Prosperity and Growth Strategy Karlstad Region

Strategy Proposals

TENTacle WP 4.1
Version: Final 10/06/2018

Content

Transnorden Sweden
REGION BLEKINGE
Interreg Baltic Sea Region
EUROPEAN UNION
EUROPEAN REGIONAL DEVELOPMENT FUND
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Summary

Värmland's share of the Swedish population is declining since 1860, when it peaked. Over the past 40 years, Karlstad´s share is unchanged. The increase in figures depends to more than 50% of influx from the other 15 municipalities in Värmland. Almost 50% are retired.

When it comes to regional GDP, Värmland was number 13 of 24 counties in 1860. Today, the position is 22. Nordregio's Regional Potential Index expresses the economic prospects of regions. Värmland is ranked 58 of 74 Nordic regions. In Sweden, only Gävleborg region has a lower position.

In global terms, regarding the effects of the digital revolution on future employment, we can expect a decline in manufacturing, retail trade and transport on roads. At the same time, we see a very strong increase of the employment in the information technology sector and other high-tech industries.

This potential must be used by the city of Karlstad and the region of Värmland. The growth must take place in high-tech and highly-paid companies, which in turn generate employment in other sectors, especially in personal service industries. Our region also has good opportunities to grow in tourism, culture and food, and do this in symbiosis with information technology.

Strong growth in Karlstad helps reverse the decline trends in Värmland.

But, Karlstad and Värmland do not have the best starting point in the digital transformation. The information technology and other high-tech companies have a very small market in our region. They are very dependent on fast and frequent train connections to Oslo, Stockholm and other cities. Today, it is not attractive for high-tech personnel to move to Värmland.

In this context, the strong growth in our region depends on the availability and quality of railway transport services. To reverse the negative development trends in Värmland, first, a high speed railway between Oslo and Stockholm, two of the fastest growing regions in Europe, is needed. Such a railway will create a labor market from Oslo to Stockholm, and will help Karlstad improve its comparative competitiveness in relation to other cities of a similar size in e.g. in eastern and southern Sweden.

A new railway for the passenger traffic and the transportation of goods on the existing railway releases capacity for efficient freight traffic. Today, freight trains are often waiting on a sidetrack to let pass faster trains. This leads to longer transport times, increased costs and poorer competitiveness for the trains and freight customers. These problems are growing with increased traffic with faster trains and freight trains on the same lane. Generally, the capacity of the railway system increases three to four times when fast trains are separated from slower. Punctuality also improves according to international experiences. Extension of existing railways does not give these effects

Our vision is that Karlstad's population is 150,000 in 2040 and that Karlstad is a high technology city and has a university that is significantly larger than today. This places increasingly high demands on the railway system that must be dimensioned for the future where the two capital areas of Sweden and Norway grow to altogether 4,6 million residents.

With the forthcoming extension of the TEN-T Scandinavian- Mediterranean Corridor from the existing stretch between Stockholm and Örebro farther westwards, to Oslo, it will be possible to plan the whole transport connection between the two capital cities in line with the EU principles of multimodality and interoperability. This means that that the national solutions shall be compatible and shall benefit from each other to create efficient and flexible passenger and freight flows.

In our business approach, derived from the need for the Karlstad city and Värmland region to grow, a high-speed railway may become profitable when it is constructed at the right place with the largest market potential for commuting and leisure travels, and when the trains are fast enough to compete with cars and flights.

A new railway between Oslo and Stockholm along the E18 road complies with such demands, with advantage for both Sweden and Norway. The regions of Värmland in Sweden and Östfold in Norway, with the largest cities of Karlstad, Fredrikstad and Sarpsborg, can further develop their common labour market. The choice of line will also help stimulate

growth in southern and western Norway via a new planned connection across the Oslo Fjord and will contribute to reducing traffic bottleneck through Oslo.

A new railway shall be built for speeds of at least 320 km per hour. For short distances, as between Karlstad and Örebro, 250 km per hour makes no significant difference. However, it is the end points that determine the standard and 320 km per hour is needed if train shall be a strong competitor to flight between Oslo and Stockholm. Concerning the speed, irrespective the speed is 320 or 250 km per hour, we experience an increasing resistance against commuting, not least among young people without family and children. To be acceptable, commuting must be combined with more virtual meetings and more distance work from home. The speed must also mean comfortable day trips to customers, for shopping and events. The proposed speed means building in a technology that enables faster speeds in the future. The existing railways give priority to the transportation of goods.

In this business approach, the new line would require small or no state funding and can be planned faster and constructed faster without conflict with the existing traffic.

Second, Karlstad and Värmland must do the homework. Without a successful homework there are limited effects of the railway.

Crucial for that is the political leadership in Karlstad and Värmland. The leaders shall understand the meaning of the digital revolution, what it means in transformation of the society, industries and individual companies. Turning to the future demands a vision and clear goals.

Our strategy covers the period until year 2040 and contains proposed activity areas as derived from the socio-economic analysis made in the Basic Report.

Focusing strategic measures on human and social capital and to lesser extent capitalising on natural resources is essential if the region shall have a population increase. Sustainability is central, economic and social in the regional perspective, and the everyday life of the local citizens and focusing on global impacts and world citizens when it comes to climate. Asylum immigrants' involvement in our society is critical for social sustainability. National and regional political leadership has for decades obstructed the involvement of asylum immigrants, resulting in an outcome that is dangerous to our society. In order to succeed, one must acquire insight into the diverse cultural and religious conditions, draw lessons from this insight and start there with firm action.

The success also depends on the assumption that Karlstad University increasingly focuses on what Värmland needs in the digital future, as well deepens its cooperation with the political system and entrepreneurs. The university must also grow and thus contribute to increased employment, which in turn generates additional jobs.

In the strategy, we present measures that make difference for both the city and the surrounding region. It is a program in the digital economy in collaboration with global platforms and networks. It is also a program based on system thinking, which means actions are each other's prerequisite, are interacting and reinforcing each other.

If successfully implemented, the measures will lead to an increase in:

- The attractivity of Karlstad with focus on young generations and high-tech businesses
- The number of employees in the information technology and other high-tech businesses
- The research and education in information technology including artificial intelligence at Karlstad University
- The involvement of asylum immigrants in the society

Karlstad and Värmland must lift the ambitions to a higher level. It is the politicians´ responsibility to spark this with a broad involvement of the citizens.

Karlstad 2018-06-09

Leif Lendrup and Urban Hermansson

1 Introduction

The strategic proposals are based on the "Basic Report", published in May 2017. In addition, the basis for the strategy has been supplemented with additional literature, reports and articles, and not least discussions with experts, politicians and business leaders. This additional information is shown in the references

Värmland peaked in the 1860s. Then, over 6 % share of the Swedish population. Now, less than 3 %. That has an impact on several levels. Politically Värmland loses in number of parliament members. The force in nationwide issues weakens. The decline has been slow which explains why most people don't notice the change. If Värmland had kept the same pace as the nation's average, even a bit less than that, there would be 600,000 in the county, instead of 275 000. The slow erosion, even though an admirable conversion from iron-based industry to forest industry took place, culminated in the 1980s, when a lot of head offices and development centers moved out of the county. Among the examples are Wermlandsbanken, Länssparbanken, Uddeholm, Billerud, Karlstad Mekaniska Werkstad, Wasabröd, and Värmlandsdata. The boom in manufacturing from the 1920s to the 60s didn't reach a level to establish main offices and development centers giving a platform for future expansion. Structural backlash in steel industry and continuous concentration in forest industry couldn't be met with renewal in the same speed. Still, job markets have been positive to a great extent depending on the near Norwegian market.

2 Project Goal

The goal of TENTacle is to improve stakeholder capacity to reap benefits of the Core Network Corridors implementation for the prosperity, sustainable growth and territorial cohesion in the Baltic Sea Region.

The PGS project is part of the Central Scandinavia Borderland, CSB, case, which goal is how to:

- Reverse depopulation and economic stagnation trends in the borderland area of Värmland and Östfold
- Mobilise public and market stakeholders for coordinated action to improve the access to the two national capitals, integrate public transport services and connect the local industries to international networks

The specific goals of the PGS project in the context of the TENTacle and the CSB goals is that:

- The corridor Oslo – Örebro shall be included in the Scandinavian – Mediterranean Corridor
- Karlstad Region´s labor market shall be extended to Oslo and Stockholm regions and especially the closely related Örebro and Östfold regions.
- A twin city co-operation between Karlstad and Örebro including Kristinehamn and Karlskoga shall be established

PGS is the means of achieving the goals. The project:

- Suggests strategic activities which boost economic and population growth
- Calculates the demands on railway systems
- Calculates the impacts of the strategic activities and the railway systems on growth

3 Basic Report Conclusions and Scenarios

The "Basic Report" consists of two parts:

- Contemporary Conditions and Future Courses
- Evaluation of Karlstad Region

The contemporary conditions and future courses are analyzed and discussed according to the model in figure 3.1.

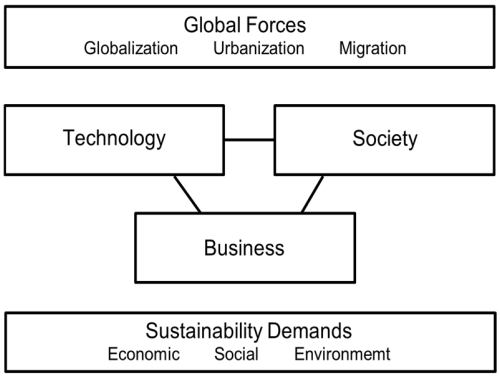

Figure 3.1. Analysis and evaluation of future development

In the evaluation of Karlstad Region, we performed a benchmark between cities of Karlstad, Umeå and Växjö, as well as their respective counties Värmland, Västerbotten, and Kronoberg. The evaluation is based on two models. First according to figure 3.2, which is a summary description of the research on how countries and regions have been industrialized. Second, the "honeycomb" model.

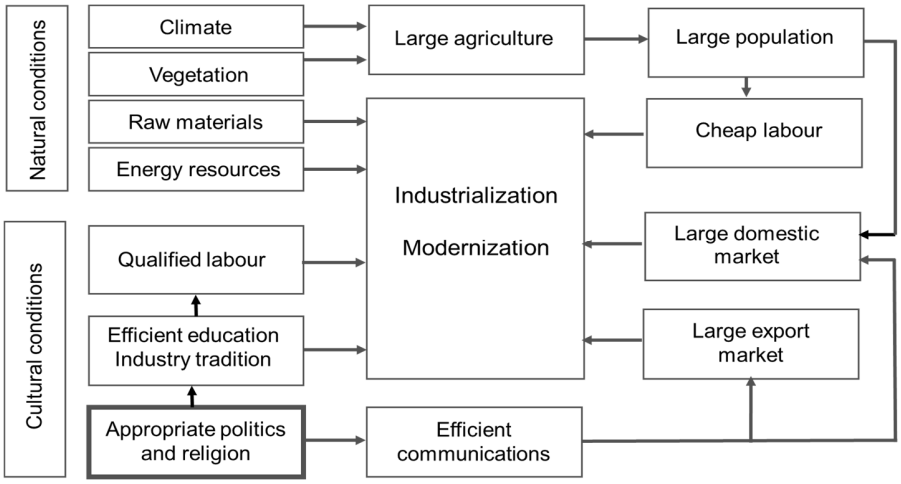

Figure 3.2. Industrialization of countries and larger regions (Christopher Lagerqvist, Reformer och revolutioner, Studentlitteratur, 2013)

The "honeycomb" explains why large companies have successful manufacturing in Sweden, when many other companies move to far east countries. These Sweden based companies are strong concerning the following capacities:

- Structure
- Attitudes
- Change abillity

- Skill development
- Collaboration
- Technology integration

The six areas interact, why they are named the “honeycomb”.

In contact with the “honeycomb” project we applied the model on our cities and counties. We structured the capacities as follows:

Structure capacities

- Structure

Soft capacities

- Attitudes
- Change ability
- Skill development
- Collaboration
- Technology integration

The structures capacities are measures of growth and in the “Basic Report”, we described in hard facts and figures the historical development and the situation today regarding:

- Growth
- Politics
- Sectors
  - Industry
  - Culture
  - University
  - Public
  - Transport
- Population

The question is, how will the contemporary conditions and the future courses we found affect the above sectors in Karlstad and Värmland. It is of course not predetermined but is to large extent in the hands of the local political leadership, and the reason why we perform this project.

Further, as we stated in the “Basic Report”, technology, society and business interact with each other in the context of globalization, urbanization, migration and sustainability, according to our model. This interaction means that the sectors interact in a complex web of relations, make demands on politics, and affect population, which is the aggregated measurement of development, as well as a very concrete strategic goal.

The effects are also a matter of human behavior. New technologies, gadgets, services, business models etc are not always accepted as we expect or are adopted much faster than we could imagine. What the human behavior will be is the most difficult component to predict.

To make comprehensive conclusions of the contemporary conditions and the future courses is neither possible nor meaningful. Our intention is limited to present a number of conclusions as a background to the strategy discussions.

The soft capacities aim to explain why the structure capacities have evolved as they have. We divided the evaluation of the capacities in two areas:

- Tradition and culture
- Political leadership

And we identified a third area:

- Coincidences and circumstances

Above tradition and culture, formed by politics and religion during a very long time, and the last decades politics as main drivers of growth, there can be an element of coincidences and circumstances. However, what seems to be such elements in the first glance can be results of the soft capacities.

The presented models, which constituted our approach in the "Basic Report" work, will also be used as a framework in the strategy discussions with the stakeholders.

3.1 Growth

In year 2010, the regional GDP per capita of Värmland was 81% of the national GDP, and the county was ranked 22 of the 24 Swedish counties. When it comes to future prospect and Nordregio Regional Potential Index, RPI, Värmland is ranked 58 among the 74 Nordic Regions. RPI is a contexture of demographic, labor market and economic potentials.

Due to GDP and RPI, the strategy starting point is a challenge.

3.2 Politics

The "Basic Report" conclusions and from these, the fundamental strategy conditions are about, tradition and culture, political leadership, as well as coincidences and circumstances.

The observed constraining social and economic tradition and culture heritage means that the strategy must have an important element concerning this issue. However, social and economic traditions and cultures are not easy to change. They are resistant, no matter if they are strong or weak concerning prosperity and growth. German regions, which were economic successful or the opposite year 1910, showed the same characteristic 2010 irrespective of their belonging to West Germany or East Germany. Almost fifty years of communist regime did not change the norms.

It is not in the scope of our project to make suggestions concerning the political leadership, but the upcoming election year 2018 means of course opportunities to renewals in the light of the conclusions in the "Basic Report".

The huge coincidences and circumstances related to the ownership and top management of the forest- and steel industries, as well as in the industries of engineering, telecommunication, and financing, that took place in the 1980s are still conditions we must relate to in the strategy.

3.3 Industry Sector

In our context, the following businesses lines are the most important when it comes to the "Basic Report" conclusions:

- Manufacturing
- Retail
- Information technology
- Consultancy
- Tourism
- Service
- Food

Manufacturing

The manufacturing industry has for many decades increased its productivity through rationalization. Of course, this process will not stop, but accelerate with robots and algorithms based on artificial intelligence and big data. Short series and customized products with 3D printing become more and more common. The number of employees in administration and production is shrinking. Those who remain are educated designers, programmers and designers.

Parallel to automation, nanotechnology and new materials evolve, which initiate new businesses, products and services. This provides opportunities for creative companies to grow and new ones to be established. The development means great demands on capital.

Overall, our assessment is that the net effect is fewer employees because also the new product areas will be highly automated.

Retail

Retail assumes that the business is where customers are and customers want to be where many companies are. When people move online, retail follows. A person who lives in the smallest and most rural place can today consume in the same way as a person living close to major shopping centers. The network has meant that a purchase often begins there. Whether the purchase is in a store or online, goods and prices are compared before the purchase.

Confidence is central to the retail development and has been the strength of stores in relation to mail orders and early online trading. Social media and rating platforms like Price Runner and Trip Advisor are now creating digital trust, which reduces the strength of the stores in the struggle with online shopping.

The pace of change in retail accelerates and the driving force is primarily information technology with more powerful computers, faster networks, smart phones, artificial intelligence, virtual reality, 3D printers and drones.

Technology also means that transaction costs are reduced and that the margin costs to grow are small. Good access to venture capital is also a factor, as well as the benefits of being a market leader.

Online shopping is also driven by changes in the population. By 2025, the labor market will reach 75% of people who grow up with computers and smart phones. People under the age of 50 are more online than those over the age of 50. In five years, the breakpoint is expected to be 55 years and in ten years 60 years

Articles that are information have left the traditional store or are on track to do so. Marginal costs for providing digital services are close to zero. Music, movies and tickets, previously sold as goods are now sold as services and no longer pass the stores and the proportion of books sold online today amounts to 49%

Online sales push prices, which reduces margins. Prices of specialized articles in online shopping have decreased by 18% since 2002. Companies with already low margins are eliminated. Expert, ONOFF and PC City have disappeared from the market. Today, 23% of electronic commerce is online and 13% in clothing and footwear. Low margins require large volumes and higher turnover rates. Trade is concentrated to fewer and larger players. Today, 13 companies account for 50% of retail sales.

As the online shopping grows, international competition is increasing. The international options are numerous and the number of European companies registered in Sweden selling goods via the network to Swedish consumers has increased from 12 to 489 between 2009 and 2016. One example is Zalando, which has sales of SEK 900 million in Sweden and has 0 employees and 0 stores in Sweden.

The list below shows Sweden's top 10 online retailers and their percentage increase from start-up.

Moodcompany.com	61 850
Solestory.se	47 718
Crystalline.se	14 250
Buyersclub.se	10 250
Lightboxdeco.com	9 725
Sagolandet.nu	9 100
Maddii.se	6 386
Gosharp.se	6 086
Stockholmfurniture.se	5 800
Mrgrillz.se	5 529

While online shopping is growing, low price retail in store increases equally and external shopping centers continue to grow. Ever since the 1990s, external shopping centers expand rapidly in the same way they did in the United States two decades earlier. The crisis that hit malls in the United States has not been reflected in Sweden. It is planned 2.6 million m2 of new shopping centers, which is comparable to the existing area of approximately 9 million m2 spread over 393 shopping centers

The assessments are that trade development is about 5 concepts:

- Brand focused online shopping, where many manufacturers and brands use dominant platforms like Amazon, Zalando, and Alibaba. Manufacturers pass the retail companies and interact directly with the customers with pre-purchase service in showrooms and flagship stores. Platforms have a high technological development pace when it comes to logistics with shorter delivery times and more convenient returns as well as interaction with customers. Robots and algorithms based on artificial intelligence, virtual reality stores and drones make rapid entry into the platforms, which have huge resources. Zalandos has 1,500 employees in its development department. When trade is increasingly gathered in dominant platforms, it becomes more difficult for brand-specific online stores to draw attention to consumers with the result that these online stores disappear

- Brand-less low-price retail of both groceries and specialized goods, where Lidl, Gekås and Rusta are examples

- Luxury shopping in store including impulse purchases of specialized goods, such as NK

- Service groceries, with Pressbyrån and 7-Eleven as examples

- Combination of store and online shopping. In the grocery trade it is the dominants like ICA, Coop and Axfood. Within the specialized trade, it is about brand-leading market leaders like H&M and IKEA, as well as bulky goods such as within construction. In groceries and building materials, home transport is a limiting factor for online trade.

