & ICT PROFILE: SOUTHWEST FINLAND

Jarmo Malmsten and
Tomi Solakivi

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EXECUTIVE SUMMARY

This report summarises the results and findings of a two year Baltic Sea Region (BSR) INTERREG IIIB European Union funded project LogOn Baltic in the field of regional development related to logistics and ICT-competence.

Geographically, the logistics position of South West Finland should be seen as excellent, at least compared to other regions in Finland. The region is located on the coast, right next to significant transport connections such as the two international ports, the Port of Turku and the Port of Naantali. Together with the Turku airport close by, these should create positive environment for business.

Combined with the fact that the structure of business on the region is almost similar as in the rest of the country (excluding some of the regions with a substantial weight of paper industry) and the fact that the logistics costs of the companies in the region equal the Finnish average, one could draw the conclusion that the logistics environment on the region is positive. This doesn't seem to materialize in the companies´ attitudes, though. For some reason, a significant share of the companies in South West Finland seems to be unsatisfied with the operating conditions of the region.

From the ICT-side, the availability of competent workforce is seen as strength of the region. On the other hand, the results of the ICT-survey indicate a lack of knowledge and practical training in computer related issues especially within the smaller companies of the region. One could conclude that the needs of smaller companies should be taken into account, when developing the ICT-education of the region. This could mean for example, that the education and training should be more practically oriented and suitable for blue-collar workers, instead of the current higher education.

The most important development needs of the region related to logistics appear to be related to transport infrastructure. There seems to be, if not complete consensus, at least a common understanding that the needs to upgrade the infrastructure of the railways leading to Turku, as well as the highways 8 and 9 in order to increase the competitiveness of the region. From the softer perspective, the view that the co-operation between different actors working on the field of

regional development should be improved is widely recognized. The current status is seen as scattered and lacking most of the possible economies of scope.

YHTEENVETO

Tämä raportti on yhteenveto kaksivuotisen Baltic Sea Programmen (BSR) Interreg IIIB – rahoitteisen projektin, LogOn Balticin tuloksista logistiikan ja ICT-osaamiseen liittyvästä aluekehityksestä.

Verrattuna Suomen muihin alueisiin, Varsinais-Suomen maantieteellistä sijaintia voidaan pitää erinomaisena logistiikan näkökulmasta tarkasteltuna. Maakunta sijaitsee rannikolla, hyvien kuljetusyhteyksien, kuten Turun ja Naantalin satamien välittömässä lähetyksessä. Yhdessä lähellä sijaitsevan Turun lentokentän kanssa maakunnan logististen yhteyksien voidaan katsoa luovan positiivisen ympäristön liiketoiminnalle.

Varsinais-Suomen elinkeinoelämän rakenne on suurin piirtein samanlainen, kuin Suomessa keskimäärin (pois lukien ne alueet, joiden elinkeinoelämä on voimakkaasti keskittynyt esimerkiksi paperiteollisuuden ympärille). Yhdistettynä siihen, että varsinaissuomalaisten yritysten logistiikkakustannukset noudattelevat nekin maan keskiarvoa, voidaan todeta, että alueen logistisen toimintaympäristön pitäisi olla hyvä. Jostain syystä tämä ei kuitenkaan näy yritysten asenteissa aluetta ja sen toimintaedellytyksiä kohtaan, vaan merkittävä osa yrityksistä näyttää olevan ainakin jossain määrin tyytymätön alueen toimintaedellytyksiin.

Informaatio- ja kommunikaatioteknologian näkökulmasta Varsinais-Suomen vahvuutena voidaan pitää osaavan henkilöstön hyvää saatavuutta. Toisaalta, projektissa toteutetun ICT-kyselyn tulokset viestittävät, että erityisesti alueen pienet ja keskisuuret yritykset kokevat henkilöstön osaamisen ja koulutuspalveluitten saatavuuden tietotekniikkaan liittyvissä kysymyksissä jossain määrin puutteellisina. Johtopäätöksenä voidaan esittää että alueen IT-koulutustarjontaa suunnitellessa tulisi paremmin huomioida juuri Pk-yritysten tarpeet. Käytännössä tämä tarkoittaa sitä, että koulutuksessa tulisi keskittyä enemmän käytännönläheisempään, suorittavan työn kannalta olennaiseen koulutukseen.

Alueen tärkeimmät logistiset kehitystarpeet liittyvät liikenneinfrastruktuurin kehittämiseen. Projektin aikana haastateltujen asiantuntijoiden kesken näyttää vallitsevan melko yleinen käsitys, että tarpeet Turkuun johtavien rautateiden ja 8. Ja 9. Teiden kehittäminen

ovat alueen liike-elämän kannalta tärkeimpiä kehityskohteita. ”Pehmeämmistä” kehitystarpeista yleisesti nousi esiin tarve koordinoida paremmin alueen kehitystyötä. Tämänhetkinen tilanne nähdään yleisesti pirstaleisena ja potentiaalisen yhteistyön hyötyjä tuhlaavana.

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1 INTRODUCTION

1.1 Project introduction – LogOn Baltic

The LogOn Baltic project was approved within the Baltic Sea Region (BSR) INTERREG III B Neighbourhood Programme, which is sponsored by the European Regional Development Fund (ERDF), as part of the Structural Funds, and co-financed by national project partners.

The purpose of LogOn Baltic is to present solutions to improve the interplay between logistics and Information and Communication Technologies (ICT) competence and spatial planning and strengthening Small and Medium-sized Enterprises (SMEs) competitiveness in the BSR. This is primarily done by the production and dissemination of information for regional development agencies on how to support enterprises in the participating regions in the field of ICT and logistics, thus improving regional development.

The following regions are participating in the project:

- South-West Finland
- Östergötland (Sweden)
- Denmark
- Southern Metropolitan Region of Hamburg (Germany)
- West-Mecklenburg (Germany)
- North-East Poland
- Lithuania
- Latvia
- Estonia
- St. Petersburg (Russia)

LogOn Baltic provides an overview of logistics efficiency and logistics information systems and their exploitation, in order to improve the interaction between SMEs and other public/private actors.

On the one hand, the empirical activities of LogOn Baltic compare the existing logistics services and infrastructure with the logistics needs in the participating regions, making it possible to develop perspectives and action plans for strengthening the logistics competence in the

regions. On the other hand it describes the existing ICT infrastructure and services, revealing up to what extent they meet with the companies' needs for further development. In this way, LogOn Baltic focuses on:

a. identifying development agencies and evaluating their performance in each region
b. evaluating the level of logistics and ICT efficiency
c. suggesting concrete actions for regional and local public sector bodies

Data are gathered in each participating region using four tools, Development Measure Impact Analysis (DEMIA), Logistics survey, ICT survey and Expert Interviews; each of these is presented in a separate report. These results together with secondary data is presented in a regional report, that will describe the state of affairs in the region, with recommendations on what and how the region needs to develop. The regional reports are used as a basis for making an interregional comparison which is reported in an inter-regional report. All reports are available on the project homepage, www.logonbaltic.info.

1.2 Regional partner introduction

The regional partners in Finland are:

- Turku School of Economics (Lead Partner)
- Development Centre of Salo Region
- ICT Turku Ltd
- Loimaa Regional Development Centre
- Pilot Turku Ltd
- Regional Council of Southwest Finland
- TEDIM Telematics, Education, Development and Information Management
- Turku Region Development Centre
- University of Turku, Department of Geography

Turku School of Economics (TSE) is a public university in the field of business science. Project management is with the TSEBA Logistics (staff of 15), with extensive research and policy-making experience. Other contributing units comprise SME Institute, Pan-European Institute specialising in Russian markets & Finland Futures Research Centre, researching alternative futures and related challenges/opportunities in policy making, incl. regional planning

foresight studies. TSE Project Unit has worked in over 100 EU co-funded projects.

Development Centre of Salo Region is an organisation owned by 11 municipalities. It provides regional development and co-operation related services for its owners. It consists of units of regional development, enter-prise services and municipality services. It benefits from the project through information on possibilities to develop logistics and ICT competence in the region with a strong telecommunications industry cluster. It serves as dissemination and data collection channel with local businesses. Logistics-related spatial planning is one of its current key priorities

ICT Turku Ltd. is part of Turku Science Park and a cluster focused on information and communications technology. The goal of ICT Turku is to develop the ICT cluster in Southwest Finland into an internationally successful entity of actors. The goal of ICT Turku is perfectly in line with the project objectives. It has a network comprised of more than 1400 companies and units of the ICT field which will be used as dissemination and data collection channel. ICT Turku has participated in Interreg II C projects E-18 co-operation and Baltic Palette.

Loimaa Regional Development Centre is a business service unit owned by 10 municipalities. It works with regional development and aims at enhancing preconditions for a diverse business environment. It gets rigorous information about the possibilities to develop logistics and ICT competence in the semi-rural region and serves as dissemination and data collection channel to the local businesses. Logistics-related spatial planning is one of its current key priorities.

Pilot Turku Ltd. is a development company owned by the City of Turku. It focuses on promoting the international logistics operations in the Turku Region. The purpose of the organisation is to provide the customers with a single service channel for contacting all decision-makers and actors, thus lowering the thresholds of language, culture and bureaucracy. Pilot Turku provides its logistics competence and contacts to the project. It also serves as a dissemination channel and data collection channel to the local businesses. They have previously participated in Interreg projects NeLoC and InLoC.

Regional Council of Southwest Finland is a joint municipal authority which functions in accordance with the principles of municipal self-government, operating as the authority on regional development as well as the region’s planning and lobbying organisation. In LogOn Baltic especially Regional Council’s knowledge on the regional spatial

planning will be an essential part. The Council also is a direct connection to other local authorities and policy makers. At the moment they are hosting the South Finland Coastal Zone Interreg IIIA Programme.

TEDIM is a joint organ of the Ministries of Transport around the Baltic Sea. It is a development forum for (i) logistics co-operation between the EU and Russia, as well as between the EU Member States, (ii) dissemination of best practices in transport and logistics and (iii) use of telematics in transport and logistics. A hallmark of TEDIM projects is a unique co-operation between private and public sector. TEDIM joins as an advisory partner with the main task to reach out to all Ministries of Transport in the BSR with LogOn Baltic results.

Turku Region Development Centre is a public development organisation comprising 18 municipalities in Southwest Finland. TAD Centre's main objective is to create an environment that promotes dynamic enterprise activities in Turku region and to co-ordinate business policies in the region. TAD Centre participates and co-ordinates strategic development projects to support and create the growth in the region, incl. many logistics and ICT projects. TAD Centre has been a partner in several EU projects, including Interreg project the Baltic Business Network and ESR project HighTech Way.

Department of Geography at University of Turku brings research competence on regional planning and GIS-analysis into the project. The Department's extensive applied research provides society with specific regional knowledge to fulfil the needs of planning and decision-making. Urban geography is one of the strongest fields of research, including different research programmes of future urban developments and urban renewal processes, so this is an opportunity to exploit the knowledge in practice.

1.3 Regional Profile introduction

The Regional Logistics & ICT Profile (short form, Regional Profile) is one of the several support tools necessary for the analysis and description of the logistics and ICT competences in the region.

Information from different areas of interest (i.e. economy, human resources, logistics infrastructure, ICT infrastructure, public sector, among others) together with the findings of the other empirical activities carried out during the project life, converges into the Regional Logistics & ICT Profile, turning it into a reference document for the whole project.

All of the regions involved in the LogOn Baltic project are following the same content structure to help keep uniformity among the different Regional Profiles.

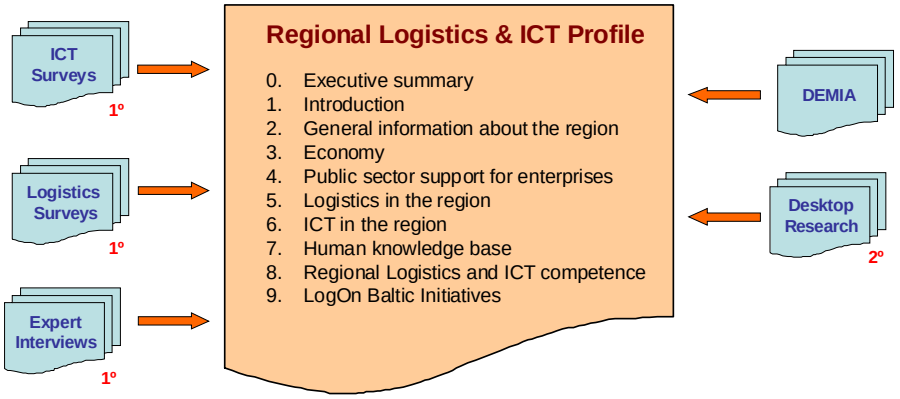


Figure 1 Regional Profile framework

This tool is to be considered the main tool for secondary data collection, providing a comprehensive overview of the actual situation and development in the logistics and ICT industry.

2 GENERAL INFORMATION ABOUT SOUTHWEST FINLAND

2.1 Geographical location

Southwest Finland (also known as 'Finland Proper') is located on the southwest coast of Finland, at the intersection of the arms of the Baltic (Fig. 1). The total area of the region is 18,188 km^2 including the bodies of water, and this is 4.6% of the total area of Finland. The land area accounts for 10,655 km^2, and it is 3.5% of Finland. The capital of Southwest Finland is Turku[1]. Originally, the word 'Finland' referred only to the area around Turku (hence the title, 'Finland Proper' for the region). But also today Turku is one of the national centres, and it is the fifth largest city in Finland. Located (60.4515° N 22.2669° E) at the mouth of the Aurajoki in the southwest of the country, it is the capital city of both the region of Southwest Finland and the State Provincial Office of Western Finland, as well as being the centre of the country's third largest urban area, with around 270,000 inhabitants.

Southwest Finland is situated in the westernmost part of the country, and the region is divided into five subregions: Loimaa, Salo, Turunmaa and Turku regions and Vakka-Suomi. Southwest Finland is the tenth largest region in Finland, as measured by surface area and has borders with four other regions.[2] To the north, Southwest Finland borders on Satakunta region, and to the north east, there is Pirkanmaa region whose capital is Tampere, Turku's partner and rival in the national context. Another neighbour to the north-east is Kanta-Häme region, whose capital is Hämeenlinna. Hämeenlinna is also the principal town of the Province of Southern Finland. To the east is the region is bounded by Uusimaa region whose centre is Helsinki, the capital of Finland. To the southwest, there is the Swedish-speaking autonomous province of Åland (Ahvenanmaa, in Finnish). To the south there is the Baltic Sea across which lies the Estonian archipelago

[1] Pilot Turku (2006); Valde-Brown et al. (1999)
[2] Statistical Yearbook of Finland (2006)

including the islands of Saarenmaa and Hiidenmaa. To the west there is the Gulf of Bothnia and the Sweden.

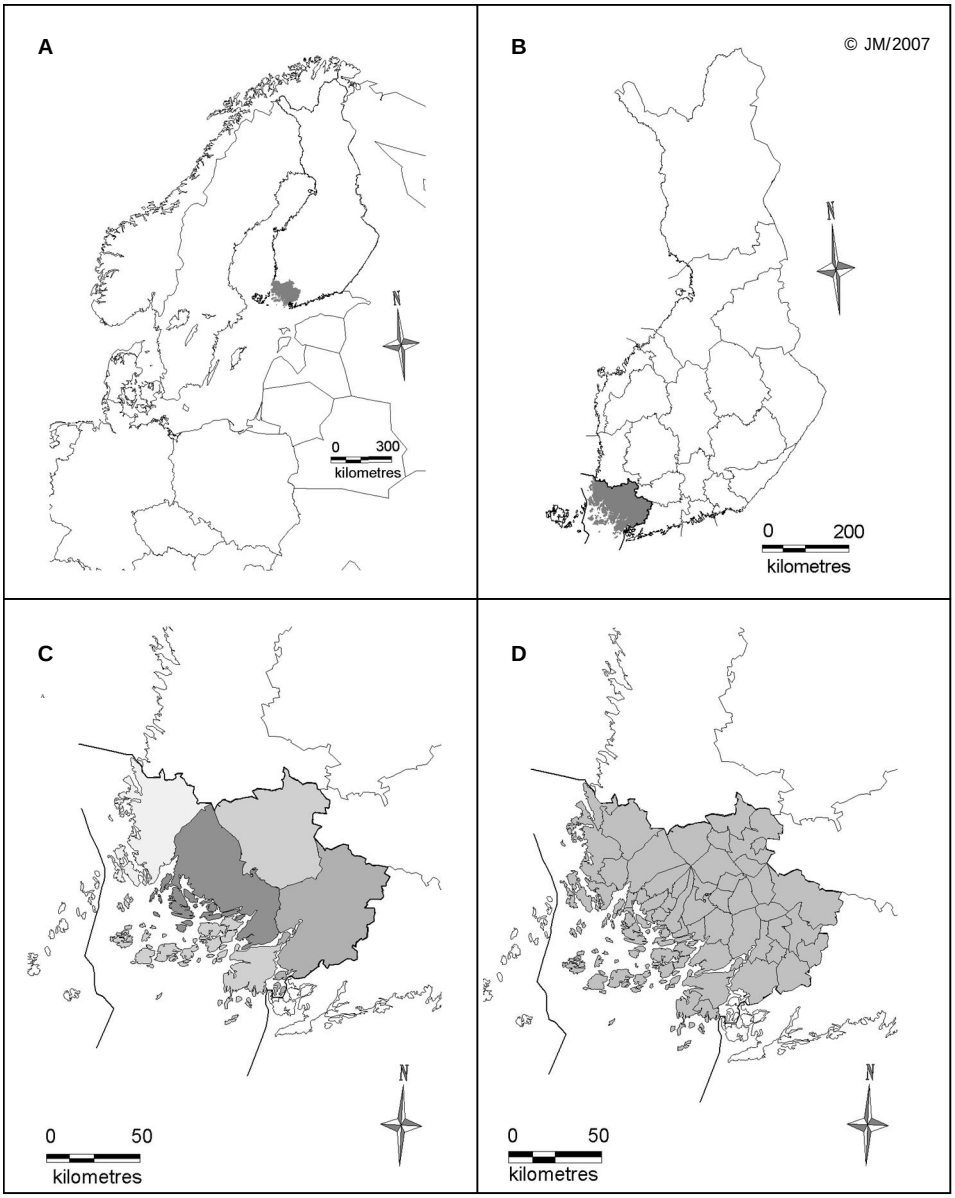


Figure 2 Southwest Finland in the Baltic Sea context (A). Southwest Finland is one of the twenty Finnish regions (B) which is divided into five subregions (C), and which is made up by 53 municipalities (D).

2.2 Main location factors

Southwest Finland has traditionally been a meeting place for cultural interaction trade and communication between east and west, and nowadays many routes of communication with the Nordic Countries, Central Europe, and Russia pass through it. At the national level, Turku is one of the three cities, with Helsinki and Tampere that forms the main urban zone of Finland. At the level of the European Union, the Northern Dimension is today a very important concept.[3] The aim of that is to increase the area's cooperation both with the EU, and with the other Nordic countries and to promote the interest of the northern regions within the EU. In this context the location of Southwest Finland and the city of Turku is essential. There are also about 87 million people living within a radius of 1000 km of Turku (Table 1; Fig. 2).

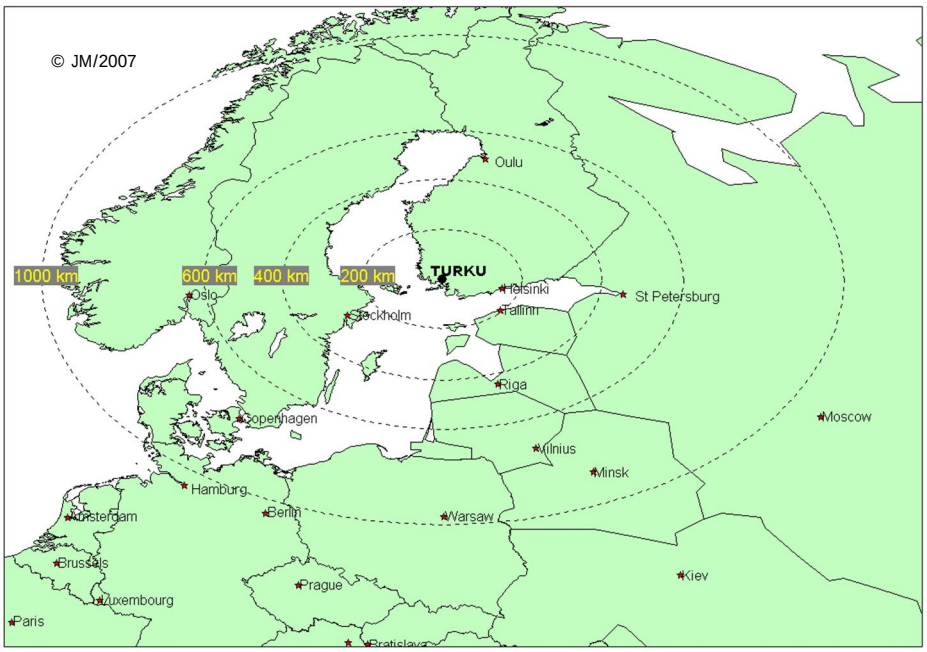


Figure 3 Location of Turku in the Baltic Sea Region

Southwest Finland is the third biggest region in terms of population in Finland. At the end of 2006 Southwest Finland had a population of 457,789, and only Uusimaa with metropolitan area Helsinki and Pirkanmaa were bigger (table 2). The region is divided into five

[3] European Comission (2006)

subregions; Salo subregion is the biggest by the land area, Turku subregion by the population (table 3). The regional structure differs in each subregion. Population density and degree of urbanization are different in Turku Subregion than in other part of Southwest Finland, Salo subregion has recently become the centre of Finland's electronics manufacturing industry. In Vakka-Suomi, the industrial share has expanded well past the traditional agricultural economy. Loimaa subregion is the most agriculturally intensive area in the Region and Turunmaa has a primary production base as well as small-scale production. [4]

Table 1 Finnish regions by population (31.12.2006). Southwest Finland is the third biggest region in terms of population in Finland. (Source: Statistics Finland)

Region	***Population***
Uusimaa	1 373 600
Pirkanmaa	472 181
Southwest Finland	457 789
North Ostrobothnia	380 668
Central Finland	269 636
North Savo	249 498
Satakunta	229 360
Päijät-Häme	199 235
South Ostrobothnia	193 585
Lappi	184 935
Kymenlaakso	184 241
Ostrobothnia	174 211
Kanta-Häme	169 952
North Karelia	167 519
South Savo	159 492
South Karelia	135 255
Itä-Uusimaa	93 853
Kainuu	84 350
Central Ostrobothnia	70 672
Åland	26 923

[4] Statistics Finland (2007a); Kuntaliitto (2007)

Table 2 Southwest Finland and its subregions in briefly. (Source: Statistics Finland, kunnat.net)

	South West Finland	Turku Subregion	Salo Subregion	Loimaa Subregion	Vakka-Suomi	Åboland Subregion
Municipalities (1.1.2007)	53	18	11	10	6	8
Land area (km^2)	10655,96	2407,37	2655,31	2299,76	1732,76	1570,76
Population (at end 2006)	457789	302229	63606	37225	31936	22739
Population change (2002-2006, %)	+1,42%	+2,18%	+1,52%	+0,30%	-3,00%	-0,34%
Population projection 2040	490649	329830	71044	38405	29230	22140
Population per km^2 of land area	43,0	126,6	24,0	16,2	11,9	14,5
Degree of urbanization (2000)	82,2	91,7	69,0	57,7	68,5	59,6

The regional distribution of the population illustrates the resources available in different parts of Finland. The migration flows show people's reactions to the information available about opportunities in different areas. Finland's most densely populated and urbanized areas lie in the south and southwest of the country. The balance of the migration flow is also evident among the administrative provinces of Finland. Extensive migration from provinces with a high share of primary production towards more industrialized provinces has slowed down. In the future it seems, that Southern Finland, Uusimaa region and Metropolitan area Helsinki will still be growing but the other biggest regions will not grow substantially (Fig. 4).

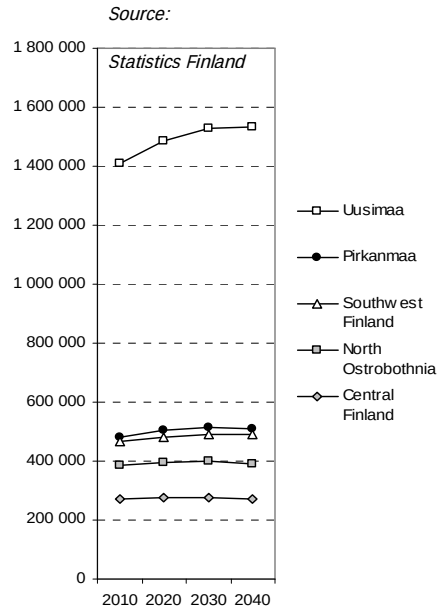


Figure 4 Population projection (2010-2040) in the five biggest regions in Finland.

Demographic data indicates also that the Finnish population is aging, and this places growing demands on care of the elderly and on pension schemes[5]. This is also situation in Southwest Finland (Fig. 5).

