



# The innovation system in Småland-Blekinge

A comprehensive operations analysis

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# 1 Introduction

## 1.1 Background and commission

The Regional Council of Southern Småland, Region Jönköping, the Regional Council in Kalmar County and Region Blekinge have begun work to develop a clearer system overview of innovation within the counties. The decision to carry out a common operations analysis is based on the fact that the business geographical map does not always correspond with the administrative and that, for greater efficiency, there is a need to create strategies and make decisions based on a functional image rather than the situation in the individual county. As part of this effort, the Regional Council of Southern Småland has commissioned Kontigo AB to conduct an overall analysis of the present situation and status of the innovation systems in the four counties, as a basis for discussion and decision.

The analysis shall:

- be clear and briefly describe the system so that the actors in Småland/Blekinge, on a collective basis, can discuss strategic choices and common development requirements
- provide input for a deeper description of the processes and assets of Småland/Blekinge (regional operations analysis) and how these processes and assets interact.
- include a comprehensive description of conditions in southern Sweden/Blekinge from an innovation system's perspective and suggest ways of further development

The results of the work are presented in this report. The study was conducted by Daniel Hallencreutz, Peter Kempinsky, Moa Almerud and Pär Lindquist at Kontigo AB ([www.kontigo.se](http://www.kontigo.se)). The authors are responsible for the conclusions which have been drawn. The report is produced in cooperation with IVA, The Royal Swedish Academy of Engineering Sciences, and VINNOVA, The Swedish agency for Innovation systems.

## 1.2 Restrictions

The above issues are broad and we must, given the time and resource frameworks of our commission, making a number of restrictions.

The study was designed to provide an overview of the innovation support systems within the four counties. This means that we have had the objective to review actors, activities and operations. We have, taking into account the resources available, intentionally opted not to submit an in-depth account or expand issues to any great extent.

The study only includes publicly funded actors commissioned from one of the regions. This means that, for example, private actors are not included in the study. Neither have we had the opportunity to see how businesses, innovators or entrepreneurs perceive the innovation support system.

Chapter 3 describes the conditions of the collective innovation system and "output" pertaining to a number of regional economic variables, whereas in subsequent chapters, it is the publicly funded innovation support system that is described and analyzed.

The compilation of funding in Chapter 4 deals with public funds on national and European levels, excluding the funding county councils spend on regional growth and innovation, excluding agricultural support. The figures are based on a compilation made by the respective regional councils and the national actors. The compilation does not include private funds. As the numbers in some areas are estimates, and the fact that there are more funding sources than those stated above, the figures are encumbered with a margin of error, in respect of the description of the overall financial funds of the region. In this particular case, the margin of error is evident in the fact that there are more resources than those presented in the compilation.

It has not been possible, within the framework of the study, to further explore collaborations between the actors in the four counties and actors outside the counties. This is obviously a very interesting issue, but would require a much larger study in terms of resources or that this study only dealt with the issues of identifying these collaborations. We must also refrain from commenting on the strength or quality of the collaborations.

The geographic distribution of actors is based on the information they presented in the survey. A number of actors have stated that they are based in a number of counties or outside the county. In such cases, these are reported in the table.

### 1.3 Method

The report is based on four main types of source material:

- A web-based survey was sent to a total of 107 individuals, who are engaged in the innovation system in Småland and Blekinge. The response rate was 77 per cent, equivalent to 96 actors, which may be considered a relatively good response rate. The analysis of drop out rates showed that there are no major differences between the four counties with regard to the response rate. Kronoberg and Kalmar Counties exhibited a slightly higher response rate and Blekinge and Jönköping a somewhat lower rate.
- The description of the four counties is based on statistics taken from Statistics Sweden(SCB), rAps (System for Regional Analysis and Forecasts) and the Swedish Patent and Registration Office.
- On 22 September 2010 a workshop was held in Alvesta with around 20 participants. The participants, who represented the actors operational within the region's innovation system, were hand-picked by the project management to provide valuable input on the preliminary conclusions that emerged in the survey and through the analysis of existing statistics. The workshop was also an opportunity for representatives of the innovation system in the four counties to

discuss future development needs and to make suggestions on how these can be managed.

- As a complement to the afore-mentioned collation of materials, information searches on the actors' websites were also conducted.

#### 1.4 Outline

The report begins with a brief description of our premises for analyzing the operations of the innovation system. Thereafter, there is a section where the four counties' conditions and capacity for innovation and regeneration are described based on a number of variables. Chapters 4 and 5 show the actors of the innovation support system and public funding from national and European level in the four counties. Chapters 6, 7 and 8 are designed to provide a detailed picture of the activities of the actors, the patterns of cooperation that can be derived and how the actors themselves evaluate the capacity of the four counties. The report ends with a reflective section in which a SWOT analysis is conducted and we provide a number of recommendations for further work.