By 2016, the online shopping accounted for 8% of retail sales. Store trade is expected to cease to grow between 2020 and 2025. By then, the online trade has taken over 20-30% of all retail trade, according to Handelns Utredningsinstitut, HUI. Foreign companies will account for about 10%.

HUI and Handelns ekonmiska råd do not discuss in their reports fraud and its impact on online trading. At the same time, an important reason for the US mall crises is that customers are robbed on the large parking lots. Our assessment is that despite increased fraud, online shopping will grow in line with the forecasts. The motive is the very big economic potentials for giants like Amazon, Alibaba and Zalando. These companies will allocate large resources in preventing crime. As an example, Alibaba invests 120 billion SEK in AI, IoT, Big Data and so on in five countries to expand safe purchasing.

Concerning specialized goods retail, HUI's forecast is that the number of stores and employees will decrease by 2025. The number stores from 47,000 to between 41,000 and 36,000 and the number of employees from 178,000 to between 156,000 and 136,000, ie 12-24%.

The number of retail trade employees in Karlstad 2015, according to SCB SNI, amounts to approximately 3,200, of which 1,100 in the grocery trade and 2,100 in the specialized goods trade. The number of employees involved in wholesale and services such as cleaning, security, garbage collection, etc., and advanced services is difficult to assess, but it is probably the same number, why the total amount would be around 7,000. The Bergvik shopping center outside Karlstad has about 80 stores, cafes and restaurants with about 1,100 employees

On the basis of HUI's forecast, the reduction in the number of employees in the specialized goods trade in Karlstad could reach between 500 and 1,000 and at Bergvik between 100 and 200. Such a reduction may seem manageable for a shopping mall like Bergvik, but in assessments of the future, one must assume that trade is an economics of scale. The marginal cost of increased sales is about the purchase price of the goods. In the specialized retail this amounts to about 50% of the selling price. Margin sales generate the profit. This also means the opposite. Reduced sales in individual stores can only be limited compensated by rationalizations, and quite quickly it can be a closure. This is always happening in a shopping mall and closed stores are replaced with new stores as long as this trade grows. If this renewal

stops, more and more empty premises will be added, and fewer stores will bear the malls costs. In the end, you reach a level where the remaining can no longer bear the costs, and above all that the mall is no longer attractive to the customers and then it is closed down. Online shopping need not being dominant in order for this development to take place with the business logic that applies to trade. Risks also include growing pressure to reduce car travel. We may also expect the US mall crisis finally will reach Sweden as well. Historically, trade changes have always started in the United States and after a number of years established in UK and after a few more years in Sweden.

The American Toys R Us is applying for reconstruction. In Sweden, the chain has 22 stores, one in Bergvik. A further about ten major chains in the United States have applied for reconstruction the last year. Online shopping is gaining ever-increasing market share. In Sweden, we see how stock prices fall in the fashion chains H&M and Lindex. Clothes grow strongly online, and even furniture companies get more competition from e-commerce. IKEA's growth has declined over the past three years, which is considered to be the result of competition by players like Amazon. The death of stores expands when online shopping of specialized goods today accounts for all growth. A quarter of all specialized goods stores are expected to disappear until 2025. "We think it's a reasonable scenario and it has major implications for how cities will look like", says Jonas Arnberg, CEO of HUI. The speed of this process might be slowed down for some years due to the growth of goods being returned to the seller. Those volumes grow very fast and strain the logistic systems that must be adapted to large two-way-flows of goods. Logistic efficiency is necessary to cut delivery times.

The department store chain, Åhléns CEO, says this about the future. "Fewer department stores, increased online sales and a new outlet concept are on the agenda. It's a brutal change journey. We are in a tremendous change plan and explain that we need to add new values to department stores in order for them to work in the future. Cafes, juice bars and restaurants have already moved in and in the long run, there will be more beauty salons, but even opticians, pharmacies and other services. By 2017, six department stores have been closed down and earnings are still not expected to be profitable, although improved by 2016. We will surely close additional department stores next year. We continuously evaluate based on profitability and we will have fewer department stores in the future. Shopping malls will close, those who are unable to become relevant. It will go fast when players decide to leave. It is building to much retail space in Sweden today, more than the future need. For Åhléns, the city is more important than the mall."

Urban Lindstedt, e-commerce expert, about shopping food online. "When one shopping almost all the food online for a few months, it's impossible to go back. Expect the digitalization of the grocery trade to accelerate the digitalization of the specialized retail. Last year, all major grocery chains invested heavily in gaining market share online. In some residential areas, small trucks of ICA, Coop, Willys, Hemköp, MatHem and Linas Matkasse are a common view. Driver has become a deficit profession in major cities. The digitalization of the food trade fundamentally changes our everyday lives in a way that, for example, the digitalization of fashion or bookshops has not done. Walking around at ICA a few hours after work and shopping for a larger family is more boring than an exciting food trip, most of the time is about downloading basic products like milk, bread, vegetables and pasta in the cart. There is no time for discussing recipes with the expedite in the delicacy desk. That's why online shopping is so profitable, you easily fix three hours extra time each week by shopping on the net. Last year, food net sales grew by 19% to 6.5 billion, according to D-food Index from Swedish Digital Trade".

ICA intends to invest SEK 1.1 billion in the next four years in an automated warehouse and platform for online trading. When Sweden's largest grocery retailer invests heavy in e-commerce, Swedish city centres and external shopping malls will change. Swedish grocery retailers have been lagging behind major e-commerce countries when it comes to online food shopping, despite the fact that the food box concept is a Swedish innovation. With ICA in a leadership role, growth in e-commerce will accelerate. When food stores risk being shut down in a number of years, the flow of shoppers to malls will decrease. Consumers are already accustomed to shopping specialized goods on the net and when they do fewer visits to external malls, specialized goods e-commerce will increase further.

The market speculates if and when Amazon will establish in Sweden. Inevitably, an establishment will be of great importance to Swedish retailers.

Amazon's market capitalization is about $700 billion, which means that Amazon is the world's highest-rated retailer. In 2017, Amazon´s revenue was 178 billion dollars. It is twice as much as the total Swedish retail trade. Growth is almost 30% per year. Amazon is a global consumption platform, accounting for 44% of US e-commerce. One of the most recent categories that has been added is food. This was mainly due to Amazon's launch of Amazon Go and the purchase of Whole Foods 2017. Another later addition is the AI-assistant Amazon Alexa, which can interact with the

consumer, launch music playlists, present news and weather, place orders on goods etc. Amazon has built an empire based on loyalty and logistics. In the latter area, Amazon uses, among others, Uber.

Amazon does not pay dividends to shareholders but invests the profits in research and development. In 2017, Amazon invested a total of $ 16.1 billion, approximately SEK 140 billion in R&D, which means that the company is world leader in this area. The Swedish government's research budget amounts to approximately SEK 10 billion per year.

In 2014, 55% of US consumers looked for goods and services on search engines. This share has fallen to 30% in 2016. Instead, search on Amazon has increased from 38% to 60%. When customers "amazon" instead of "google", it effects of course Google.

When Amazon arrives in Sweden, a platform business is being established. Swedish online trading usually takes place directly from the respective e-commerce companies, while e-commerce in many other countries usually is via a platform. An establishment will accelerate the pressure concerning transformation of the retail industry and on the margins. Amazon pushes both store and online retailers. For the store retailers to be competitive, higher demands are placed upon employees to compete with knowledge.

Small suppliers can reach out and succeed via Amazon as they quickly gain access to a large number of consumers. Instead of trying to get into a store's limited shelfs, companies can test an assortment to see how it works without having to take big risks.

Our conclusion is that the store retail in Karlstad will reduce the number of employees in the next five years and that the decrease will accelerate the years after.

Information technology

According to several assessments, the need for system developers is in the order of 60,000 by 2030. Developing software in artificial intelligence and virtual reality for all types of businesses and industries has a very high potential. The sharing economy and the growing market for independent work is also a potential.

The great need for staff has led to considerable difficulties in recruiting staff in Stockholm and Oslo. This opens opportunities for relocating groups to cities such as Karlstad. New technology in the form of faster computers and networks as well as virtual reality also facilitates remote work.

Software companies are less sensitive to their location with regard to travelling facilities compared to information technology consulting. The latter category is Karlstad's profile and in view of the fact that the market in Karlstad and the surrounding area constitutes only a small part of the turnover, there will be a lot of traveling. It's not just about day trips but, to a significant extent, the whole or part of weeks for a long time. Increased resistance to commuting even among young people without children changes the staff situation. In all times, it has been a management focus that employees should not move to competitors. Today, instead of moving to competitors, the employees go to the customers, other industries and the public sector. The extremely limited market in combination with the fact that customers still require the consultants to be in place impedes the potential expansion. The situation also reflects that there are too few start ups in Karlstad. Acceptance for distance work, more efficient transport systems, more software development and more collaboration between companies will boost the industry, which is necessary for Karlstad in the light of automation in other industries.

Consultancy

Even in consultancy in areas other than information technology, distance work can compensate for the transport situation and thus constitute a growing industry in Karlstad Region already in the short perspective. To this, the sharing economy and independent work also contribute. We will also get a symbiosis between algorithms and consultants, lawyers and other advanced and highly paid services.

The lawyer industry is an interesting example of future automation even in qualified and highly paid services. The large business law firms have begun experimenting with AI and it is likely to have major consequences for the industry and pushing the remunerations downwards. This is how the law firm Roschiers says regarding due diligence in connection with business deals. "Obviously, it's not fun to charge high fees for lawyers to seek clauses. It is only when

you have found all the different clauses in which the law comes in. That is the work we actually sell. With AI, it becomes easier, faster and cheaper to get to the legal analysis. "

According to the voices in the debate, the lawyer industry is wide open to disruption, because non-legal companies, primarily with information technology skills, take over a larger share of the market. The audit firm Deloitte argues that as many as 114,000 legal jobs in UK can be automated over the next few years. Several representatives of the industry in Sweden believe that AI risks breaking down the legs of medium-sized players focused on volume management of less complex issues. Such development may affect Karlstad and other medium-sized cities.

The forecast is that employment will remain unchanged based on the lack of market in the near-decade's perspective and limited opportunities for distance work. The core of consultancy is that consultant and customer get together eye-to-eye. This is when consulting is established

Tourism

The industry can develop its marketing and individual offers to international customers with applications based on artificial intelligence, big data and virtual reality. The sharing economy with platforms like Airbnb and a bunch of new ones that we will gain access to make it more and more easier and cheaper for small businesses that dominate the industry, to do business and to collaborate with each other. There is a potential for growth and not least in a growing experience market where the demands for quality are high, focusing on DINK, Double Income No Kids.

The industry organization Visita recalls that Sweden is one of the world's best tourist countries and is happy to compare exports with the forest and steel industry's trade to other countries. However, the comparison is in the sense that tourism is a low-wage and seasonal industry, unlike the industries to which the organization compares.

Comparing sales between tourism and manufacturing is thus misleading. Additionally, productivity gains are difficult to gain in tourism. This industry is complementary, which properly utilized can provide significant financial contribution, but is unable to support a welfare society in our country

Service

Robots will relieve our daily routines in favor of fellowship and experiences. We will buy more beauty, feel good, physical activity, adventure and entertainment. These sectors are staff intensive and will grow with the economy.

Today, trade and other business support is more and more about self-service, and this automation is expected to continue with the development of algorithms based on AI, which analyzes customer questions, provides responses in a step-by-step dialog and collects experience in a growing bank of questions and answers and endlessly with documents.

The above examples and others mean that our plus and minus assessment is that the staffing needs will remain unchanged.

Food

The automation of agriculture is a future where tractors themselves plow, drag and sow. The harvesters drive on their own and transfer their cargo to wagons, which are carried to Lantmännen's silos by self-driving tractors. Already today the advanced liquid fertilizer aggregates are controlled by GPS positioning. The effects on employment in the already mechanized agriculture are marginal.

Several companies develop self-driving farm tractors with potential to increase agriculture productivity. Without drivers, the machines become smaller, more environmentally friendly, can run around the clock and cause less soil packing. The fully automated Dynium Robot is being tested on a farm in Herefordshire and the manufacturer's hope is that it will start selling in 2019. Another self-driving tractor, already on the market, is Greenbot, developed by a Dutch company. Because farm tractors are used in fields, they can become reality earlier than vehicles on roads, according to the regulations and drivers' responsibilities.

Algorithms for optimization of operations in growing grains and cattle-breeding will contribute to increased crops and animal production and reduced relative costs for seeds and feed. The sensitivity of the algorithms, when linked to better weather forecasts, rationalizes work and increases efficiency.

Agriculture and production of food will grow with the increased need for food globally and in Sweden by reversing the development and increasing the self-sufficiency, which today is only 50%

All in all, there is a growth potential for employment.

3.4 Culture Sector

Cultural creation for selected groups and special interests is getting new options through the network and increased language understanding in the world. With technologies such as virtual reality and streaming, the market can be substantially larger.

The cultural sector can grow in symbiosis with tourism and is of great importance to the city's attractiveness.

3.5 University Sector

Over the last five years, Karlstad University has an average of examined 530 teachers per year. The corresponding number of civil engineers and other engineers is 60 and 90, respectively. In 2013, the need for additional teachers and school leaders in Värmland until year 2020 was estimated, by Region Värmland, at 1,300, ie in the order of 200 per year. The fact that students leave Värmland after graduation is not so strange.

The education at the university does not seem to be oriented towards the skills Karlstad and Värmland need for their development in an ever more technologically advanced society. Another adaptation requirement is about the ever faster turnover of technological know-how. This means shorter courses with supplementary courses and programs linked to working life as well as more digital education. Digital online courses can be widened and, above all, renewed faster. Life-long learning is a buzzword for these thoughts.

Internationally prestigious universities now offer high quality online courses, MOOCS, Massive Open Online Courses. These are serious competitors to Karlstad University, which of course can develop their own MOOCS.

Due to the digital technologies strong evolution, Karlstad University has significant opportunities to increase its number of students and researches.

3.6 Public Sector

Robots and systems based on AI will of course also take their lead in the public sector and reduce employment. In administration, it is about automating standardized routines and decisions. This process is already in full swing. The collection and compilation of data and information is also included in this administrative development.

In the care of elderly, robots will clean our homes, go shopping in the grocery store, help us shower, make sure we take our medicines and alarm when we need help. Already today we see more and more robots that cut our lawns. Via Facebook and Tinder, we meet friends and participate in arrangements that make us feel good. Apps lead us to specialists who relieve our ailments. The development means that home assistance work will change. Routine operations are done by machines and human interaction will increase. In the same time the number of old people grows and there is an expectation of a “dementia boom”. That will have an impact on the skills needed in this sector. More home assistants will be nurses in care. New organizational patterns become possible, affecting office staff. People will do what we are good at, create community and meaning. The change may not come broadly in the next few years but definitely within the horizon of our project. We do not need to search further than to Örebro to find interesting research

In health-care, we see a symbiosis between man and digital technologies, which together performs increasingly reliable diagnostics and surgeries with high precision. However, employment for doctors, nurses and other specialists should not diminish, but rather on the contrary in the face of aging, and the prospect of survival of severe diseases is improving.

The automation of government agency services, that we experience today will of course accelerate and reduce the need for staff.

The combined effect of increased and reduced employment as a result of the above is difficult to predict. At best, the employment will be unchanged.

3.7 Transport Sector

Research and development of the self-driving vehicles, SDV, at car manufacturers, where Ford and General Motors today are considered to be at the forefront of the development will, according to unambiguous estimates, result in commercial vehicles in a few years. It's not about replacing a driver-controlled car with a combustion engine with an electric motor, but completely new transport systems. We look forward to Transport-as-a Service, TaaS, a disruptive change, which drastically reduces the need for cars, creates a new form of local and, to a certain extent, regional public transport and new cities. The need for streets and parking spaces decreases. The surfaces that are released can be used for homes and activities. TaaS is not considered to affect the need for transport systems for longer distances. However, regarding trains, these must be high-speed trains. TaaS entails a significant reduction in the number of employees in the transport sector and service to this sector.

GM launches a self-driving car, which will be ready for production and arrive on the American roads in 2019 according to the company. GM has submitted an application to the US authorities to start driving with a car that has neither steering wheel, gas- and brake pedals nor any other manual controls that a car driver manages. It will not be possible for any reserve driver to intervene if something goes wrong during driving. The car is to be tested in San Francisco, where it will be used as an automatic taxi. The introduction is seen as a milestone for the automotive industry. With GM, a big manufacturer has said to be ready to start producing a car soon, where there is no room for any driver. The usual driver's seat is completely transformed into an ordinary passenger seat. The car will have extra systems that can take over if the main system falls. If everything goes wrong, the car's computer is set to slow in, drive aside and stop. The car is equipped with cameras, radar and laser radar which measures the exact distance to everything that is around the car. The changing and increased use of the cars also gives new opportunities for manufacturers to receive income from entertainment and other types of services that can be sold to those who go with them.

Einride was founded by Robert Falck. Five years ago, at the age of 30, he was responsible for the engine production of Volvo in nine factories around the world. Einride´s first result is T-Pod, a prototype of a self-driving truck, which is completely battery-powered. It has no windows and no driver's cab and 15 standard pallets fit into the cargo space. The range is only 200 kilometers, but that's no problem, according to Einride. “As soon as you don't have to pay a driver, it costs no more money if the truck has to stop and load up in between”, Robert Falck explains. According to the company, Einride already has a first customer. Lidl will rely on the T-Pods. In the course of 2018, the discount store's warehouses in Sweden will be supplied by autonomous trucks

A KTH, Kungliga Tekniska Högskolan, report presents scenarios for SDV in Sweden.

In conformity with most other changes, any new transportation service introduced into an ecosystem of existing travel options will have impacts on subsequent travel behavior and have social impacts. The impacts of SDV´s are divided in first, second and third impacts. First level impacts include travel time, travel cost, road capacity, and traffic volume. Impacts on car ownership, land use and parking are classified as second order impacts, and energy efficiency, emissions, and traffic safety are examples of third level impacts.

The scenarios are based on strategic certainties and uncertainties. The certainties can be summarized as follows.

Technology will continuously have fast development including high capacity communication such as 5G, more precise geo-positioning, and high level of connectivity.

City life shows on-going urbanization leading to an increased competition for the space in the city and decreased number of parking places. Another important trend is the regional enlargement leading to longer commuting and increased demand for mobility.