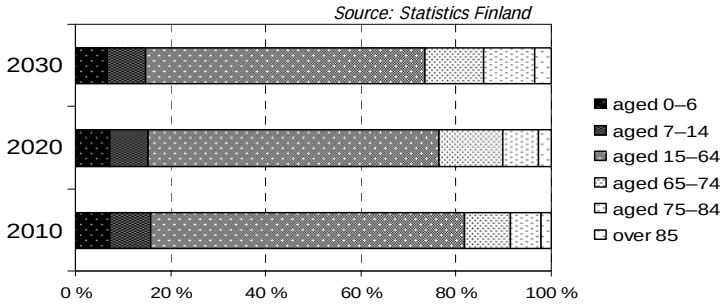


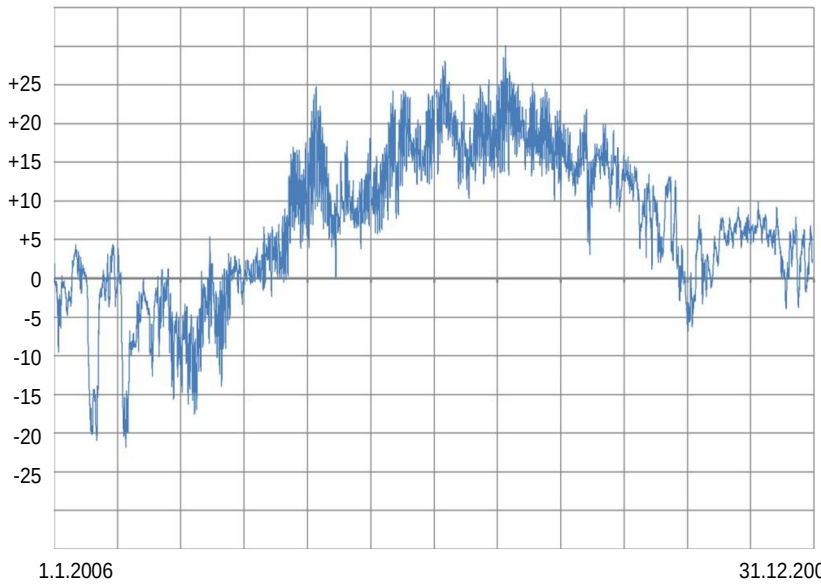
Figure 5 Age structure of population in South West Finland (projection 2010-2030)

[5] Peltonen (2002); Statistics Finland (2006b; 2007)

2.3 General climate conditions

The main factor influencing Finland's climate is the country's geographical position between the 60th and 70th northern parallels in the Eurasian continent's coastal zone, which shows characteristics of both a maritime and a continental climate, depending on the direction of air flow. The mean temperature in Finland is several degrees higher than that of other areas in these latitudes. The temperature is raised by the Baltic Sea, inland waters and, above all, by air flows from the Atlantic, which are warmed by the Gulf Stream.[6] It is due to the effect of moving airstreams that Finnish temperature conditions are also irregularly changeable. This is particularly the case in winter; when warm airstreams from the Atlantic arrive from time to time break up periods of frost.[7]

The annual changes in temperature are an important feature of the Finland's climate (Fig. 6)[8].



Source: Åbo Akademi

Figure 6 Yearly temperature variation in Turku 2006

[6] Heino (2001)
[7] Atlas of Finland (1987)
[8] Åbo Akademi (2007)

In winter, the mean temperature remains below 0°C, but warm air flows can raise the daily high above 0°C at times. Winter usually begins in mid-October in Lapland and during November in the rest of Finland, though not until December in the southwest archipelago. It thus takes about two months for winter to proceed from Lapland to Åland. Winter is the longest season. It is lasting for about 100 days in Southwest Finland.[9] Permanent snow falls on open ground about two weeks after winter begins. The snow cover is deepest around mid-March, with an average of 60 to 90 cm of snow in eastern and northern Finland and 20 to 30 cm in southwest Finland. The lowest temperatures in winter are from -45°C to -50°C in Lapland and eastern Finland; from -35°C to -45°C elsewhere; and -25°C to -35°C in the islands and coastal regions. The lowest temperature recorded in Helsinki is -34.3°C (1987). The lowest temperature recorded at any weather station in Finland during the past 100 years is -51.5°C (1999).[10]

The lakes freeze over in late November and early December. The ice is thickest in early April, at about 50 to 65 cm. Ice conditions in the Baltic Sea vary a lot from one year to another (Fig. 7).

Source: Finnish Institute of Marine Research

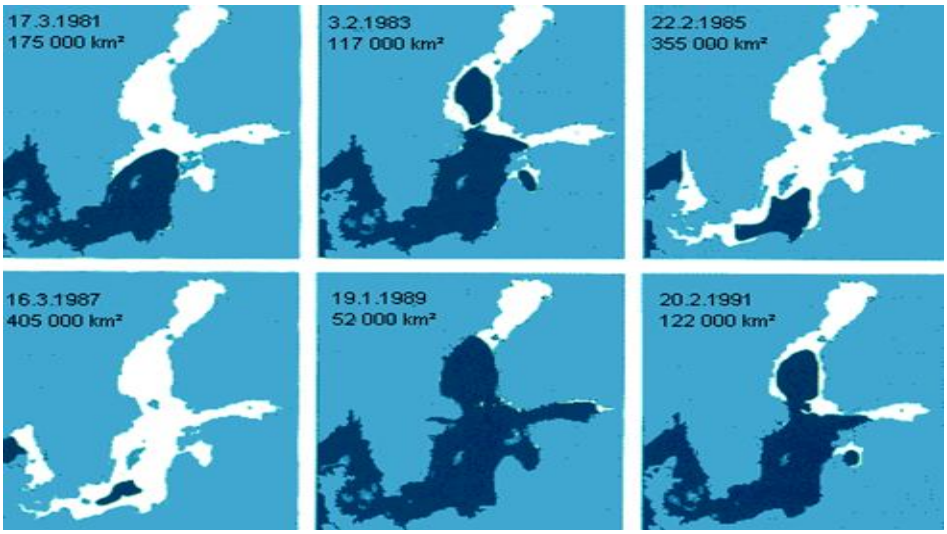


Figure 7 Maximum ice cover during different years

[9] Heino (2001); Atlas of Finland (1987)
[10] Finnish Meteorological Institute (2007)

In severe winters, the Baltic Sea may ice over nearly completely, but in mild winters it remains open except for the far ends of the Gulf of Bothnia and the Gulf of Finland. The maximum ice covered area varies between 52 000 and 422 000 square kilometres, which stands for 12-100 per cent of the total Baltic Sea area. On average the sea ice covers 218 000 square kilometres every winter. The ice formation in the Baltic Sea starts along the coasts of the northern Bay of Bothnia and the inner Gulf of Finland. This occurs usually in October-November. Thereafter the freezing spreads to the Quark, the open Bay of Bothnia and the coasts of Sea of Bothnia.[11] In normal winters the ice gets to cover also the rest of the Sea of Bothnia, the Archipelago Sea, the whole Gulf of Finland and parts of the northern Baltic Proper. The shoreline of Southwest Finland gets a permanent ice cover usually at the beginning of January.

In summer, the mean daily temperature is consistently above 10°C. Summer usually begins in late May in southern Finland and lasts until mid-September. Summer in Lapland starts about one month later and ends a month earlier than the south coast. The highest summer temperatures in the Finnish interior are from 32°C to 35°C. Near the sea and in the islands, temperatures over 30°C are extremely rare; the highest temperature ever recorded in Helsinki is 31.6°C. The highest temperature ever recorded is from July 9, 1914, when 35,9°C was exceeded in Turku. Heat waves, with a maximum daily temperature exceeding 25°C, occur on an average of 10 to 15 days per summer inland in southern and central Finland, and 5 to 10 days in northern Finland and on the coast. In the course of the summer, thunderstorms occur on 8 to 14 days in the interior, and 4 to 8 days on the coast and in northern Lapland.

The mean annual temperature is about 5.5°C in southwest Finland, de-creasing towards the northeast. The 0°C mean limit runs slightly to the south of the Arctic Circle. Due to the warming influence of the Arctic Ocean, the coldest spot in Finland in terms of average annual temperature is not in the far north of Lapland, but in the northwest corner of Finland. Temperature differences between regions are greatest in January, when the difference between southern and northern Finland is about 12°C; in June and July, this figure is only about 5°C. The continental nature of the climate is testified to by the difference in mean temperatures between the coldest and warmest months, that is, 20°C in the south-western archipelago and 28°C in

[11] Heino (2001); Finnish Institute of Maritime Research (2007)

central Lapland. At the same latitudes elsewhere, this temperature difference varies even more greatly, from a few degrees in the North Atlantic to over 60°C in central Siberia.[12]

It is possible to say that Southern Finland, and Southwest Finland like-wise is blessed with a more favourable climate than other parts of the countries. The southwest corner is part of hemiboreal vegetation and with its oaks and other broadleaf trees are in places slightly similar to continental Europe[13]. However, the annual changes in temperature, cold winters and warm summers, characterize the climate conditions of Southwest Finland as well (Table 3).[14]

Table 3 limate conditions in Turku 1994–2005. (Finnish Meteorological Institute/ Turkuinfo)

	Temperature			Precipitation			
	Mean temperature (°C)	Max (°C)	Min (°C)	Sum (mm)	Number of days with precipitation (>0,0mm)	Relative humidity (%)	Duration of sunshine (h)
1994	5,1	31,4	-25,6	704	112	80	1 974
1995	6	30	-23,6	723	117	78	1 810
1996	4,6	27	-27,5	667	167	80	1 934
1997	5,8	31	-21,3	740	174	77	2 066
1998	5,1	27,8	-22,7	731	210	79	1 649
1999	6,1	31	-28	706	184	75	2 015
2000	6,8	27,7	-18,8	716	181	79	1 766
2001	5,6	30,3	-26,9	786	194	77	1 801
2002	5,8	29,1	-24,2	560	153	74	2 189
2003	5,4	32	-28	586	167	76	1 880
2004	5,7	29,4	-20,7	797	208	78	1 494
2005	5,9	30	-22	739	175	79	2 041
2006	6,9	29,8	-21,4	722	172	81	2068

2.4 Regional administrative divisions

Finland became an established state in 1917 when it gained its independence, whereupon it gradually developed into a modern, liberal nation-state being an autonomous part of Russia over 110 years and part of Sweden for hundreds of years before that. The roots of Finland's regional administrative divisions are hence in history. During the period of Swedish rule, the country was already, for administrative

[12] Heino (2001)
[13] Alalammi (1994)
[14] Finnish Meteorological Institute (2007); Turkuinfo (2007)

purposes, divided into provinces that survived well after Finland became independent. Under the Russian Empire until the end of 1917 two different traditions, Swedish and Russian, converged in administration. At present, a system of regional administration based on economic areas, regions and municipal cooperation is being introduced.[15]

Finnish regional administration encompasses state's regional administration and regional administration within local self-government. State regional authorities are operated by central government at regional level and direct the activities of state local administration. A few years ago the division into provinces has been changes significantly. Under a present law responsibility for regional development was transferred from the provincial governments to regional councils.[16] As a result of the administrative reforms implemented in the 1990s, the main State regional authorities are now the State Provincial Offices, Employment and Economic Development Centres, Regional Environment Centres and the regional offices of the Finnish Road Administration. State Provincial Offices and Employment and Economic Development Centres are handling matters falling within the competence of several ministries. State Provincial Offices act as general administration, supervisory and security authorities at regional level. Employment and Economic Development Centres aim to promote business and industry and regional development.[17]

The country's six provinces are Southern Finland, Western Finland, Eastern Finland, Oulu, Lapland and Åland, each with its provincial administration (Fig. 8).

[15] Paasi (1997); Tiihonen (1996)
[16] Valde-Brown et al. (1999); Ministry of the Interior (2007a)
[17] Pilot Turku (2006); Ministry of the Interior (2007)

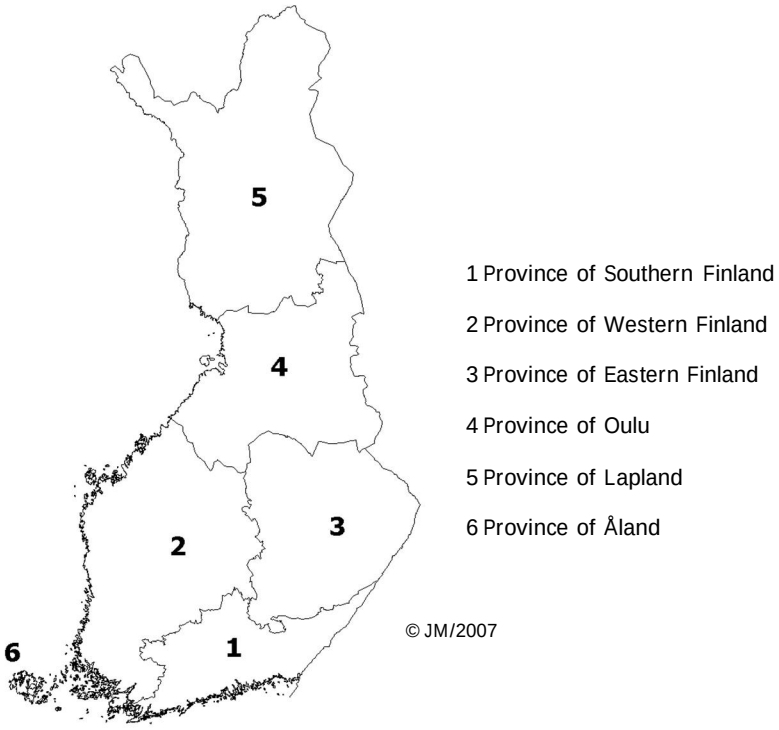


Figure 8 State Provincial Offices of Finland

These offices have general administrative, supervisory and security functions, with particular responsibilities for social and health care, education and culture, police administration, rescue services, traffic administration, competition and consumer affairs and judicial administration. The special duties of the State Provincial Offices include also preparedness for exceptional conditions and evaluation of basic services.[18] The province of Western Finland, the main administrative office for which is in Turku, comprises seven regions, 32 subregions and 189 municipalities. The administration also has regional service points in Jyväskylä, Tampere and Vaasa and an office in Pori.[19] The State Provincial Office represents multi-sectoral expertise within its territory. It acts as the joint regional authority for seven different ministries, promoting the national and regional objectives of the central government.

[18] State Provincial Offices of Finland (2007)
[19] State Provincial Office of Western Finland (2007)

The Employment and Economic Development Centres (T&E Centres) and provincial administrations are complex organizations gathering together functions that are subordinate to a number of ministries. T&E Centres (Fig. 9) are tasked with the promotion of business, employment and rural vitality within their region, based on the provision of advisory, training, development and financing services in issues related to labour and business.[20]

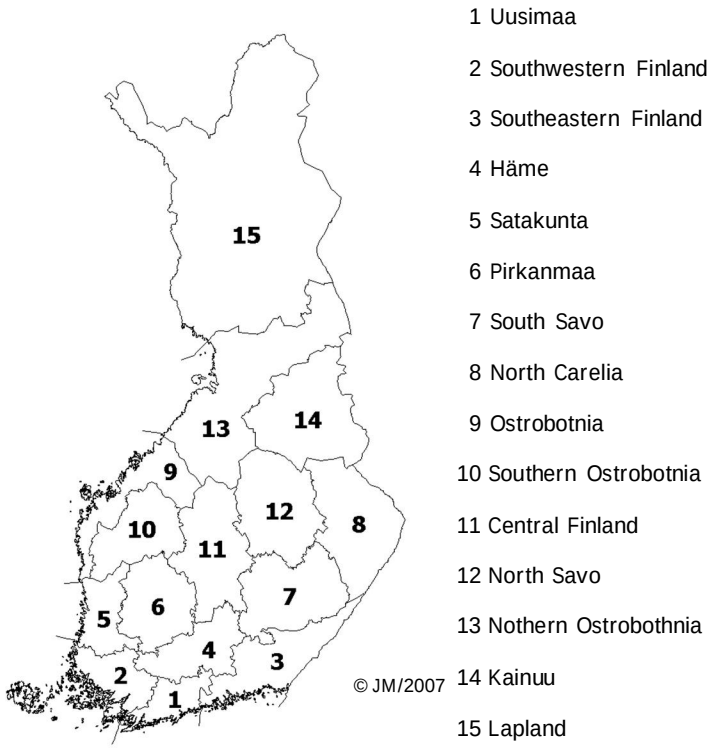


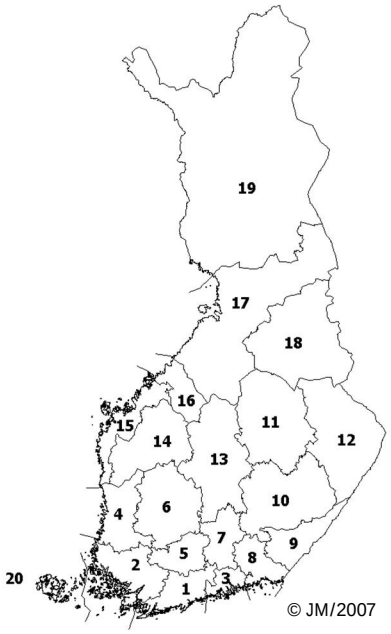
Figure 9 The Employment and Economic Development Centres (T&E Centres) in Finland

The purpose of the T&E Centres is to promote the local economy and regional development, providing advisory and development services in economic and labour matters and assisting companies in exploiting technological advances, operating internationally and improving their export performance.[21] They are responsible for implementing regional labour policy through such means as retraining

[20] Pilot Turku (2006)
[21] Employment and Economic Development Centres (2007)

schemes and for stimulating rural occupations and ensuring the vitality of rural areas.

The regional councils are statutory federations of local authorities with specific powers in the fields of planning and regional development. Regional councils are joint municipal authorities, and their role is to operate both as regional development authorities and as planning and lobbying organisations. The Regional Council of Southwest Finland is one of Finland's 19 regional councils (Fig. 10).



1 Uusimaa
2 Southwest Finland
3 Itä-Uusimaa
4 Satakunta
5 Häme
6 Tampere Region
7 Päijät-Häme
8 Kymenlaakso
9 South Karelia
10 Southern Savo
11 Northern Savo
12 North Carelia
13 Central Finland
14 South Ostrobotnia
15 Ostrobotnia
16 Central Ostrobotnia
17 Nothern Ostrobothnia
18 Kainuu
19 Lapland
20 Åland

Figure 10 Finnish regional councils

The Regional Council of Southwest Finland is comprised of 53 Southwest Finnish municipalities, which finance the Council's operations with contributions that are proportionate to the size of their populations. As well as being responsible for administering the EU programmes implemented in the province, the Regional Council of Southwest Finland maintains contacts internationally and engages in voluntary cooperation with several areas. [22]

[22] Regional Council of Southwest Finland (2007); Pilot Turku (2006)

Southwest Finland is divided into five subregions (Fig. 11). These subregions differ in their economic and regional structure and in their environmental conditions. Turku[23] functions as a powerful economic driving force for the whole region in the fields of research, industry, services and education.

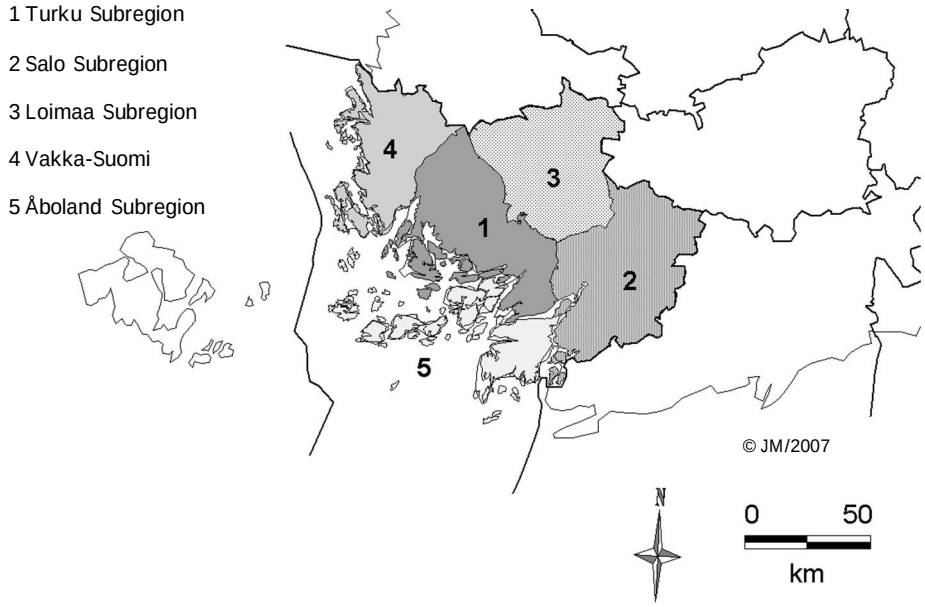


Figure 11 The subregions of South West Finland

Salo[24] has developed into a major national centre for the electronics industry. Loimaa[25] is the most markedly agricultural, while industry has risen to occupy a more prominent position than traditional agriculture in Vakka-Suomi[26]. Åboland[27] retains its reliance on primary production, but possesses small industries of a character suitable for an archipelago area such as archipelago tourism. As tourism increases, so will the importance of the area.

There are 416 municipalities in Finland (Fig 12). Following the changes in the environment in which local authorities operate, fiscal austerity, and increasing migration, there has been more and more talk

[23] Turku Subregion (2007)
[24] Salo Subregion (2007)
[25] Loimaa Subregion (2007)
[26] Vakka-Suomi (2007)
[27] Åboland Subregion (2007)

about municipal mergers. In recent years, a few municipal mergers have taken place annually, and the number of local authorities has declined from 452 in 1997 to today's 416. Some 20 mergers are currently being processed at different levels.[28] All the local authorities in Finland are now known officially as municipalities, and can be recognised as towns if they so wish. Southwest Finland region has 53 municipalities. There are 22 municipalities with a population of 2 000–10 000 inhabitants and 22 with less than 2 000. The city of Turku has a population of about 175 300, and the smallest municipality, Velkua, just 249 (31.12.2006).[29]

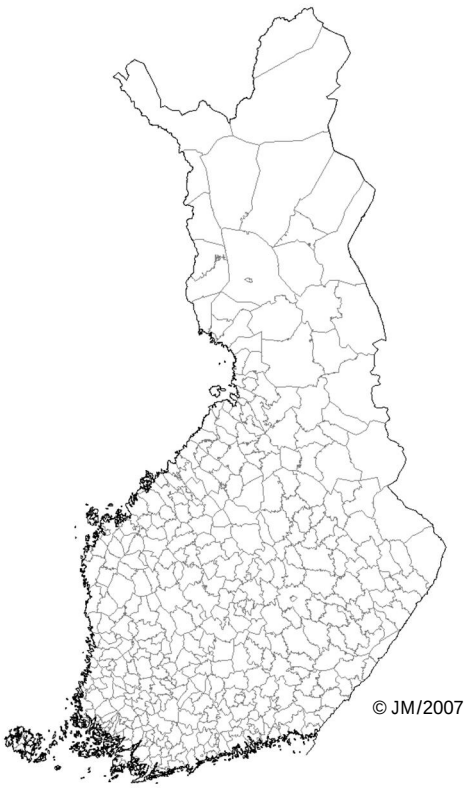


Figure 12 Finland consists of 416 municipalities (1.1.2007)

[28] Kuntaliitto (2007)
[29] Statistics Finland (2006b)

2.5 Historical background

Southwest Finland was one of the first areas in Finland to be inhabited. Evidence of early settlement can be dated back to as long as 8500 years. And because of that it can be seen in the large numbers of prehistoric finds and historical monuments in the region. Since the Viking age, Southwest Finland has served as a contact point between eastern and western cultures. The sea has provided access to the entire Baltic region and linked Southwest Finland and the rest of the country to Western Europe. Since the middle ages, the area now known as Finland has been a Roman-Catholic country under Swedish rule.[30]

The Crusades brought Finland fully within the sphere of influence of the Roman Catholic Church and the Kingdom of Sweden, with Southwest Finland serving as Sweden's point of entry for its occupation of inner Finland. Southwest Finland adopted the West's laws, municipal and social structures, and modes of thought. Southwest Finland enjoyed a strong position under Swedish rule. Turku was the academic centre-point and Episcopal see of Finland as well as the home of its richest merchants.

When Finland was annexed by Russia, Southwest Finland found itself on the periphery of other regions of the country. However, the region soon set things straight, by joining in the second Industrial Revolution with a focus on the metals industry, whose professional skills brought Southwest Finland into the highly demanding modern age. It also preserved its legacy as the breadbasket of Finland and managed to combine stability and wealth with a radicalism that demands change.[31]

Turku the capital of Southwest Finland, became a traditional point of convergence between East and West. Turku is an ancient town and the exact date of its foundation is not known. Official records give the date of its founding as 1300, but according to tradition, the year of the town's birth was 1229. Soon after its foundation, Turku became the first seat of government in Finland and a pre-eminent centre of culture, education and commerce. In the 16th and 17th centuries, Turku continued to consolidate its position as Finland's leading city. After centuries of Swedish domination, Finland came under Russian rule in 1809, and Turku became the capital of autonomous state in 1812.

[30] Valde-Brown et al. (1999)
[31] Regional Council of Southwest Finland (2007)

However only a few years later, in 1819, Alexander I decided to remove the capital to Helsinki, closer to Russia. 20th-century Turku has been called "Finland's gateway to the West". The city enjoyed good connections with other Western European countries and cities, especially since the 1940s with Stockholm across the Gulf of Bothnia. In the 1960s and 1970s, Turku displayed unprecedented rates of growth. Nowadays Turku is a combination of both old and new. Turku has much for the modern urbanite, but also for tourists interested in the treasures of history.[32]

2.6 Links to the BSR

In Southwest Finland, focus of development is on management of natural and cultural environments, promotion of expertise in support of economic activity, and in the combination of multimode transport facilities into an entity serving Northern Europe.[33] The Baltic Sea region forms in a sense the heart of the Northern Dimension, and has been a scene of extensive initiatives for international cooperation and integration. It has begun to be regarded as a future growth area, in much the same way as the previous growth areas of the west and south of Europe. Cooperation in the Baltic region has political, economic and cultural aspects.