## 2 Premises for the analysis of the innovation system

An operations analysis is a model for analyzing an innovation system. Usually, this type of analysis is used to analyze sectoral innovation systems, that is, to analyze a specific technology or competency area. There are basically three different types of innovation systems in which an operations analysis can be applied.

The first variant is the study of a regional - or even a national - innovation system, without any limitations in terms of technological areas and industries. Another possible way of applying operations analysis is by studying a regional innovation system in a specific competency area, such as heavy vehicles in Småland, which by definition is a sectoral analysis with geographical boundaries. A third variant is to study the sectoral innovation area without geographic boundaries, for example, the technology sector of wireless technology. Within the framework of this project, an operations analysis has been applied to example 1, i.e., as the basis for the analysis of a region's innovation system.

Developing regional innovation systems involves mobilizing, forming and developing the resources and capacity which exist at the regional level. This is conducted in a manner which allows innovative environments to be developed which promote conditions for competitiveness and growth. In order for such a mobilization to be successful critical mass is required, a certain foundation for the region to become competitive. Going beyond the established administrative regions can be a way to attain a broader base to form a competitive regional innovation system. Achieving this requires knowledge of the strengths and weaknesses of the system(s) and structure(s) which exist today.

There are two main perspectives for the analysis of innovation systems which are important in order to combine the analysis. Firstly, an **actor's perspective**, focusing on the actors which operate in the system and with which conditions. Secondly, an **operational perspective**, focusing on the operations which the system must maintain in order to deliver value and benefit. In this context operations refers to a number of critical processes which drive change. The focus lies on what is actually happening in terms of the processes which have a direct impact on the system's capacity to deliver intended results, in this case the actors' overall capacity to support entrepreneurship and innovations which strengthen the region's competitiveness. In order to be used operationally for the development of cooperation and policy, a crucial objective of an operations analysis is the identification of the obstacles and enabling mechanisms within the system. In this case the "system" for the conversion of knowledge into commercial products and services. Below are examples of operations/critical processes in a system.

**Table 1. Examples of operations in a number of studies using an operational perspective**

<b>Bergek et al. (2007)</b>	<b>Hekkert et al. (2006)</b>	<b>Johnson A (2001)</b>
Knowledge development and dissemination of knowledge	Entrepreneurial activities	Incentives for companies to participate in innovative work
How knowledge search is targeted and identification of opportunities	Dissemination of knowledge through networks	Access to capital and competency
Entrepreneurial experimentation and management of risk and uncertainty	Direction of knowledge seekers	Influence the direction of knowledge seekers
Market creation	Market creation	Understanding the potential for growth - technical possibilities and financial capacity
Resource mobilization	Resource mobilization	Facilitate the exchange of knowledge and information
Legitimization	Legitimization (counteract resistance to change)	Stimulate/create markets
Development of positive externalities		Reduce social uncertainty
		Legitimization (counteract resistance to change)

Our premise for the study of the innovation system in Småland/Blekinge has been the operating model developed by Bergek et al. (See above).<sup>1</sup> The operations are presented in Table 2, under the heading "capacity".

**Table 2. The operations identified for the operations analysis of Skåne's innovation system**

**Operations - processes which drive development**

Capacity of knowledge-building
Capacity of entrepreneurship/entrepreneurial experimentation
Capacity to continuously analyze global changes
Capacity to create long-term legitimacy
Capacity to mobilize and attract resources
Capacity to invest in strategic relationships
Capacity to deliver – actual capacity to change

The main focus of the study is to identify and analyze the innovation support systems in Småland/Blekinge. The capacity described above has been the basis of the questions which have been posed and has served as a theoretical framework for the study.

<sup>1</sup> The operations analysis conducted by Kontigo (previously FBA and Intersecta) for Region Skåne in 2009 was based largely on the theoretical and methodological conditions set out above.

### 3 Description of the four counties

The description in this chapter focuses on the financial structure, the structure of trade and industry in the counties and the conditions for growth. This description is based on available regional financial statistics. In this context we have developed an analytical model based on three perspectives, knowledge and competency, trade/industry and the regional economy. Combining these three perspectives provides a good insight into Småland/Blekinge's conditions and the premises for initiatives for creating a more integrated and complementary innovation system.