Life style and demography indicates increased search for a smooth, friction free life. Quality of life and how time is used will be important, but there will be an increased difference in what people interpret as “high quality time”. There is a trend that younger people take driving licenses later in life but at the same time people are more mobile and drive higher up in the ages. Furthermore, there is a trend of increased flexibility in work life where people can work from home or other places.

Business will be profitable for enterprises to be sustainable. New business models related to mobility and transportation will be invented and tested, but it is difficult to predict which of them that will be competitive in the future and who will be the main actors.

Politics and governance supports development of industry and business related to SDV´s and aim for making Sweden a test bed for innovative mobility solutions. Furthermore, there will be a harmonization of communication and data integrity within EU, at least at some level.

Transport and mobility shows a development, where traditional vehicles reach higher levels of automation. New types of vehicles will appear, including a development of small busses or pods that will complement high capacity public transport.

The strategic uncertainties are about human behavior and politics. Behavior is whether people buy in on the sharing economy, consumption of services rather than ownership, and to what extent this is reflected in the solutions that have reached market attention.

Politics is whether the ambitious goals that policy and authorities have in order to change society are followed by proactive handling and new solutions and ways of organizing things, or whether implementation is deemed to be done within today's national and international structures. A consequence of the second outcome of this axis is that commercial actors will be given the opportunity to lead the development.

In the context of the above certainties and uncertainties, the estimation is that the SDV´s share of the fleet size will be 20% - 50% the year 2030.

SDV´s opens for new possibilities to create new, attractive mobility services, where vehicles and rides are shared, and thereby decrease the number of vehicles needed and as well as vehicle kilometers travelled. On the other hand, such services could result in decreased price for transportation, and thereby increased demand for transportation leading to increased fleet size and vehicle kilometers travelled. On the other hand, privately owned or leased cars and shopping malls can still dominate life. Shopping on the net grows, but the physical experience of shopping is important to groups of people.

Another effect of SDV´s is, that after door-to-door service has been introduced also in rural areas, there can be a trend that people move from cities to the countryside and especially if the cities are more and more violent.

An interesting issue is how autonomous technologies will make their contribution to forestry harvesters and forwarders, as well as transport from forest roads to pulp industries

The KTH report does not discuss what the possibilities of terrorists to use SDV could imply regarding the introduction of this new technology. Of course, the big giants who develop SDV technologies are aware of this serious threat, and one can assume that they put considerable resources in finding solutions to the problem. The potential of SDV means that the terrorists must not constitute an obstacle to the introduction.

The number of employees in the transport sector in Karlstad year 2015 according to SCB SNI amounts to approximately 1,400, of which 600 in passenger traffic and 800 in freight. In addition, there are employees at dealers, in workshops and other services.

With the above development, employment will decrease even according to growing online shopping, as well as if harvest of wood increases.

3.8 Employment

Table 3.1 presents an employment summary due to the above conclusions. It is about the effects on employment, we judge will occur based on the contemporary conditions and the future courses in the basic report. Effects, that are crucial for the strategy proposals. The table also presents areas, which have potential of increasing employment in Karlstad and Värmland, according to our opinion and if strategic efforts are taken. The fourth column is our opinion about the position the potential sectors have today to be growing.

Sector	Effect	Potential	Position
Industry			
Manufacturing	Minus		
Retail	Minus		
Software		Yes	Minus
Consultancy	Unchanged		
Tourism		Yes	Plus
Service	Unchanged		
Food		Yes	Plus
Culture		Yes	Plus
University		Yes	Minus
Public	Unchanged		
Transport	Minus		

Table 3.1. Employment judge

It is important to emphasize that the effects are assessments and we are well aware that the outcome can be completely different. There are experts familiar with the development of a specific field of research, such as artificial intelligence, nanotechnology, big data or genetics, but nobody is an expert in everything. No one can connect all the points to each other and see the whole picture. Different fields of research affect each other in such intricate ways that even the sharpest minds can´t imagine the consequences of a breakthrough in artificial intelligence for nanotechnology, and vice versa. Nobody can take on all the latest scientific discoveries, no one can predict how the world economy looks in ten years and nobody has a clue about where we are heading. Nevertheless, we need some kind of platform to build the strategy.

The crucial problem of exploiting the potential and creating employment and growth is not to create new professions but create such that people do better than algorithms. If growth would stop completely, the economy will not calm down in a cozy equilibrium position, it would break apart.

3.9 Population

Karlstad's population goal is 100,000. In the last 5 years, the rate of increase has been 0.9% per year on average. With this increase, Karlstad will reach the goal 2027 and the city's share of Sweden's population will remain unchanged. However, Statistics Sweden, SCB, forecasts a lower population growth, figure 3.3. This pace means that Karlstad will have a 94,000 citizens year 2030, far from the goal.

Statistics Sweden's forecasts are based on assessments of asylum immigration, in- and out-migration, and birth- and death-rates based on demographic profile. SCB expects reduced asylum immigration. High proportion of female 90´s increases the number of born and high proportion of the 40's increases the number of people who pass away. These factors, together, result in a gradual decline in population growth in Karlstad, compared to what has been the past five years.

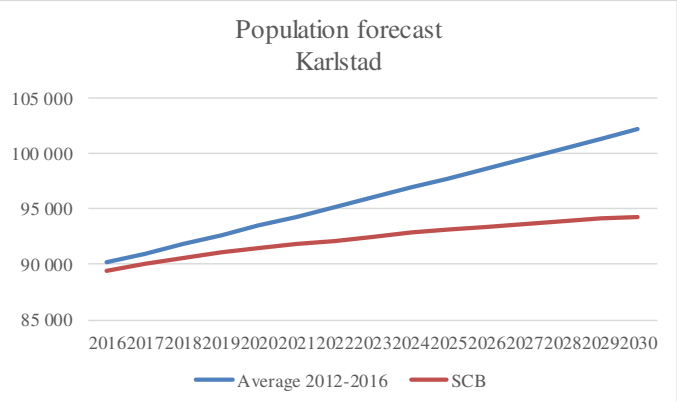

Figure 3.3. Population forecast Karlstad (SCB and Tentacle, 2017)

The government authority Tillväxtanalys has performed population forecasts regarding Functional Analyses, FA, regions. A functional analysis region is a region within which people can live and work without having to do too time-wasting travels.

FA30 consists of the municipalities Karlstad, Arvika, Forshaga, Grums, Hammarö, Kil, Kristinehamn, Munkfors, Sunne, Säffle and Åmål. The latter in the county of Västra Götaland. The FA 28, 29, 31, 32 and 33 are the same as the municipalities Årjäng, Eda, Torsby, Hagfors and Filipstad. Storfors municipality belongs to FA36, Karlskoga in Örebro county.

Figures 3.4 and 3.5 presents the population forecast for the FA´s until year 2040. Due to the forecast, FA30 will have an increasing population until 2023, and the years after a decreasing. All the other FA´s, equivalent to the municipalities, are expected to reduce the populations except Årjäng, which shows only a small decrease. The forecast says that the citizens of Värmland will be 16.000 fewer year 2040 compared to year 2016. It is equivalent with Säffle municipality today. Up to year 2040, Sweden´s population is expected to grow with 19%

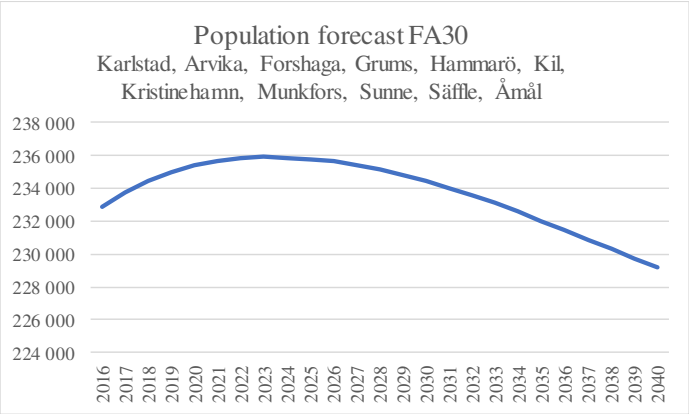

Figure 3.4. Population forecast FA30 (Tillväxtanalys, 2017)

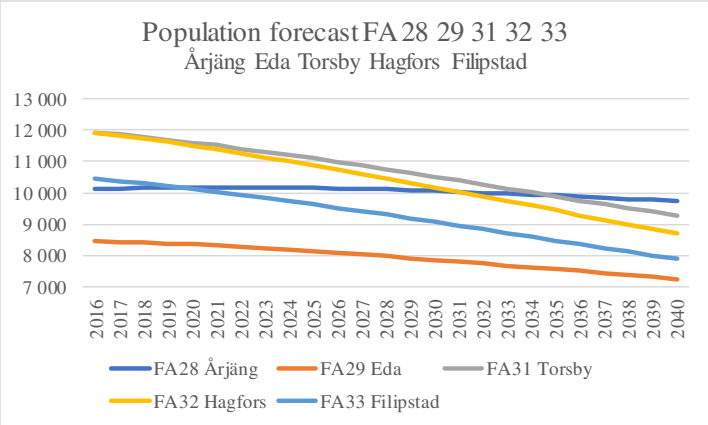

Figure 3.5. Population forecast FA 28, 29, 31, 32, 33 (Tillväxtanalys, 2017)

Table 3.2 presents the differences between the real population and the forecast year 2016. The forecast was made before the large asylum immigration 2015.

		Real	Forecast	Difference
FA28	Årjäng	9 958	10 106	-148
FA29	Eda	8 526	8 443	83
FA30	Karlstad	234 559	232 827	1 732
FA31	Torsby	12 169	11 911	258
FA32	Hagfors	11 917	11 894	23
FA33	Filipstad	10 960	10 443	517
Municipality	Karlstad	90 198	89 468	730
Sum		288 089	285 625	2 464

Table 3.2. Real population and forecast year 2016

If the forecasts for Karlstad and Värmland will be realized, and especially in the light of the country´s population growth and the impacts discussed above, it is a disaster for Karlstad and Värmland. In this scenario, Värmland has not a prosperous future.

4 Population Goal

To change the population curves, Karlstad must take the lead and qualify. The population goal must be at least 150,000 citizens. This is minimum if Karlstad is to become an attractive city, which creates its own growth through a diversified economy and become an engine for Värmland.

The goal means an increase of 60,000 people, which is a growth with 2,2% per year and in average 3,000 citizens per year until the year 2040.

Table 4.1 presents the age group distribution of the populations in Karlstad and Sweden year 2016 and the forecast for Sweden 2040.

	2016		2040
Age group	Karlstad	Sweden	Sweden
-24	29,4	29,3	29,4
25-64	50,5	50,9	47,9
65-	20,1	19,8	22,7
Sum	100,0	100,0	100,0

Table 4.1. Age group distribution

Our goal is that Karlstad shall have the same distribution as Sweden year 2040, which means 29,000 new citizens in age group 25-64.

Since year 2000, 55% of the population increase in Karlstad has been net migration from the other 15 municipalities. This shall be changed to maximum 10% in the age group 25-64, which means that 26,000 shall be net migration from other counties and countries.

There is no other way to increase the population in age group 25 - 64 but create new jobs. The basic report conclusions discussed above together with the population goal mean 50,000 new jobs to reach the goal of 150,000 citizens.

Table 4.2 present the 2017 population figures for Karlstad and our benchmarking cities, as well as Karlstad Region labor market region city Örebro. Karlstad has the lowest growth and share in the young age group and highest share in the elderly age group. Karlstad´s share of the Swedish population is not increasing.

City	Population 2017	Growth	Growth %	Share per age group, %			Share of Sweden, %	
				-24	25-64	65-	2016	2017
Växjö	91 060	1 560	1,7	25,6	58,0	16,4	0,895	0,900
Karlstad	91 120	922	1,0	11,9	50,8	37,3	0,902	0,900
Umeå	125 080	2 188	1,8	17,9	57,4	24,7	1,230	1,236
Örebro	150 291	3 660	2,5	32,8	50,6	16,6	1,467	1,485

Table 4.2. Cities population 2017

Table 4.3 presents the city counties share of the Swedish population 2016 and 2017. Värmland´s share continues to decrease.

County	Share of Sweden, %	
	2016	2017
Kronoberg	1,947	1,952
Värmland	2,795	2,771
Västerbotten	2,951	2,954
Örebro	2,660	2,653

Table 4.3. Counties share of the Swedish population

5 Vision Karlstad 2040

The vision is a kind of map to the strategy and its suggested activities. Further, the vision must be within a framework of global scenarios and discussions of thinkable futures.

The basic report implicates scenarios for the coming twenty years. Information technology will be the driving power in all levels of society. Automation in manufacturing, instant services, consumer entertainment and transportation control are obvious examples that will expand and develop. Other disruptive technologies might be biochemistry and nanotechnology but is still to be seen. Energy has a special roll both as a fundament for society and the worst destroying environment and climate element. By 2040 less ruining technologies will take a substantial market share pressing back fossil fuels. New technologies as using moving cars or pedestrians to generate electricity will be exciting but probably not dominating the energy market.

International studies can be reduced to two main scenarios for the coming decades:

- Renewal/business as usual
- Split up/protectionism

The first discusses the momentum of new technologies especially in energy and materials. Renewal means a great shift ending up in a so called circular economy. The ideal is the way nature runs all kinds of processes. In nature there is no waste. Everything is a resource for something else. The same idea could be applied to human societies. Michael Baumgartl called it “from cradle to cradle” instead of “from cradle to grave” as it works today. The grim question is how far we have come 2040. Will the climate be saved or not? Those who prioritize national economy and citizens everyday life will lean to the business as usual line. It means that we cannot go faster than economy permits. As long as global catastrophes are temporary and affecting locally this is the most probable scenario. If the most pessimistic climate researchers are right, it will put the world in a highly insecure future. The global economy will grow by around 2,5 % per year, much higher in Asia and Africa, lower in Europe and the Americas. US will grow due to a continuous influx of people. Europe and Japan will meet growing problems with aging populations. As environmental and climate problems rise those who are most able to handle them will take the lead and make the best progress.

The second scenario is built on the split up processes going on around the world. A shallow discourse points to Brexit, Trump activities, rising animosities in Europe, Asia and Africa and not the least between religious groups. A deeper discussion analyses the effects of technological developments and the following structural changes of business. Large groups of people are left behind today in Europe and USA. In the future, probably all around the world. As the national states still are the fundamental political units, lots of conflicts will be nations versus other nations.

5.1 Vision

In 2040 Karlstad has 150,000 citizens. The city is attractive to young and old. More and more students stay and create their future here. Karlstad has taken the position as one of Europe's best cities in receiving and integrating people with a foreign background. No areas of exclusion have occurred. Karlstad has developed into an example of forming a city that is economically, environmentally and socially sustainable.

5.2 Conditions

Karlstad raises ambition level and takes the lead to a more positive development of Värmland.

In order to raise ambition, Karlstad must question the self-image and acquire insight about the reality. The digital revolution creates disruptive convulsions in many areas and removes the basis for dominant actors in their sectors. Ruling systems have always resisted major changes through legislation and power. The common argument is that society needs to be in order, but the real reason is to maintain obsolete structures. Uber is a brilliant example.

It's about understanding the digital revolution. Do not just read about it but take it into politics. Historical analogues are dangerous and are often due to incorrect descriptions of history. The industrial revolution was prolonged for a very long time, causing delusions and misery for many generations. We forget that, we who live today in Sweden and even with us, all have not become winners. Depopulation and social depletion in large parts of Sweden speak its clear

language. It is far from certain that Karlstad and Värmland are a winner in the digital revolution. It's probably not that dangerous, it's probably a devastating attitude.

Yuval Noah Harari. "At the beginning of the 2000s, the train of progress left the station again. Those who miss this train will not get another chance. To get a seat on it, you must understand the technology of the 21st century, and in particular the abilities of biotechnology and computer algorithms. These abilities are far more powerful than the steam and telegraphs, and they will not only be used to produce food, textiles, vehicles and weapons. The 21st century's most important products will be bodies, minds and consciousness. "

The digital revolution has also democracy impacts. It has a faster pace than the political processes in our part of the world, and politics is about to lose control over the development. As applications of information technology develop so quickly and politicians are overwhelmed with information that they can´t process quickly enough, they think on a smaller scale than their predecessors hundred years ago. In the beginning of the 21st century, politics thus are without great visions in Sweden and Europe. Governments administrate the countries but don´t navigate.

The digital revolution changes the work in three ways. First, by automation. Second, the digital revolution has reinforced globalization. Globally, employment has increased by over one billion jobs in just one generation, and most of the growth has taken place in emerging economies. Third, technology gives a huge boost to the high-skilled peoples productivity.

The industrial revolution ravaged the old social order in a similar way by sweeping or totally change entire industries, replace workers with machines, increase inequality, and contribute to the marginalization of once powerful political and social institutions. In their wake, radical new political movements, trade unions and progressive social currents that worked for increased voting rights, investment in education and sobriety, but also radical ideologies such as anarchism, communism and fascism. The First World War has sometimes been categorized as the war of ideologies. The road to prosperity was long and brutal. The digital revolution is reminiscent of the industrial revolution. If mankind has underestimated the potential of the digital revolution, it is partly due to the fact that the consequences of technological innovation often appear far later than the actual innovation.

The digital revolution is an unstoppable force for the reason that it offers mankind so many advantages and force society to choose. New and improved goods, services and experiences at lower prices in exchange for social and economic change. The labor market changes when mankind prefers the potential of the digital age.

Yuval Noah Harari. "It is at the intersection of the flow of digital wonders and the dependence of work as the cornerstone of the society, that we risk a rending and enduring and long lasting period of economic tensions. The situation was different at the beginning of the industrial revolution. Many of the most important techniques from the 19th and early 20th centuries were based on the fact that relatively unskilled labor was employed from agriculture to produce high-value goods. In the digital revolution, education requirements are high. At the same time, it is very difficult to raise the proportion of the population with high school qualifications to 90% and the percentage of academic graduation to 50%. Many lack the prerequisites. For an unemployed manufacturing worker in Värmland, it is not good news that software companies in Stockholm are looking for new employees. Therefore, in the digital revolution, adaptation to technology will not be as easy as in the previous one. This means that most of the adjustment will take place through falling wages. In a world where low wages are the main reason why low skilled workers continue their jobs, statutory higher wages will lead to lower employment. "

Globalization means that even very small economies can gain access to global markets, which reduces the benefit of being part of a much larger state. Either, countries will try to get smaller to reach the degree of homogeneity that allows redistributive politics, or will they remain large and non-redistributive, unequal and subject for demagogues, or will they preserve their size and be increasingly divided into ethnic groups, but still able to carry out a certain redistributed politics.

Large cities will make it well because they boost rise and disperse of knowledge. Developing and exchanging complex ideas are stimulated when talented people work close together. Cities are environments that facilitate that process. They provide a context in which human capital becomes extra productive. Powerful digital technologies tend to make it even more important to be close to other highly qualified people.