Of the countries that joined the European Union in 2004, Estonia, Latvia, Lithuania and Poland lie within the Baltic Sea Region, and their accession has enhanced the role of this region and stimulated its economic development. Rapidly expanding markets have opened up in areas bordering on Finland, offering Finnish companies improved opportunities for exports and investments. In addition to the new EU members, Russia has become increasingly important to the regional economy. According to a study by ETLA, the Research Institute of the Finnish Economy, on logistics co-operation between Finland and Russia, at the current rate of development Russia will become Finland's most important trade partner in the near future.[34]

[32] Valde-Brown et al.(1999); Kallioniemi (1995)
[33] Regional Council of Southwest Finland (2007)
[34] Pilot Turku (2006)

3 ECONOMY

3.1 Economic importance of the region

At the end of the Second World War, Southwest Finland was still a region whose economy was clearly based on agriculture and forestry with almost half of the population earning their livelihood from these activities. About sixty year's later primary production accounts for 4% of the total. At present 66% of the population in the region earn their living from services, and some 29% from industry and construction.[35] Nowadays Southwest Finland and the Turku area form one of the most important economic zones and concentrations of industrial activity in the whole of Finland and one of the largest in terms of the volume of production (Fig. 13).[36]

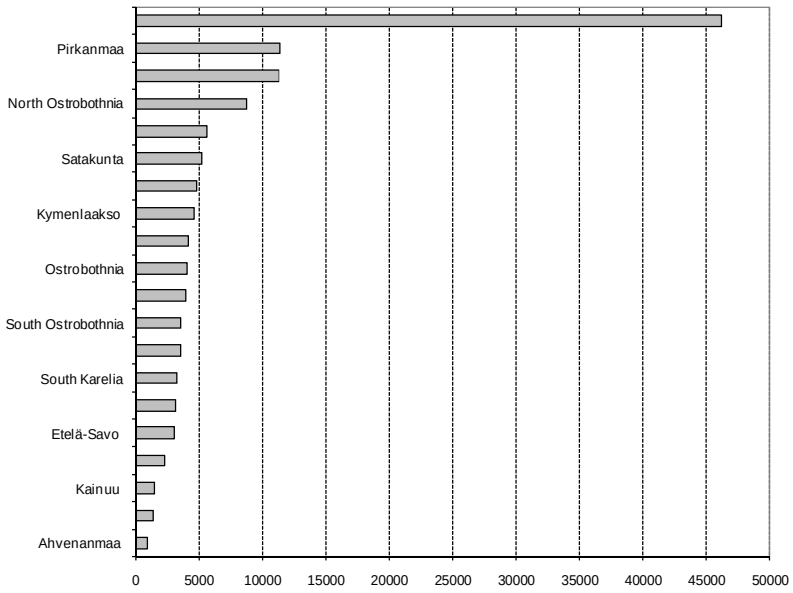
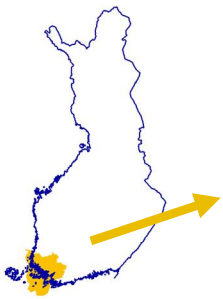


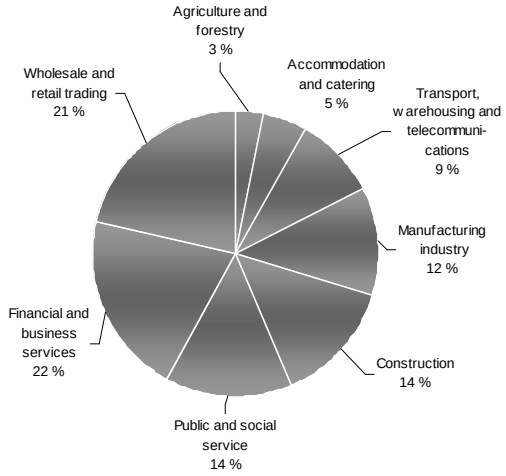
Figure 13 Gross value added at basic price by regions (€ millions) 2004.

[35] Statistics Finland (2006b)
[36] Statistics Finland (2007b)

In addition, the Turku and Salo areas together constitute one of the country's major growth centres. Growth in production has been faster in both South Finland and the Turku subregion than in the country as a whole. The domestic product at basic price (gross value added) for Southwest Finland is about 11 000 million euros (as of 2004), accounting for about 8.5% of Finland's total GDP at basic price. Calculated per head of population, Southwest Finland had the third highest regional GDP in the country at that time.[37]

In the early 1990s the Finnish economy plunged into a recession, which was due to slow economic growth in the western countries, the collapse of Soviet trade and the devaluation of the Finnish currency. The recession led to a considerable drop in total industrial output and an increase in un-employment. The impact of the recession has been felt for many years also in Southwest Finland, but the diversity of production structure ensures regional vitality even in times of great economic fluctuations.[38] One of the strengths of the Turku area and of the Southwest Finland region as a whole hence lies in the diversity of its occupational structure (Fig. 14–16).

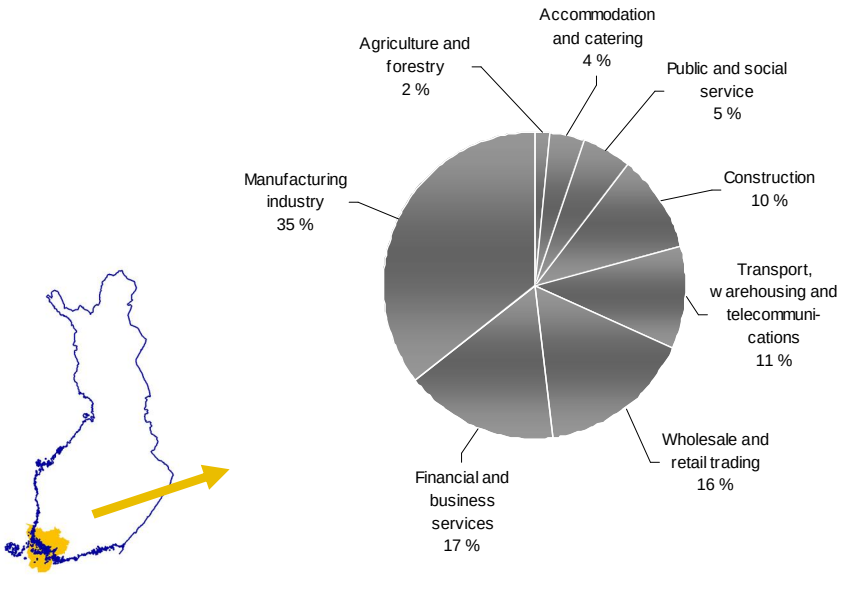




Source of data: Statistics Finland

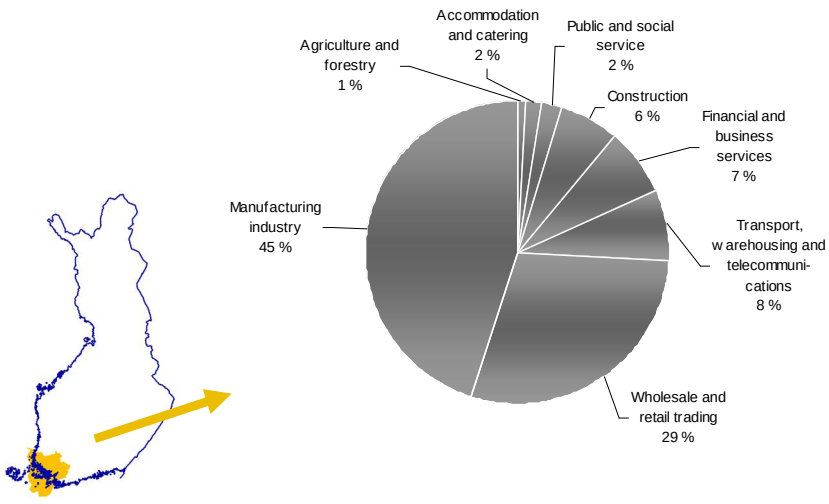
Figure 14 Number of industrial and business units in Southwest Finland (2004).

[37] Pilot Turku (2006); Statistics Finland (2007b)
[38] Valde-Brown et al. (1999)



Source of data: Statistics Finland

Figure 15 Employees in industrial and business units in Southwest Finland (2004).



Source of data: Statistics Finland

Figure 16 Annual turnovers in industrial and business units in Southwest Finland (2004).

Although manufacturing in the Southwest Finland may be said to be grounded most of all in the electronics and metalworking industries,

many other key branches are well represented (Fig. 17).[39] Southwest Finland is one of Finland's key agricultural and industrial production areas, with a multifaceted industrial base. Major industries include foodstuffs, electronics and vehicle manufacture, which have a high share compared to the national average, while lumber and papermaking have an extremely low share of the industrial base. Among industries in Southwest Finland, high-tech industries have recently experienced exceptionally strong growth, thus making the region a leader in the field of high-tech.

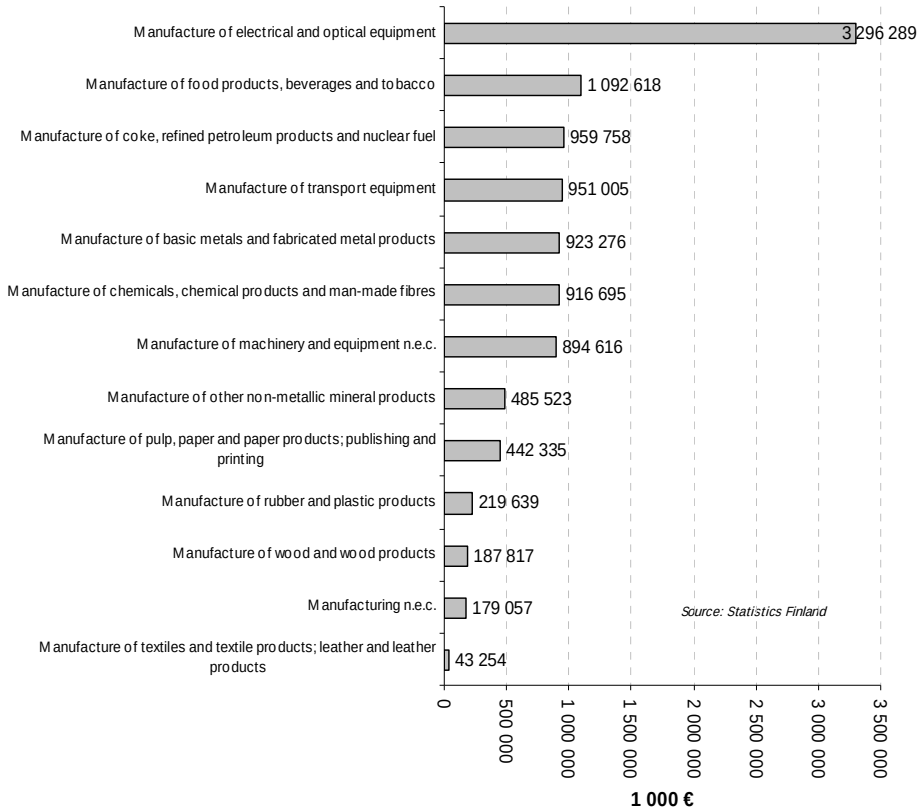


Figure 17 Turnover by industry in Southwest Finland (2005).

The regional economic structure differs in each subregion. Turku is a powerful engine for research, industry and service, and the number of enterprises is higher than in other subregions (Fig. 18).[40]

[39] Statistics Finland (2007b)
[40] Statistics Finland (2007b)

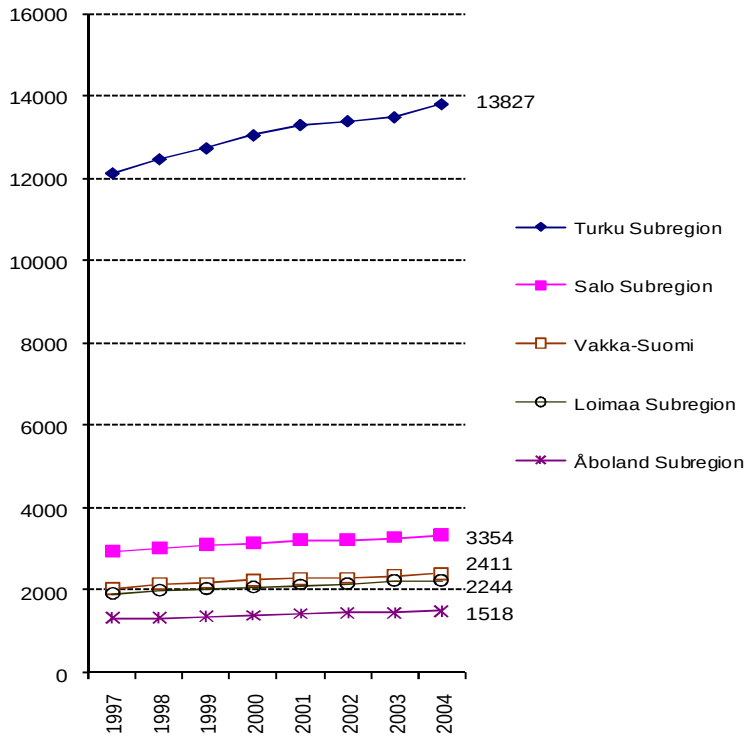


Figure 18 Number of enterprises by subregions in Southwest Finland (1997–2004).

The Salo subregion has grown to become the centre of Finland's electronics manufacturing industry. The Turku-Salo corridor has become a formidable centre of expertise in the high technology sector. In Vakka-Suomi, the industrial share has expanded well past the traditional agricultural economy. Loimaa sub-region is the most agriculturally intensive area in the Region and Åboland has a primary production base as well as small-scale production, which is suitable for the archipelago environment. The differences in the economic structures between subregions are particularly noticeable in the productivity numbers (Table 4).

Table 4 Turnover (1000€) in manufacturing industries in South West Finland by subregions (2005)

	Turku Subregion	*Salo Subregion*	*Loimaa Subregion*	*VakkaSuomi Subregion*	*Åboland Subregion*
Manufacture of food products, beverages and tobacco	862 102	93 389	14 856	36 478	13 763
Manufacture of textiles and textile products; leather and leather products	27 967	9 700	2 267	2 555	340
Manufacture of wood and wood products	19 953	23 806	…	23 230	1 794
Manufacture of pulp, paper and paper products; publishing and printing	301452	103 839	10 271	3 730	1 710
Chemical industry	1 564 398	210 680	22 089	266 685	12 558
Manufacture of other non-metallic mineral products	102 852	73 944	36 594	60 217	208 497
Manufacture of basic metals and fabricated metal products	407 845	111 137	53 078	…	58 068
Manufacture of machinery and equipment n.e.c.	509 242	143 801	133 801	72 560	25 256
Manufacture of electrical and optical equipment	337 374	2 987 337	1 262	2 726	…
Manufacture of transport equipment	787 163	…	12 996	117 682	8 259
Manufacturing n.e.c.	92 457	43 205	19 436	15 672	1 640

… = data subject to secrecy

Source: Statistics Finland

Southwest Finland has done well in comparisons of overall economic growth within Finland. The growth has been more rapid than elsewhere in the country. This is the case especially in the field of the manufacture of metal products and electronics. The metal industry, and especially shipbuilding, has always played a central role in Southwest Finland's economy, and the other hand the region is one of the four telecommunications-powered growth areas in the country. The rapid expansion of the electronics industry in the Salo area in recent years has been responsible for much of its economic progress.[41]

Southwest Finland's economic expectations for the near future are fairly optimistic. Current growth expectations in Southwest Finland are directed first of all towards the shipbuilding but also towards the high-tech industries and the trade, services and construction sectors. Employment is increasing especially in the service sector.[42] Industrial turnover in Southwest Finland increased in 2005 by 7–8% over the previous year, to reach around 10 000 million euros. This was the consequence of a sharp rise in orders in the maritime and mechanical engineering industries. Shipbuilding orders now extend to the end of 2009. Other factors that led to this growth were increases in the

[41] Pilot Turku (2006)
[42] Nieminen (2007)

manufacture of vehicles, mobile phones, building materials and pharmaceuticals, while production in the fields of foodstuffs and printing and publishing, for example, grew more slowly. The expansion in shipbuilding has increased the demand for labour in the Turku area.[43] The strategy of the Turku area aim at by investing in a more flourishing business life, and the development of better municipal services for the inhabitants as well as a more attractive environment.[44] At this moment Southwest Finland is in a good position at a national and an international level alike. A prognosis for year 2040 tells that the status of Southwest Finland will be still strong, and for example Turku Subregion will be the one of the fourth biggest subregions in Finland at that time.[45]

3.2 International trade

The world economy is for the first time becoming truly global. The OECD countries still dominate the world economy but East Asian developing countries, in particular, are gaining an expanding share of production, trade and investment. The Russian economy is also growing, but it is still dependent on oil and gas production. The poorest developing countries, especially in Africa, have not managed to keep pace with the emerging developing countries, and their share of the world economy has further declined. Membership in the EU has changed the operating environment of Finland's trade policy, and the EU's negotiating power has significantly strengthened Finland's trade policy position. Finland's economic success requires the further removal of barriers to export and investment and an open import policy that promotes competition. The key challenges include customs duties and non-tariff barriers to trade and trade-distorting measures that are still prevalent in many markets.[46]

The countries of the European Union are as a whole the most important trade partner for Finland. About 59% of import arrives from the European Union region and about 57% is directed to the EU countries. From among the exportation, 29% went to the Euro territory, 28% to the other EU Member States, and 43% to countries not in the EU. The shares of the export to both the Euro territory and the other

[43] Pilot Turku (2006)
[44] Turku Region Development Centre (2006)
[45] Wuori & Mikkonen (2007)
[46] Ministry of Foreign Affairs of Finland (2007)

EU Member States kept diminishing in relation to the countries not in the EU. The external trade to Russia and countries in the Near and Middle East increased particularly strongly. Russia passed Sweden as the most important export country of Finland in 2005.[47] Russia, German and Sweden have lately been Finland's biggest trade partners (Table 5). Russia will, in the forthcoming years, assume the position of Finland's biggest trade partner and its significance in the development of the Finnish economy is invariably increasing.[48]

Table 5 Finnish foreign trade. The top 20 countries in export and import volumes in 2005. (Finnish Customs)

Export	***(1000€)***	**Import**	***(1000€)***
Russia	5 744 044	Germany	7 027 458
Sweden	5 657 856	Russia	6 556 892
Germany	5 573 160	Sweden	4 966 866
United Kingdom	3 517 832	China	2 820 126
United States of America	3 059 489	United Kingdom	2 099 203
Netherlands	2 532 322	United States of America	1 965 780
France	1 799 801	Netherlands	1 878 110
Italy	1 616 163	France	1 696 752
China	1 556 111	Italy	1 672 415
Estonia	1 358 577	Japan	1 541 322
Norway	1 322 744	Denmark	1 486 206
Spain	1 286 751	Estonia	1 479 325
Denmark	1 241 757	Norway	1 046 911
Belgium	1 226 677	Belgium	1 030 066
Arab Emirates	1 121 333	Hungary	747 456
Poland	1 032 110	Spain	704 938
Japan	876 698	South Korea	689 557
Saudi Arabia	645 492	Poland	599 980
Turkey	617 959	Austria	462 103
Canada	547 124	Switzerland	456 580

Southwest Finland is one of Finland's key agricultural and industrial production areas, with a multifaceted industrial base, and in the context of Finnish economy the role of Southwest Finland is essential. This is also evident in the figures of the foreign trade. Only Uusimaa and Pirkanmaa regions have bigger amount of export volume (Fig. 19).[49] The region is one of the most successful in Finland in terms of the value of industrial exports, with about 60% of its industrial production

[47] Finnish Customs (2007)
[48] Sitra (2005)
[49] Statistics Finland (2007b)

exported. The principal export-oriented industries are in the high-tech sphere, most notably the electronics industry, where as much as 80% of total production is exported. A similar figure is also reached in the vehicles and transport sector, where shipbuilding is particularly important.[50]

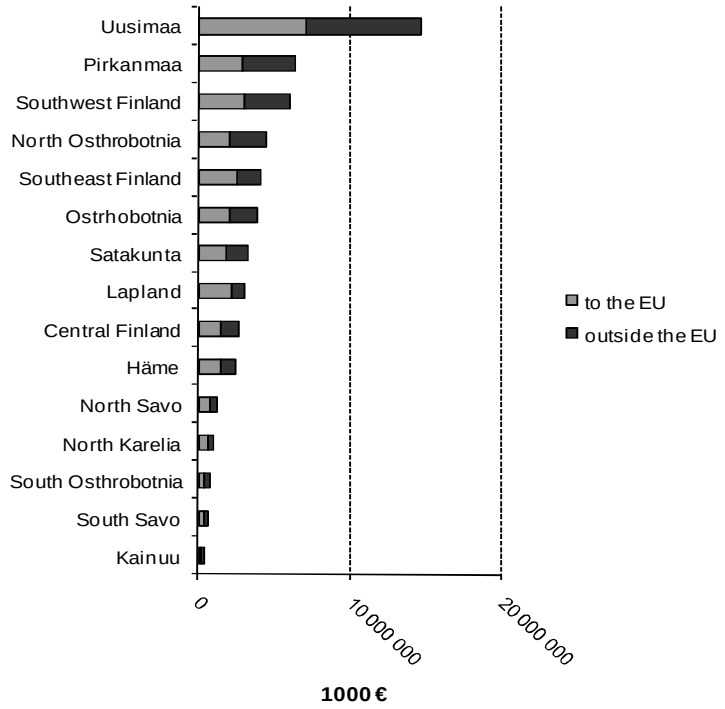


Figure 19 Export by employment and Economic Development Centres 2005

Among industries in Southwest Finland, high-tech industries have recently experienced exceptionally strong growth, thus making the region a leader in the field of high-tech. Because of that, the high-tech industries have also major role as an exporter. In 2005, the manufacture of telecommunications equipment accounted for over 45% of the total value of industrial and constructional exports in Southwest Finland. A manufacture of transport equipment accounted for 20% of the total value, and the chemicals industry accounted for almost 10% likewise the manufacture of machinery (Fig. 20).[51]

[50] Pilot Turku (2006)
[51] Statistics Finland (2007b)

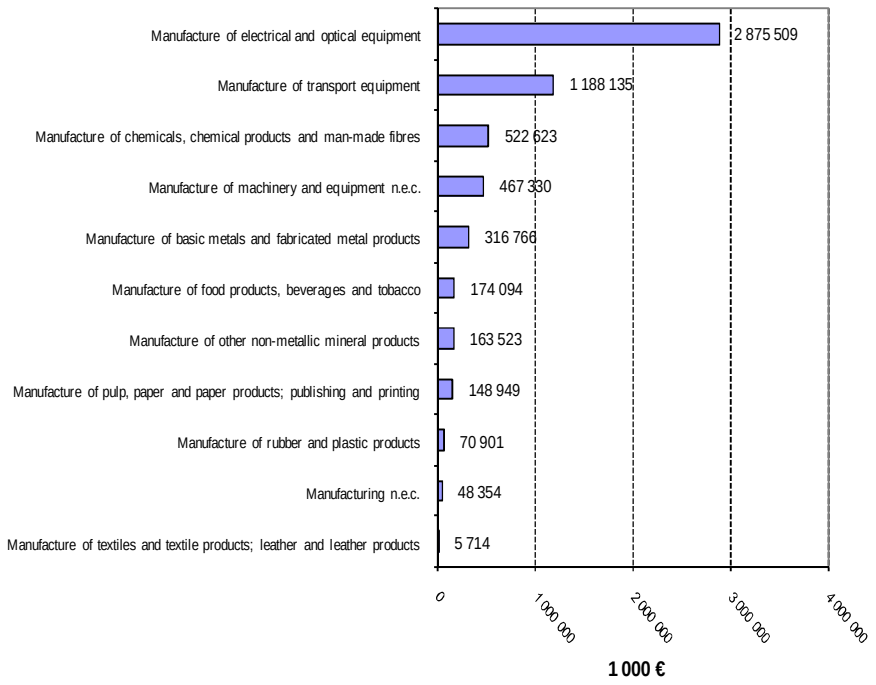


Figure 20 Export by industry in South West Finland 2005.

The distribution of exports from Southwest Finland differs slightly from that for the whole country: 52% of Finland's exports in 2004 went to EU countries 40% of exports from Southwest Finland went to EU countries, with the corresponding proportions for the other growth centres varying between 44% (Uusimaa) and 46% (Tampere region). The value of industrial and constructional exports from Southwest Finland to EU countries in 2004 was 2 000 million euros and that to non-EU countries 3 000 million euros.[52] However, Southwest Finland's diverse economic structure and also the differences between subregions are noticeable in the international trade as well. Salo subregion as a centre of high tech industry has the uppermost role in the foreign trade (Fig. 21).[53]

[52] Pilot Turku (2006)
[53] Statistics Finland (2007b)

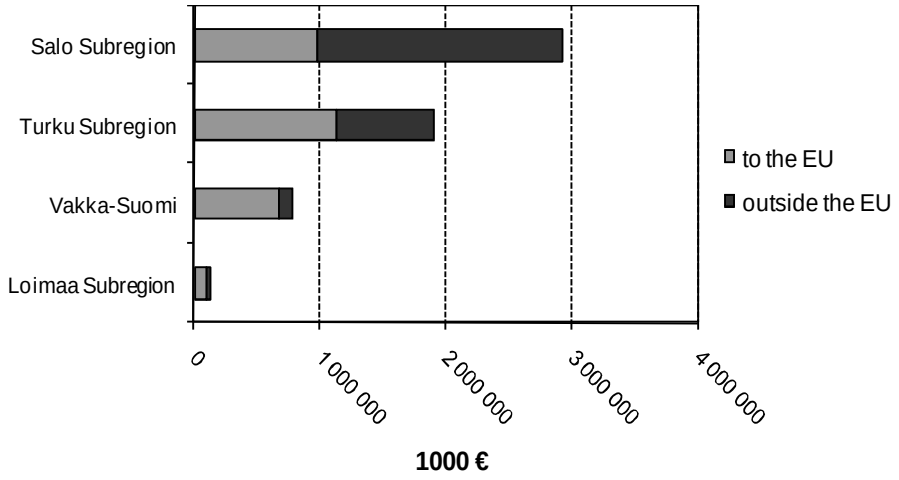


Figure 21 Export by subregions in South West Finland (2005).