- **Knowledge and competency:** variables in this category aim to describe the competency structure of the four counties by the general educational level of the region's day-time population, measured as the share of post upper secondary education, corporate R&D investments in the region and the number of patent applications. To further describe the region's collective knowledge and competency the employment share of KIBS sectors (Knowledge Intensive Business Services) in relation to total employment is also clarified. This measure is useful as a high share of KIBS in trade and industry is often highlighted as a key component for ensuring long-term competitiveness and regenerative capacity of a region.<sup>2</sup>
- **Trade and industry:** This block aims to provide a picture of the structure of trade and industry in Småland/Blekinge. Here we describe the focus of sectors and specialization, size structure and regenerative capacity (measured here as entrepreneurship). The focus of trade and industry on particular sectors is described by compiling the 2 digit level of the largest sectors in terms of employment for Blekinge and Småland. The size structure is highlighted by a compilation of workplaces by size category. The entrepreneurship level in this context is described by the share of entrepreneurs in the day-time population, from a growth perspective, by considering the share of gazelle companies.<sup>3</sup>
- **Regional economy:** These variables aim to describe the financial values, which trade and industry contributes within the four counties. The variables used here represent a regional distribution of added value (i.e., gross regional product), and the overall aggregate wages for the day-time population.

We will mainly focus on the common characteristics of Småland/Blekinge and how the four counties together, distinguish themselves in relation to other counties/regions, Skåne and the country in general. We believe that Skåne, to a high degree, is a more accurate comparison than, say, Sweden as a whole, which we know by experience that Stockholm surpasses to a great extent (particularly in terms of aggregate wages and education levels). We will also look closely at what the main differences seem to be among the four counties. By identifying the common features and differences between counties, we get a better

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<sup>2</sup> A more detailed description of KIBS is provided in Appendix 1.

<sup>3</sup> According to the daily paper Dagens Industri's, a gazelle company is one which has a turnover exceeding SEK 10 million, has at least 10 employees, a turnover in 2009 which was at least double that of 2006, has grown organically and has sound finances.

understanding of which conditions exist for a more integrated innovation system in Småland/Blekinge.

**Table 3. Variables for describing the four counties**

Area	Variable	Measured here as:
<b>Knowledge and competency:</b>	R&D of trade and industry	R&D investments
	R&D of trade and industry	Patents
	Education level of the day-time population	Education level of the day-time population
	Knowledge Intensive Business Services	Share of KIBS/day-time population
<b>Regional trade and industry:</b>	Entrepreneurship of the day-time population	Share of entrepreneurs/day-time population
	Growth entrepreneurial activity	The number of gazelle companies/number of entrepreneurs
	Sectoral structure	The largest employment sectors (SNI-2)
	Sectoral structure	Workplaces by size category
<b>Regional economy</b>	Aggregate wages	Overall aggregate wages for the day-time population
	Aggregate wages for females and males	Aggregate wages for the day-time population, divided by gender
	GRP	Regional distribution of added value

### 3.1 What characterizes Småland/Blekinge?

In this introductory section, we examine the characteristics of Småland/Blekinge by making a comparison with Skåne County and Sweden as a whole. The values of Småland/Blekinge are an average for the four counties studied.

#### Knowledge and competency

A comparison shows that Skåne and Sweden as a whole have higher values for all the variables that fall under the category of knowledge and competency. Skåne County has, inter alia, a 6 per cent higher share of individuals who have a post upper secondary education and the values for Småland/Blekinge in this context are 5 per cent below the average value for Sweden as a whole. We have also noted that companies in the region are investing relatively little money on activities which could be classified as R&D (research and development<sup>4</sup>). Companies in Småland/Blekinge invest a sum of about 1.2 per cent of GRP (gross regional product) on R&D while companies in Skåne invest about 4 per cent in this area. The value for Sweden as a whole is somewhere between the two, at 2.7 per cent of GDP.

Compared with Skåne and Sweden as a whole, Småland/Blekinge even has a lower number of patent applications. The number of patent applications per 1,000 inhabitants in the day-time population in 2009 was about 50 per cent of the national average. Skåne and Sweden as a whole also have a higher proportion (4 per cent) of knowledge intensive business services, KIBS than Småland/Blekinge. KIBS is an interesting measure, as these are businesses that have grown and are expected to continue to grow in terms of turnover and employment, giving them a direct interest from a future perspective as "sectors".

<sup>4</sup> In accordance with SBC's R&D survey covering R&D activities in companies with a minimum of 10 employees. **Research** is defined here as a systematic effort to search for new knowledge or new ideas with or without a specific application in mind. **Development** is defined as: a systematic approach that utilizes research results, scientific knowledge or new ideas to produce new materials, products, services, processes, systems, methods or significant improvements of existing ones.