Large urban economies make it possible to achieve a high degree of specialization, which increases productivity. A smaller city carries only a few specialists in a certain area. Therefore, one must be a generalist. But the price of such broad skills is mediocrity.

Automation means that companies are getting less benefits from moving manufacturing to the developing economies. This means that deindustrialization takes place in earlier stages of development in these countries. Stagnant incomes will create political tensions and make it more difficult for populations to meet climate change and drive migration. Move manufacturing back to Sweden may not be quite good in a global perspective

In many industries, the foremost companies have larger market shares today than they had in the 1990s, and over 80% of the value consists of immaterial assets. In these companies, work is increasingly social and cognitive. It is stimulating, well-paid and available only for a small part of the labor force. Human capital is more and more the most important. Knowing what information is important and knowing what to do with it. Small, knowledge-intensive companies produce a gigantic economic value in the digital age. This means that the distribution of the economic surplus in the society will be skewed.

In summary, the digital revolution gives rise to reflection and we can´t be sure that the process ends happily

Regional efforts are based, among other things, on the forest resources. In this respect Värmland must pay attention to the "curse of the natural resources". Focus on natural resources results in poorer economic outcomes. Bioeconomi in Värmland must be combined with large investments in human capital. Kenneth Ohlsson, vd, Stora Enso Skoghall AB. "Efforts in bioeconomi is good, but it is not sufficient". The cities Umeå and Skellefteå in the county Västerbotten are illustrative examples. Umeå has focused on the human capital and Skellefteå has sticked with the natural resources. Figure 5.1 presents the results regarding population growth. Skellefteå now understands the importance of the human capital and are, among other things, building a big culture house and they do it in wood.

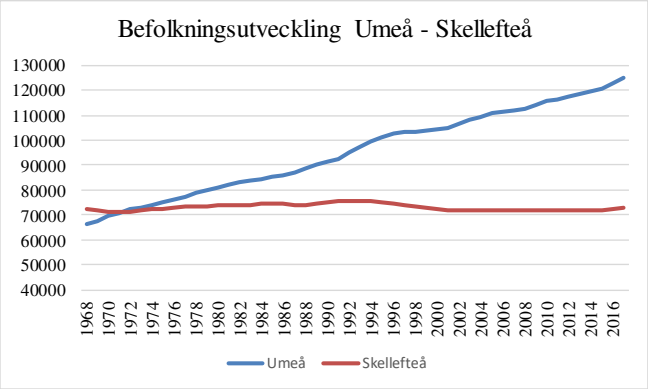

Figure 5.1. Population development in Umeå and Skellefteå

Competitive transport infrastructure promotes growth if cities do their homework and create attractiveness, which the transport systems then are strengthening.

Population growth is created through immigration from other regions and countries as a result of:

- Existing businesses growth and new ones are established in Karlstad
- People settle in Karlstad and work in a region from Örebro to Oslo
- Karlstad University, KaU, grows
- Karlstad operates an offensive, forward-looking and sustainable urban planning

5.3 Driving Forces

The driving forces of the vision are:

- Committed and courageous political leadership inspires citizens
- Karlstad improves the business climate and attracts businesses
- Karlstad becomes attractive to young generations
- Karlstad and KaU cooperate and stimulate innovation and entrepreneurship
- KaU strengthens research and education in areas that make Karlstad and Värmland grow
- Karlstad involves its companies, administrations and employees in innovation processes and contributes with venture capital
- Fast and frequent passenger trains to Örebro, Östfold, Oslo and Stockholm
- Interference-free freight trains and reliable shipping on Lake Vänern to Gothenburg
- Flights to Copenhagen
- Transport systems with SDV is being introduced in Karlstad city
- Fast fiber and wireless networks
- Karlstad, Örebro, Kristinehamn and Karlskoga cooperate in order for the region to be a strong player in the development of Sweden in collaboration with Stockholm and Oslo

5.4 The Honeycomb

In the evaluation of Karlstad as a benchmarking between Karlstad, Umeå and Växjö we used the "honeycomb" model. See the "Basic Report". Improvements of the "honeycomb" capacities are included in our vision and the future evaluation of the strategy effects. It is about the structure capacities and most of all the soft capacities:

- Attitudes
- Change abillity
- Skill development
- Collaboration
- Technology integration

The structure capacities are measures of growth and the soft capacities are an attempt to explain the levels of the structure capacities

6 Suggested Strategic Activities

Strategy is about developing and maintaining competitive advantages, which is all that favorable differ a region, a municipality, a hospital, a company, a society and their offers from competitors in the target groups' eyes. Strategy involves correcting or changing courses as well as doing the right things, while daily work is about keeping the course and doing things right. It is not those who formulate the strategy that sets the grade and determine the success, but those to which the strategy is addressed.

The strategic work shall answer the questions "what" shall be done, "why" it shall be done and "how" it will be done, to what investments and costs and how these will be financed. The first question is not just about "what" to be done, but as much "what" not shall be done. Strategy is always a compromise between ambitions, the resources one has in terms of skills and finances as well as the time frame it is about, which can be compellingly narrow or long-term.

Strategic work is to create harmony between the strategy's various "what", which shall not spread in different directions, be too many and unreviewable, and above all not contradictory. Strategy is also the harmony between "what" and "how" in terms of leadership, competence and the organization to implement "what".

The following model is a way to look at the strategic development of a municipality with the economic cycle and system thinking as approach, figure 6.1.

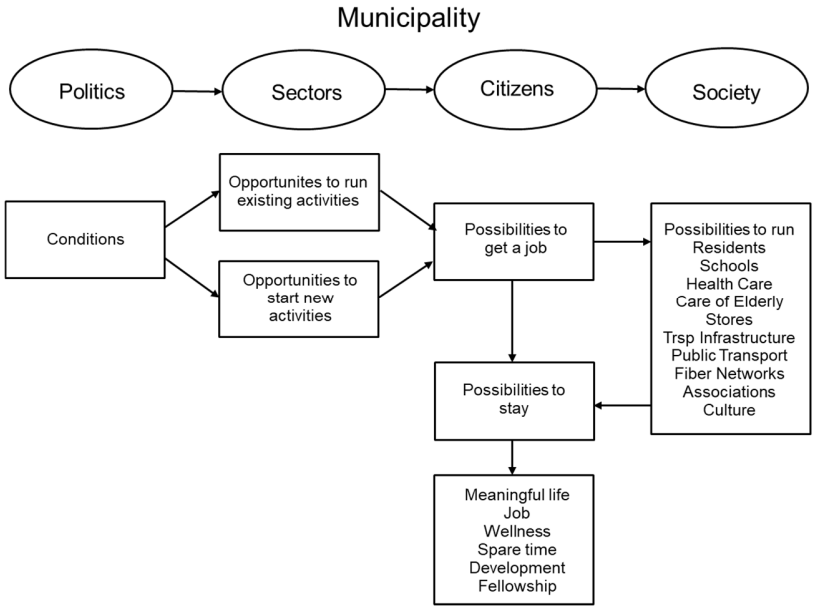

Figure 6.1. Strategy model

It is politics task to create the basic conditions and society functions, which are then developed and expanded by all other actors in the municipality. Politics measures will provide opportunities for different sectors of society to run existing and start new activities. This in turn provides possibilities for citizens to get a job, which drives society's ability to offer services in various areas. Citizens' possibilities and interest to stay where they live are functions of both work and society service. Failing societal services, make people move and commute to work or apply for another job somewhere else. This eventually make companies to move. Citizens' opportunities for work and living are the basis for a meaningful life that leads to commitment and thus drives the development of associations and culture, which in turn boosts growth.

Based on our model and the requirement for harmony between the strategic activities, we have grouped these according to the structure in figure 6.2. The activities of democracy and politics create the conditions for the sectors that do the job and create growth. Innovation and entrepreneurship get nourish from research and education and return their knowledge and needs to research and education in mutual exchange and growth. In view of the great need to involve

asylum immigrants in society, we have formulated this as separate area. The job creating sectors place demands on transport systems for people and goods, as well as communications systems in fiber networks and wireless for internet services, GPS positioning, virtual reality, distance work, etc. As these develop, there is also a mutually growing.

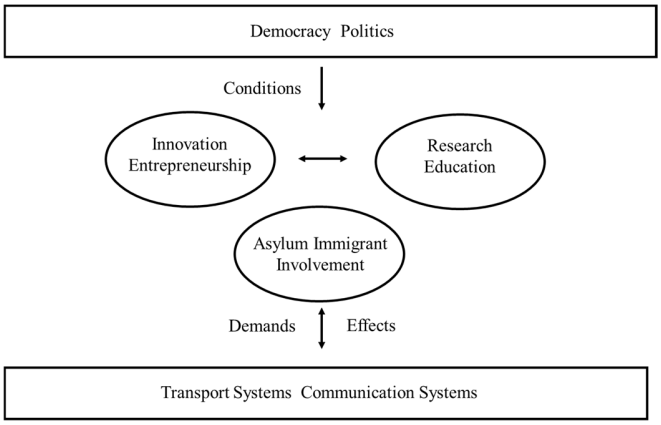

Figure 6.2. Strategy structure

The model illustrates that strategic activities in a certain "box" must be matched with activities in the other "boxes" to achieve results.

Implementing a broad strategy demands two basic perspectives, system interdependence and process development.

System interdependence implicates that different elements of a given structure have links that tie them together. Practically it means that doing one thing at a time is not a successful approach. Instead activities should be analyzed before start and seen in a larger context. Sometimes that will lead to simultaneous start of originally separate activities.

The process perspective admits that the work is a flow of linked activities or action plans. If the work is organized as projects, the natural end of one project is the start of another. One essential part of the process is learning. Every step should be evaluated to build a firmer base for the next. That way of working keeps the door open for changes and adding new, earlier overlooked elements.

All the strategic activities need funding, which is part of the planning in the implementation stage. The financial sector is probably the one with the highest concentration trend during the last decades. It is not limited to Swedish circumstances. The process is global. We can see a high concentration to global nodes as London, New York and Singapore. Probably we will have Chinese financial hubs in the future. In Sweden Stockholm has taken lead position in the financial markets. Until the late eighties Sweden had a distributed banking system with strong regional banks from Skåne in the south to Sundsvall in the north. Gothenburg had a leading position with two large banks Skandinaviska Banken and Göteborgsbanken, later Gota bank. Even county of Värmland had a bank of considerable meaning in Wermlandsbanken. It had its greatest platform in the large industries as Uddeholm and Billerud. Moreover, the local savings banks meant a great support for local people and business. All this was swept away in the nineties. The regional banks fusioned with the public bank PK-banken and built the colossus Nordea. Local savings banks were to a great extent drawn into the nationwide big bank Swedbank. Only a few were strong enough to save their independence. Those who succeeded were locked into the family by agreements on IT-systems too expensive to be developed by the individual small remaining “free riders”.

A similar development went on with the venture capital. Formerly, rich people and big industries main offices were spread in the country. They could invest in promising businesses locally or in the home region. Concentration means that the investors’ interest narrows. Today Stockholm takes an unproportional part of venture capital due to lack of knowledge in the financial companies. On top of that demographics turn capital streams to the areas with the highest inflow of people. Regions like Värmland is left outside the largest flows of investment capital. If Värmland is going to turn the vicious circle, this must be changed.

Today Värmland has two banks with a meaningful size, Westra Wermlands sparbank and Fryksdalens sparbank. They are working in parts of the region with small opportunities to grow outside them. The national banks are represented in Värmland but shows smaller and smaller interest to engage themselves in the regional development. SBAB has a big customer service centre located in Karlstad, normally with loans in the construction market. SBAB has for a few years had the rights to work as an ordinary bank still with few marks in the markets. Landshypotek is another financial actor oriented to the farming sector.

Venture capital is small in Värmland. Almi Företagspartner, a public business support company, and a few private businesses build the branch.

There is a need of a financial infrastructure to build a successful industry in the region. If it isn't possible to get it in in the close environment it must be erected in another way. Modern technology offers an opportunity. Building up a tight network and links to the big "money storehouses" could be substitutes for agencies in the home towns. This together with a long-range construction of regional investment groups is an alternative. One advantage is the freedom of limits. The links could be knotted to investors in London and New York as easily as to Stockholm. In the short perspective Oslo is likewise a highly interesting source as Stockholm or Gothenburg.

An important insight is that technology is not enough. Personal contacts have a fundamental meaning for building trust and over-time cooperation. Värmland and Karlstad should start to establish an ever growing network of financial contacts in and outside Scandinavia. A proper cooperation between public and private stakeholders should facilitate the efforts of making a lighter future for businesses in Värmland.

Governed by Region Värmland in cooperation with Karlstad University, as well as companies and their organizations, in 2016, the "Smart Specialization" development program was launched, which includes the following areas and operative organizations:

- Forest Based Bio-economy, Paper Province
- Digitalization of Welfare Services, Compare
- Advanced Manufacturing and Complex Systems, IUC Stål & Verkstad
- Nature, Culture and Place Based Digitalized Experiences, Visit Värmland
- System Solutions with Photovoltaics, Glava Energy Centre

Our strategy is a complement to "Smart Specialization"

The activities we present are clearly not cut into stone but should be perceived as ideas for discussion and gradual development to concrete actions.

6.1 Democracy and Politics

The following is our summary of important starting points for strategic proposals in the area we have defined as democracy and politics. Proposals can be reviewed and re-examined, but the starting points are nevertheless indispensable in the strategic development of our local world.

The global forces globalization, urbanization and migration will increasingly increase the pressure on the political leadership in Karlstad and Värmland to stimulate economic growth and join in the development of products and services for a sustainable world and in the local perspective an attractive and sustainable development of the city. That the global forces change direction in Karlstad´s and other medium-sized cities favor can of course happen, but do not seem to be a well-founded scenario for building a strategy. There are 600 cities that account for 60% of global GDP, according to Stockholms Handelskammare.

Sustainability has three interdependent dimensions. In addition to economy and environment, it is a sustainable society. In this dimension, we find the greatest demands are on the political leadership. It is about involving asylum immigrants in social development, dealing with the growing imbalance between women and men, when it comes to education, as well as adopt to the development of technology. For Karlstad, both threats and opportunities are hiding. Is Karlstad able to make the best of these conversions through skilled education and labor market policies? It would create platforms for renewal and development.

Ever-increasing computing power, big data, the internet penetration, AI, internet-of-things and online platforms has sparked a debate about the risk of greater job insecurity, growing inequality and even mass "technological" unemployment.

Economic history suggests that major innovations such as the steam engine, electricity and the assembly line can be disruptive. They can result in substantial job losses in the short-term, even if this is more than offset in the long-term by the creation of more productive and rewarding jobs with substantial improvements in living standards, but the lessons of the past may not always apply to the future.

Innovations that today may seem mundane have meant revolutions and changed societies completely. Obvious example are the clock and movable artillery. In the history of ideas, the clock is the first building block for our modern society. In a few hundred years it changed the perception of the world and universe. Movable artillery forced usurpators to build roads, distant storages, new kinds of supply systems and not the least develop new technologies. The result was many new kind of jobs and in the end new types of societies

Brynjolfsson and McAfee suggest that the technological change we are experiencing not only risks displacing some specific types of jobs but could lead to a decline in overall employment. Not only will routine tasks continue to be automated but cognitive tasks that until recently were considered non-automatable are now at risk.

Stefan Fölster has applied a method developed by Carl Benedict Frey and Mikael Osborne to calculate how different US occupations risk being replaced by digital technology. The method has been translated into Swedish conditions, and estimates indicate that 50% of today's employees will be able to be replaced by digital technology. This means that 2.5 million jobs are affected. The professions that require diligence, originality, artistic skills, social skills, ability to negotiate and persuade as well as thought about other people have the lowest probability of being replaced.

The combined effect of automation, digitalization, increased consumption through revenue increases and new products and services are expected to give rise to an employment effect of approximately -15%. Reduced taxes and other reforms can compensate to avoid loss. The employment effects are likely to be significantly greater in the smaller municipalities.

Critics of these alarming estimates argue that occupations as a whole are unlikely to be automated as there is great variability in the tasks within each occupation. Two workers holding jobs in the same occupation may not perform the same tasks because their work may be organized differently, one requiring more face-to-face interaction or autonomy, for example. Due to this argumentation, a better approach to analyzing the number of jobs at risk of automation is to analyze the task content of individual jobs instead of the average task content of all jobs in each occupation. On a study commissioned by the OECD, using this approach, Arntz, Gregory and Zierahn estimate that just 9% of jobs are at a high risk of being automated, while for another 25% more jobs 50% of the tasks will change significantly because of automation. At the same time, estimates suggest that for each job created by the high-tech industry, around five additional, complementary jobs are created.

Estimates of job automation rely on the theoretical possibility of technology displacing existing jobs, but ignore whether these technologies are actually adopted, which may lead to overestimating the overall impact of technology on the number of jobs in the economy. Introduction of new technologies can be a slow process due to economic, legal and societal hurdles, so that technological substitution often does not take place as expected. On the other hand, as late as 10 years ago, it was thought that driving a car could not be computerized. At that time, the US Defense Advanced Research Projects Agency, DARPA, announced competitions for the purpose of developing self-driving vehicles, SDV. Today they are well on the way to commercialization. Current competition is about getting robots to work as an electrician and plumber, walk upstairs, open doors, sort construction materials, fix broken pipes and wires etc.

Further, if there is less need for labor, this may translate into a reduction in the number of hours worked and not necessarily a reduction in the number of jobs. This has been the experience of many European countries over past decades.

Another trend that effects the job estimates and enabled by internet, is the flourishing of the "gig-", "on-demand-", "sharing-" or, more generally, the "platform economy", such as AirBnB, Uber, Lyft, Blabla Car, Nubelo, Amazon Mechanical Turk, Task Rabbit, YoupiJob, Frizbiz, etc. This platform economy facilitates for a more efficient matching

between the demand and supply of labor, products and tasks and creates greater opportunities for workers to enjoy the flexibility and benefits of freelancing, and to top-up their income with additional work in other jobs. Service providers can divide otherwise complex tasks into a set of cheap, routine mini-tasks allocated to workers around the world.

An evident example of growing demand for flexibility is the expansion of the staffing business. Laws and job market policies have not been adapted to that kind of organization. Unions have been hostile to the phenomenon but employers all over the market have embraced it. A development of the regulations and far better cooperation between authorities and the staffing companies could improve the work with people outside the job market not the least immigrants. Especially if education becomes an integrated part of employment in staffing companies.

The changes in the occupational structure may create regional inequalities, as new jobs are created in cities with a high concentration of highly-skilled workers, which are usually different cities than those experiencing displacement or job losses.

McKinsey reports that 46% of the work activities in Sweden are a potential for automation and that 28% of those work activities will be automated year 2030. This year, 17% of the job base today has been substituted by automation and new jobs have increased the job base with 18%, McKinsey estimates. Today, 7% of the employees have digital jobs, and this share will increase to 12% year 2030. High educated labor accounts for 40% of the workforce. This share will increase to 45% year 2030.