4 PUBLIC SECTOR SUPPORT FOR ENTERPRISES

4.1 Regional development; planning and organisations

The mission in the EU is to strengthen economic, social and territorial cohesion by reducing disparities in the level of development among regions and Member States. With enlargement, social and economic disparities between the regions of the EU have widened and these present new challenges for cohesion policy. Effective means of reducing economic, social and regional inequalities are therefore needed. In Finland, the national regional policy and European Union regional policy together form a whole which promotes the equitable and independent development of different parts of the country while also supporting less developed areas.[54] The common targets of regional development in Finland are based on the Regional Development Act and the Government decision on national regional development targets. Under the Act, one of the targets is to improve the potential for economic growth, the development of business and industry and the improvement of employment that are based on expertise and sustainable development and ensure the competitiveness and prosperity of regions. Another target is to reduce regional disparities in development, improve the population's living conditions and promote balanced regional development. Furthermore, the aim is to create a balanced regional structure which keeps all the regions viable. The responsibility for regional development rests with the State, municipalities and Regional Councils acting as regional development authorities.[55]

In Finland the municipalities and the state have responsibility for regional development and the regional councils as joint municipal boards that manage the functions relating to regional policy. The Ministry of the Interior formulates regional development on a national

[54] European Commission (2007a)
[55] Ministry of the Interior (2007b)

level in cooperation with other ministries and the regional councils. The Ministry is also in charge of coordination and evaluation of both the preparation and implementation regional strategic programmes. The regional development policy is outlined in the Regional Development. Act which describes the goals for regional development: creating preconditions for economic growth, industrial and business development and a higher employment rate that will guarantee regional competitiveness and well-being on a basis of competence and sustainable development. There are three instruments for regional planning the municipality level: Regional Strategic Plan, the Regional (Land-Use) Plan and the Regional (Development) Program (table 6).[56]

Table 6 The regional development instruments in Finland.

Regional Strategic Plan Outlining the strategic choices and vision, timeframe 20–30 years.	
Regional Plan Spatial planning strategy and visions, timeframe 10–20 years.	Regional Program Regional development strategies and planned activities, timeframe 3–5 years with an annual implementation plan.

Source: Demia

The system for regional development in Finland is often called program-based. The Regional Councils are responsible for making proposals on regional Structure Fund programs for their area, which are to be financed with European Structural Funds financing. Furthermore the objectives of the Regional Development Program are carried out through different programs: the Regional Centre Program, the Rural Policy Program, Centre of Expertise Program and The Island Development Program.

The Regional Centre Programme is special program from the government relating to the Regional Development Act. Its objective is to establish a network of regional centres covering every region/province and to develop the strengths, specialisation and cooperation of urban regions. The Regional Centre Programme implements the national strategy: ”the government is developing a

[56] Alapartanen (2006)

multicentre regional structure based on a competitive metropolitan region and regional centre network which will maintain the vitality of all regions and facilitate more balanced economic growth throughout the country". Other key actors are the Provincial State Offices i.e. the joint regional authorities for seven different ministries. Of even bigger importance to the regional development activities are, however, the Employment and Economic Development Centres of which there are 15 that represent the state on a regional level with three administrative sectors. Also central in this field are the 13 Regional Environment Centres.[57]

5.2 Type of support: Development agencies and efforts

Companies located in the Southwest Finland are entitled to make use of the extensive range of central and local government services provided in Finland. These services are open to both Finnish and foreign companies and are supplemented by services offered in the private sector. The Employment and Economic Development Centre (TE Centre) provide advisory services for companies in Southwest Finland. Corresponding ser-vices are coordinated on a subregional basis throughout Southwest Finland by the respective development centres: the Turku Region Development Centre, Salo Area Development Centre, Vakka-Suomi Development Centre, Loimaa Subregion Development Centre and the Turunmaa/Åboland Regional Association. In addition there are also many other organisations that offer support to enterprises (Table 7).[58]

[57] Alapartanen (2006); Ministry of the Interior (2007c); Pilot Turku (2006)
[58] Pilot Turku (2006); Alapartanen (2006)

Table 7 Development efforts in Southwest Finland.

Development agency	Annual budget	No. of personnel
Employment and Economic Development Centre	135 M €	170
Turku Region Development Centre	3,3 M €	25
Salo Development Centre	2,3 M €	18
Loimaa Development Centre	1,2 M €	9
Vakka.-Suomi Development Centre	N/A	4
Turunmaa subregion	2,5 M €	14
Turku Chamber of Commerce	0,82 M €	13
Centre for Maritime Studies	2,3 M €	36
ICT Turku	N/A	20
Pilot Turku Ltd	N/A	3

Source: Demia

The Employment and Economic Development Centres (T&E Centre)[59] are the regional government organisations of three ministries. The main focus is to promote the growth and development of the region and its economy. Its range of services is based on those offered by the Ministry of Trade and Industry, Ministry of Labour and Ministry of Agriculture and Forestry, which means that it has a wide range of expert advisory services. T&E Centre services are designed for:

- Companies' product development, technology, internationalisation, business management development and financing;
- Entrepreneurs starting their business, company establishment counselling and other, closely related activities;
- Employment promotion, adult education and employment services, as well as the management of employment office activities; and
- Specialisation of farms, rural industries and fishery and the enhancement of their operating conditions, as well as the supervision of farm subsidies.

The Southwestern Finland T&E Centre is a major source of public finance for the economic life of the region, particularly as far as small

[59] Employment and Economic Development Centres (2007)

and medium-sized companies are concerned, its main sources of finance being the EU Structural Funds and national forms of economic support available from various ministries. The categories of SME (Small and Medium-Sized Enterprises) support provided by or through the T&E Centre include in-vestment support, development support, operating environment support, research and product development support and energy support. The total sum paid out to companies by the Southwestern Finland T&E Centre per year in discretionary support amounts to more than 130 million euros.[60]

The main objectives of Turku Region Development Centre are area development and especially the strengthening of trade and industry in the region, the marketing of the region as a location for entrepreneurship and development of cooperation in the region. The Centre aims to create the necessary conditions for lively and diverse commercial activity in the Turku subregion. It represents all 18 local authorities in the subregion and is responsible for regional development, marketing of the area, advisory services related to the location of companies there, the promoting of private enterprise, the provision of business services and the advancement of cooperation between organizations. It maintains a database of commercial building plots and vacant premises in the Turku subregion that can be consulted in Finnish, Swedish and English and helps companies already established in the area to create international contacts. It has recently set up its own contact agency, Bizkon, in St. Petersburg to promote cooperation and trade between firms in that city and in Southwest Finland.[61]

In Salo the Development Centre of Salo Region is responsible for regional development activities. The Centre is a specialist's organisation owned by eleven municipalities. Loimaa Development Center is the main organization in the subregion dealing with regional development issues. They are also involved in a lengthy process of drafting their region's strategy together with the Futures Research Centre at the Turku School of Economics.[62]

In Vakka-Suomi the main development actor is the Development centre of Vakka-Suomi subregion, and in Turunmaa subregion the regional development activities are carried out by the city councils in

[60] Employment and Economic Development Centres (2007); Pilot Turku (2006); Alapartanen (2006)
[61] Turku Region Development Centre (2007); Alapartanen (2006); Pilot Turku (2006)
[62] Alapartanen (2006)

the region and their common (nonprofit) organization: Region Åboland rf / Turunmaan seutu ry.[63]

Turku Chamber of Commerce[64] has about 1500 members distributed throughout the Southwest Finland region. Membership is voluntary. Its aims are to promote the economy of the region and act to protect its interests, and at the same time to increase cooperation between companies and the authorities. The Chamber of Commerce arranges education and information sessions on topical subjects, encourages foreign trade, licenses economic experts and issues foreign trade documents. It also provides advisory services on juridical and taxation questions and on other matters such as wage calculations, payroll administration and employment contracts.[65]

With a strong connection to the University of Turku the Centre for Maritime Studies[66] is involved in numerous logistics development measures both national and international. The CMS is a nationally and internationally recognised maritime education and research institute. It is known for its continuing education courses and programmes, research and consulting services, experience in coordinating international cooperation projects and its high quality conference services.[67]

ICT Turku[68] is the main responsible for ICT and Logistics in the Turku Science Park. The goal of ICT Turku Ltd. is to develop the ICT cluster in South West Finland into an internationally successful entity of actors. ICT Turku unites the ICT companies, universities, research centres, other educational institutions and public services of Southwest Finland.

Pilot Turku Ltd[69] started out as a project in 2001 and has now developed into a company and the main actor within the logistics field in this region. Pilot Turku Oy (Promoting Intermodal Logistics Operations In Turku Ltd.) is a marketing and development company that acts as the key organisation in the project designed to make the Turku region an effective and versatile logistic hub in the BSR.

[63] Alapartanen (2006)
[64] Turku Chamber of Commerce (2007)
[65] Pilot Turku (2006)
[66] Centre for Maritime Studies (2007)
[67] Pilot Turku (2006)
[68] ICT Turku (2007)
[69] Pilot Turku (2007)

4.2 Logistics / ICT projects

In Southwest Finland is in progress a variety of development measures in the field of logistics and ICT. The following list was compiled in the context of Development Measure Impact Analysis.[70]

Competence Centre in Logistics
A forum for the cooperation between business life and research and educational institutions within the Logistics sector. Aims to help the demand and supply for logistics education meet and acts as a development specialist in the logistics field. Continuation to the VERA project. Produces the annual outlook for South West Finland Logistics.

E18 road improvement project, infrastructure and marketing
A joint marketing project involving the regions by the new road. Includes marketing material such as a webpage informing companies on the possibilities of locating around the E18.

Enterprise ICT
Aims at developing South West Finland region through helping SMEs develop their businesses with ICT. This means offering SMEs a consultant for a low price to find the gaps and propose improvements within ICT usage in the companies. By this, the project will promote the use of ICT in the everyday business of SMEs in the South West Finland area.

Improvement of the Airport area by Pilot Turku Ltd - Logicity
Pilot Turku Ltd offers companies information on the Turku region especially concerning locations. The concept of LogiCity aims at making the surroundings to the airport into an efficient junction for intermodal logistics and a gateway the east and west.

InLog - Integrating logistics centre networks in the Baltic Sea Region.
A continuation on the project NeLog – The InLoC project creates better conditions for logistics operations in the Baltic Sea region by enhancing networking between logistics centres and their interest groups. The project is divided into 4 work packages, the objectives of which are to: Improve the networking and operation of ports, logistics centres and other logistics operators, create conditions for the spatial integration of

[70] Alapartanen (2006)

logistics operations, to analyse spatial and environmental consequences of logistics centre development and to remove bottlenecks in porthinterlandlogistics centre connections, Enhance cooperation of logistics companies by improving the compatibility of different ICT -based networks, and Educate and disseminate knowledge and potential of LCs and logistics in general.

Logistics Turku Region web portal
A web portal offering visibility to logistics companies in the Turku region. Includes daily updated news services, contact details to companies, information and contact form.

LogVas - Logistic potentials for value added services in portlocated areas
The project intends to promote economic growth and sustainable development in the Baltic Sea region. The objective of LogVAS is to identify potential of value added services in the Baltic Searegion and their activation for port located areas. This shall be used as a basis for political and economic decisions regarding large investments in the ports, surrounding commercial areas and their hinterland connections via rail, road, air and inland waterways. The expected outcome of the project is an overview of all goods and passenger traffic flows between regions via the transshipment points in the Baltic Sea region. Upon that we can make specific statements to particular chances as well as challenges regarding sustainable economical development in the field of logistics and value added services.

LOLLI – Logistics Information Systems
Many practical applications were introduced within the project. These include

- Internet based integration system of city and regional plans in Turku Region
- Internet based integration system of environmental GIS in Eastern Uusimaa Region
- Placement services system for firms to Turku Region
- Method to estimate region's logistic position
- Concepts for logistic centres of different functions
- Case studies on logistic impacts of the Helsinki-Vantaa Airport and the Vuosaari Harbour

MATROS - Development of Spatial Planning Methods for an Integrated Maritime Transportation System in the Baltic Sea Region
The Matros project is part of the Baltic Sea Region (BSR) INTERREG II C programme. The aim of the project was to create a common strategy and common methods for spatial development to promote the efficient and long term sustainable development of the maritime transport system in the Baltic Sea area. The project studied, for example, the connections between the port and its area of influence and the role of maritime transport in supporting the principles of sustainable development in the Baltic Sea area. The goal of the project was to increase regional and international cooperation and exchange of information between regional planners, decision makers and other actors. All the Baltic Sea countries took part in the project.

Motorways of the Sea (MoS)
One of the main development goals in the TransEuropean Transportation Network. The aim is to create transportation chains based on sea transportation that offer flexible and competitive alternative to the road transportation. The central idea is to develop the container and roro traffic between the ports and the connections e.g. to Russia and Mid Europe. The focus is on intermodality. The goal is to improve the cooperation between different actors, the IT systems in the ports, build new and renew old infrastructure, improve hinterland connections and offer regular transportation services.

NeLoC - Networking Logistics Centres in the Baltic Sea Region
NeloC is created to enhance the role of logistics centres in regional development and to develop national and international logistics chains with emphasis on inter-modal solutions.

RAIN – connecting the regions
Accelerating Commercialisation of ICT sector and R&D results via Effective Regional Investment Policy. The aim of the project is to compare investment policies and practices among the project regions, and to find best practices and new ideas to develop regional innovation policy.

SW Ports Marketing
Aims to increase the cargo traffic for SW Ports through joint international marketing and thus improving the employment situation in

the maritime industry. A continuation to the SW Ports –cooperation. Includes joint marketing events in MidEurope and the UK.

TRIO - Challenges companies to grow.
Started in 2004 and aims at creating the basis for growth for company networks and companies. Development areas are technology, business concepts and internationalization. Over 800 companies are estimated to take part in the 6 years of the programs duration. The whole investments are likely to exceed 100 M euros.

VERA
A research on producing an annual outlook for logistics in the SW Finland. The goal is to develop the predictability of trends in the logistics field, to improve the ability of the logistics personnel to react to those changes and to create cooperation between private and public sectors within Logistics. It was a pilot project that aims to spread the experiences and action models into the surrounding municipalities where logistics sector is of importance. One of the main goals is to create a permanent study and outlook that in its turn promotes the birth of an international competence center in South West Finland. Includes Centre for Maritime Studies, Turku Chamber of Commerce, TE - keskus, Pilot Turku ltd, Varsinais-Suomen tutkimus ja ennakointipalvelu, TAD Centre, The Port of Turku and SKAL.

5 LOGISTICS IN THE REGION

5.1 Transport, connections and infrastructure

Turku is an important centre in a national context, and at the European level, Southwest Finland has a good position relative to the main transport corridors of Northern Europe. The region's international connections operate in an east-west direction, linking the EU with Russia, and in a north-south direction mainly linking the Finnish markets with Central Europe. The area constitutes a node where these corridors meet. Turku forms a node upon which the various modes of transport in the region converge. The emphasis in the development of the area's traffic infrastructure is on international connections.[71]

5.1.1 Roads and road transport

Finland, being a sparsely populated country prompts people to travel long distances between destinations. On average people travel about 16 km and for about 83 minutes per day. The average daily commute is 13 km. Seventy percent of the households have the possibility of using a car. In Finland, the length of highways is approximately 78,000 km, main roads approximately 13,000 km and motorways approximately 690 km.[72]E-roads and TEN-roads are the major part of the Finnish road system (Fig. 22).

[71] Pilot Turku (2006), Turkuinfo (2007)
[72] Finnish Road Administration (2007)

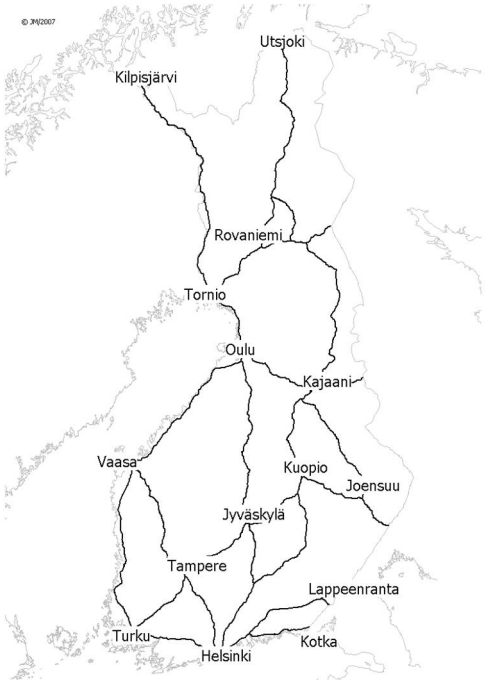


Figure 22 E-roads and TEN-roads (Trans European Network) in Finland

The connections between Turku and the regional centres of southern Finland are quite good. A series of main roads radiates outwards from Turku to other parts of the country and the region (Fig. 23). The principal connection is naturally that with Helsinki, and the E18 highway linking these two major cities of Southern Finland is regarded as likely to become the most important thoroughfare in the whole country in the future. Other main roads and European thoroughfares are those leading to Hämeenlinna (route 10), to Kuopio via Tampere and Jyväskylä (route 9) and to Oulu (route 8).[73]

[73] Pilot Turku (2006); Finnish Road Administration (2007)

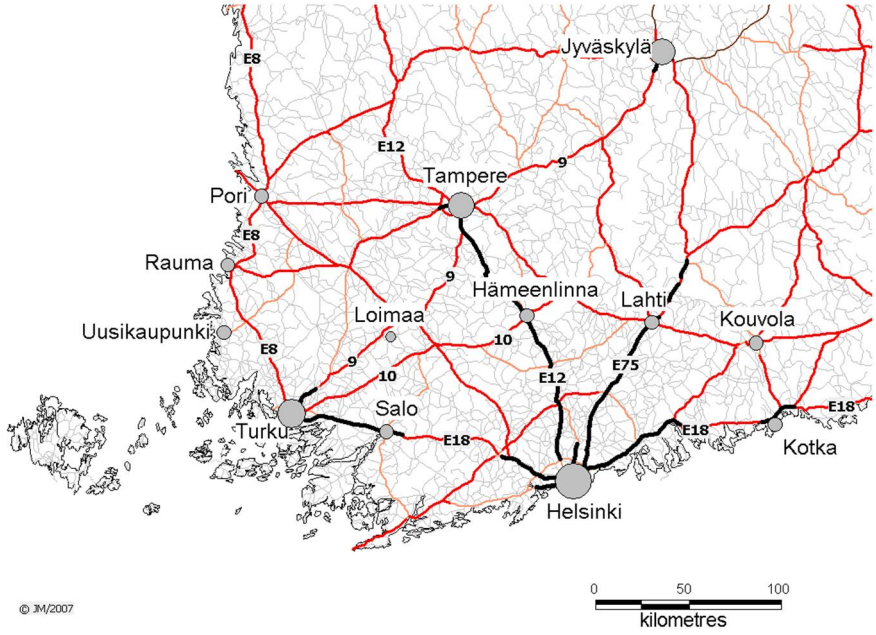


Figure 23 Road network in South West Finland

The Turku area is thus highly accessible by road from all the major centres of Southern Finland. No serious congestion arises even on the main roads to compare with that in Central Europe. However, Finland is also very large country by land area and the distances are therefore relatively long compared to other European countries (Table 8).

Table 8 Some distances from Turku to the other parts of Finland by roads.

	distance (km)	distance (h)*
Helsinki	165 km	2:03 h
Tampere	157 km	1:57 h
Vaasa	332 km	4:09 h
Jyväskylä	304 km	3:48 h
Kuopio	449 km	5:36 h
Lappeenranta	361 km	4:30 h
Kotka	292 km	3:39 h
Kajaani	611 km	7:38 h
Oulu	620 km	7:45 h
Tornio	751 km	9:23 h
Rovaniemi	827 km	10:20 h
Utsjoki	1277 km	16:00 h

* average speed 80 km/h

Source: Finnish Road Administration

5.1.2 Railways

About a quarter of Finland's goods traffic is conveyed by railways. In 2003, 43.5 million tonnes of freight was carried by rail, and this figure is expected to rise in the next few years. The number of passenger trips by railways in 2003 was 59.9 million. Rail passenger traffic is also expected to increase in 2004 and 2005, by about 1 per cent.[74]

The Turku area also enjoys excellent accessibility by rail from other parts of Finland, and the connections also extend eastwards into Russia, linking the area with the central parts of Russia and the Far East. Thus the rail connections from Turku serve as a logistic corridor between east and west. The Finnish railways are of the same gauge as those in Russia and all the other parts of the former Soviet Union (Fig. 24). Travel times to St. Petersburg have been reduced considerably (by 25–40 minutes) through the opening of new lines, most notably that from Kerava to Lahti, which was completed in September 2006. Journeys will be speeded up in the future with the introduction of new, high-speed trains.[75]

[74] Ministry of Transport and Communications Finland (2007a)
[75] Pilot Turku (2006), Finnish Rail Administration (2007)

Source: The Finnish Rail Administration.

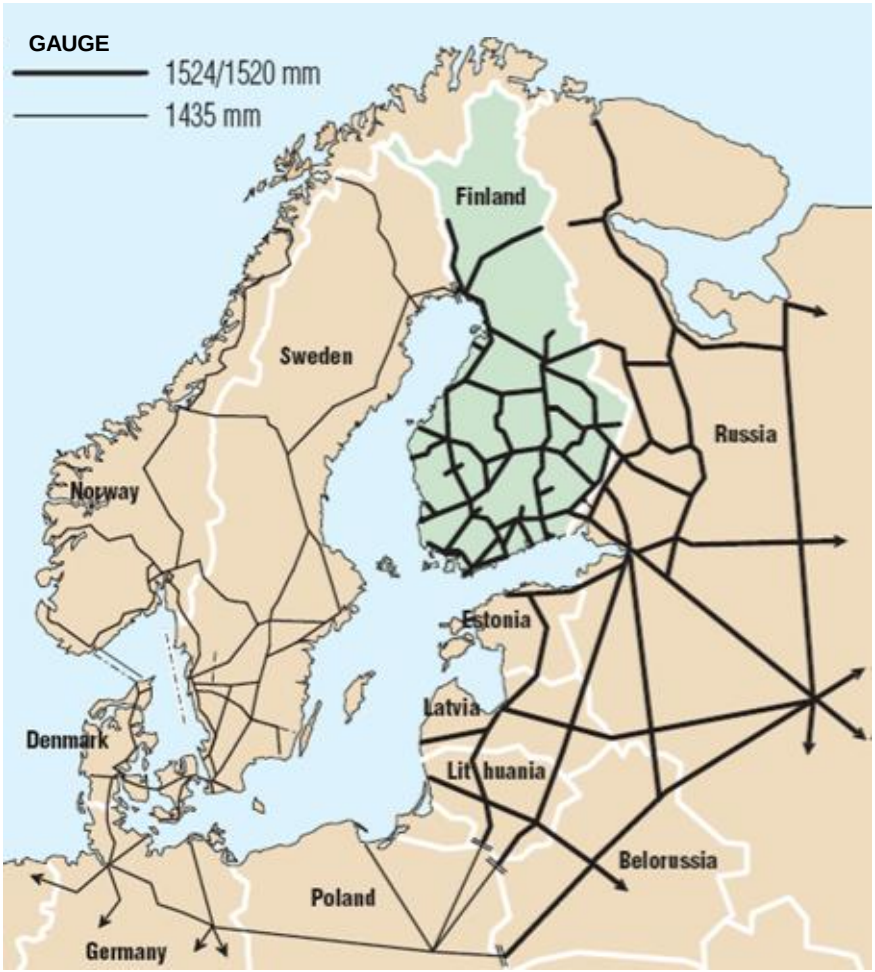


Figure 24 Railways in Finland and near Finland

Turku is also the centre of the rail network in its region, which is composed of lines from Turku via Salo to Helsinki, via Loimaa to Toijala and Tampere and to Uusikaupunki (Fig. 25). Of these, the fast coastal line to Helsinki and the line to Toijala are used for passenger traffic, while freight services are concentrated on the lines to Toijala and Uusikaupunki. The total length of the rail network in the region is some 230 km. The train ferries operating from Turku provide direct rail connections with Scandinavia and Central Europe.[76]

[76] Pilot Turku (2006), Finnish Rail Administration (2007)

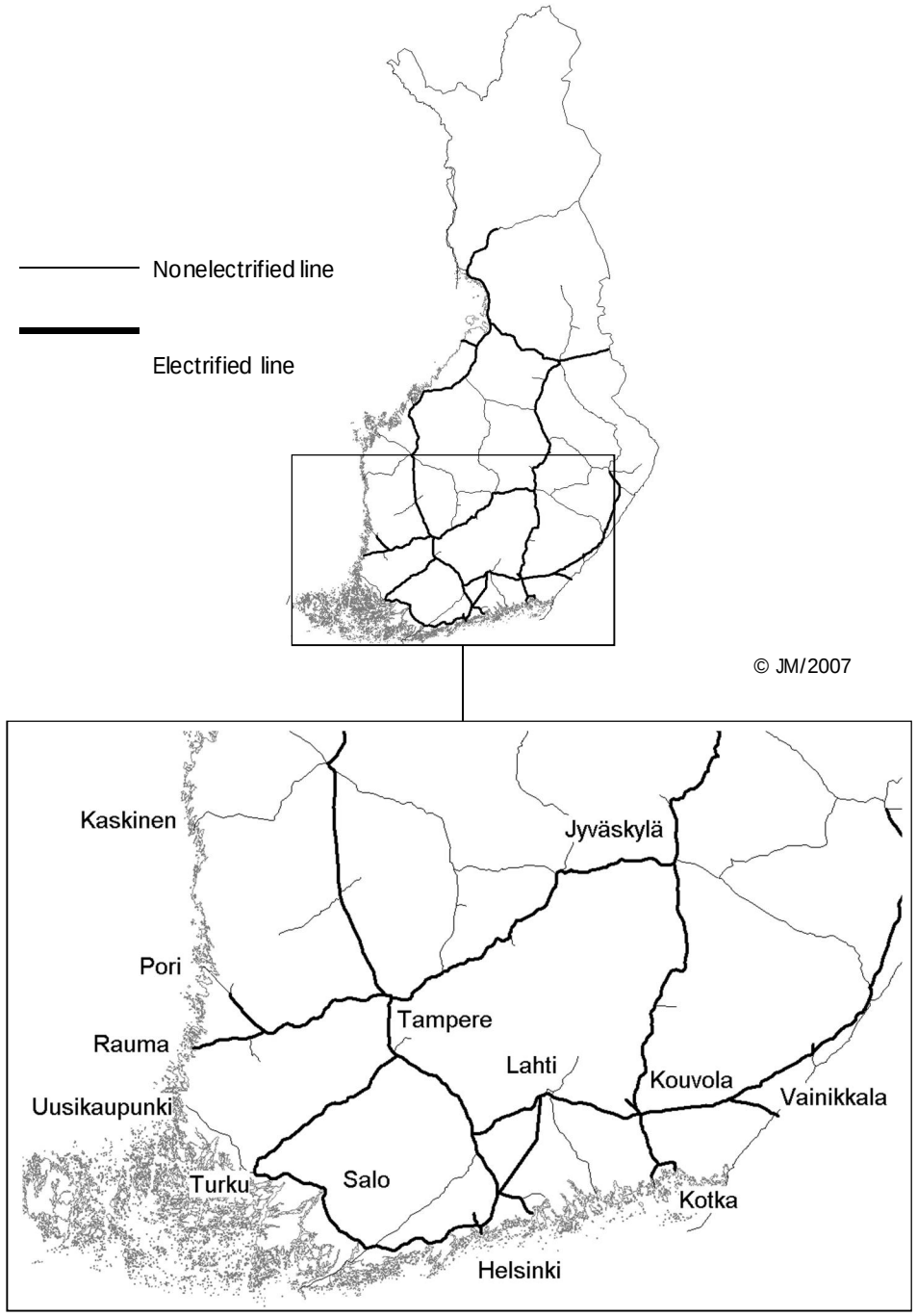


Figure 25 Finnish railway network

5.1.3 Airways

Air transport has been of considerable importance for the Finnish economy and for the country's international connections and will remain very important in the future. In 2003, a total of over 13 million air travellers used Finland's airports (Table 9). About 14 per cent of the country's exports by value are transported by air.[77]

Table 9 Air traffic statistics for 2006. Incoming flights include landings by commercial, military and light aircraft. Commercial flights include scheduled and charter flights. (Source: Pilot Turku)

Airport	Passengers (total)	Passengers (international)	Commercial aviation landings
Helsinki–Vantaa	12 109 618	9 182 284	87 853
Oulu	847 751	83 115	6 304
Tampere–Pirkkala	631 871	512 439	5 215
Rovaniemi	432 205	101 295	2 668
Turku	339 920	212 338	5 679
Kuopio	332 202	42 971	3 146

Source: Pilot Turku

The logistic significance of airports has increased greatly in recent years. Air freight and efficient terminals are important, especially for branches of industry such as electronics, and companies' international relations and staff mobility between different units of global enterprises call for smoothly functioning air connections.[78] The main passenger services provided by Turku Airport, the only international airport in Southwest Finland, are connections with the three nearest major international nodes, Helsinki–Vantaa, Stockholm and Copenhagen. Its convenient connections and quick service mean that it is a more flexible point of departure for air passengers than Helsinki, and the range of destinations and departure times offered by the above three large international airports does much to improve the accessibility of the Turku area by air. There are also direct flights from the Turku Airport to holiday resorts in southern countries, at a moment to the Canary Islands and Malaga, and flights to a number of other holiday destinations are planned. Traffic to and from Turku is operated by

[77] Ministry of Transport and Communications Finland (2007b)
[78] Pilot Turku (2006)

Finnair and SAS/Blue1, and 340,000 passengers used the airport in 2006.[79] As well as commercial aviation, the airport also functions as a base for coastguard and air-sea rescue operations.

5.1.4 Seaways

Finnish ports play an important role in Finnish business. Almost 90% of Finland's foreign trade passes through our ports. About 90 per cent of Finland's exports and about 70 per cent of its imports are transported by sea. The continued development of Finnish maritime transport and the need to ensure its competitiveness are essential, not least because the transportation distances involved are longer than for Finland's competitor countries.[80] In a way, Finland could also be compared to an island, as the ports located on its approximately 1,000 kilometres of coast function as links in the commercial transport of goods and passengers to and from foreign countries.[81] The shipping has certainly an important role also in the southwest coast.

In Southwest Finland, the ports of Turku, Naantali and Uusikaupunki are the most important as far as overseas traffic is concerned, although there is also some traffic to and from Parainen, Kemiö, Dalsbruk and Förby as well. (Fig. 26).

[79] Finavia – Turku Airport (2007)
[80] Ministry of Transport and Communications Finland (2007c)
[81] Finnish Port Association (2007)

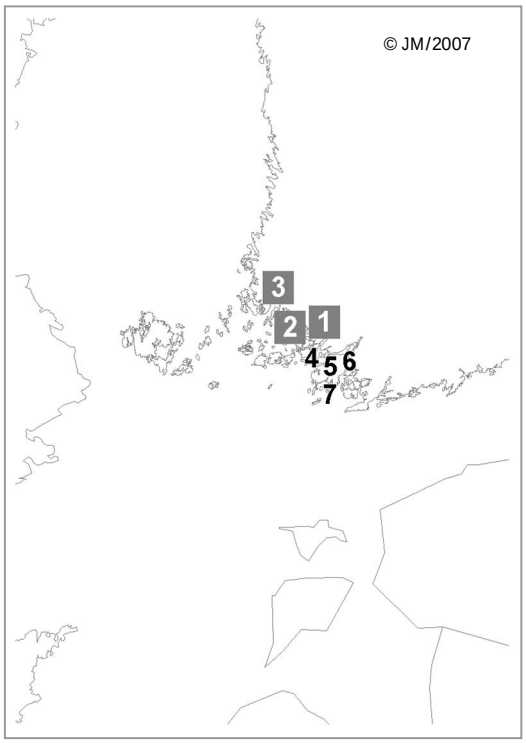


Figure 26 The ports of Turku (1), Naantali (2) and Uusikaupunki (3) are most important ports in Southwest Finland. There is also some traffic to and from Parainen (4), Kemiö (5), Förby (6) and Dalsburk (7).

The region's main concentration of logistics functions has nevertheless formed around Turku and Naantali. The concentration of Southwest Finland's main passenger and goods terminals in Turku, Naantali and Uusikaupunki may also be attributed to the influence of the ports.

The ports of Turku, Naantali and Uusikaupunki are owned by the local authorities and are classified as general ports, i.e. they are open to everyone who needs their services (Table 10). Those of Turku and Naantali may also be regarded as part of Finland's "high-value transport network", since a significant proportion of the goods handled by them represent a high degree of processing and are of considerable value.[82]

[82] Pilot Turku (2006)

Table 10 Cargo carried by vessels, by ports, in 2006 (t).

	Port of Turku		Port of Naantali		Port of Uusikaupunki	
	Export	*Import*	*Export*	*Import*	*Export*	*Import*
Timber	-	-	-	2 436	27	-
Sawn wood	122 758	409	-	2 118	53 359	1 400
Wood pulp	7 258	5 960	-	-	3 729	40
Paper and paperboard	64 093	830	-	-	29 105	3 402
Veneers and plywood	8 487	12 968	-	-	4 383	22
Ores and concentrates	482	-	-	-	20	3 064
Metals and metal manufactures	91 472	272 206	-	29	45 138	53 640
Crude oil	-	-	-	2 007 028	-	-
Oil products	22	106 249	241 851	229 627	-	-
Coal and coke	1 528	-	-	480 566	-	-
Fertilizers	71	241	-	9 517	508 312	25 288
Chemicals	25 707	53 124	-	40 046	183 767	85 767
Crude minerals and cement	43 750	17 631	6 820	209 853	1 122	169 697
Cereals	9 251	187	98 652	25 453	-	-
General cargo	1 224 663	1 426 406	1 127 460	1 111 636	24 831	93 266
Other	30 374	63 589	25 760	114 229	21 431	58 081
Total	1 629 916	1 959 800	1 500 543	4 232 538	875 224	493 667

Source: Finnish Maritime Administration

The port of Turku (Fig. 27) is the main handler of piece goods and large consignments in Finland after Helsinki, and has specialized in large units such as heavy haulage vehicles, trailers, railway wagons and containers. The majority of its cargo is piece goods, however, and it is well equipped to serve international road haulage and rail freight customers. The total of 3.9 million tonnes of goods was handled by the port of Turku in 2005. Finland's only rail ferries operate though Turku, to Stockholm and Travemünde. The majority of the shipping is by roll-on/roll-off vessels and passenger/vehicle ferries. Turku is also the second largest passenger harbour in the country, with a total of 3.8 million people passing through on domestic or overseas services in 2005. [83]

[83] Port of Turku (2007)

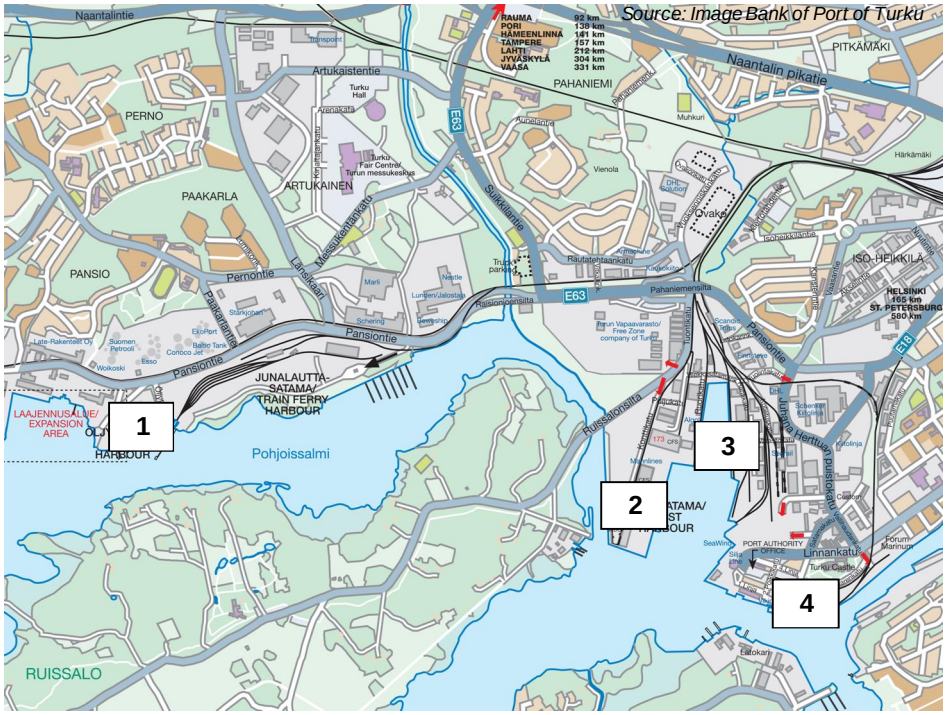


Figure 27 The port of Turku comprises of Pansio (1), West Harbour (2), Linnanaukko (3) and the Passenger harbour (4).

The Port of Naantali is the third largest general port in Finland after Helsinki and Kotka. It is specialized in bulk cargo (e.g. grain, coal and oil) and large units, mostly transported by tankers and roll-on/roll-off vessels. Naantali is a flexible part of the logistics chain. Increasing ferry and unitized cargo traffic, especially between Sweden, has lead to significant investment in port infrastructure, and allows several daily services to Scandinavia and Northern Europe.[84]

The port of Uusikaupunki is an important route for the city of Uusikaupunki and for Vakka-Suomi Subregion. The development of the port is the top priority in the city of Uusikaupunki's business strategy, and a lot of re-sources have been invested into the port over the past few years to ensure a high level of customer service. The port consists of the general harbour of Hepokari and the industrial quay used by Kemira GrowHow Oyj. The majority of the Hepokari traffic is of the ro-ro type, involving fertilizers and timber, while the Kemira quay handles chiefly the company's raw material deliveries and the shipping of its

[84] Port of Naantali (2007)

products. Other special import article is cars. Finland's only car manufacturer is located just three kilometres from the port and our port is the only port exporting these cars out of Finland.[85]

5.2 Transport sector administration

The central government authorities who, together with the corresponding local and regional bodies, are responsible for the upkeep and maintenance of the country's various transport systems are directly subordinate to the Ministry of Transport and Communications.[86]

Finnish Road Administration is responsible for Finland's highway net-work, and is responsible for road maintenance, vehicular traffic and pedestrian and bicycle traffic, and also for the provision of information for road users on driving conditions, traffic obstructions and suggested routes. Road Administration plans, maintains and develops transport system in cooperation with the authorities responsible for the other modes of transport.[87] The national organization is divided into nine districts, of which the Turku district comprises 80 local authorities in Southwest Finland and Satakunta. The numerous ferries form a crucial part of the road network in the Turku archipelago, and the Finnish Road Administration is responsible for the running of 18 of these.

The Finnish Maritime Administration is the authority responsible for maritime safety, fairway maintenance, hydrographic charting, winter traffic assistance and the provision of ferry services to the archipelago communities. The Administration is also responsible for the vessel traffic service (VTS) and is the authority supervising pilotage. The Administration ensures that the basic operational conditions for merchant shipping and sea transport are maintained and continually improved, taking into account safety and economic aspects, as well as environmental consequences. The activities aim to ensure safe and efficient merchant shipping, meeting both society's and customers' needs.[88] It is divided administratively into five functions: nautical mapping, marine traffic control, marine safety and rescue, winter navigation and channel maintenance. In addition, it also has a unit for

[85] Port of Uusikaupunki (2007)
[86] Pilot Turku (2006)
[87] Finnish Road Administration (2007)
[88] Finnish Maritime Administration (2007)

shipping between the islands and separate internal production units within its channel maintenance and mapping divisions.

The Finnish Rail Administration manages Finland's rail network. It is responsible for maintaining, planning, developing and constructing the rail network, supervising the safety of rail traffic and undertaking all other official duties necessary for the upkeep of the railway system.[89]

The state-owned company Finavia is responsible for the safety of air traffic in Finland and for the country's aviation policy. Finavia maintains Finland's network of airports and the air navigation system. At the end of 2005 Finavia's airport network consisted of 25 airports and the organization employed about 2 385 people.[90]

5.3 Social and environmental issues in transport sector

The goal is that Finland is an affluent society with job opportunities for everyone, and the employment services have been reorganized so as to meet the challenges of the new labour market situation and the changing working life. The TE Centres (Employment and Economic Development Centres) and labour offices are involved in ensuring the smooth functioning of the labour market in Finland. The labour offices, the basic services of which are free of charge to clients, are primarily responsible for the balance between the labour supply and demand.[91] When a person registers with a labour office as being in search of work, the office will have the national database, the European labour market system EURES and its own extensive information channels at its disposal. The labour exchanges also arrange work practice positions in Finland and abroad, and their services for employers likewise include the renting of labour and the filling of temporary positions. The labour offices also provide advice for persons from outside the European Economic Area (EEA) on applying for a work permit in Finland[92]. The labour offices' more specialized, fee-paying services include recruitment searches, suitability evaluations, staff placement services and staff or working community development projects. The Southwestern Finland TE Centre provides support for the development of the regional labour force and labour market, promoting the creation of new jobs, the continuation of employees in work and

[89] Finnish Rail Administration (2007)
[90] Finavia (2007)
[91] Ministry of Labour (2007)
[92] Pilot Turku (2006)

personal expertise and enterprise by means of education, advisory services and finance. It aims to enhance the availability of labour by means of retraining courses and various projects, and engages in cooperation with the labour offices, companies, trade unions, employers' associations, local authorities and educators.[93]

The health and safety of employees is the principal objective of occupational safety and health. Maintaining working ability, health at work and preventing occupational accidents are some of its most important tasks. One organisation for the task is Work Safety District.[94] The idea behind the work of the district work safety offices is to ensure safe, healthy working conditions that will protect the individual's working capacity. Their services include work safety consultancy, psychological well-being at work, prevention of locomotor disorders, prevention of accidents, advice on working environments, advice on employment conditions and applications for exemptions from certain regulations. The Turku and Pori Work Safety District covers the regions of Southwest Finland, Satakunta and Åland.[95]

The European strategy on transport and environment defines the objectives of action by the European Union (EU) and the Member States to minimise the environmental impact of transport. It aims to ensure that environmental questions are taken into account when drawing up and implementing transport policy in the sectors concerned.[96] Finnish Road Ad-ministration has been tasked with the goal of creating an eco-efficient transport system that reduces the adverse environmental impacts of traffic. In practice, this translates into a focus on the conservation of the environment and natural resources in building roads as well as the safety, longevity and beauty of roads. Particular attention is paid to noise abatement and groundwater protection, which is very important goal also in Southwest Finland.

Rail traffic is an environmentally friendly mode of transport. Rail traffic accounts for only 0.2-1.8% of traffic emissions in Finland, depending on the type of emission. Its share of energy consumption in the transport sector is 2.5%.[97] The Port of Turku is the oldest port in Finland, and it operates in the middle of a unique archipelago. These facts oblige the Port to take into account the environment and the requirements it sets for the operations. The Port works actively with its

[93] Employment and Economic Development Centre for Southwestern Finland (2007)
[94] Työsuojelupiirit (2007)
[95] Pilot Turku (2006); Ministry of Social Affairs and Health (2007)
[96] European Union (2005)
[97] Finnish Rail Administration (2007)

co-operation partners in order to develop operations and services so that they cause less harm and threat to the environment. At the moment the resources are focused on the development of preventive measures, waste collection and sorting, as well as decreasing of discharges.[98]

Air transport performs many important functions in modern societies. Aviation facilitates economic and cultural exchanges and is a significant source of employment and growth in many regions. However, aviation also contributes to global climate change, and its contribution is increasing.[99]The total CO2 emissions from the entire Finnish economy in 2003 were 86 million tonnes. CO2 emissions from domestic air traffic amount to around 0.3 million tonnes per year. The emissions from all flights departing and arriving in Finland, excluding over flights, total approximately 2 million tonnes, i.e. roughly one per cent of the emissions of flights from the current EU-25.[100]

5.4 Logistics industry: characteristics

The 4th Finnish national logistics survey received a total number of 2255 responses nationwide. The number of responses from South-West Finland was 321.

Figure 28 presents the responses divided into different main industries. There are a total number of 141 responses from manufacturing companies, 117 from trading companies and 64 responses from logistics service providers.

The majority (192) of companies that have answered the survey are so-called Micro-size companies with annual turnover of less than 2 million euros. In addition there are 61 responses from small companies, 38 responses from medium-sized companies and 31 responses from large companies.

Since most of the companies in Finland are Small and Medium-sized companies (SMEs) the distribution seems to match rather well the structure of Finnish business.

[98] Port of Turku (2007)
[99] European Comission (2007b)
[100] Lentoliikenne ja ilmasto (2007)

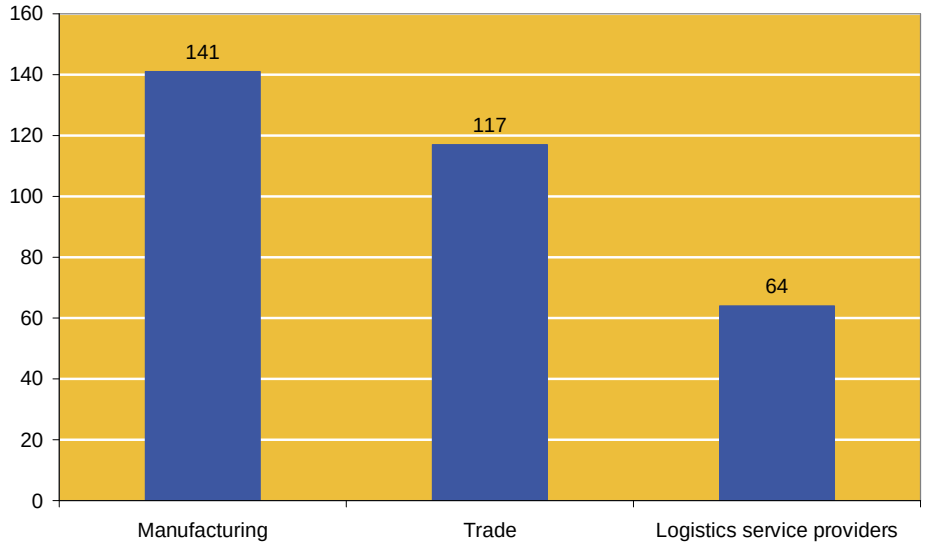


Figure 28 Logistics survey respondents in South-West Finland divided into main industries

The largest industries in the survey are manufacturing of metals and metal products, machinery and manufacturing of electrical equipment.

5.5 Logistics sector development and outlook

In the following chapters, some of the key results of the logistics survey, as well as the main conclusions from the results are presented.

5.5.1 Logistics costs

Figure 29 illustrates the logistics costs of manufacturing companies in South-western Finland according to company turnover. As can be seen from the figure, the total logistics costs vary from c.a. 15% of turnover of micro-sized companies to about 9% of turnover of large companies. This result is in line with the theory, since it is expected that larger companies have better resources, both tangible and intangible, to deal with different challenges.

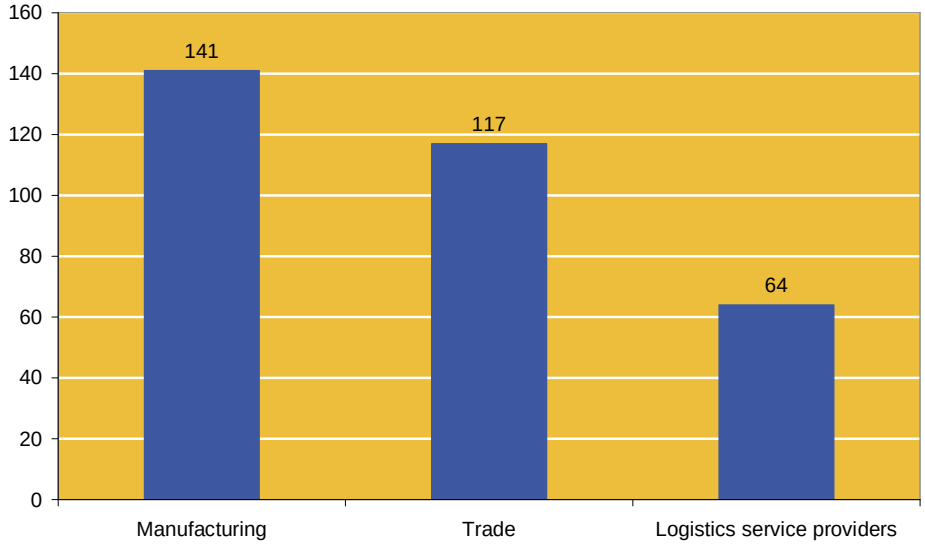


Figure 29 Logistics costs of manufacturing companies in South-West Finland, percentage of turnover

When compared with the results of latest Finnish national survey (see Naula et al. 2006), it seems that logistics costs in south-western Finland are slightly lower than the national averages. This result can partly be explained by the industries the respondents in different regions represent. The largest industries in south-western Finland are for example machinery and equipment, which on the national level seem to have one of the lowest logistics costs.

The majority of manufacturing companies seem to predict that the transportation costs will be rising in the future. This can partly be explained with the rising trend in the price of crude oil, but there are also other explanations. As can be seen from the figure, the views on the development of other logistics costs are not as harsh as the views on the development of transportation costs. This is partly because of the fact that the nature of business and the demands of customers are changing. There is a real effort in increasing the service level, which in practice means shorter order-delivery –times.

This results in the fact that some of the other logistics costs, such as inventory carrying costs are simply shifted into transportation costs.

5.5.2 Logistics competence

The two most important needs for the both main industries would seem to be related to material management, for they are “procurement and purchasing” and “inventory management”. It seems that it is widely understood that there is great potential in developing the material flow of the company.

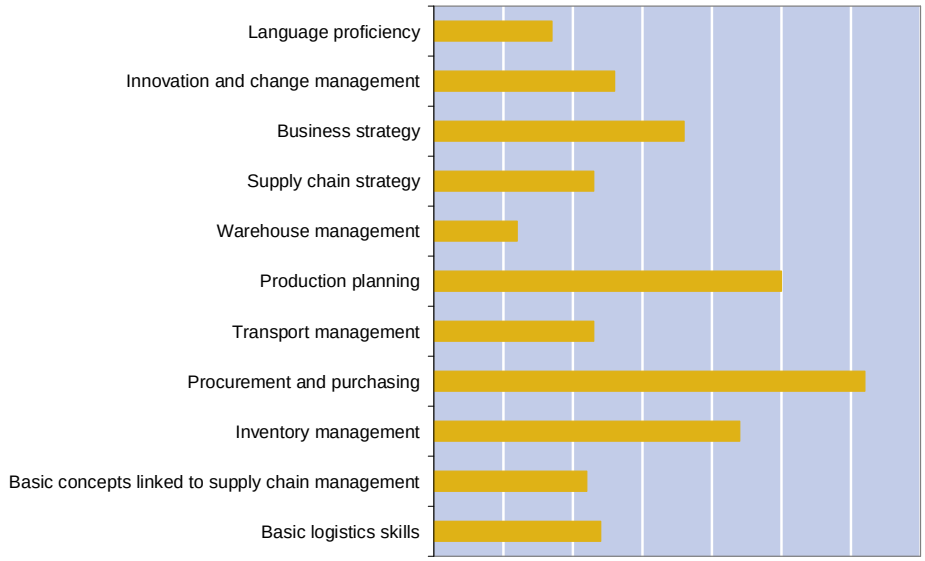


Figure 30 The most important development needs of personnel competence manufacturing companies

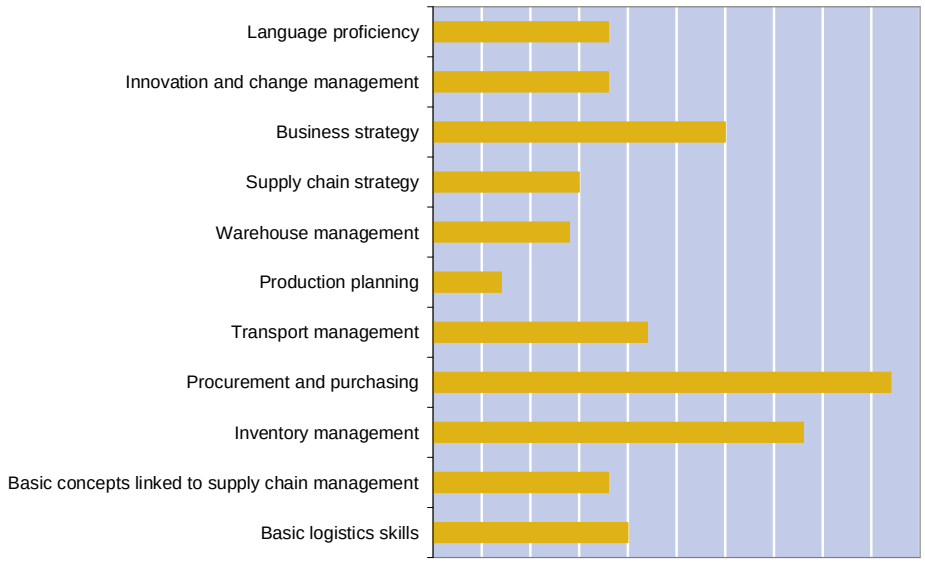


Figure 31 The most important development needs of personnel competence, trading companies

What is interesting to notice is that the option “transportation management” doesn’t seem to be a top priority in spite the fact that the companies see the development of transportation costs as harsh as it seems. One has to ask if this is a sign of giving up. Have the companies just accepted the rising transportation costs?