According to forecasts by Cedefob, the European Center for the Development of Vocational Training, until 2025, low-skilled jobs in Sweden are expected to decline by 133,000 and average-qualified by 339,000. At the same time, the number of highly qualified jobs will increase by 760,000.

The above assessments are about national Swedish level. Värmland can have a completely different automation profile, compared to the average of Sweden. The employment compensation is about high-paid digital jobs, and Karlstad and Värmland are in this respect not in a strong position. Strengthening the high-paid digital industries is thus a very important strategic element.

For 40 years, women have been in the majority of the university's graduate programs, and 25 years ago, women's average level of education passed the men. Today, women account for nearly 70% of university degrees in Sweden.

A probable scenario is that the education gap between men and women will continue to grow and it is low-skilled men who fall behind. The development means that Sweden is entering a labor market where more than 50% of all young women have university education. The largest group of men is expected to have high school as the highest education, and in the group, who do not have more than primary school, men dominate.

Women are taking over more and more traditional men occupations. Men do not go in large scale into women dominant professions. In most occupations requiring university or college education and where men dominate the older age groups, today there is a majority of women among the youngest in the profession. There is a large and for our strategy and future very important and occupational group where men are in large majority today, and it is system developers.

Due to the fact, that women's education is growing fastest, they also account for the majority of economic growth and their higher education level drives urbanization. Women want to combine a good job with family and choose areas where commute times are short, the range of work is great and where friends and social life are close.

Consequences of the 2008 financial crisis in terms of employment were that women came through better than men. Four times more male-dominated than women-dominated jobs disappeared.

In the twentieth century, gender gap in terms of education levels decreased, the 21st century is about rising gaps again, but in the opposite direction. Men without education risk not only not getting a job but also not being part of a family. Bo Rothstein once found that women marry men who have a higher status than themselves. In the future there may be a lack of such men, which may be of no significance.

The regions and municipalities that are able to establish education and training systems that balance the development will have a competitive edge. Examples include effective apprenticeship systems, further training resources, retraining systems, etc. These systems also affect indirectly through reduced crime and exclusion.

The effects of the technology development in manufacturing increasingly disunify the society. On the one hand, well-educated women who have a very promising labor market with high wages in the development of the growing technology world. On the other hand, in another growing world, all as technology in different systems rationalizes and low-skilled men outside both the labor market and family life. In addition, an increasing population of asylum immigrants with low education, as well as culture and religion that do not make the situation easier. In this polarization, populism and crime are thriving. The latter is not just about violence but also about black economy.

In an Oxford University research report presented in July 2017, the authors say. “The victims of the computer revolution have a higher propensity to opt for radical political change. Electoral districts with a higher share of jobs exposed to automation were significantly more likely to support Trump. The 2016 U.S. presidential election can thus be described as a riot against machines by democratic means.”

The picture of the social development creates need for a social change characterized by co-operative political leadership, which strengthens and extends democracy so that citizens again are co-creating, that society is governed in networks, and that the civil society is much more involved. This transformation will be extremely demanding for politicians.

Unfortunately, we do not see any signs of change in the above direction in Sweden. In the Swedish part of the European Mayor's survey conducted in 2015, the mayors in municipalities with more than 10,000 citizens answered the following question. "Residents should participate actively and directly in the taking of important municipal decisions". Only 16% answered yes, which means that Sweden stands out compared to the 21 other countries in the survey. Closest to Sweden were Belgium and Norway with 42% and 50% respectively.

In the survey "Kommunala tjänstemän" carried out in the 1980s, 53% considered that the municipal activities had become so complex that specialists and experts should be given greater influence on the decisions. When the survey was repeated in 2016, the percentage had increased to 75%. Officials who want to see more of the influence of politicians and citizens have fallen from 44% to 23%, and 70% believe politicians lack knowledge

King Gustav Vasa's leadership and his reform of the Church founded the culture of our country, which was then strengthened during Stormaktstiden. By the middle of the 17th century, Sweden was one of the most efficiently organized countries in Europe and a pioneer in resource mobilization, administration and warfare. Historian Jan Glete has emphasized that Sweden should be seen as a pioneer in the development towards the modern states that would dominate world politics over the coming centuries. This is where we have the cultural roots that form the foundation of our outstanding development. Political leadership has a major responsibility to protect and develop this culture.

Innovation and entrepreneurship are the engines of economic growth. It is the task of political leadership to create the conditions for innovation and entrepreneurship. In the latest GEM report, Global Entrepreneurship Monitor, Värmland exhibits the lowest share of TEA, Total Entrepreneurial Share, of all Sweden's counties. The business environment is a factor that influences entrepreneurship levels. In Svenskt Näringslivs annual evaluation of the business climate in Sweden's 290 municipalities, Karlstad was ranked 74 in 2017, which was 15 positions better than 2016, but is still too weak for an attractive city. Improving the business environment is an important political issue.

Goal

Attractive city developed in a committed involvement of the citizens

The democracy and politics area have the following suggested activities:

- Collaborative Political Leadership
- Business Climate Improvement
- Attractive City Concept
- Go West Movement
- Social Culture Transition

- Regional Development Evaluation

Collaborative Political Leadership

If we are to prevent further polarization and instead turn the development in positive direction, the political leadership must create dialogue with the civil society and the citizens, which they perceive are seriously meant and give results.

In Luleå, the mayors chat with the citizens, and we find it a good idea also for Karlstad. Suggestions shall not stop with the talk, but be processed by the organization, and there must by a possibility to reward ideas, which are fulfilled in involvement by the proposers.

It is of great value if the political parties in Karlstad agree on a set of overall long-term goals. Our report contains suggestions that should be accepted by the parties eg. that Karlstad should be an attractive city for young people, that the city should be an asset for Värmlands's other municipalities, and that population development should maintain at least the same pace as other major cities.

Business Climate Improvement

The business climate is about the attitude, that entrepreneurs are the most important for the city to grow. It is entrepreneurs who run the economic cycle, which is the condition for all public activities. It is the political leadership that is responsible for the business climate and that it maintains the quality that stimulates innovation and entrepreneurship. At the same time, political leadership alone does not account for the daily efforts that are the business climate, but it is also all employees who entrepreneurs and citizens meet.

The political leadership in Karlstad has a long journey to do with the goal of creating a top-class business climate. It is about an attitude change in the outermost parts of the organizations and that employees are on tiptoe of helping entrepreneurs and citizens and doing this with joy. It should come from the heart and not that you have been told.

A many year´s attitude program is developed and implemented with measurable goals in terms of treatment, answers to questions, processing times, etc.

Attractive City Concept

The attractiveness of larger cities increases with its size. Large cities are more diversified and therefore become more attractive for companies looking for establishments. They generate their own growth, become less vulnerable, and begin to be agglomeration economies. In addition, successful universities contribute to this. In order for cities to grow, they must also be especially attractive for women to live in and for their children to grow up in. Where the women are, the men come. The real estate market also plays a major role for growth of cities. Increased value on real estate strengthens equity, which creates opportunities for borrowing and investing. Moreover, the larger city the higher salary level. That attracts high skilled people and is good for the city's tax income.

Marketing does not create an attractive city and can´t change the reality. First, an attractive city must be created and then it can be marketed. Many municipalities, not to say most, invest considerable resources in creating the impression that the municipality is attractive. You want to place the municipality on the map, as it usually is called. Research shows that sponsorship of events such as the Melodifestivalen and icehockey teams etc does not affect the attractiveness, nor do marketing campaigns for increased in-migration.

In cooperation with a wide range of creators, a concept develops for the gradual development of Karlstad city into a green city where passenger and freight transport take place with SDV and at a time when trade moves into the city center. The city should be attractive to women. To facilitate commuting to Örebro and Oslo as well as customer visits, housing and offices are located within walking distance to the travel center. Ideas in the collaborative political leadership should be included in the development of the concept of the attractive city.

Helsingborg is an interesting model for the attractive city concept. Helsingborg was appointed Sweden's Quality City 2017. The jury's motivation sounds like this. "Helsingborg's city is a municipality characterized by openness and a willingness to dialogue with those living and working in Helsingborg. The city works with a clear focus on the citizens,

which, for example, expresses through high availability and a good treatment. The city also stands out by highly committed executives and employees who work together to continually improve the service for the citizens. A clear structure for steering and follow-up creates the conditions for good and sustainable results and high quality of city services".

Go West Movement

"Go West, young man" is a phrase often credited to the American author and newspaper editor Horace Greely. The phrase came to symbolize the idea that agriculture could solve many of the nation's problems of poverty and unemployment characteristic of the big cities of the East. It is one of the most commonly quoted sayings from the nineteenth century and may have had some influence on the course of American history.

It is time for us to create a Go West Movement in Sweden together with the cities Karlstad, Kristinehamn, Karlskoga and Örebro and the universities of Karlstad and Örebro. The region will be a strong growth region and must dare to stand out.

Go West Movement shall affirm Oslo and Stockholm. These cities shall be the region's friends and partners, like the relationship between Umeå and Stockholm.

Social Culture Transition

Värmland needs to transform social and economic norms to strengthen the basic conditions for growth in the long term.

Once the American film industry was created, it was considered contrary to the norms, and many cities resigned from the new, all but one. Hollywood welcomed the development and became, as we know, the center of the film industry

A comprehensive awareness program is developed and implemented under the auspices of our cultural organizations in memory of Martin Luther's 95 theses at the church gate in Wittenberg. Messages that grew and developed Northern Europe. It is time for us to nail our 95 theses for the development of Karlstad and Värmland at the cathedral gate and that these theses are spread over Värmland in study circles, seminars and concrete change work

Regional Development Evaluation

In the work of our project, we have not been able to find any evaluation of the regional development efforts, which shows the employment and population impacts. In view of the population development, it is close to conclude that the effects have been modest. At the same time, one can´t know what the development would have been without the accomplished efforts. Contra-factive analyzes is a difficult topic.

Despite the methodological difficulty, the following suggests.

Costs Värmland has had the last 20 years for the below areas of effort:

- Development projects
- Education projects
- Support to culture organizations

The financing of the costs:

- The county council of Värmland
- The municipalities of Värmland
- Government authorities

Starting from the above facts and figures, evaluation of the three areas impact on employment and population. Then develop a policy, where the main goal shall be increased employment and population. These two must be separated. High-wage jobs generate more indirect jobs than low-paid and thus higher population growth.

6.2 Innovation and Entrepreneurship

It is human beings, who are innovative and entrepreneurs. These people need capital and it is people prepared to take risks, who invest the capital. Innovators, entrepreneurs and capitalists must be a critical mass that gives impetus to creative development. Sweden has a large number of start ups compared to many other countries, but not when it comes to scale ups. Symbiosis between small and large companies is a seed-bed for growth, where the small account for innovation and entrepreneurship and the large for resources and ability to reach the market.

Ronald Fagerfjäll, journalist and author of several books on Swedish economic history. "Successful Swedish entrepreneurs often pick up and improve international technology but are not so inventive that they get stuck in technology. Instead, they are looking to be business people ". He mentions Ericsson, Sandvik and Electrolux, and recently Spotify as examples. Another feature is that they immediately went beyond Sweden's borders to grow.

Given that each new high-tech and high-paid job generates another five jobs, the focus must be at jobs that creates these effects and compensates for automation, and not least for employing asylum immigrants.

To flourish, Karlstad and Värmland must adopt to the new economy. It is about the exponential information technologies, which enables disruptions in every industry and are the conditions for the exploding platform economy and independent work networks.

As the computing revolution continues to insinuate itself into every corner of our lives, disruptors are starting to appear in every industry. Each company have or is in the process of becoming a victim of disruption, a new kind of innovation with the power to undermine stable businesses in a matter of months or even days. The speed and the dramatic impact of disruption are the result of disruptive technologies that continue to enter the market better and cheaper than their predecessors. In this brave new world, new products and services start out life competing simultaneously on price, performance, and customization. Where disruptive innovations may have once taken a decade or more to transform the affected industries, research shows that time frame has compressed to half that time and continues to shrink.

Nothing about the new services is particularly hard to duplicate. Still, instead of matching the disrupters, the incumbents are demanding that regulators ban the new services despite their obvious advantages for consumers. Rather than compete, in other words, they are focusing their efforts on raising legal obstacles to slow or stop the innovators.

In manufacturing, the car industry is an interesting example. With an average of SEK 40,000 of built-in electronics, a significant portion of the price of a new car today comes from exponential technologies. Those same electronics, however, will cost 20,000 SEK in twenty-four months. So, automakers have to lower their price or introduce more innovations to maintain their price.

Indeed, nearly everything we know about strategy and innovation has suddenly become wrong. The new disrupters attack existing markets not just from the top, bottom, and sides, but from all three at once. By tying their products to the exponential growth and falling costs of new technologies, their offerings can be simultaneously better, cheaper, and more customized. Not just for one group of users, but for all, or nearly all, customers. This isn’t disruptive innovation, it is devastating innovation.

High costs for R&D are also falling, as idea generation, research, and even innovation funding migrate to the cloud and to new forms of incubation.

Global broadband networks and ubiquitous computing devices connect innovators and users in an environment optimized for collaboration. New products and services begin life as simple experiments, tested with real consumers at little cost or risk. This is especially true for software-based services that are built on reusable code. Open standards, and non-proprietary interfaces. Engineers and product developers are getting together in what are known as “hackathons.” Their goal is to see what kind of new products can be cobbled together in a few days.

For innovators, new sources of funding are also available, including crowdsourced financing platforms such as Kickstarter, which completed one hundred thousand successful campaigns and raised over half a billion dollars for would-be entrepreneurs in its first four years of existence.

The new economy is also to replace the unmodern company with the modern. The modern company focuses on long-term results through constant innovation, establishes cross-functional teams, and uses internal functions to support the teams. This company does not use the departments of law, human resources, accounting and information technology to reduce risk through detailed routines. The core of the modern business is the internal start-up company with a few passionate employees. It's Amazon's pizza team, which is no bigger than they can share a couple of pizzas. These small teams with a maximum of six to seven people are experimenting and scaling up quickly. Their motto is think big, start small, scale up quickly.

Due to the "Basic Report" and the work afterwards, we have identified four interesting growth areas:

- Software
- Food
- Culture
- Tourism

Each area need two kinds of activities:

- Business enabling activities
- Business development activities

The enabling activities are conditions to create businesses and the different business activities shall reinforce each other figure 6.3. Software is its own area, but also a significant part of food, culture and tourism. These three are strongly reinforcing each other. There is also a need of common enabling activities, which form the glue between the activities:

- Innovation Entrepreneurship Reactor
- Challenge Driven Innovation

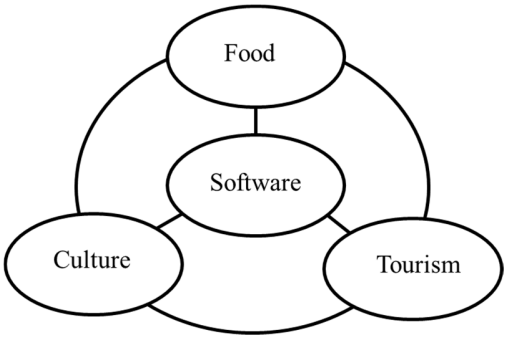

Figure 6.3. Business interactions

In this strategy we concentrate on the enabling strategies based on business potentials and needs, as well as the platform and digital economy

Goal

Increased employment and population

The innovation and entrepreneurship area have the following suggested activities:

- Innovation Entrepreneurship Reactor
- Challenge Driven Innovation
- Software Development Platform
- Food Science Park

- Contemporary Culture Arena
- Digital Tourism Concept

Innovation Entrepreneurship Reactor

Entrepreneurs are driven by their own power but are also dependent on their environment. There must be access to market, skills, capital and an infrastructure that supports the business. The entirety can be called an "ecosystem" for entrepreneurship. It is one of the central tasks to establish and strengthen such a system in Karlstad.

The mainly public funded development organizations, Paper Province, Compare, IUC Stål&Verkstad, Visit Värmland and Nordic Innovation Food Arena are silos of like-minded people, who do not inject creative impulses to each other. A critical mass is needed in a reactor that causes the initiative and creativity to set fire.

The Innovation Entrepreneurship Reactor is a network of citizens from all corners of the society in Karlstad. The network meets six times a year. At each meeting activities are discussed and initiated, and for each activity a group is appointed, whose responsibility is to perform and report the task at the next meeting and set up without compensation. The model is Expansiva Växjö with 1,800 members and where 400 come to the meetings every two months.

Challenge Driven Innovation

With board of directors other than politicians, and extended mandates, the municipal companies in Karlstad could to larger extent contribute to growth. Primarily it is about the companies listed below, table 6.1

MSEK, 2016	Karlstads Energi AB	Karlstads El- och Stadsnät AB	Karlstads Bostads AB
Revenue	901 975	207 729	540 112
Profit before tax	94 304	69 818	110 539
Assets	2 015 998	566 804	2 550 595
Equity	66 750	84 298	640 041

Table 6.1. Companies owned by Karlstad municipality

The city council appoints a group of its members, who then appoint a board of directors in the above companies´ parent company. Politicians shall not participate in the board. This in turn elects the boards of the operating companies, and neither will politicians be included in these. In addition to its regular activities, companies will use part of their personal and financial resources to search for new technologies, research and development, new business opportunities and innovation procurement, which will eventually result in new companies. The companies should not only use their own staff but also outsource assignments to innovators.

If the above companies divest 5% of their profits, the annual development capital amounts to SEK 14 million based on the 2016 income statement.

Also the government organizations Myndigheten för Samhällsskydd och Beredskap, MSB, Konsumentverket and Elsäkerhetsverket, located in Värmland, are suggested to be involved in challenge driven innovation and procurement.

In Netherlands, the Small Business Innovation Research program, SBIR, aims to stimulate entrepreneurs within the European Union to put forward innovative solutions for Dutch social issues. SBIR has been set up as a competition. Businesses with the best offers will be awarded a feasibility study. The companies with the most promising studies will be asked to further develop their products.

In 1998, the Swedish prime minister Göran Persson, Socialdemokraterna, started active management of public assets. He wanted to prove that governments can be active and competent owners of commercial assets and began a three years experiment of actively managing the Swedish public portfolio as if owned by private shareholders. This included introducing private sector discipline and equity culture. In the end, the portfolio value increased 12% even after nearly 30% of the original portfolio was privatized. The value increase was almost twice that of the local stock market, which rose 6% over the same period.

Software

To reverse the stagnation of Värmland and Karlstad and to face the difficult challenges in the labor market in the light of the digital revolution, at least 3,000 new high-tech jobs, especially in information technology sector, must be created in Karlstad in the next 5-10 years. Jobs that then generate jobs in other industries.