5.5.3 Development needs in logistics

Figure 32 illustrates the different development needs related to companies’ logistics. As can be seen, the most important development needs of manufacturing and trading companies seem to be the logistics competence of companies’ personnel. When analysing these results one has to remember though that the majority of respondents are from small and medium-sized companies, even micro size companies. This result could be seen so that the smaller companies tend to have limited resources and possibilities to recruit and maintain experts of different functions. The only option for them is to try to cope with the existing personnel, possibly lacking competence of certain areas. Other most “popular” development needs would seem to be cutting logistics costs, developing information systems and improving customer service.

What is interesting to notice is the fact that increasing transparency in the supply chain is not seen as a priority. In the national survey,

among the large companies increasing transparency in the supply chain was seen as the most important development need of all. One could conclude that the smaller companies face different, more “down to earth” –type of problems and development needs, whereas the larger companies seem to have solved most of the common problems and are ready to recognize more complex needs.

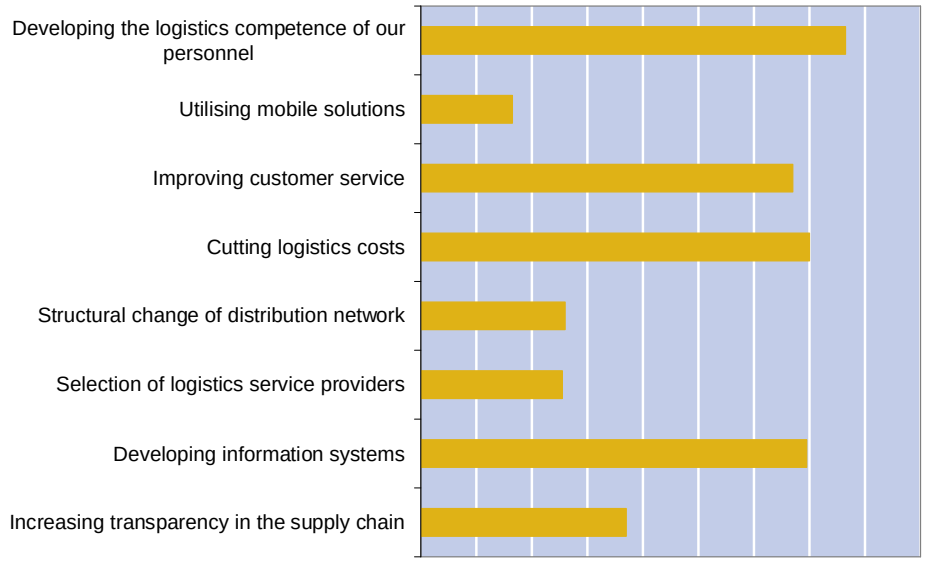


Figure 32 Companies’ most important development needs in logistics operations

Another interesting point is that transparency has been on the top of the list in the previous surveys as well. Before the survey of 2006, The Finnish ministry of transport and communications has since 1992 done three national logistics surveys and in every single one of them, transparency of the supply chain has been amongst the top priorities. In reality, there has not been any major progress in the concrete actions of the companies. Transparency and information sharing between different parts of the supply chain has been and still is very rare.

5.5.4 Outsourcing of logistics operations

According to the survey results, the current situation of outsourcing of different logistics functions is divided. There are some logistics functions that seem to be widely outsourced, such as transportation

(both domestic and international), reverse logistics and freight forwarding. Almost 90% of companies have at least to some extent outsourced their transportation activities, whereas the percentage in reverse logistics and freight forwarding is around 60%.

On the other hand, there is a large variety of different logistics functions that are almost completely taken care of by the companies themselves.

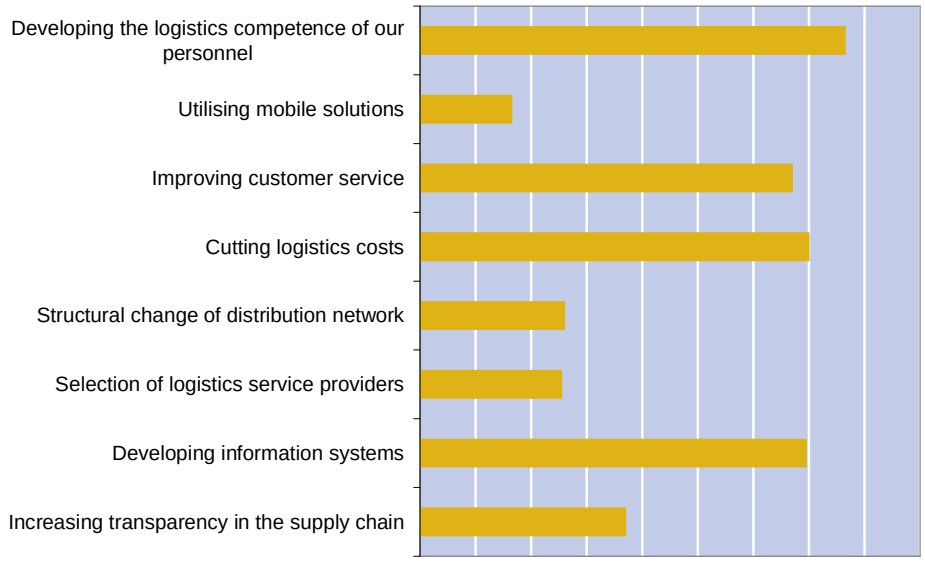


Figure 33 Outsourcing of different logistics operations, companies in South-West Finland

Far more interesting than the current situation of outsourcing is the future trend in different functions. The companies were also asked how they see the situation of outsourcing of different logistics functions within the next five years.

It seems that logistics IT-systems and invoicing would be the logistics functions that will have the most significant growth in the nearest future. Other growing areas of outsourcing would be warehousing and inventory management.

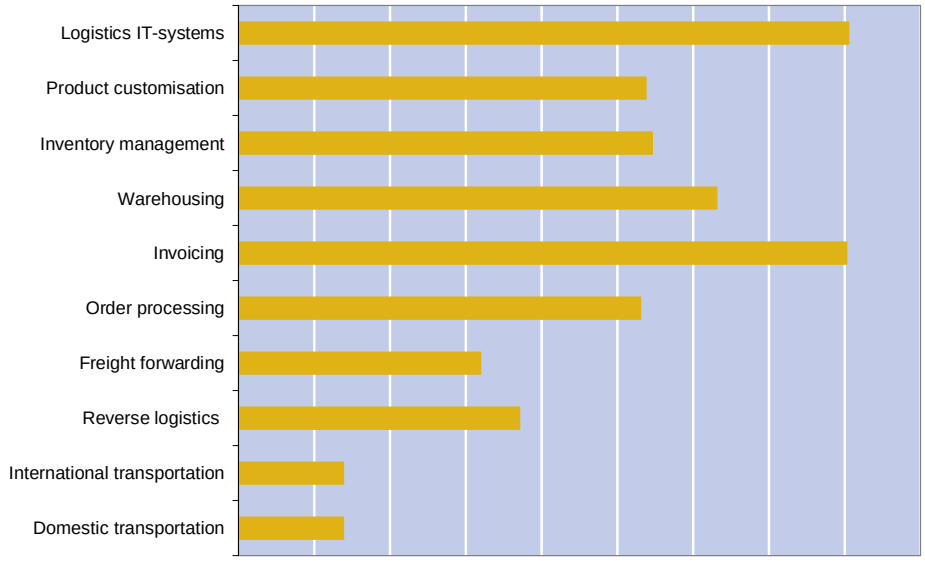


Figure 34 Future development in the outsourcing of different logistics operations, companies in South-West Finland

The future development of outsourcing is not just the trend that new functions will be outsourced in addition to the old ones. The other trend is the change in the way the different components of logistics process are out-sourced. The current situation can be described so that the majority of outsourcing is outsourcing of individual logistics functions.

Figure 35 describes the views of logistics service providers on the future development of outsourcing. As can be seen from the figure, the share of individually outsourced functions will diminish by the year 2010, whereas the share of standardised and customised service packages will grow.

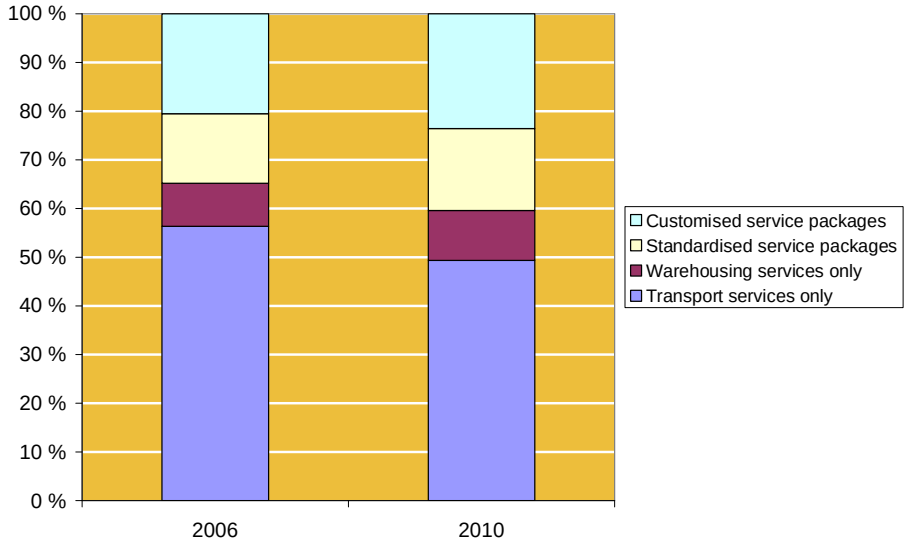


Figure 35 Logistics service providers' opinions on the development of demand of different type of services

The key finding is that instead of outsourcing single functions like transportation, the future of outsourcing will be on more and more complex service packages. This development will mean changes in the market structure of logistics service providers and bring challenges especially to the smaller service providers.

A small service provider has been able to provide and compete with a single service, but smaller companies will have difficulties matching the demand of more complex service packages.

5.5.5 Operating preconditions on the region

Although the competitiveness from the economics point of view is an important factor in decision making when the companies decide their location, the matter of good location goes far beyond that. For example the infrastructure issues (roads and other connections); the availability and the location(s) of competitors are important issues when companies weight the pros and cons of different locations.

In this survey the companies were asked to evaluate the operating conditions in their location in respect to general business perspective, the availability of production and business facilities, logistics efficiency, transport infrastructure and in relation to location(s) of company's competitors. Figure 36 presents the views of manufacturing companies

in southwestern Finland. As can be seen from the figure the majority of companies seem to be satisfied with their location, in most of the areas of business.

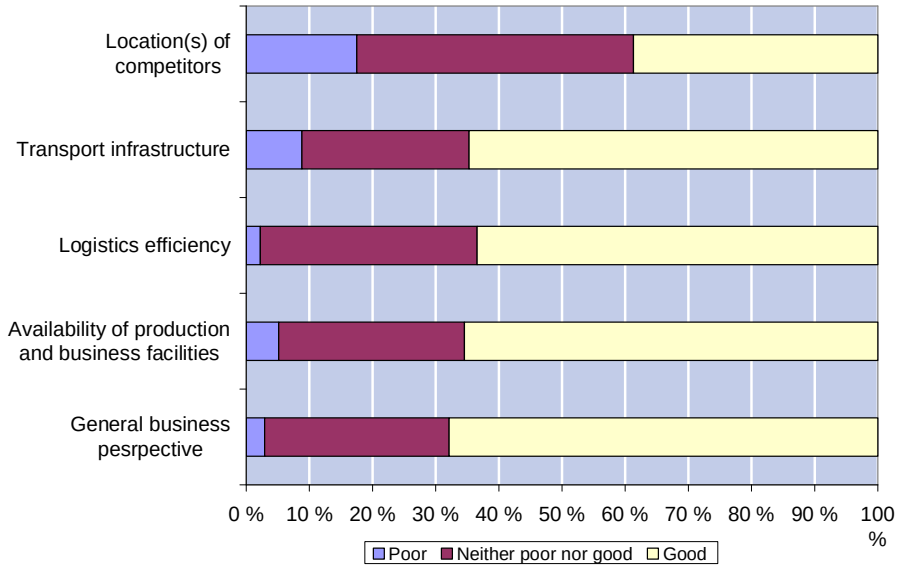


Figure 36 Companies' views on operating preconditions in the region

What is striking to notice is that the share of companies satisfied with their operating preconditions compared to location(s) of competitors is much lower than on the other areas? In fact, when compared nationally, South-West Finland ranks 13th on this question. Furthermore, when the companies are compared using their level of internationalization (domestic company, export company, international company), only 26% of international companies are satisfied with their operating preconditions when compared to locations of competitors. This raises several questions; is there something wrong in South-West Finland? If there is, can it be corrected so that the companies will see the area on a better light than they do at the moment?

Figure 37. presents the regional distribution within the South-West Finland. In the picture, the three sub-regions of South-West Finland (Turku region, Salo region and Loimaa region) are presented separately. Figure presents the operating preconditions compared to locations of competitors.

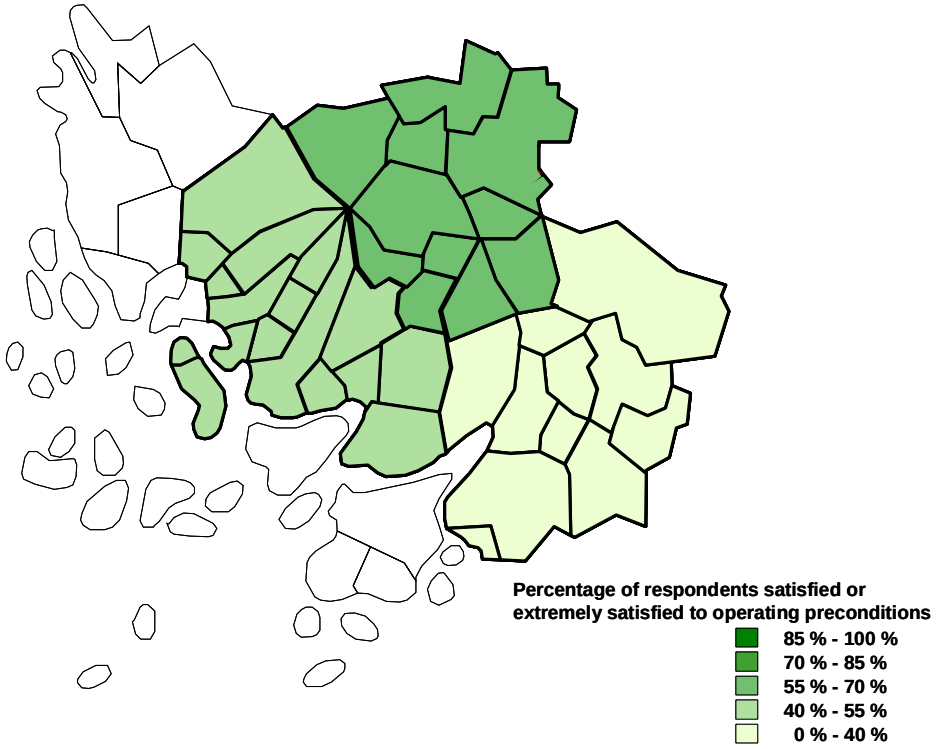


Figure 37 Companies' views on operating preconditions compared to locations of competitors, regional distribution in South-West Finland.

It is interesting to notice that there are in fact differences within the region as well. Only some 30% of companies in the Salo sub-region seem to be satisfied with their location, whereas the share of satisfied or extremely satisfied companies is almost 60% in the Loimaa sub-region. In Turku region the share of satisfied companies is around 40%. These results raise questions to regional decision makers. Could the differences be explained by some natural reasons such as differences in industries the companies represent, or are there other causes affecting the results? Has Loimaa region really been more successful in creating good operating conditions for the companies than the other sub-regions?

5.5.6 Logistics service providers

It seems that tightening competition and changes in the market are the most urgent issues in the business of logistics service providers.

Logistics service providers were asked to name the three most serious threats to their business. In figure 38, the results are weighted so that the most urgent threat has received a weight of 3, the second threat a weight of 2 and the third a weight of 1.

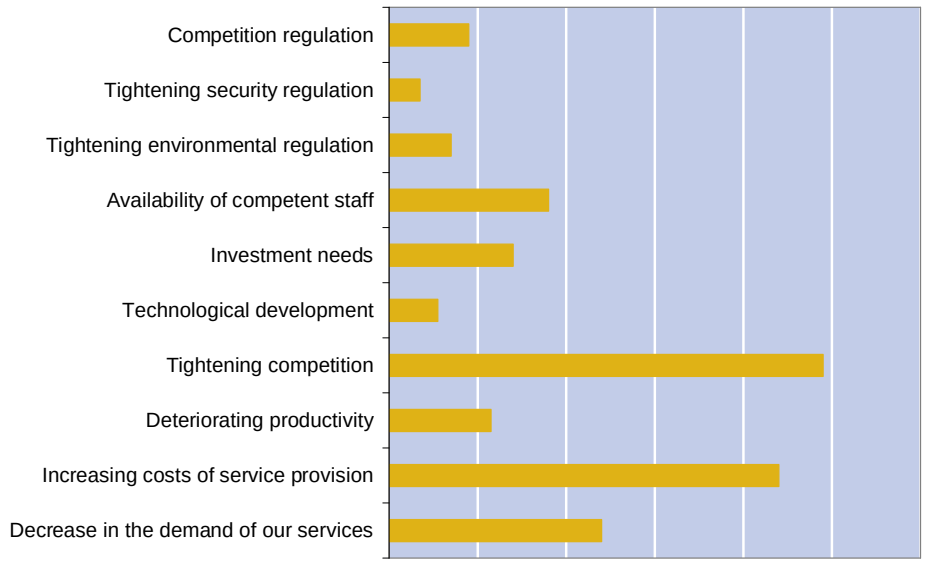


Figure 38 The most common threats to business, logistics service providers

As can be seen, the most urgent threat seems to be the tightening of competition. The second one is the fear of increasing costs in service pro-vision. The third one seems to be the mirror image of tighter competition, the decrease in the demand of services the company offers. Referring to Figure 8 one can at least partly explain these results. The companies seem to recognize the tightening competition and at the same time the changes in the demand of different services. One could say that these threats arise from the development that the demand of logistics services is shifting from individual services to different service packages. Majority if respondents in this logistics survey are small companies that face real challenges in providing more complex products to their customers.

This trend can clearly be seen in the development needs of logistics service providers. Figure 39 presents the summary of companies' development needs in logistics operations.

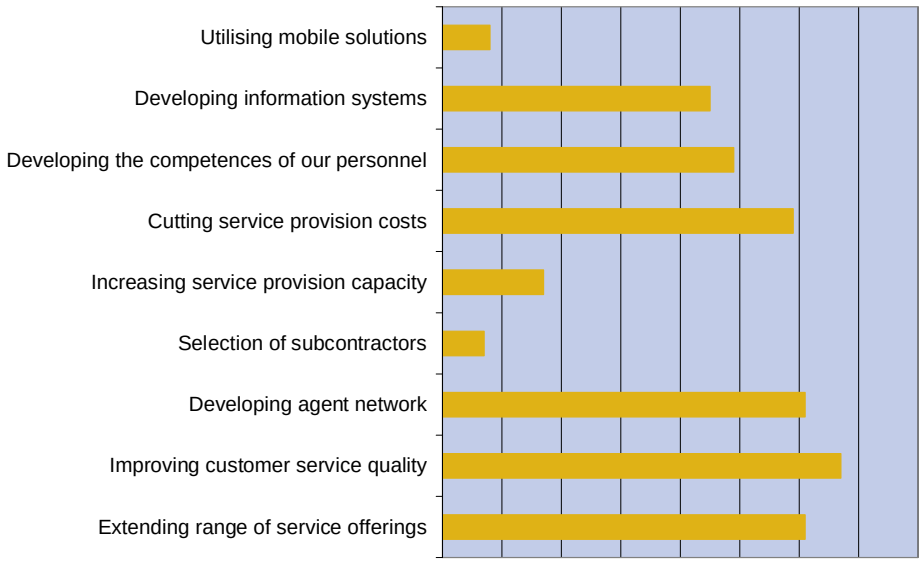


Figure 39 The most important development needs in logistics operation, logistics service providers

Although the responses are divided between several options, the message is clearly visible. Among the three most popular development needs are; improvement of customer service quality, extending the range of ser-vice offerings and developing agent network. The fourth development need is to meet the challenge of cost efficiency.

One could conclude that the most important needs for development are related to the question, how the companies, especially the smaller ones will be able to match the growing needs and changing demands of their customers. Large companies will most likely be able to diversify to meet the demand, but smaller companies will have to seek new ways to act, and find new forms of partnership to keep in pace with the concentrating markets.

5.5.7 Summary and conclusions

Average logistics costs of manufacturing companies are between 14 per-cent (micro companies) and 9 percent of turnover. The level of costs is high, but not higher than the national cost level.

Logistics costs of trading companies are high, even higher than the national level. Part of the explanation can be that the respondents in South-West Finland seem to be concentrated on such industries that seem to have the highest costs in the national level as well.

The main result about the logistics costs is that the costs are expected to rise in the future. Especially the transportation costs that are already relatively high are expected to be on the rise.

At the moment, transportation and freight forwarding are the most commonly outsourced logistics functions. The other logistics functions that were asked from the respondents were not as common. The future trend of outsourcing will be on the logistics IT-systems, invoicing and functions related to material management, such as warehousing.

The most important development needs of manufacturing and trading companies seem to be related to the competence of company's personnel, logistics IT-systems and naturally, meeting the challenge of cost efficiency.

Overall the companies in South-West Finland seem to be satisfied with their operating conditions. There is one exception, though. Even on the national level, manufacturing and trading companies seem to consider their location compared to competitors as problematic. Only around 40 percent of respondents consider their location as good or very good. There are even differences between the different regions of South-West Finland. Only some 30 percent of companies in the Salo region seem to be satisfied with their location compared to competitors, whereas the same in Loimaa region is around 60 percent.

The most interesting findings about the logistics service providers is the emerging change in the demand of different services, and the change in the structure following it. The customers are demanding more complex service packages instead of individual services like transportation. This puts a challenge especially to the smaller service providers. Will they be able to meet the changing demand, and if so, what are the ways to adapt? Does it mean that the small service providers will remain small and seek ways to meet the demand by cooperation with different service providers or does it mean that the market is centralising to only a few large service providers.

6 ICT IN THE REGION

6.1 General ICT infrastructure in the region

Finland is globally acknowledged as an information society and an information society development pioneer in many fields. Finland's strengths include a high level of education, regional and social equality, a good ad-ministration culture, national databases and registers, the public nature of information, and citizens' strong trust in electronic services. The same applies to the information society skills of enterprises and citizens, Internet utilisation and use of electronic services.[101]

In a decade, the mobile phone, computer and Internet have become familiar parts of the everyday life on many Finns. Major changes have taken place in the equipment stock of households.[102] Finland has a well functioning and nationally comprehensive mobile network. The fixed-line phone network still covers the majority of the country, but the technology is becoming IPbased. First generation mobile data services are already in use, but faster services that enable mobile working are still under development. However, new information and communications technologies began to penetrate even into ordinary households (Table 11).

Table 11 The penetration of certain household appliances in the last ten years. In Finland (1997–2006), percentage of all households.

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Internet connection	12	14	21	29	35	41	43	46	56	62
PC	35	37	41	47	51	56	58	59	68	70
Mobile phone	63	68	75	85	88	90	92	94	96	97
Fixed line telephone	82	81	79	77	73	69	64	64	57	49

Source: Statistics Finland

[101] Information Society Programme (2006)
[102] Statistics Finland (2006a)

The government's communications network policy has been to ensure comprehensive access to reliable networks of adequate capacity throughout the country. The majority of enterprises (table 11)[103] and households (Fig. 40) have a broadband connection or the opportunity to obtain one, but there are still deficiencies, for example, in geographic coverage. Speeds have to also be significantly increased and copper access connections replaced with optical fibre to make IPTV and other multimedia services possible.[104] The aim of this policy is to extend the high-speed broadband network with a minimum speed of 256 kbits/s to all homes, and it is hoped that by the end of 2007 the most common baud rate will be 8 megabits/s and 90% of all Internet connections will be of the broadband type. According to the latest statistics, 28% of broadband connections have a speed of 2 Mb/s or higher. The expansion of broadband facilities in Finland has been the third fastest of any country in Europe, placing Finland in a solid position as one of the leading countries in Europe in this respect. Only Denmark and the Netherlands, as EU countries with a small area, are ahead of us in this.[105] Fixed broadband network services are already available in all municipalities in Finland, and in Southwest Finland 97.9% of the households in are located in areas where commercial broadband connections can be set up.[106]

[103] Statistics Finland (2006a)
[104] Information Society Programme (2006)
[105] Information Society Programme (2006); Ministry of Transport and communication (2007d)
[106] Pilot Turku (2006)

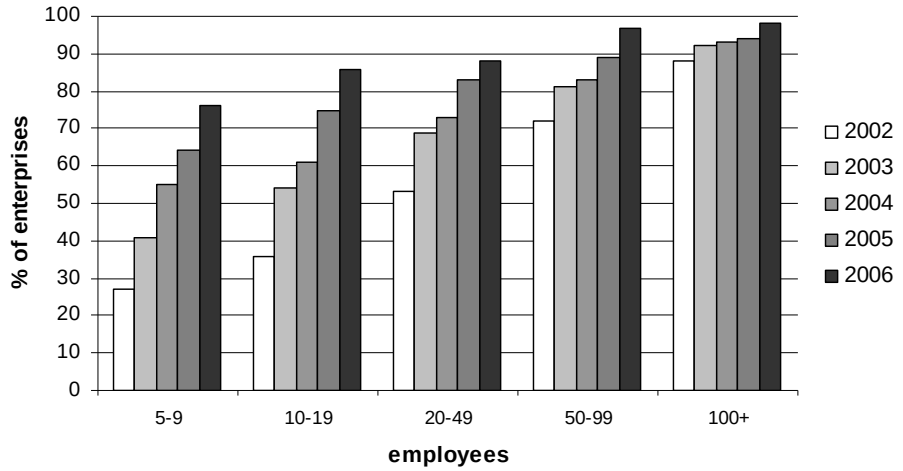


Figure 40 Broadband in enterprises in Finland (2002–2006), proportion of enterprises in different size classes.

In Finland, use of computer had almost settled to its present level as far back as in 2000. In 2005 three out of four of the population aged 15 to 74 had used the computer in the past three months preceding the survey[107]. However, there are still considerable regional differences in the diffusion of Internet access (Fig. 41), and the differences between the regions have remained relatively unchanged over five years. On the average, 60% of the households in Finland were connected to the Internet from home. By region, the proportion ranges from 69% in Uusimaa to 47% in South Savo. Southwest Finland is near average with about 60% (Fig. 42).

[107] Statistics Finland (2006a)

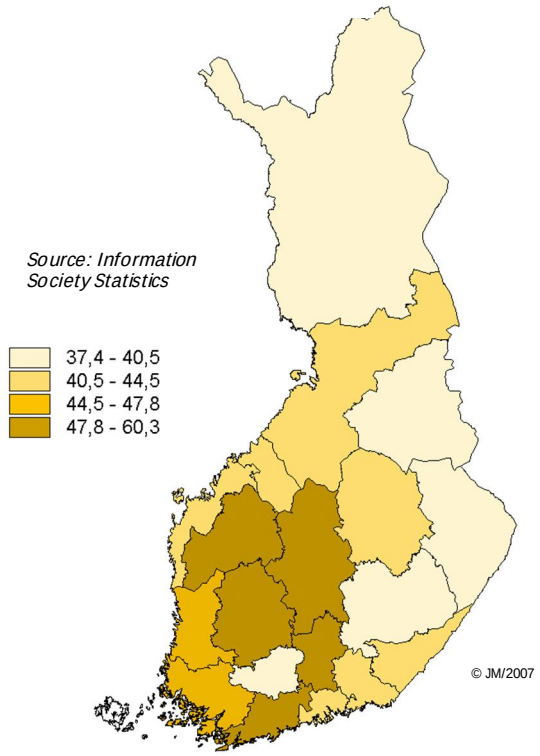


Figure 41 Broadband access at home by regions, November 2005 – February 2006.

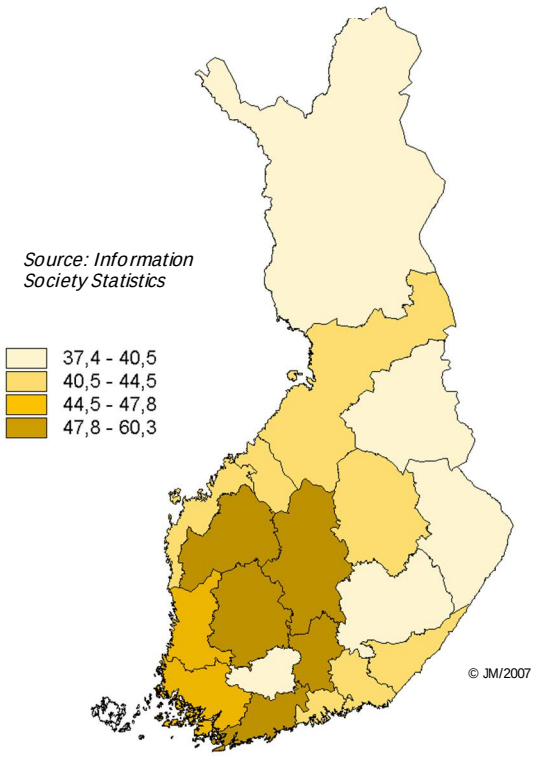


Figure 42 Internet access at home by regions, November 2005 – February 2006.

In the case of enterprises, 97% of the units employing five or more people and 99% of those with personnel of more than ten used computers. Use of Internet is equally widespread among enterprises, and the supply of services built on it has been expanding in recent years.[108]

In recent years, the frequency of own homepages has certainly increased among the Finnish enterprises. Considering the enterprises employing at least ten people's enterprises in Finland have homepages more frequently than on the average in the EU. In fact, only enterprises in Sweden and Denmark have greater amount of homepages than Finnish enterprises. In 2005, 65% of all enterprises employing at least five persons had their own homepages[109]. The prevalence of own homepages is strongly dependent on enterprise size (Table 12).

[108] Statistics Finland (2006a)
[109] Statistics Finland (2006a)

Table 12 Homepages in enterprises, percentage of all enterprises in class, 2005.

	%
5–9	54
10–19	65
20–49	82
50–99	91
100+	93
All enterprises	65

Source: Statistics Finland

One special characteristic in the field of ICT and in the case of Southwest Finland is a local wireless network. Southwest Finland has the most extensive and most rapidly expanding public wireless local area network (WLAN) in the country. The Sparknet, set up in 2003 and intended for joint university and company use, is the most extensive wireless Internet net-work in the whole country and now serves almost 100 000 public and private sector users[110]. It was the first wireless local area network to be created by virtual combination of the networks of individual actors. Corresponding networks were later set up in Oulu and some other places. SparkNet won the community series of the Finnish Junior Chamber of Commerce innovation competition in 2004. The SparkNet is based on an agreement made between the University of Turku, Åbo Akademi, the Turku School of Economics, Turku Polytechnic, Turku Science Park itself and MP-MasterPlanet Oy. Its use is open to all those who have been granted access by one of the institutions of higher education involved or have purchased a connection. The area covered by the network is being extended throughout Finland by means of visiting agreements. Use of the SparkNet is free of charge for its non-commercial founder organizations, a benefit that is enjoyed by students and staff of the University of Turku and holders of library cards in Turku and the nearby districts and is likely to be extended in the future to customers in restaurants and cafés. Even for companies and visitors it is relatively inexpensive. Users from outside the founder organizations can purchase SparkNet connections from MP-MasterPlanet or Turku

[110] SparkNet (2007); Pilot Turku (2006)

Science Park at prices below 2 000 euros, depending on the number of base stations and the structure of the network area to be realized.[111]

The relationship between information and communication technologies (ICTs) and business has been the subject of study for many years. One promising but challenging approach is to perceive the relationship as a dialogue between business and information and communication technologies, enabling the assessment of the development and future potential of both, simultaneously. In this vein, it may be appropriate to talk about knowledge business, which concentrates on developing the competence of the company as well as the partner network, adopting new business models and creating added value by exploiting the opportunities offered by new technology.[112] In the ICT field the coordinating force of collaboration in Turku Science Park is ICT Turku, a cluster focused on information and communications technology and digital content production. The goal of ICT Turku is to develop the ICT cluster in Southwest Finland into an internationally successful entity of actors. ICT Turku unites the ICT companies, universities, research centres, other educational institutions and public services of Southwest Finland. There are several units of large-scale digital companies in Turku Science Park and numerous growth companies providing them with services or focusing on special knowledge of the field. The network of ICT Turku is comprised of more than 1400 Southwest Finnish companies and units of the ICT field. Turku Science Park also offers the newcomers close connections with the universities and other actors in the ICT field.[113]

6.2 ICT industry: Characteristic[114]

6.2.1 About the surveyed firms

The regional ICT survey received 508 responses throughout Southwest Finland. Most of the companies responding to this survey belong to the group of micro companies with turnover less than two million euros (Fig. 43). From 508 respondents 390 belong to this group. The second

[111] Pilot Turku (2006); SparkNet (2007)
[112] Information Society Programme (2005)
[113] ICT Turku (2007)
[114] Juha Läikkö, based on ICT survey (2007)

largest group with 76 respondents is small companies, with turnover between 2-10 million euros. Medium sized companies with turnover between 10-50 million euros are represented with 27 companies. The smallest group with 15 respondents is the large companies group. Large companies have turnover more than 50 million euros per year.

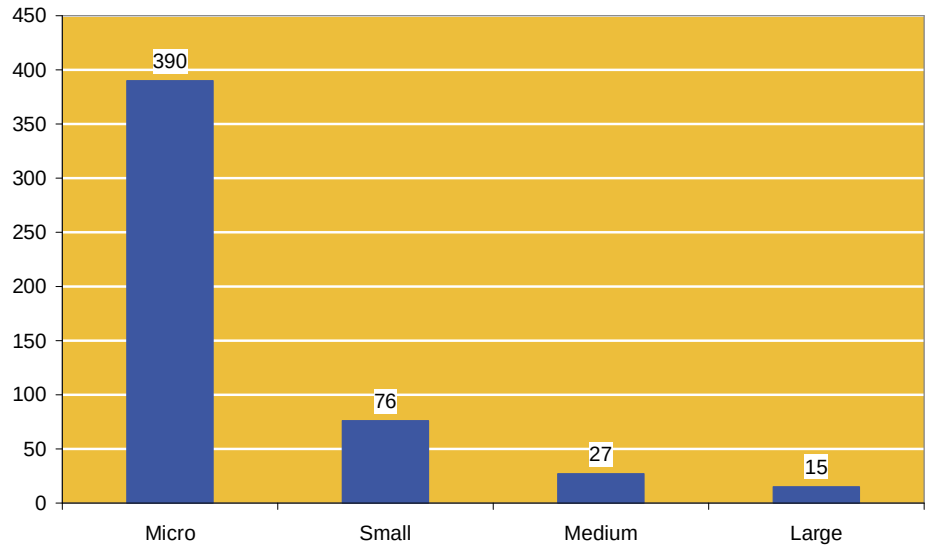


Figure 43 About the surveyed firms. Number of respondents according to company size.

The respondents were categorized to five groups according to their position in the company. The largest respondent group in this survey was senior management with 346 responds. The number of micro and small sized companies affects this result because most of the micro and small company owners have responded to the survey themselves. Roughly 90 percent of the respondents in this group are from micro or small sized company. 50 of the respondents belong to the group of middle management. 22 of the respondents belong to operational staff and 21 to expert group. 43 answers were given to the group other.

All 508 companies were divided to four groups according to main industry (Fig. 44). Most of the respondents belong to the group “Other”. The group of 290 companies consists of service providers like law firms, advertising agencies, engineering offices, health care services, consultant firms, accounting companies etc. Second largest group with 127 companies is manufacturing industry. This group consists i.e. of maritime industry, metal works, component and textile manufacturers

and food industry. Third largest group in the area is trading with 56 answering wholesale and retail trading companies. The smallest group is logistics service providers with 35 respondents.

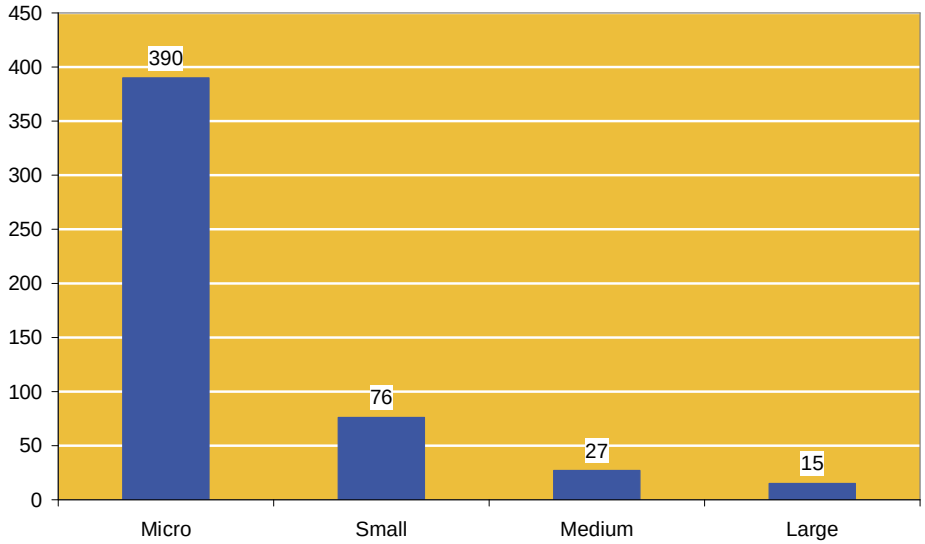


Figure 44 Number of respondents according to main industry.

6.2.2 Use of ICT systems

Figure 45 shows that the level of ICT usage in different areas of business in Southwest Finland is not extremely high. This result may be warped from the fact that most of the companies responding to this survey are micro and small sized companies. These companies do not have the resources to buy or needs to have as many functions in their applications as the larger companies. Roughly 5-10 percent of the companies are planning to use ICT in some new areas of business in the future. Applications are mostly used to support accountancy, finance and marketing and sales.

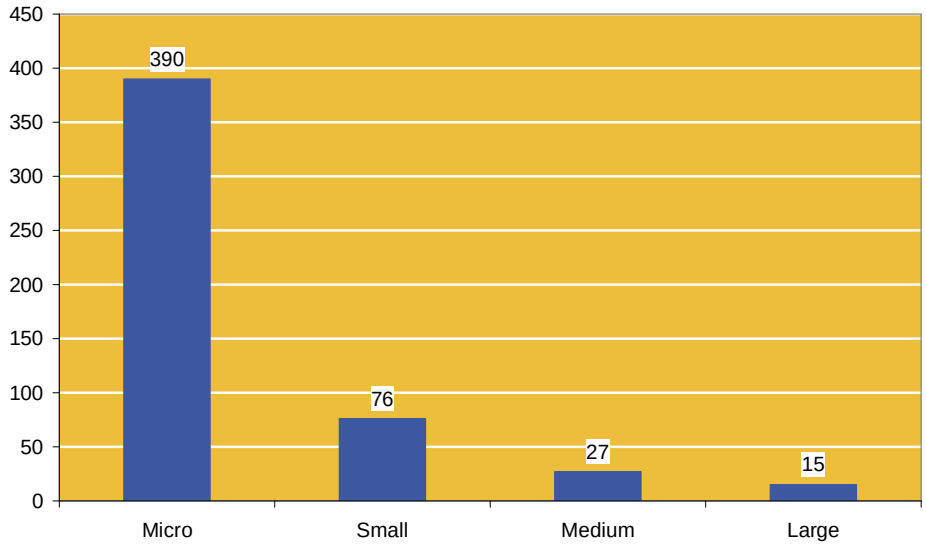


Figure 45 On which areas of business the companies are using ICT.

Clear majority of the respondents consider general ICT expenditure too high although most of the companies spend less than 2.5 percent of their annual turnover to ICT costs (IT personnel, hardware and software). Roughly half of the companies did not have any expenses on IT personnel past year. This is clearly due to the fact that micro sized companies do not usually have own IT personnel and they do not tend to use high cost ser-vices of IT consult firms even they needed one. Local developer ICT Turku is assisting companies with their "Yritys-ICT" -service, in which they give a consultant for company use for a day for 100 euros. Normal price for one day consultancy is roughly six–fold.

Around 5 percent of the companies used over 10 percent of their annual turnover to hardware and software acquisitions. These companies include many ICT service providers and software companies. On the other hand this group also included companies like law firms, accountant companies, advertising companies etc.

A majority of the companies believe that the ICT costs will remain the same in the next three years. Roughly one quarter of the companies are expecting some increases in prices of software and hardware. Around half of the companies monitor and evaluate their IT costs and performance internally. Some 36 percent of the companies monitor or evaluate IT costs or performance with their customers or suppliers.

Some 16 percent of the companies responding to the survey have their own IT-department. These companies belong mostly to the groups of medium sized and large companies. There are some small companies that have their own IT-department, but their core business is software development or providing IT services. Some 23 percent of the respondents use an IT service provider to maintain their systems and servers. Most of these companies also belong to the medium sized and large companies. Some small sized companies use also service provider for their IT functions. These companies are i.e. advertising agencies, law firms and private doctor's offices whose core business is far away from IT, but the systems are vital for the company to function. These companies need a server to run all their data, but they do not necessarily need a full-timer to maintain the servers.

Over 60 percent of the respondents do not have their own IT department or use an IT service provider. This result is highly affected by the large amount of responses from micro sized companies with no need or resources to have an own IT department or IT provider.

Table 13 The use of different data security measures.

	Available	Regularly used/ updated
Password access control	333	202
Virus protection applications	359	264
Computer firewall applications	352	252
Employee education on data security	161	69
Own documented data security program	82	39

The awareness of data security related issues seem to be little poor in the companies in Southwest Finland. From a security perspective many companies seem not to have a good understanding of the threats they might be facing when lacking the support of the factors in table 13. Many of the companies neglect Internet security concerns entirely by lacking suitable virus protection and firewall application. On the other hand some companies are too afraid of using the systems, even email because of possibility to get viruses, spywares and other malicious software. Practical training and education on data security is given in roughly 30 percent of the companies. Own documented data security program can be found only from 82 companies and 39 of them use and update it regularly. This result shows that standardized data security

program is neglected in too many companies. It is important to give employees boundaries for what they are authorized to do at work time and with company IT systems and computers. Own documented data security program sets the rules for ICT usage and therefore prevents catastrophes to happen.

6.2.3 Use of Internet

There is a very high broadband penetration within the companies in Southwest Finland; over 90 percent of the companies use broadband connections, some 4 percent IDSN or data cards and another 4 percent is stilt using modems. These results indicate that the broadband infrastructure and its benefits are widely recognized within the companies. The regular 52 Kb modem connection is unreliable, costly, very slow and not compatible comparing the other connection types. Majority of the companies give access to e-mail and Internet to entire workforce. Web sites can be found from over 75 percent of the companies although many of the respondents consider the costs of building and maintaining Web site expensive. Research made by Central Statistical Office of Finland (Statistics Finland 2006a) says that two-thirds of the companies have their own Web sites. This means that the companies in Southwest Finland are a bit ahead comparing to the situation in whole Finland.

An IT service provider provides 49.6 percent of the existing web sites and in 50.4 percent of the companies their own IT department or special employees administer and update the sites. Specialized web hosting ser-vices are available for companies that lack the financial or technical re-sources to operate their own Web sites. There are many low-cost web hosting service providers in Finland. The prices wary up from 15 euros per month depending on the amount of provided services. The most common features in company web sites are general information about the company and its products and services. Contact and feedback forms are provided by some 65 percent of the companies. Online job application forms can be found from under 10 percent of the companies web sites. This feature is generally provided by the medium sized and large companies that are seeking professionals and experts on regular basis.

Around 10 percent of the companies have some special features on their web sites. These features include electronic bulletin boards,

manuals, articles, references, directories, timetables, appointment systems, calendars and reservation systems.

In Southwest Finland the general ICT infrastructure is very good and has been even recognized by other regions with some specialities. This area has the most sophisticated and largest WiFi (wireless local area network) called the Sparknet. There are more than 100 000 users and 1894 access points held by organisations, companies and regular citizens.

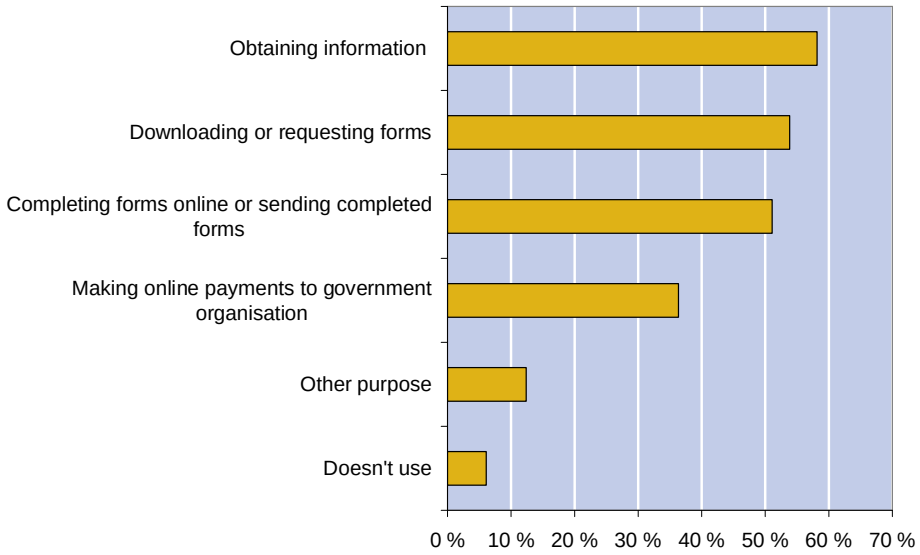


Figure 46 The different purposes companies use the Internet to interact with public authorities and government organisations.

The utilization of electronic services provided by local authorities and government is moderate. Around 50 percent of the companies obtain information, download and complete forms online (Fig. 46). Companies can find useful information provided i.e. by the tax administration, city departments and government departments. There are also numerous forms and documents to download or request through Internet i.e. tax related documents and documents for HR use. Finland's Ministry of Finance provides TYVI –service which is set to enhance the electronic information flow between companies and authorities. TYVI provides companies an electronic platform to report information to authorities. The goal is to relieve companies' burden of making the reports and reduce companies' work and costs preparing them.

Online payments to government organisations are performed by some 35 percent of the companies. The percentage is rather low considering the possibilities and general level of e-banking usage in Finland.

According to the respondents they use Internet to find information about their business partners, competitors and customers and the financial situation and credit status information about them.

6.2.4 E-commerce

The most typical communication methods of the companies are making personal visits, telephone and email. E-mail is used by almost 90 percent of the respondents when communicating with company customers and suppliers. Regular post is not as used as it used to be in the time before email and other electronic means. However, over 50 percent of the companies in Southwest Finland use regular post to communicate with their customers and suppliers. Presumably communication by regular post means mostly sending important documents that contain delicate information as well as product catalogues, company advertisement and offers.

About seven percent of the surveyed companies use systems like EDI, ERP or extranets to communicate with customers and suppliers. This result indicates to the large number of micro and small sized companies that do not have resources and the money or necessity to build and maintain systems like ERP and extranet.

The companies in Southwest Finland use e-commerce with their customers and suppliers mostly in order placement for products and ser-vices and to make electronic payments. Bit over 50 percent of the companies provide their customers a possibility to place orders for products and services electronically. Over 50 percent of the companies are handling their orders electronically with their suppliers as well. According to the respondents, both these percentages are expected to increase to 60 percent in three years time. From the surveyed companies 36 percent offer electronic payments to their customers and 39 percent of companies handle payments with their suppliers electronically. In three years time these percentages are going to increase to around 50 percent.

Electronic invoices are significant savers in cost and time. It is already possible to send electronic invoices to regular consumers and to companies. According to Tieke (Finnish Information Society

Development Centre), large and medium sized companies are widely using electronic invoices. It will take some time to get the smaller companies fully along to the progress. To be able to benefit largely from electronic invoices the companies need comprehensive accounting and financial applications to backup the newest technology. To speed up the development on the small company area, electronic invoices need to be introduced and marketed to consumers. Finland is one of the leading countries in electronic banking and banks are the ones to do the job.

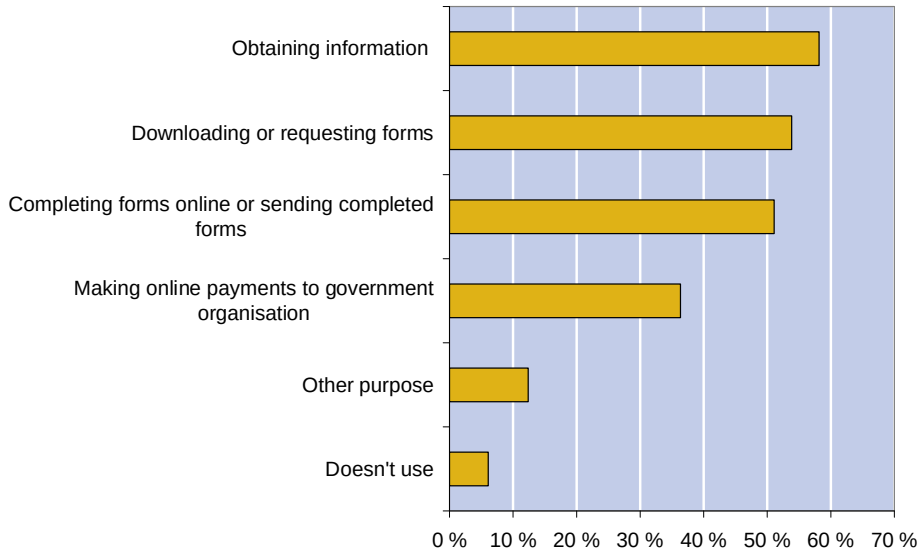


Figure 47 Companies views on the importance of E-commerce to their own company.

Clear majority of the companies in Southwest Finland agree that e-commerce is important and have an affect on their business (Fig.47). Al-most 80 percent of the respondents believe that e-commerce helps them reach new customers and suppliers. Some 70 percent believes it gives competitive advantage and helps to improve the companies' customer service quality. 80 percent of the respondents believe e-commerce helps to simplify transactions and roughly 65 percent consider it has a major impact on company profitability. The survey recognized two main barriers for further use of e-commerce. These barriers are uncertainty concerning contractual issues and the cost of maintaining an e-commerce system.

The Finnish Entrepreneurs in cooperation with Sampo, Elisa, Soprano and Tekes are speeding up e-commerce in Finland. Their goal is to build 50 000 new web stores in the next two years in Finland. The tree companies; Sampo, Elisa and Soprano will deliver the platform free of charge in the beginning. Tekes, the Finnish Funding Agency for Technology and In-innovation is the main public financing and expert organisation for research and technological development in Finland.

With the assistance of the cooperation mentioned above, the companies have much better chances to open reliable e-commerce systems with much smaller investments than in general.