Development of software based on AI, VR and 3D printing is in a very expansive phase. It is now one can take and create a position. In a few years, it's too late. Developing software for a commercial market is extremely difficult. Risk is taken in three dimensions. Development efforts encounter technology issues. The finished software must be accepted by the customers, and a sufficient market have to exist. The risks, and that the development always is much more expensive than one thought from the beginning, mean that organizational and financial muscles need to be part of a software development program. In addition, talent is obviously required. The risk threshold demands intelligent measures to support success. Obvious means are top of the line designers and massive use of network distribution support.

Software Development Platform

The task is organized in cooperation with international platforms and networks in the areas of:

- Information technology and business software development
- Funding of start ups and product development
- Incubation within marketing, financing, economy and law

The enabling activities in the organization also includes network building and joint business development with companies and organizations in the sectors of:

- Food
- Tourism
- Culture

Other crucial organizations in the platform are:

- Karlstad University and other universities
- The organizations within challenge driven innovation
- The organizations involved in “Smart Specialization”

The people and companies, which shall create the businesses are:

- Talent engineers educated at Karlstad University and other universities
- Existing information technology SME´s establishing cooperation with other SME´s with focus on software development
- Established software companies outside the region starting subsidiaries in Karlstad

The organization Business Värmland is working with the third of the above categories.

The need for system developers is very large, and it is almost impossible, as we earlier have presented, to recruit staff in Stockholm and Oslo that stay a longer time, which means that wages bump up. Localization in Karlstad of specific development teams for companies and authorities opens interesting opportunities in this situation. This could also be a task for the Software Development Platform.

Food

Today, we use 13% of our available income for food. The share was 20%, 20 years ago. In 1990, the imported food accounted for 25% of our consumption. This share has grown to almost 50%. We need to take greater global responsibility for food supply.

Värmland has good conditions for fish-breeding and aquaculture. The soil and climate are suitable for fodder-growing, and pastureland for cattle and sheep.

According to Lantbrukarnas Riksförbund, LRF, 10 agriculture and forest farmers create 14 jobs in the food industry and the forest industry and another 20 in other industries. Growth in primary food production can thus generate significant growth.

The following are examples where we can make environmental benefits, create employment and reduce vulnerability by expanding the primary food production and refining it into food in our stores and for export.

More than 50% of all fish we eat are farmed today. Import of farmed pangasius have increased from 0 to 4,000 tons per year. The pangasius industry is larger than the Norwegian salmon industry. Even though pangasius is a plant eater, it is also bred on fishmeal where 1.0 kg of feed fish yields 0.8 kg of pangasius. The flour is made from a fish species that plays a major role in the Vietnamese meal tradition. The farmers use a lot of antibiotics which together with the feces from the fishes, emerge in the Mekong river, which are of major importance for the water supply.

In Sweden we could farm our own fish to a much greater extent. We farm 6,000 tons per year while Norway produces 800,000 tons per year. We could use mussels as feed, which at the same time has a beneficial cleaning effect.

We use more and more soya as animal feed. Consumption has more than doubled in the past twenty years. The farms in Brazil extend more and more at the expense of the rainforest. The farmers use large quantities of the human and animal poisonous pesticides parakvat, which has been prohibited in Sweden for more than thirty years. We can replace the strong climate-affecting soya with domestic crops such as broad beans, peas and rape, as is done in Finland in milk production.

Brazil is also a major beef exporter. In order to keep bushes away from pastures, herbicides based on dichlorophenoxyacetic acid is used, which was banned in Sweden in the late 70's. Additionally, more and more of the cattle are raced on concentrated feedstuff in small runs.

We eat paprika, tomatoes and cucumbers all year to name a few examples. It's about industrially grown vegetables, that use large amounts of energy in relation to the energy we get when we eat them. The energy required to produce 1 kg of paprika is enough to produce 85 kg of potatoes, which is a crop with good conditions in Värmland

Innovation is also about new business processes and other ways of organizing work based on the fact that conditions and needs are constantly changing. Such a prerequisite is the age structure of the farmers, which shows increasing median age and that more than 25% are over 65 years old. This is, of course, an obstacle to the development of agriculture in Värmland. Another limitation is that farms are small. Only 25% have an area greater than 50 hectares.

A merging or firmly organized collaboration between farms and rejuvenation of farmers are necessary steps for expanding the agriculture. A structural problem is that agriculture sets similarity between company and farm. If these are different, an entrepreneur can run the business in a company, while the owner of the farm manages land and buildings.

Acquisitions requiring significant and difficult acquired capital in a risky industry with low profitability should not be a viable way. The fact that several farms merged in a jointly owned limited company could be an option. After a number of years, shares can be consolidated among the owners or sold externally.

Structural change should be combined with further education of farmers in refine processing and alternative production. One effect of the education should be virtual clusters where the members in close collaboration develop their own and each other's activities.

The rapidly emerging technologies of self-driving farm tractors and other agriculture devices is an important topic to incorporate in the business development in cooperation with the Software Development Platform

Food Science Park

The development in the food sector needs a science park where producers, researchers and business developers can meet in a creative environment. The actors in the park shall deal with food, meal and agriculture development, master- and management education for entrepreneurs, craftsmen and academics, support to start ups, digitalization and automation of the farming work and reorganizations of the farm structure including financing these changes.

Culture

Culture is both creation, distribution of the created and recycling of earlier cultural expressions. Värmland has a proud history from Tegnér, Geijer, Fröding and Lagerlöf to Tunström. Västanå theatre, Lerin museum, Värmlandsoperan as well as Säffleoperan, have potential for further strengthening the culture sector. Today's distribution system with Youtube as an example allows free groups to create image, audio and text production for a large market. When English is becoming more and more our lingua franca, the market is open to reaching an international audience.

In addition to develop our traditions, Karlstad needs to invest in culture aimed to the younger generations to make the city attractive. Here Umeå is a model with the culture arena Väven and the resources the city invests in culture.

A culture to highlight is the Finnish in Northern Värmland. With inspiration from "The Lord of Rings" and Västanå, theater, dance and music are created where people interact with artifacts such as robots and the real and virtual realities are mixed. Technology future and cultural heritage, a collaboration with the Software Development Platform

Contemporary Culture Arena

The attractive city has a futuristic arena for contemporary culture that attracts young generations and also inspires older generations. Our suggestion is to build a cultural arena on top of the new travel center. With this location, the culture becomes easily accessible and in addition, a first positive impression of Karlstad is created by all visitors.

The arena will of course be built in wood and decorated by Värmland´s artists and designers. The wooden building becomes a beautiful symbol for the forest county Värmland.

Tourism

The tourism and event sectors are important for Värmland and the region has a strong brand in the market. In other words, Värmland and Karlstad have potential to increase the business.

In order for the economy and employment to grow, Värmland must get visits from many DINK´s, Double Income No Kids. This requires the quality of experiences, meals and overnight stays to be high.

Another important business is Karlstad CCC. The competition is tough between congress centers in medium-sized cities and new centers are established. Next, a new congress house is being built in Helsingborg. For stable profitability, Karlstad CCC must have several legs to stand on. It is about national and international congresses, concerts, corporate arrangements, etc. An important prerequisite for Karlstad CCC's development of several legs is that the hotels and restaurants raise their quality. Direct flights from major cities in Europe are another competitive factor for congress houses, and Karlstad has a handicap here. Cooperation with Örebro Airport can facilitate.

The disruptive mechanisms of the digital revolution also change the aviation industry. Being at home in front of the computer booking a flight is common since a long time. According to Lufthansa, airlines will be eliminated by companies such as Alibaba subsidiary Fliggy, Google and Facebook. These companies are building businesses with personalized flights, accommodations, activities, etc. It is companies that have direct contact with hundreds of millions of consumers and they already know very much about their wishes and dreams. They are positioned between customers and traditional airlines, which are reduced to selling capacity. They are about to become the travel industry´s traveltechs in the same way fintechs compete with the banks. The perspective opens up interesting opportunities for the tourism in Värmland and for Karlstad Airport.

Airbnb and other traveltechs have the power to boost tourism in Värmland. Karlstad is number four after Stockholm, Gothenburg and Malmö when it comes to Airbnb overnights.

Digital Tourism Concept

The activity is about develop a tourism concept, which capitalizes on the digital platform economy. The concept also includes master- and management education for entrepreneurs and support to start ups.

6.3 Research and Education

Universities that have applied focus on innovation and entrepreneurship are important for regional development, and that they in this regard focus on students, who often stay at the university city when starting business. It is at Karlstad University that the lift of Värmland's low entrepreneurial level must start.

When it comes to the goal of creating many new jobs in the information technology sector, table 6.1 presents the current situation concerning education programs, number of graduations and students at Karlstad University.

Education program	**Years**	**Graduations**	**Started the education and graduation year**									
		2017	2013	Dropouts	2014	Dropouts	2015	Dropouts	2016	Dropouts	2017	Dropouts
			2018		2019		2020		2021		2022	
Civilingenjör												
Datateknik	5	3	28	18	27	14	27	10	33	15	40	11
Remains			10		13		17		18		29	
Högskoleingenjör												
Dataingenjör	3	9					38	21	41	14	43	6
IT-design: Affärssystem och ekonomi	3	4					12	2	17	1	17	3
IT-design: Programvarudesign	3	7					27	11	24	10	20	2
IT-design: Systemdesign	3	5					13	2	18	1	19	0
IT, Projektledning och affärssystem	3	15					49	37	56	30	67	42
Web och multimedia	3	8					41	16	38	13	37	5
Masterprogram i datavetenskap	2	1							0	0	3	2
Masterprogram i informatik	2	0							5	4	5	1
Summa		49					180	89	199	73	211	61
Remains							91		126		150	

Table 6.1. Information technology education programs at Karlstad University

In 2017, 3 civil engineers in computer science were examined at Karlstad University. The years 2013-2017, 155 students started this program and 68 have dropped out. If all those who remain complete their studies, we will get 87 new civil engineers in the next five years. This is insufficient to reach the employment goal in the information technology sector. M.Sc. degree must increase to at least 200 students per year and a larger share must fulfill the education. In addition to more students, the education needs to be enhanced with technologies such as artificial intelligence.

Talents and potential entrepreneurs are critical success factors for creating new jobs. Talents will be find at Karlstad University if the education is attractive and the search pressure is hard. Not all talents are potential entrepreneurs, why a large selection of talents is needed and that they can be supported by incubators, but these are not crucial for starting new businesses.

Attractive jobs at expansive entrepreneurs allow students to stay in Karlstad after their examinations. Many companies in Karlstad tell us the difficulties to recruit high tech staff to Karlstad from other larger cities. Experience from other cities of Karlstad's size and character shows that recruitment takes place mainly regionally. Then the university is crucial. The education programs in information technology must have a clear focus on women choosing the education and that the university is committed to waking up girls' interest in information technology already in young years.

Karlstad University must be a significant part within artificial intelligence research and education, AI. The following is VINOVA´s, Swedens´s innovation agency, opinion about AI.

Sweden's value-creating potential in the use of AI in business and public activities is great. Most assessments point to a growth potential twice as fast with high AI utilization in the economy as compared to low AI utilization

Increased AI applications will greatly affect work tasks, work organization and the labor market. This will mean significant govern challenges changing to AI based business development and innovation in companies, public organizations and universities.

Below are areas that Vinnova specifically emphasizes:

- Manufacturing development

- Travel and transport
- Sustainable smart cities
- Health care
- Financial services
- Security

Ability to make system analyzes that create an understanding of how different driving forces, factors and processes influence each other becomes very important in this context. However, analyzes that form the basis of different policy areas are often made with too tight system perspectives linked to specific policy areas and with too narrow issues. They are also usually based on a far too narrow method repertoire for necessary system analyzes. At the same time as efforts are being made to promote the use of AI, research, analysis capacity and system analysis processes need to be developed substantially.

Leadership for innovation and business development will be crucial, and requirements for this ability in companies, public sector, universities, as well as in politics will increase significantly as AI usage rises. Leadership and governance for a safe and value creating transformation of the society need to be strengthened significantly. The knowledge about how increasing AI usage can affect the society development and what measures can help minimize the risk of adverse effects of AI must be considered very undeveloped. Competence development regarding social aspects of AI needs therefore to be strengthened.

It is difficult to see any area that is as dependent on the interaction between different actors and across sectoral boundaries such as AI. A positive AI development in Sweden thus requires an effective interaction between many different actors and functions in society.

AI skills will be crucial for realizing Sweden's AI potential. Computer science skills are important, but access to software engineers will also be crucial because successful AI development requires extensive software development. Access to AI skills will be a significant challenge as there is a global lack of such expertise. An already significant lack of AI skills is expected to increase further. Increased AI usage will at the same time impose significantly greater demands on individuals to continuously change their work tasks and renew their skills. Further education in AI that is well-suited to the labor market should be stimulated with special efforts for the rapid development of such education and processes for these. Development of undergraduate and postgraduate education in AI for breadth, excellence and collaboration with industries and public activities should be prioritized. The ability of universities to adapt the direction of their research and education to the rapid changes that AI generates is weak.

Goal

Expanded research and education within information technology including AI, that support innovation, entrepreneurship and employment in the information technology, food, culture and tourism sectors

The research and education area have the following suggested activity:

- Information Technology Program

Information Technology Program

To effectively support the other strategy activities, a program is developed that includes that Karlstad University examines 200 students per year in the MSc information technology program with focus on software development and AI, establishes research within AI and substantially organizes a cooperation with the business and political actors in Värmland

6.4 Asylum Immigrant Involvement

The involvement of asylum immigrants in our society is critical for the social sustainability. National and regional political leadership has for decades, through ignorance, obstructed the involvement of asylum immigrants, resulting in an outcome that is dangerous to our society. In order to succeed, one must acquire insight into the diverse cultural and religious conditions, draw lessons from this insight and start there with firm action. The text below is mainly based on Eli Göndör's research.

Sweden has changed dramatically regarding cultural diversity in a short period of time and there has been too little discussions and reflections of what happens to the society's norms if they are challenged by groups who have grown up and lived with other beliefs and perceptions than are normative for Sweden.

A group that historically and culturally has held a majority status is highly likely to also develop what is called a dominant position. For those belonging to the majority group it is often self-evident that their own norms are also the entire society´s. A majority usually thinks that minorities should adapt to what is the norm for the majority. People, who belong to the majority lack natural conditions for adaptation. Not infrequently, the majority expresses its concern about minorities in a way that can easily be perceived as both condescending and prejudicious, even if it is done in the best purpose.

Sweden's cultural heritage is a Christian characterized majority society without minority experience as a resource to better understand others and a majority society whose national identity has not been faced with any real challenges. Thus, the contours of what can be considered a Swedish identity have not been clarified, which, regardless of how it is defined, is likely to make it difficult to claim when it is challenged in many respects due to relatively large immigration.

A religion's society strength is its ability to organize followers, create stability and give the individual person a sense of belonging, fellowship and security. For people with strong religious identifications or with deep anchors in clan communities, many of the norms that characterize Sweden are foreign and immoral.

As the majority expect the minority to adapt, minority deviations are often described as somewhat worse or adverse, which needs to be adjusted to the majority's perception of what is right and good. This develops in the minority a resistance identity, which is a resistance to the moral demands of majority society, norms, rules or perceptions of how society should be formed.

For people who belonged to the majority in the home country and in a new country become minority, the resistance identity can mean an ambition to rather change the society they live in than to adapt to it. Majorities have no experience of adapting. Instead, the experience consists of adapting others. Life in the new country then can become a project that wants to redefine its place in society and also change its social structures to its advantage. The change is likely to be dramatic when a group that traditionally had majority status is suddenly expected to behave as a minority. When the values that were the norm in the home country also are considered to be outdated in the new home country, the risk of an identity crisis increases.

A group with historical minority experience usually does not challenge the norms of the majority but may well feel an alienation to the majority society and for generations live according to other norms. Women within the group are often subject to both the minority's aspirations to preserve the group's fellowship and the ambition of the majority to adapt the group to its norms. Women who educate and perhaps also choose partners outside their own group pose a threat to men's dominance

Refugees who have come to Sweden in the past have often been ethnic or religious minorities, while majority culture dominates today's refugee.

Honor culture, which aims at limiting women's freedom or increasing control over women's behavior, can be intensified as a result of men experiencing that they are losing their status. There is a risk that the progress made in the West on women's gender equality is threatened if phenomena that can be considered limiting for women are given legitimacy. This will cause consequences for many women's way to work.

Opinion polls conducted in 2012 and 2013 showed that about half of the population in a number of European countries saw Islam as a threat. A survey of ten European countries shows that on average 58% believe that Muslims do not want to adapt to European norms. In Sweden, this perception is shared by 50% of the population. These perceptions affect Muslims' difficulties entering the labor market. This, in turn, causes behaviors and attitudes that hamper integration are maintained instead of changing. The result is isolation or segregation that creates ideal conditions for cementing conceptions that collide with the norms of the majority.

Cultural tensions have been reinforced by the identity politics of European and not least Swedish politicians. People have organized themselves according to ethnicity and religion of natural reasons, but also because they are encouraged to preserve their culture identity. Where group identities are encouraged by state funding, as an argument for a multicultural society, fragmentation of society occurs. As a result, funding for organizations that are defined by ethnicity and religion have become an obstacle to integration. Not least because the difference is one of the components that legitimizes the funding.

When we more profound learn about the people we work with, we have the prerequisites for achieving results. With that as a starting point, we can build a practical work based on best practice. Below we present three examples and a labor market where we today have very large demands.

Nordregio's research shows that several conditions and activities must be in place and implemented to enable asylum immigrants to achieve meaningful employment and involvement in society life:

- The political leadership must be committed and take the lead, as well as allocate financial resources that create conditions for success.
- Project managers shall have power to achieve results
- An early assessment of the individual's education, experience and language skills shall be made, and with this platform an individual plan must be designed, agreed, continuously monitored and adapted to achieved results.
- The plans shall be focused on work and where language education with emphasis on the spoken language is mixed with work training
- E-learning should be used for work training
- The civil society must be committed to create social networks and involvement

Nacka has introduced social innovation. The city selects a manager who is going to work with a specific unemployed on the basis of the difficulties they experience. Compensation is obtained when the unemployed receives a job. Norrköping is also working according to this model with inspiration from England and can be introduced to Karlstad and Värmland.

The company Kresam has developed a concept, which means creating a group of change committed companies and enthusiastic young people. The work begins with seminars and meetings with the companies and the young people. Together and by themselves, they create the motivation and prerequisites for forming "Companies Without Limits". Kresam does not have the solution but knows how to lead creative processes and make things happen.

The young people have two important roles:

- Learn a profession and understand how working life works
- Teach the employer how young people work so that the company best utilizes their knowledge, skills and entrepreneurship

The huge demand of information technology staff is a great opportunity. Asylum immigrants with sufficient basic knowledge, but above all with talent are trained to programmers. Knowledge in Swedish is not crucial as information technology and software development is a sector where English is common. However, this has not been accepted by the public sector, which requires Swedish in its procurements. This has to be changed. MOOCS is a concept worth testing for education of asylum immigrants.