6.3 Summary[115]

The survey received 508 responses throughout Southwest Finland. 466 of the responses came from micro and small sized companies which reflect many of the results in the survey. The respondents were divided in four different categories according to their branch; manufacturing (127), Trading (56), Logistic service providers (35) and others (290). Most of the responses were given by people in senior management (346) and middle management (50).

The level of ICT implementation in different business areas is not extremely high in Southwest Finland. Applications are mostly used to support accountancy, finance and marketing and sales. Clear trend within the retail companies in the region is to implement new software (SAP e.g.) in order to standardize their functions. The lack of perceived benefits is commonly seen as a barrier for further usage of ICT. Clear majority of the respondents consider general ICT expenditure too high although clear majority spends less than 2.5 percent of their annual turnover to IT costs (IT personnel, hardware and software). Most of the companies expect that the costs remain the same in the near future. One quarter of the companies are benchmarking their competitors regularly and almost half regularly monitor and evaluate their own IT costs and performance.

Around 16 percent of the companies responding to the survey have their own IT-department. These companies belong mostly to the groups of medium sized and large companies. There are some small companies that have their own IT-department, but their core business

[115] Juha Läikkö, based on ICT survey (2007)

is software development or providing IT services. Some 23 percent of the respondents use an IT service provider to maintain their systems and servers. Out-sourcing IT services was seen as a clear trend in the future.

The results of the study also show that especially in micro and small companies the level of know-how in ICT is relatively low. On the other hand the level of know-how is considered rather high within larger companies. The lack of knowledge and practical training in computer related issues indicates that adequate education is needed especially within the smaller companies.

Compared to some other regions in Finland, Southwest region has relatively low amount of ICT education. This may affect on the availability of experienced workforce.

The ICT infrastructure in Southwest Finland was mentioned as a one main success factor. Broadband penetration is very high in the companies and access to Internet and e-mail is provided to majority of the employees. Companies use Internet to find information about their business partners, competitors and customers and the financial situation and credit status information of them.

Over 75 percent of the companies in Southwest Finland have their own web sites. Compared to the percentage in whole Finland the percentage is roughly 10 percent more than average. Despite of the high percentage, especially micro sized companies consider that web sites are expensive to develop and maintain. However, there are service providers that build and maintain web sites as cheap as 15 euros per month. Web sites can be considered as cheap marketing, especially for micro and small sized companies. To find different kind of solutions one just needs to know how to search information from the Internet.

The utilization of electronic services provided by local authorities and government is moderate. Around 50 percent of the companies obtain in-formation, download and complete forms online. Online payments to government organisations are performed by some 35 percent of the companies. The percentage is rather low considering the possibilities and general level of e-banking usage in Finland.

Finland’s Ministry of Finance provides TYVI -service which is set to enhance the electronic information flow between companies and authorities. TYVI provides companies an electronic platform to report/declare information to authorities. The goal is to relieve companies’ burden of making the reports and reduce companies’ work and costs preparing the reports.

The Internet is more vulnerable than internal networks because it is open to anyone. When the Internet becomes part of the company network, the information systems are in danger to actions from outside.

To hinder the possibility to get viruses or hackers to their computers, the companies should use antivirus software and firewalls for protection. Some of the companies are clearly neglecting the security concerns because they do not have these applications running in their systems. On contrary, some of the companies do not even open attachments because they are too afraid they contain viruses and spywares. Those companies can be losing significant amount of offers and orders just because they lack of knowledge in the matter. This is clearly wrong kind of data security. The Yritys ICT program provided by ICT Turku is clearly needed among many companies. The other local authorities should also participate and concentrate on the problems the local companies have.

Generally the meaning of e-commerce is recognized by the companies. Electronic commerce is growing, within the next three years it is expected to grow around 10 percent. Companies are using more and more electronic means to handle everyday business transactions. Many applications are still too hard and heavy to handle for a small company. Many of these sophisticated applications can be quite expensive for companies with one or few employees.

The Finnish Entrepreneurs in cooperation with Sampo, Elisa, Soprano and Tekes are speeding up e-commerce in Finland. Their goal is to build 50 000 new web stores in the next two years in Finland. The tree companies; Sampo, Elisa and Soprano will deliver the platform free of charge in the beginning. Tekes, the Finnish Funding Agency for Technology and Innovation is the main public financing and expert organisation for research and technological development in Finland

The biggest problem found in this survey seems to be the lack of general know-how in computer related issues. To help the companies further there should be an advising portal in the Internet for company use. Yritys ICT is a good example of job well done. However, they are not able to assist all the companies in the area, and the portal could give “first aid solutions” for them.

7 HUMAN KNOWLEDGE BASE

7.1 Professions and their qualifications

In Southwest Finland over 30% of employees are working in the field of community, social and personnel services and over 20% in manufacturing industries, and comparing for example to Uusimaa, agriculture and forestry plays still some role in employment (Table 13)[116]. However, the main areas of expertise in Southwest Finland as a whole are the biosciences, foods, information and communications, metalworking, shipbuilding, electronics, materials technology and logistics.

[116] Statistics Finland (2006b)

Table 14 Distribution of employed persons by industry in Finland and in the four biggest regions at end-2003.

	Whole country	Uusimaa	Pirkanmaa	Southwest Finland	North Ostrobothnia
Agriculture, fishing, trapping, forestry, logging	4,38 %	0,63 %	3,09 %	4,31 %	6,13 %
Mining quarrying	0,21 %	0,06 %	0,15 %	0,18 %	0,53 %
Manufacturing	18,35 %	12,48 %	24,60 %	21,38 %	19,43 %
Electricity, gas and water supply	0,71 %	0,54 %	0,67 %	0,51 %	0,71 %
Construction	5,89 %	5,22 %	5,66 %	6,31 %	6,73 %
Wholesale and retail trade, hotels and restaurants	15,18 %	18,95 %	13,97 %	14,29 %	12,75 %
Transport storage and communictions	7,55 %	8,57 %	6,44 %	7,87 %	6,29 %
Finance, insurance, real estate, cleaning, rental services	13,64 %	20,28 %	12,49 %	12,58 %	11,71 %
Community, social and personnel services	32,31 %	31,91 %	31,26 %	31,00 %	33,56 %
Industry unknown	1,79 %	1,37 %	1,66 %	1,58 %	2,17 %
Total	100,00 %	100,00 %	100,00 %	100,00 %	100,00 %

Source: Statistics Finland

Table 15 Personnel in manufacturing industries in Southwest Finland by subregions (2005).

	Turku Subregion	Salo Subregion	Loimaa Subregion	Vakka-Suomi Subregion	Åboland Subregion
Manufacture of food products, beverages and tobacco	3 492	179	70	227	93
Manufacture of textiles and textile products; leather and leather products	280	49	21	26	2
Manufacture of wood and wood products	152	164	...	125	20
Manufacture of pulp, paper and paper products; publishing and printing	2 091	354	92	41	21
Chemical industry	3 472	536	176	494	73
Manufacture of other non-metallic mineral products	552	128	231	468	639
Manufacture of basic metals and fabricated metal products	2 692	870	432	...	272
Manufacture of machinery and equipment n.e.c.	2 531	897	1 001	494	145
Manufacture of electrical and optical equipment	1 725	6 091	8	65	...
Manufacture of transport equipment	3 521	...	126	1 207	80
Manufacturing n.e.c.	701	357	31	126	12

- data subject to secrecy

Source: Statistics Finland

Turku and Salo together form the country's largest electronics industry concentration. This can be seen in the distribution of employees by industries in Southwest Finland (Table 14).[117] Especially, this is obvious in Salo Subregion. In the field of the electronics industries, education, research and development requirements are well able to meet. The Turku area has a strong knowledge and expertise based in this field and an equally strong development potential, especially through exploitation of these extensive higher education resources. In Turku itself activity in this field is mainly concentrated in Turku Science Park[118], which houses more than 100 ICT companies and units together with the universities' joint Centre for Computer Science[119]. The ICT companies in Turku are engaged in developing, producing and selling software products, data systems, telecommunications equipment, electronics components, mobile phones and measurement and surveillance equipment, while also providing related expert services[120]. The best-known of these companies at Turku Science Park are Nokia, Elcoteq, Ericsson, NOVO, Siemens, Stonesoft and TietoEnator.

The fast changing operational environment of the ICT sector sets new requirements upon companies as well as individuals. The global playing field opens upon new growing markets, but at the same time increases competition. Cost efficiency and customer orientation are essential aspects of the ability to compete. It is getting more and more difficult to develop a competitive edge in order to stand out from the rest. Continuous renewal is essential, as permanent competitive edges no longer exist.[121] In future, companies will need more highly skilled personnel. Technical skills are still regarded to be the basis for competitiveness, but on the other hand, business skills, co-operative skills and project management skills will be essential key skills from now on.

New co-operational models between companies, universities, and institutes of higher education and other educational institutes are needed to respond to the fast developing competence needs of the future. Skills and competence can be transmitted through joint projects and new skills can also be developed. The development of these new skills could maintain Finland as a country where it is possible for ICT

[117] Statistics Finland (2007b)
[118] Turku Science Park (2007)
[119] Turku Centre for Computer Science (2007)
[120] Pilot Turku (2006)
[121] Manninen & Meristö (2004)

companies to remain competitive in the future. In Southwest Finland, the aim has been to create an ICT cluster by increasing cooperation, particularly by means of joint projects and functions shared between Turku and Salo and by networking with other such clusters in Finland. About 15,000 people are working in the ICT cluster of Southwest Finland.[122] It is also hoped to create a clear model for cooperation between research units, companies and financers and to strengthen the role of ICT Turku as a coordinator of such cooperation.[123]

In the field on logistics, business has been increased in recent years.[124] This has signified that there has also been a need for new employees. This need will explode, because many employees also in logistics sector will retire in the near future.[125] Logistics includes a network of expertise in many fields, including the control and integration of transport, logistics services, the networking of education and research connected with logistics and the advantages to be gained from this. Networking and the resulting management of the whole logistics process naturally also give rise to pressures for change. Many of the demands for logistics expertise are also determined by control over the value chain and over products, the development of control and product systems, the possibilities offered by telematics and positioning technologies, the impact of e-commerce on distribution systems, the use of compatible transport systems as the main structure of operations, the drive for traffic efficiency and increasing environmental and safety requirements.[126]

7.2 Education and training programs

Turku has been the gateway of European cultural influences in Finland ever since the Middle Ages[127]. Nowadays, the Turku area and the whole of Southwest Finland represent a concentration of academic, scientific and technological expertise for Finland and also for the Baltic region. Turku has three universities and the largest polytechnic in the country, together educating some 35 000 students (Table 15).[128] The primary purpose of the universities is to carry out academic and

[122] ICT Turku (2007)
[123] Pilot Turku (2006)
[124] Marttinen (2004a)
[125] Marttinen (2004b); Karkama et al. (2004)
[126] Pilot Turku (2006)
[127] University of Turk (2007)
[128] Pilot Turku (2006); Ministry of Education (2007a)

scientific research and to provide high-level instruction based on this. The polytechnics provide professionally oriented qualifications, so that the teaching is of a more practical nature.

Table 16 Numbers of undergraduate and postgraduate students at tertiary-level educational institutions in Turku.

	Under-graduates	**Post-graduates**	**Total**	**New students in 2005**
University of Turku	13 264	2 067	15 331	1 816
Åbo Akademi University	6 002	876	6 878	805
Turku School of Economics	2 031	248	2 279	318
Turku Polytechnic	9 482	-	9 482	1 958
Southwestern Polytechnic	608	-	608	146
Diaconia Polytechnic Turku branch	229	-	229	53
Humanities Polytechnic Turku branch	86	-	86	20
Total	31 702	3 191	34 893	5 116

Sources: Pilot Turku

All the 20 universities in Finland are state-owned and mostly financed from the state budget. Universities work in cooperation with the suspending society and promote the social impact of research findings. There are universities in 11 different cities and towns, which offer education in altogether 23 localities in Finland. The higher education system, which com-prises universities and polytechnics, is being developed as an internationally competitive entity capable of responding flexibly to national and regional needs[129]. The regional aspect has been emphasized in Finnish educational policy, and the differences between the regions in the case of educational level are relatively insignificant (Fig. 48).

[129] Ministry of Education (2007b)

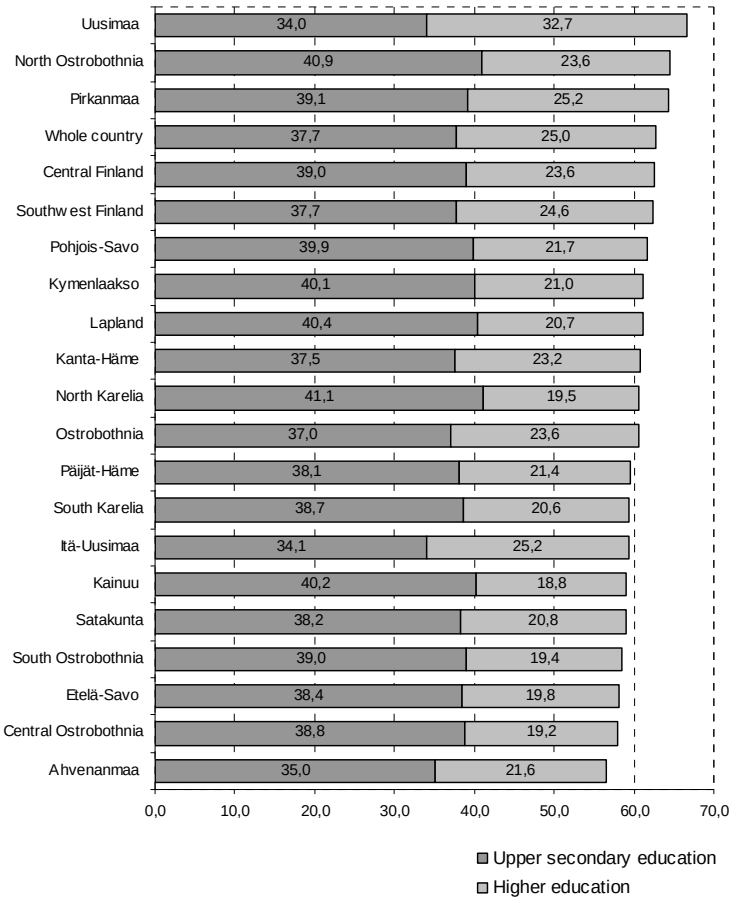


Figure 48 Level of education (%) in Finnish regions (2004).

There are quite many opportunities to get education in the field of logistics in Southwest Finland (Table 16). Scientific research and teaching in logistics has been part of the programme of the Turku School of Economics and Business Administration for more than 10 years, and separate teaching modules are now provided on modes of distribution, materials administration, purchasing, transport and organizations. Teaching in logistics is also available at the Uusikaupunki unit of Turku Polytechnic, where one focus of emphasis is vehicles and logistics, comprising vehicle and haulage technology, business logistics and data processing. Teaching in maritime studies is concentrated in Turku, where the Southwestern Poly-technic has a school for sea captains, who can then proceed to a master's degree and eventually a doctorate at the University of Turku. Åbo Akademi is the only university in Finland providing teaching in maritime law, while the Turku School of Economics has courses in maritime economics.

The Centre for Maritime Studies, an institute affiliated to the University of Turku, has a wide range of up-to-date services in seafaring and port procedures, company logistics, transport and infrastructure and regional research and development targeted towards companies and public organizations, and also arranges teaching and conferences on maritime themes.[130]

Table 17 Education in the field of the logistics in Southwest Finland.

	Education in logistics		Adult education in logistics	
	Student places (2004)	*Completed (2003)*	*Student places (2004)*	*Completed (2003)*
Turku School of Economics	-	8	-	-
Southwestern Polytechnic	84	62	-	-
Yrkeshögkolan Sydväst (Turku)	20	15	20	7
Turku Vocational Institute	36	12	38	58
Salo Vocational Institute	18	20	-	-
Vocational Institute of Vakka-Suomi (Novida)	17	12	-	-
Yrkesinstitutet Sydväst (Turku)	24	9	40	8
Turku Vocational Adult Education Centre	-	-	20	-

Source: Karkama et al. (2004)

The concept of ICT may be taken to cover information technology (IT) as such filled out with three C's: culture, communication and content.[131] The universities and other educational establishments in Southwest Finland are investing a great deal in ICT instruction. A great deal of teaching and research in cultural matters is taking place both at the universities and at the upper secondary vocational schools.

The Turku Centre for Computer Science (TUCS), a joint institute belonging to the University of Turku, Åbo Akademi University and the Turku School of Economics, serves to coordinate both teaching and research in IT between these universities and also cooperation with industry. The aim is to concentrate the wide range of university-level IT advanced studies and research in one institution. At the departments

[130] Pilot Turku (2006), Karkama et al. (2004)
[131] Pilot Turku (2006)

participating in TUCS there are presently about 35 professors, 65 Ph.D. level researchers, 100 doctoral students and 2000 Master's students.[132] The TUCS acts as coordinator for four IT master's programmes (TUCS Master's School) while the TUCS Graduate School provides instruction in data processing, mathematics, information technology, microelectronics and information systems. The language of instruction is English, and the work is done in the TUCS laboratories, where researchers from the three universities are working together. The TUCS itself is financed chiefly by the Ministry of Education, the Academy of Finland and the local authorities of the surrounding area. Part of its finance comes from business and industry through joint projects.

[132] Turku Centre for Computer Science (2007)

8 REGIONAL LOGISTICS AND ICT COMPETENCE

South-West Finland is the part in Finland closest to central Europe. Location compared to other regions in Finland is seen as strength for the region by most of the experts interviewed for this report. Also the good connections to other cities in the Baltic Sea Region (for example Stockholm) are seen as strength for the region and regional development.

One of the strengths of the region is the availability of skilled work-force. The three universities in Turku and the universities of applied sciences provide a large variety of highly educated labour for the companies and other organisations of the region. Although satisfied with the current labour supply, the interviewed experts see some areas of development as well. The amount of education on different levels is not in balance. There would seem to be more demand for more blue-collar workers such as truck drivers, and less demand for highly educated white collar workforce. A concrete suggestion for development could be to combine the views of the business community, educational organisations and local authorities to coordinate the amount of education and the supply of work force on different levels.

One weakness mentioned by the experts was the lack of co-operation between the different organisations of the region. First of all, there are a large number of different development agencies in the region that could coordinate their efforts better to achieve more synergy and thus create better value for regional development. Second, there are numerous re-search organisations such as universities that could coordinate the re-search efforts so that the resources of different organisations would be in a better use to achieve results. Third, there are numerous development goals that are common to a large number of companies in the region. There should be more cooperation between the companies of the region, to gather sufficient amount of resources both tangible and intangible and unity to defend the interests of the region. And finally, there should be far more cooperation between the development agencies, research community

and business community so that they would better support each other and the development of the region.

The business community should be interested to inform the development agencies about the issues that need attention and are critical for the competitiveness of the region. Likewise, the business community should be active in contacting the research community on what kind of research could be useful. And of course, the development agencies and research community should be able and willing to show interest to the problems and needs of the business community.

What is really interesting to notice is the unanimous voice of experts from different type of organisations in one particular question; the fairway dues to the ports in South-West Finland. Unlike in most of the other ports in Finland, the Fairway to ports in SW-Finland goes through a long route in the Archipelago. Because of the fact that the fairway and pilotage dues are based on the distance, the dues are high compared to other ports. This is seen as an impediment to competition.

It is justified to present a question; since the costs of ice breaking are divided evenly between the ports, why the case isn't so with the fairway dues? This is one of the key points that should be solved to maintain and enhance competitiveness of transport sector and other industries in the region.

The experts of different industries or institutions were unanimous about some of the future trends in logistics. In the future the focus of logistics development will be in cutting down the size of inventories. The motivation behind the shifting of focus to inventories is the fat that previous efforts in logistics development (for example through outsourcing) have been done in transportation. Warehousing and industry levels are the next clearly visible target for development. There are of course other reasons as well. Customers are demanding higher service level than previously, which means that products have to be available almost immediately. Another thing is the growing number of products companies are offering.

Together these two mean that in order to keep both warehousing costs and inventory carrying costs in a relatively reasonable level, one has to be able to enhance the inventory turns and cut down the size of inventory.

Another explanation is the development of logistics IT-systems, especially in the field of tracking and tracing and inventory management. More advanced EDI and ERP –solutions make it possible to distribute information within the supply chain and increase transparency, and thus make it possible to reduce "safety stocks".

Several experts had similar views about the challenges of business development in the Baltic Sea Region. Although the Baltic Sea is geographically a rather small area, the countries around it differ much from each other. There are differences in contract practices in between the countries on the region. The same phenomenon is visible in the way companies and people do business with each other. Different practices of course make it more difficult for organisations to do business with each other. Especially there is a need to unify the contract practices to remove obstacles for bi-lateral trade possibilities. The differences in business practices and culture can at least to some extent be met with targeted education.

Another and a more practical problem that affects the delivery times in the region is the different customs practices. In Finland the problem is highlighted on the transit traffic that is suffering from major problems in the form of queuing in the Finland-Russia border. Because of traffic jams in the border the delivery times cannot be estimated precisely, which of course affects the efficiency of supply chain and forms a hinder for successful trade across the border.

Another problem mentioned by the experts was the level of transport and traffic infrastructure. In some regions the infrastructure is not at the level that the transport and traffic volumes of today would expect to be.

8.1 Development needs of the region

The most important regional development issues of South-West Finland seem to be related to traffic infrastructure. As one of the key points is seen the level of railroad infrastructure that at least on some parts is not in sufficient conditions. Weight limits in some parts of the railroad network are seen as a hinder to logistics efficiency. When discussing about the role of railroad traffic one has to remember two things.

First of all, because of the environmental questions like global warming, the potential role of rail transportation will most likely be growing in the future. Increasing traffic on rails means increasing requirements on the condition of railroad network. If the network is not in good shape on the railways from/ to South-West Finland, cargo traffic will seek elsewhere.

Another thing is the fact that at the moment the only working railroad shipping terminal is in Turku. If it is seen as the best interest to keep

the terminal operating in Turku, it would seem to be rational to take care of its operating preconditions.

In addition to the needs on railway development, there are also other needs for the development of traffic infrastructure. Especially the roads 8 and 9 leading to Rauma, Pori and Tampere are seen as bottlenecks for trade and transport. Both of the roads are seen as insufficient for the amount of personnel and transport traffic. For example the E8 road from/ to Rauma is extremely congested during the rush-hours in the morning and in the afternoon.

8.2 Regional outlook

Availability of competent personnel is seen as strength for the reason. On the other hand, the balance of educating the workforce should be more on the blue-collar workers than on the highly educated white-collar workers.

One of the challenges of enhancing business in the Baltic Sea region is the cultural differences in the ways of doing business and in the policies of the authorities in different countries. As an example different customs practices in Russia were mentioned. At least part of this obstacle can be solved by providing training on cultural issues.

Lack of cooperation is seen as a weakness of the region, there are a lot of good organisations trying to develop the region but due to lack of communication and cooperation possible synergies are not achieved and some of the potential of the region is left unused.

The experts interviewed for the study seem to be more or less unanimous about the most important development needs of the transport infra-structure. The level of E8 and E9 roads and the low weight limit of Turku-Toijala railroad were mentioned by numerous experts.

One of the top priorities for the competitiveness of the region would seem to be related to maritime transport. The fairway dues and piloting dues were seen as unfair and impediment to competition by the majority of experts. The solution is political, but it is seen as important to get changes into the current fairway policy. At the moment the ports in South-West Finland and companies operating there are suffering because of higher fairway dues than in most other ports in Finland. A solution for this could be to compensate the effect of the archipelago in the same way as the effect of ice has been compensated to ports in the northern parts of Finland.

9 LOGON BALTIC INITIATIVES

9.1 Enterprice ICT

(or in Finnish Yritys-ICT) has been running since April 2006. The objective for the project was to plan a service for the southwestern SMEs which would help utilizing ICT in everyday business. Altogether five consultancy companies were chosen to Enterprice ICT through an open tender. The consultants of these companies do the real field work in the SMEs and their work is paid through the project with the amount they announced in their offer.

The concrete service for the companies consists of one consultancy day. That includes that all the hardware, software and data connections are gone though in the company and the linkage between them and the business are pointed out. After that the consultant writes down the weaknesses of the present view and seeks the points where there is room to improve and makes recommendations. That can include almost anything in the field of ICT: mobile solutions, security issues, the structure of the network, other wireless solutions, web pages, electronic invoicing etc. The package costs 122 € (inc. VAT) for the companies and around 150 SMEs have used the service.

9.2 Pilot-Turku

At this point of passenger traffic development project, the existing situation has been surveyed, including the current level of traffic volumes, and the local actors will to development the traffic, when it comes to capacity, frequency and the existing and possible routes. Through the material provided by Fin via, the effective range and the amount of population on the area has been surveyed. With the previous factors in mind, different existing and potential actors have been contacted. At this phase of the development project, the work is primarily creating new contacts and maintaining and strengthening the old ones. As a result of the project so far can be held at least the

extended capacity of the Turku-Copenhagen-route since December 2007, and the launch of a low-budget air connection between Turku and Gdansk since January 2008.

9.3 Salo Region Development Centre

For Salo Region the focus was on specifying regional demands regarding the logistics environment, and evaluating the ability of local administration to identify such demands and take on measures to meet them.

A recent national survey indicates that location affects companies' logistics competence considerably, and that a surprisingly large percentage of companies in South-West Finland consider their location a handicap. Since Salo Region's strategies view location as a major strength from this point of view, this perceived advantage requires closer examination.

In order to gather information on what contributes to the logistics competence in the region, a series of interviews was conducted among representatives from companies, municipalities as well as industrial and trade organisations. This helped to define location related factors contributing to logistics competence and gave insight into how logistics competence could and should be approached on a regional level.

9.4 Loimaa Region Development Centre

"The objective of the project was to find out the influences of Turku-Loimaa-Tampere Development Corridor, especially those of highway 9 and its development possibilities concerning the land use, commercial and industrial operations and housing between Turku and Loimaa. The project started in the spring 2007 and finished in November 2007." (Loimaan Seutukunnan kehittämiskeskus & FCG suunnittelukeskus Oy 2007)

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