Goal

Meaningful employment of asylum immigrants

The research and education area have the following suggested activity:

- Asylum Immigrant Platform

Asylum Immigrant Platform

The activity comprises, first, establishing an organizational platform and working method for involving asylum immigrants in the labor market and the society. The working method shall be based on mutual cultural conditions and practical on the experiences of Nordregio, Nacka, Norrköping and Kresam. An education program is designed for those who will work in the platform. Secondly, an information technology training program is developed

7 Railway System Demands

For several decades now, most countries have underinvested in sorely needed public infrastructure such as roads, railroads, and other public transport, as well as water, wastewater, and electricity networks. In 2014 IMF concluded that investments in public infrastructure have fallen over time and that more investment could actually stimulate growth. IMF also points out that the efficiency of infrastructure investment can be much improved in most countries. Roads, railways, and other public infrastructure are often state assets that are not treated as assets because they do not render financial returns and cannot easily be sold or transferred. They generate no revenue.

In contrast to the above underinvestment, China has produced a large number of world infrastructure records, such as 4,000 miles of high-speed rail, and has also scattered new airports and railway terminals across the land. China has acquired tremendous knowledge and experience within high speed railway construction. Here, we can cash in, as well as regarding Chinas financial capacities.

Approach

According to the goals, our focus is the railway between Oslo and Stockholm. Due to the fact, that large railway investments in the corridor funded by the governments in Norway and Sweden are improbable the next decades, our approach is business oriented.

According to IMF, investments in railway systems must be based on business revenues and costs, as well as financial returns instead of state budget costs in a framework of limited financial resources and public welfare. With a business approach, time to market and competitive performance are crucial issues. This means adopting to new railway and train technologies, as well as fast railway construction methods. International cooperation in private and public partnerships is also a component in the approach. Finally, we must impugn the public authorities´ calculations of costs.

The Norwegian government has a positive view of private initiatives and that railway projects are initiated outside the national transport plan. At the same time, insight and influence are required. In Sweden, the major political parties don´t have the same perspective. They are skeptical to public and private partnership.

The main task in a business approach is to show profitability. When talking about railways, it is about long-term moderate profitability demands. The access to capital at low interest rates is very high, which is a function of the prevailing situation on the financial world market.

Saving in the society are significantly higher than consumption, which forces the central banks to low and, in Sweden, negative interest rates to maintain growth in the economy. Pension funds and global companies have built up large reserves of liquid funds seeking investment objects. Nations like Norway and Sweden can borrow at almost zero interest and invest in rail projects, which transfer money to construction companies, engineering companies, steel companies, etc., and stimulate the economy.

When it comes to the state budget and public welfare approach, the models show that it is economically unprofitable to build high speed railways. Even when calculating benefits such as shorter travel times and less emissions, it is not possible to obtain profitability. Further, when changing from a high to a lower speed it is getting worse. It is logical that the calculation is getting worse, because with the higher speed there will be more possible trips and stops as well as higher resource utilization. Experiences from the different Spanish railway systems support the conclusion. High-speed trains drive longer during a certain time compared to slower trains, which is obvious. This reduces the cost per passenger, which is positive for the fares and interest in co-financing.

The reason to the negative calculations is that the models are too confined. They do not present wider economic benefits and dynamic effects. The defictive models has been noted by, among others, Europeiska Investeringsbanken, which carries out its own calculations for investment decisions in transport infrastructure.

Below, we present quotations, which supports our business approach.

"We propose that the high-speed railway is built that it will take two hours between Stockholm and Gothenburg and 2.5 between Stockholm and Malmö. It requires a speed of 320 kilometers per hour. 250 kilometers per hour sounds very fast, but for the end-point traffic it is about minutes. We are skeptical to that 250 kilometers per hour will compete

heavily with domestic flights to Malmö. The construction of the different railway lines should take place simultaneously, quickly and be completed in 2035. Green bonds could finance a part", says HG Wessberg and Catharina Håkansson Boman, Sverigeförhandlingen

This is how SJ, Statens Järnvägar, writes, due to Trafikverket proposes a high-speed railway for 250 kilometers per hour on the Stockholm - Gothenburg and Malmö route.

"New railways are good, but our opinion at SJ is that Sweden needs to aim higher. A rapid expansion and a maximum speed of 320 kilometers per hour make significantly greater benefit for the country. It is up to the government to make decisions in probably the most important infrastructure initiative for over 100 years.

Just patching and repairing the existing tracks is not enough. If we want to give our children and grandchildren conditions for a good life and converting to a sustainable society, we must focus on trains. Critics' objections are largely based on three questions, that it is too expensive, that Sweden is too sparsed and that it effects the environment when new high-speed railways are being built. It is a myth that Sweden has a too sparse population. Southern Sweden is more densely populated than France and Spain, which invest heavily in new high-speed trains. In addition, Sweden is growing faster than other European countries. By 2040 we will be 2 million more. Experience from Europe shows that high-speed lines with more than 8 million travelers per year are profitable. We expect 20 million travelers from the beginning of 2035. Building the new high-speed railways is estimated to cost SEK 230 billion. A lot of money, but with loan financing to build quickly and efficiently, we get most benefits from the money. The alternative to high-speed railways is a powerful highway development. Then we do not achieve climate targets and highways require greater interference in nature. In extra sensitive environments one can also lead the railway on landscaping bridges", says Pär Helgesson, SJ.

Annie Lööf, Emil Källström and Anders Åkesson, Centerpartiet, present the following comments. "When the Öresund bridge was built over 20 years ago, it was decided to take out the project from the budget to a certain company with separate funding. The construction of the Öresund connection was financed by loans reimbursed by fees for the train operators. A similar model should also be used for the new high-speed railways. Through a separate public owned company, which is given the opportunity to borrow with the Swedish state as a guarantor, a new high-speed railway could be constructed faster than is discussed today. The project can be conducted in a way, where no part is delayed. By taking the project out of the ordinary budget process, decisions are made on the basis of what is efficient for building the railways quickly and cheaply. Long term and overall approach are fostered.

Today, transport infrastructure is financed through appropriations, budget for budget, year by year. But it is not suitable for new railways, which is an investment of a type that is only done once a century. If you do it the traditional way, high-speed railways will be built in a snail´s pace step by step. This would make the new railways finished in the 2090s. Building in the way, which Trafikverket now is planning for, will also lead to high costs and consume the budget for other important infrastructure projects.

Sweden needs to invest in new high-speed railways that can tie the country together. It is good for the environment, that it will be possible to live and commute within larger regions and to relieve the existing lanes so that they can be used for freight traffic. This was the Alliance's election promise to the Swedish people for the 2014 elections and that is Centerpartiet firmly in favor. Today, unfortunately, the issue of high-speed railways has been stuck in a deadlock in the political debate. One major issue for high-speed railways is that we need to reduce costs and reduce the uncertainty that exists today in Trafikverket´s construction calculations, which show that Swedish high-speed railways are much more expensive to build per kilometer compared with other comparable countries in Europe. This despite the fact that there is a lot of experience around the world that we should be able to take advantage of to build cost effectively."

"In order to reduce the air-traffic´s climate impact further, fossil free fuel and high-speed railways are now needed. Complete high-speed railways as quickly as possible between Stockholm, Gothenburg and Malmö. It is absolutely unreasonable that some of the most common aviation routes are between our three major cities, here the train will be the obvious option. But then the new railways must be built at high speeds and completed quickly. We can do this easily through alternative funding", says Karin Svensson Smith and Lorentz Tovatt, Miljöpartiet

"Building the planned high-speed railroad should be funded outside the national transport plan. It is imperative that the high-speed railway is built, but the investment impedes other important efforts as long as it is financed by the

resources within the national transport plan. The railway needs to be financed differently", according to Lena Micko, Sveriges Kommuner och Landsting

"Today's transport system is vulnerable, has weak capacity and lack of reliability. It is harmful not only for the Swedish business, but also for Sweden. A feature of private actors, through PPP projects, has a great potential to lead to better cost control and shorter construction times", says Caroline of Ugglas and Mårten Bergman, Svenskt Näringsliv.

Anders Ögren, professor of economic history, states that "the view that the state borrows money abroad is completely irrational in the Swedish debate. It's a mystery why the Swedish taxpayers can´t borrow capital in the international markets for important projects, especially now that the cost of such loans is extremely low."

Demands

The demands shall satisfy the goal to extend Karlstad Regions´s labor market to Oslo and Stockholm and especially the closely related Örebro and Östfold regions. Further, that this goal together with our strategic conditions including vision and proposed activities shall achieve the goal to reverse depopulation and economic stagnation.

The demands transformed to railways must, of course, have possibilities to be profitable for the operators and in this sense, it is, of course, obvious that the corridor between Oslo and Stockholm is not just related to the demands identified in Karlstad Region, but is a common Norwegian and Swedish issue with a global perspective and collaborative approach.

Our vision is that Karlstad's population is 150,000 in 2040 and that Karlstad is a high technology city and has a university that is significantly larger than today. This places increasingly high demands on the railway system. In addition, we can conclude that the design of railway systems has a 100-year time perspective. In 100 years, Sweden's population has increased from just over 10 million to 15 million, according to population forecasts, and Norway from just over 5 million to 9 million. Until 2040, the Oslo region is expected to grow from 1.2 million citizens to 1.6, and Stockholm from 2.3 to 3.0 million. It is in this expanding region that Karlstad is going to grow. The railway system must be dimensioned for this future

To be growing, it is necessary for Karlstad Region to improve comparative competitiveness in relation to the cities along the Eastcoast and in the south of Sweden. Karlstad and Värmland must have the same demands on the speed of future passenger traffic as these cities. The cities Linköping, Norrköping and the organization Europakorridoren require 320 km per hour. High-speed trains to the south from Stockholm and the Fehmarnbelt tunnel will reinforce the differences, if Karlstad and Värmland do not achieve the same opportunities.

The business structure including top management opinions is a crucial strategic condition when it comes to impact on the demands. Below are two quotations from our interviews.

CEO at one of Värmland's largest companies. "The transportation infrastructure is all. Without that no population increase. We can´t put money on old technology. And, we must think one coherent transport system. What is good for the citizens of Värmland? Culture is also very important. Karlstad has potential".

CEO at another of Värmland's largest companies. "Who do we compete with? Those who are the best. We must build the best railroad.

As a result of the digital revolution, the population increase in the Karlstad region must largely be due to increased employment in high-tech and highly-paid service companies, which in turn generate employment in other sectors. These companies today have a very small part of their market and their customers in Karlstad and Värmland. For their existence and growth, they are highly dependent on fast and frequent train connections

Manufacturing companies in Värmland with a focus on large companies in the sectors of paper, steel and engineering have large volumes of heavy and bulky products and raw materials. Their requirements relate primarily to maintenance of existing railways to ensure transport of products and less about the speed and frequency of passenger traffic. To the latter contributes that headquarters and top management are located outside Värmland.

The two above business sectors different needs mean that it is efficient to separate their railways. A new railway for the passenger traffic and the transportation of goods on the existing railway. This releases capacity for efficient freight traffic. Today, freight trains are often waiting on a sidetrack to let pass faster trains. This leads to longer transport times, increased costs and poorer competitiveness for the trains and freight customers. These problems are growing with increased traffic with faster trains and freight trains on the same lane. Generally, the capacity of the railway system increases three to four times if fast trains are separated from slower. Punctuality also improves according to international experiences. Extension of existing railways does not give these effects

When it comes to the demand to create an extended labor market, we must create attractive commuting conditions. Today we experience an increasing resistance against commuting, not least among young people without family and children. If one can work at home at least 2 days a week and growing use of virtual meetings will take place, a travelling time of 45 minutes from door to door between Karlstad and Örebro could make it possible to live in Karlstad and work in Örebro and vice versa. This requires that homes and workplaces are built close to the stations. If we assume a certain speed, the travel time from door to door between Karlstad and Oslo would be 90 - 120 minutes. These times do not create daily commuting, but it is convenient to travel over the day to customers in Oslo and live in Karlstad and vice versa. Commuting a number of days a month will also be convenient, as well as shopping tours and leisure events over day.

Our conclusion of the above demands is that Karlstad Region shall be part of a new high speed railway for passenger traffic between Oslo and Stockholm. The speed shall be at least 320 km per hour. For short distances, as between Karlstad and Örebro, 250 km per hour is acceptable. However, it is the end points that determine the standard. The proposed speed means building in a technology that enables faster speeds in the future. The existing railways give priority to the transportation of goods.

According to our goal concerning the labor market, the track from Karlstad to Oslo shall be along E18 through Östfold. It is our opinion, that this track is in line with the preferences in Norway.

Norway's requirement is to limit transit traffic in the Oslo bottleneck, and connect the railway system to Sweden not only with Oslo but also with the cities of southern and western Norway, Kristiansand, Stavanger and Bergen through new future connections across the Oslo fjord. Regarding the connection with Sweden, Gothenburg and south to Malmö and Copenhagen is at least as important as Stockholm. Being able to combine these two corridors on the Norwegian side is of course interesting for Norway, and then a track through the well-populated Östfold to Karlstad is interesting. On the Swedish side, in Värmland, this option can be divided in the southwest to the new railway in Öxnered towards Gothenburg. For Karlstad and Värmland this is of course a big advantage.

To the east, Karlstad and Värmland's perspective must extend beyond Stockholm. The vision should be part of a global environmentally friendly transport system for passenger transport and, above all, goods from and to China. Today, it can take as much as three months to ship goods on boat from companies in Värmland to China. In a future train system this time can be reduced to one week. In terms of speeds, Karlstad and Värmland should of course be part of a European rail and train technology that deals with high speeds, at least 320 km per hour, with the ability to increase speed in the future without a railway limit. Karlstad will be an attractive city and urban node in the TEN-T Core Network Corridors.

This is how the EU writes about TEN-T. "The transport infrastructure between transport mode is split. As far as multimodal connections are concerned, there are many of Europe's freight terminals, airports, inland ports, coastal ports, airfields and urban hubs that do not fulfil its purpose. As these nodes lack multimodal capacity, the possibilities for multimodal transport and its ability to eliminate bottlenecks in the infrastructure and bridge missing links are not sufficiently utilized. "

The Swedish Government proposes that the route from Stockholm to Örebro within the Scandinavian-Mediterranean TEN-T Core Network Corridor is extended to Oslo via Karlstad. Multimodal transport systems are a core principle of TEN-T. This means that transport systems shall integrate and benefit from each other and create efficient and flexible passenger and freight flows. A new railway between Oslo and Stockholm along E18 means multimodality, which has great advantages for both Sweden and Norway. The regions of Värmland in Sweden and Östfold in Norway with the largest cities Karlstad, Fredrikstad and Sarpsborg can further develop their common labor market. The choice of line is also positive for transport to southern and western Norway via the planned connection across the Oslo Fjord

Turning to profitability and passenger traffic, speed and track shall be competitive in the travelers´ choice. The track shall pick up as much as possible passengers and at the same time according to a certain speed achieve travel times, which are competitive in the travelers´ choice. Regarding this trade off, TGV is an illustrative example.

Travelers' choice between transport systems, if there are alternatives, is determined by price, time and convenience. The latter consists of many factors:

- Flexibility
- Reliability
- Safety
- Efficiency
- Comfort
- Values

Flexibility is the opportunity to choose the time of departure. Car has full flexibility, while the other transport systems are governed by the number of departures and times of departures.

Reliability is about starting and arriving at the expected time. Car and bus have high reliability summer time and lower winter time. Train and flight have less reliability than car and bus. When reliability drops, travelers increase their time margins if there are no favorable alternatives for the traveler in terms of price, time and convenience.

Safety is the risk that the transport system is accidentally affected and exposed to various forms of impact from fellow passengers. Cars and buses have a higher risk of accident than train and flight. Impact is difficult to assess. It's all about devastating terrorist attacks, robbery at rest places and mostly harmless but stressful fellow passengers.

Efficiency expresses the extent to which you can spend time on work, entertainment, rest etc during the trip

Comfort is not only chairs and air conditioning, but also in the public transport systems, restrooms, personal service, etc., and, for example, not to be disturbed if this is an important convenience factor.

Values are about the environmental and climate impacts of the transport systems and other perceptions and thus the choice the individual prefer

The travelers consist of three categories:

- Business - irregular trips for a day or several consecutive days
- Work - daily trips to and from the workplace
- Private - irregular trips for a day or several consecutive days

Four transport systems are competing for the travelers:

- Railway and Train
- Road and Bus
- Airport and Flight
- Road and Car

From some places to others, all transport systems are available, while many other locations are limited to, for example, road and car or airport and flight. For the first three transport systems, the public, are added:

- Arrival and departure travels in connection with the transport systems

The three traveler categories and individually have different elasticities regarding price, time and convenience. Elasticity is about at what price, time and convenience the traveler changes the transportation system whenever possible. The business traveler is more inelastic while the work traveler and the private are more elastic. The former does not pay for the trip himself and the VAT is not a cost, while the two later pay themselves with taxed money and VAT is a

cost. The business traveler has a greater acceptance of price increases relative time compared with the work and the private travelers. It will generally be more of price increases in order for the business traveler to switch from flight to train if the latter means significantly longer time. Where these two limits will be are determined by the employer and the traveler. The work traveler who has to travel almost every day is sensitive to the price and switches from train or bus to car at a price increase, which is perceived as high even if time is longer. Private travelers generally are price sensitive and can refrain from the journey at significant price increases or accept longer time for lower prices. Creating a view of the elasticity in the three dimensions price, time and convenience is complex.

Within the framework of a particular region's current conditions, travelers' choices change over time as a result of:

- Changes in the traveler's elasticity regarding price, time and convenience
- Changes in the transport systems´ comparative competitiveness

Examples of underlying changes that affect the work traveler include the attitude to work trips, possibilities to distance work, virtual meetings, and growing demands and opinions regarding environment and climate. Daily commuting to and from work, as we mentioned above, meets increased resistance not least among young people and even among younger without family and children. After many years of opposition from employers, we now see that the possibilities of working at home are increasing. Virtual meetings are also a growing way to meet. Environment and climate have an increasing influence also on the business and the private traveler. The changes are counteracting to the effects of population and economic growth on travelling.

Examples of changes that affect the comparative competitiveness of transport systems are taxes and fees, energy costs and new technologies in each transport system. Examples of the latter are self-driving vehicles, which may change the competition conditions between train and car within certain distances and between train and truck concerning transport of goods.

The demand of speed as a function of travel time is also a matter of distance and which other transport systems are competing with the train. Between Oslo and Stockholm, it is primarily the airlines, while between Karlstad and Örebro car and bus are the competitors.

The guideline for Sverigeförhandlingen was to travel in 2 hours by train from Stockholm to Gothenburg, which requires a speed of 320 km per hour. This travel time gives the average speed 235 km per hour. For different reasons, one can´t build for the top speed all the way. With the travel time 2 hours, it is SJ's opinion that train is very competitive with flight. Travel time 2 hours requires no stop. With stops in Norrköping, Linköping, Jönköping and Borås, the journey time is 2:30 hours. Each stop takes about 0:06 hours.

The great benefit arises from the fact that intermediate cities have access to good communications, both to the larger ends and to each other. Forecasts show that 80% of the trips will affect the intermediate locations.

The distance between Oslo and Stockholm is slightly longer than the above, but we can assume that 2 hours is required for the train to be a competitive alternative to the flight, meaning 320 km per hour and no stops. With stops in Karlstad, Örebro and Västerås, the time would increase to 2:20 hours.

On the route between Karlstad and Örebro, if the arrival and departure travels are total 0:30 hours, the travel time will be about 1:00 hours from door to door at the top speed 320 km per hour and 1:10 hours at 250 km per hour. Both times are at the highest level to create an integrated labor market. By car and average speed of 80 km per hour from door to door, it takes about 1:20 hours and at 90 km per hour 1:15 hours. On the short distance Karlstad - Örebro, the differences between 250 km per hour and 320 km per hour would not have any significance, and trains will be competitive with cars, provided that flexibility and reliability are high.

The railway has a 100-year time perspective while travelers' choices can change within a few years. Transport system's comparative competitiveness should be able to assess in a few decades apart from taxes and fees. These uncertainties mean that the design of new railways must be based on visions of what we want to do with our society and assessments of the society development within the framework of what we are able to do economically. Regarding the latter, Norway and Sweden have very good prerequisites in the international capital market, which show good access to currently not all too high yield requirements, but they should be stable in the long term.

A high speed railway will be profitable when it is constructed at the right place with the largest market potential for commuting and leisure travels, and when the trains are fast enough to compete with cars and flights. Such a railway system will require small or no state funding and can be planned faster and constructed faster without conflict with existing traffic. Because faster trains catch a bigger market share than slower trains, it will also make a bigger environmental impact. The reduction of CO2 will be more significant with a larger number of passengers taken from cars, lorries and planes.

In the further discussions, the fast development of self-driving vehicles and assessments of implementation are important prerequisites for new railways. The current overall view is that these vehicles will not affect people's long distances train journeys but may affect regional travel. See section 3.7.

Competitiveness

EU regularly compiles a regional competitiveness index, European Regional Competitiveness Index, RCI, in order to compare the competitiveness of the regions. The index is based on World Economic Forums National Global Competitive Index, which is composed of 74 indicators.

A competitive region, is a region that can attract and retain successful companies, and which can maintain or increase the living standard of its residents. It's about the ability to sustain and generate long term growth.

The Swedish GDP has developed well in recent years, largely due to population growth. GDP per capita has not developed as well. OECD reported in 2016 that while differences in per capita GDP have fallen between OECD countries over the last two decades, income differentials within countries increase. Stockholm is ranked as the fourth most competitive region in the EU.

The Swedish regional competitiveness is analyzed in functional labor market regions, FA regions. See section 3.9. Värmland's FA regions are shown in figures 3.4 and 3.5

The following are the indicators used in the Swedish regional analysis.

- Infrastructure – accessibility to big city by car
- Health – expected life expectancy for men
- Higher education – share with university education
- Labor market – employment in age group 20 – 64 years
- Size – number of employed persons
- Business – employed in knowledge intensive industries
- Innovation – share R&D management

Generally, the correlation is high and positive between the different indicators. Particularly high is the correlation between the proportion of highly educated and infrastructure and the share of highly educated and the proportion employed in knowledge intensive industries.

Figure 7.1 presents RCI for the FA regions, excluding the indicator size, in the form of z-values, which is the difference between a value and the average divided by the standard deviation. This means that the map shows the comparative competitiveness of regions. Regions with a competitiveness index over average are clearly concentrated in areas around major cities. Big cities competitiveness influences the surroundings. Regardless of whether a region is dense or classified as rural, the conditions are better if the region has shorter distance to a larger city. Regions far from large urban areas generally have a competitive index below the average.

Karlstad has poorer comparative competitiveness than our benchmarking cities Växjö and Umeå. In addition, Värmland has a weak situation in relation to eastern and southwestern Sweden. Competitive improvements of transport infrastructure in combination with powerful measures in Karlstad are crucial for improving the comparative competitiveness. This will also benefit surrounding municipalities.

Comprehensive research shows that emerging economies arise in dense environments. The concentration of people, businesses and economic activity stimulates higher quality and efficiency in the match between employers and employees, availability of a diversified range of specialized subcontractors and knowledge dissemination. This leads to better competitiveness and higher productivity (Duranton and Puga, 2004, Fujita and Thisse, 2013). Densifying generates spreading effects that can reach surrounding rural areas. A recently published research study of job and population growth in Swedish rural municipalities shows that proximity to a dynamic city is a key factor (Lavesson, 2017).

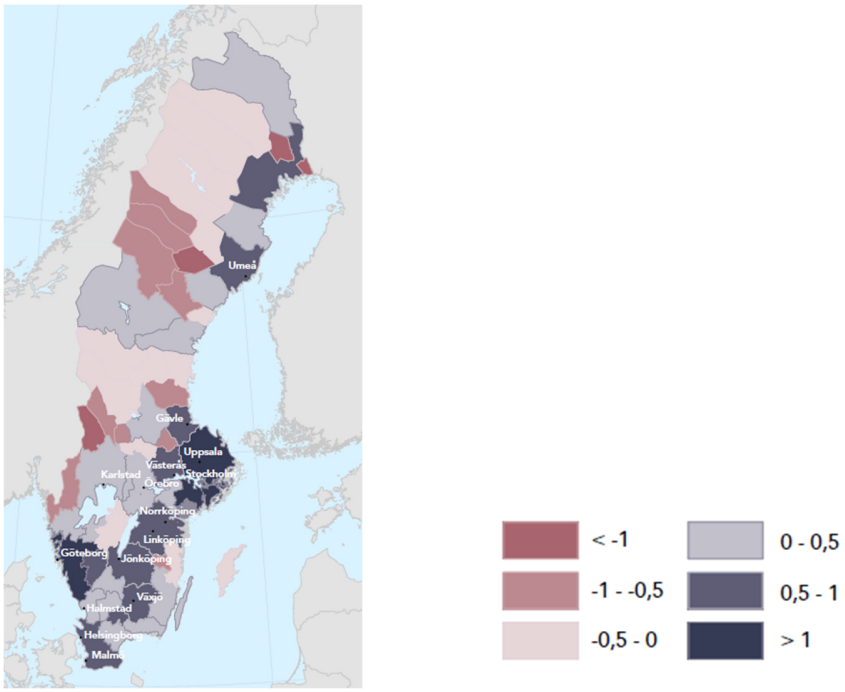

Figure 7.1. FA-regions comparative competitiveness

Commuting

An increasing number of people travel for longer distances to get to and from work. A strong contributor to this is an effort to increase economic growth by making labor available across larger geographic areas. In Sweden, both commuting times and distances have steadily increased in recent decades, and today, the average commuter spend more than one hour a day in total on journeys to and from work.

In a research project, the willingness to commute around major cities was studied. This is not the same as being compelled. Up to 20 minutes travel time, the willingness to commute was quite large, but then fell quickly, so that at 50 minutes it would be largely non-existent.

Willingness to use time for travel to and from work is affected by several factors. If there are technology possibilities for distance work, and the organizational mental obstacles are overcome and that you can work at home to some extent, then the willingness to commute longer will increase. Other factors that affect the willingness is the attractiveness of the place of residence as compared to the workplace, the attractiveness of work, how frequent one can travel to have flexible working hours, and the possibilities to work or do something else during the trip. Young generations, and especially women, are increasingly negative for daily commuting and, above all, week commuting.

In a PhD thesis at Lund University, Kristoffer Mattisson found that there is an association between longer commuting duration and low selfrated health. The association differs between car and public transportation, possibly due to differences in travel complexity, geographical context and socioeconomic situation between long duration car and public transportation commuters. There is also an association between commuting and low social capital. Car commuters had lower levels of social participation and general trust in others with increasing duration. Long duration public transportation commuters had lower levels of social participation.

Commuters do not seem to be fully compensated for longer commutes. Polycentric regional expansion with increased commuting duration and a more flexible workforce increase economic growth, but potentially may lead to reduced health and wellbeing and increased costs for sick leaves and health care. This needs to be considered to understand the overall implications that commuting has on society and needs to be incorporated in economic calculations and planning of railways. Most of the commuting time is unproductive. Commuters lose time and the time spent commuting is added to the total workday. This means less time for the commuter to engage in family and other social activities. Aside from implications on health, wellbeing and social activities for individual commuters and their families, this can also have an impact on the commuters' engagement and trust in society. A decrease in social capital can potentially have large negative impacts on the civil society.

Distance work

Still, most employers are hesitant to distance work, but the impression is that teleworking is becoming increasingly accepted and now also something employers use at recruitments. Today, the balance between work and leisure is becoming increasingly important. You want to be flexible and able to combine your career with life outside the workplace. A reduced travelling through more distance work is also positive for the environment. At the same time, reduced travel creates lesser ground for frequencies and investments in transport systems.

A report from Stanford University shows that when employees had possibility to work at home, productivity increased. There were fewer days of sickness, shorter breaks and more work done in less time. Those who get to work at home often experience it as a privilege. It reduces travel time and creates flexibility and better opportunities for balancing professional and private life. At the same time there are examples where work at home has not worked or been abused. Yahoo has introduced a stop for homework because of addiction, which would be a more general issue in the company. Swedish government authorities require consultants to be in place.

Virtual meetings

Virtual meetings are a growing activity, which promotes working at home and a geographically spreading of workgroups. If one can create togetherness, then the experience of being physically separated decreases. A study shows that trust can occur in a group that is formed only virtually and where you have not met physically. The groups in the research study who created high trust without physical meetings had worked with clear division of responsibilities and common purpose. In addition, these groups had communicated how they should communicate.

In addition to removing travel time, it has also been found that virtual meetings can be more effective than physical and generally there is a need to reduce the time for meetings in companies and organizations. An American survey states that at work meetings 91% of the participants are daydreaming, 73% take other work to their meetings and 39% respond that they have fallen asleep at a meeting. The survey found that office staff spend an average of 30 hours per month on meetings. The Swedish education company Ming Company has conducted a survey that shows that 45% of office staff's time is spent communicating in the form of talking in phone, reading and writing emails, and preparing and conducting meetings. Ming believes that only 25% is used to develop and deliver products to customers.

8 Impacts on Growth

High-speed trains started 1981 in France. It is the well-known TGV, Train à Grande Vitesse, on the tracks LGV, Ligne à Grande Vitesse. The speed is about 320 km per hour. The train is operated by the state-owned SNCF, Societe Nationale des Chemins de Français.

The high-speed railways are a radial network with Paris in the middle and has resulted in a spectacular growth in the railroad traffic between Paris and regional centers. The effect of TGV has been that several domestic flights have been closed and large shrinking on lines that have survived, such as a 50% reduction on the Paris - Marseille route. TGV competes efficiently with medium-distance car travel. TGV on LGV and conventional railways has been gradually expanded to small and medium sized cities. In France, the latter have 30,000 - 200,000 inhabitants. Of 102 cities with TGV, 52 are medium and 17 are small.

TER, Transport Express Régional, complements TGV and corresponds to the Swedish regional trains. The efforts on TGV have caused overriding maintenance and development of TER as well as a railway system, where TGV and TER not are effective connected.

TGV favors large cities with many travellers, who motivate high-speed trains with many departures. This has driven the centralization to fewer and larger urban centers. To counteract this development, demands are made on developing TER, other regional and local train systems, as well as thinking multimodally. By this development one wish to limit travelling by bus. An agreement has been reached between the government and SNCF aimed at reversing 20 years of decline in the regional and local trains.

Generally, transport infrastructure promotes economic development in a region, provided that the region creates new activities and that improved accessibility stimulates the development of existing activities. However, small and medium-sized cities have not been able to benefit from TGV. Business, education, political and financial capacities have not been sufficient to develop the strategies and innovations that, in combination with TGV, create economic development. The cities´ politicians, the actors collaboration ability and networks of several cities are crucial for the possibilities to create development with support of TGV

On the TGV route Paris - Marseilles, two stations adjacent to the railway have been built a bit outside the towns of Creusot and Macon in Burgundy, with the aim of stimulating the development of these cities by connecting to the TGV. Ambitious development projects were performed and new industrial and residential areas were established adjacent to the stations. However, the effects have been limited in these cities. There were no connections build to TER and other railways, which have had a negative impact on the development of surrounding regions.

Tourism is important for small and medium sized cities. This urban tourism is highly dependent on mobility and transport systems for customers with high purchasing power. A study has been accomplished concerning the connection between tourism in small and medium sized cities and such cities with TGV. These cities must create offers that make it attractive for TGV to increase the number of departures and thus mobility. This demands a strong political will, renewal of the supply and a large budget. However, possibilities are nevertheless limited. Rural tourism does not have the potential to motivate increased mobility through more TGV departures.

To get another hint about the impacts on growth by improved transport systems, we can look at the Ostlänken project. Ostlänken from Stockholm to Linköping is the first planned high speed railway, which will provide energy to the development of the regions. Already in this stage, one can see effects, why the region is valuable for the evaluation of the strategic activities.

The municipalities along the railway from the south to Stockholm are those who have been most active behind the decision to build Ostlänken. It is the chain of municipalities to Stockholm that has the most to gain by high speed.

Ostlänken contains 100 miles of new double track high speed railway between Stockholm and Linköping. At the time for the first decision, in 2014, the plan was to start traffic 2028 with speeds up to 320 km per hour. Already from the beginning there was an intense activity and positive effects in the cities of Nyköping and Norrköping along the path.

According to the above decision, the travel time from Nyköping to Stockholm will be 40 minutes and from Norrköping 50 minutes. Norrköping today has 140,000 inhabitants and Nyköping 55,000. The cities are now planning for 30,000 and 10,000 new citizens and the businesses will be more knowledge based. Municipalities around Norrköping and Nyköping will also benefit from Ostlänken.

Several municipalities have negotiated large housing investments with the government. This is about, among others Uppsala, which in the deal, in addition to the two existing tracks, receives two new railway tracks on the route to Stockholm. In Uppsala there will also be a tram in the city. Uppsala has already tripled housing construction in a short period and wants to continue its investment with 33,000 new homes. Four tracks from Stockholm will result in 70,000 new jobs in Uppsala, according to politicians.

The experiences from France show that high-speed railways are not enough to create growth. On the contrary, small towns like Arvika and Kristinehamn in Värmland can be losers. People in the working ages settle in Karlstad and commute to the jobs in the smaller cities. Even Karlstad can be a loser in favor of larger cities like Örebro. It is an imperative that the cities carry out powerful own measures and do the homework

The target 140,000 citizens in Karlstad 2040 is tough and demands high-speed trains according to our proposal in combination with political power in line with our strategy

9 Implementation

Based on the strategy, the implementation includes the following projects.

- Initiative Group
- Democracy and Politics
- Innovation Entrepreneurship Reactor
- Challenge Driven Innovation
- Software Development Platform
- Food Science Park
- Contemporary Culture Arena
- Digital Tourism Concept
- Information Technology Program
- Asylum Immigrant Platform
- Railway Systems

The projects are start up projects with the aim of getting started or decisions on permanent activities and organizations according to the goals set out in the strategy. The schedules are one year, except for Railway Systems. If it has not been possible to achieve take off within this time, the project will be closed. Each project requires its own financing. For each project we present stakeholders, which we suggest are appropriate organizations and persons to, among others, be involved in the projects. However, their participation must be agreed

9.1 Initiative Group

The group shall participate in the initiative phase of the projects, follow the progress, support the work and take new measures if necessary.

Stakeholders are the TENTacle team enhanced with Anette Rhudin, Johan Danielsson, experienced entrepreneurs.

Funding is a condition for the group.

9.2 Democracy and Politics

Democracy and politics area have the following projects:

- Collaborative Political Leadership
- Business Climate Improvement
- Attractive City Concept
- Go West Movement
- Social Culture Transition
- Regional Development Evaluation

Stakeholder is the municipal executive board of Karlstad

9.3 Innovation Entrepreneurship Reactor

Our proposal is that the management of Paper Province, Compare, IUC Stål&Verkstad, Visit Värmland and Nordic Innovation Food Arena and the Initiative Group take the initiative to a first Reactor Day in September 2018. The first meeting´s program is formed by the Initiative Group. Concrete activities shall be discussed, decided and teams appointed. Next Reactor Day in November is decided, as well as a responsible person for the next meeting.

The attendants pay for the participation and lunch. No fees are paid to the above management, why the project does not need specific funding.

Stakeholder is the Initiative Group

9.4 Challenge Driven Innovation

Our proposal is that society security is the first challenge driven innovation business. The project is to the establish a cooperation between actors around a vision, goal and strategy, as well as accomplish request for financing.

Stakeholders are Pål Jonson, riksdagsledamot, Björn Sandborgh, former länsråd, the government organizations MSB, Konsumentverket and Elsäkerhetsverket, the municipal companies in Karlstad and the company CGI.

9.5 Software Development Platform

This is a crucial project for the future of Karlstad and a huge project, which need a lot of money and an extremely skilled and brilliant manager and board of directors. The task is to organize a cooperation with international platforms and networks, as well as regional organizations. Further, recruit management, board of directors and secure long term funding.

Stakeholders are the Initiative Group and Compare

9.6 Food Science Park

The task is to develop a strategy including research and education, among others in the areas of master- and management education, digitalization and automation and future farm structures, as well as funding implementation of the strategy.

Stakeholders are the companies Matmejeriet, Löfbergs and Nolby Ekostrategi, the organizations Nordic Innovation Food Arena and Livsmedelsföretagen , as well as organizations within agriculture such as LRF.

9.10 Contemporary Culture Arena

The issue of the project is to transform the idea to a substantial proposal.

Stakeholders are the municipal executive board of Karlstad, Paper Province, White Arkitekter and Stora Enso Timber

9.11 Digital Tourism Concept

The activity is about develop a tourism concept, which capitalizes on the digital platform economy. The concept also includes master- and management education for entrepreneurs and support to start ups. The activity includes funding implementation of the concept

Stakeholder is Visit Värmland

9.12 Information Technology Program

The task is to get a government decision to examine 200 students per year in the MSc information technology program based on an updated research and education program.

Stakeholder is Karlstad University

9.13 Asylum Immigrant Platform

The issue is to establish a collaboration platform, a working concept and a training program regarding the concept. Further, develop an education program in the area of system engineering and other skills within information technology. The task also includes long term financing of the platform and the information technology training program

Stakeholders are Kresam, Match 2 Job, Svenskt Näringsliv and Compare.

9.14 Railway Systems

The issue is to work for a high speed railway between Oslo and Stockholm

Stakeholder is Gränskommittén Värmland – Östfold

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SCB
SSB
Tillväxtanalys
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