The KIBS sectors also include competencies which are significant in a shift towards more service-based business concepts than traditional sectors. Knowledge intensive services are also part of the knowledge infrastructure in a region where they complement and/or compete with university colleges and research institutes. This knowledge infrastructure can also serve as a platform for knowledge exchange within and between clusters in the region.<sup>5</sup>

**Table 4. Knowledge and competency in Småland/Blekinge, Skåne and Sweden as a whole, 2008 and 2009, Source: Processing of data from Statistics Sweden**

Variable	Småland/Blekinge	Skåne County	Sweden
Share of individuals who have post upper secondary education in the day-time population (%)	17.0	23	22
The corporate sector's R&D expenditure as a share of GRP <sup>6</sup>	1.2	4.0	2.7
Patents per 1, 000 inhabitants in the day-time population	0.36	0.55	0.6
Share of KIBS in the day-time population (%)	7	11	11.0

### Trade and industry:

A comparison of the category trade and industry shows that compared to Skåne and Sweden as a whole, Småland/Blekinge has a slightly lower share of entrepreneurs, although the difference is small. The division of the companies' structure, i.e. between companies of different sizes, is not either considerably different. In all three cases, the vast majority (over 90%) of companies have between 0-9 employees and only about 0.1% of the companies have more than 250 employees.

**Table 5. Share of entrepreneurs and share of gazelle companies, 2009, Source: SCB and DI**

Variable	Småland/Blekinge	Skåne County	Sweden
Share of entrepreneurs in the day-time population (%)	9	10	10
Number of gazelle companies per 100, 000 inhabitants	5.4	5.8	6.2

**Table 6. Workplaces by size, 2009, Source: SCB/Raps**

Size category	Småland/Blekinge	Skåne County	Sweden
0-9 employees	92.5%	92.8%	92.9%
10-49 employees	6.1%	5.8%	5.8%
50-249 employees	1.3%	1.3%	1.2%

However, with regard to the sectoral structure there are significant differences in the share of employees in the different sectors. In this context the greatest differences are between the sector "manufacturing and mining", where Skåne has a significantly higher

<sup>5</sup> The description retrieved from the report Foresight Stockholm-Mälars Region – results and conclusions, final report from the Foresight project which was part of Nutek's Metropolitan programme for national growth

<sup>6</sup> The region's businesses account for 4 per cent of the sum of all R&D expenditure from companies in Sweden in 2007 compared with 18 per cent in Skåne.

share of operational individuals and "financial activities and business services" where Småland/Blekinge has a comparatively smaller number of employees.

**Table 7. Day-time population by sector, 2009, Source: SCB**

Sector	Småland/ Blekinge	Skåne	Sweden
Not specified	2.0%	1.0%	1.0%
Agriculture, forestry and fisheries	3.0%	2.0%	2.0%
Manufacturing and mining	24.0%	14.0%	16.0%
Energy production, water supply and waste management	1.0%	1.0%	1.0%
Construction operations	6.0%	7.0%	7.0%
Trade and communication	17.0%	20.0%	19.0%
Financial activities and business services	10.0%	14.0%	15.0%
Education and research	10.0%	12.0%	11.0%
Health and social care	17.0%	16.0%	16.0%
Personal and cultural services	6.0%	7.0%	7.0%
Public administration	5.0%	5.0%	6.0%

### Regional economy

The overall aggregate wage per person for the day-time population, i.e., the sum of the cash gross salary paid by the region's workplaces is used to calculate the wage levels. How wages evolve is crucial for economic growth and depends, in the longer term, largely on how the productivity of trade and industry is changing. The aggregate wage in Småland/Blekinge is lower than in Skåne and Sweden as a whole. The Gross Regional Product (GRP) is a measure for illustrating the total value added in a region. Unlike the aggregate wage this measure also includes companies' profits. Table 7 illustrates that Skåne's gross regional product per person is about 50, 000 more than Småland/Blekinge.

**Table 8. Aggregate wages and GRP, 2009, Source: SCB**

	Småland /Blekinge	Skåne County	Sweden
Aggregate wages/day-time population	258,250	270,999	272,735
GRP/day-time population (SEK M)	0.62	0.67	0.69

In conclusion, we have observed that as a whole Småland/Blekinge has lower values for all variables within the three categories compared with Skåne and Sweden as a whole. We can also see that the sectoral structure in Småland/Blekinge differs from that of Skåne and Sweden.

### 3.2 Differences between the counties

In order to inspire collaboration which benefits all the participating counties, it is important to know and be able to take advantage of the differences which exist between them. In this section we study the four counties and focus on variables where there are clear differences.

## Knowledge and competency

As we saw in the comparison with Skåne and Sweden in general, the education level is relatively low in Småland/Blekinge. However, there is a difference in the share of individuals who have post upper secondary education between the four counties. In Table 8 we can see that Blekinge has a slightly higher level of education compared to the average for Småland/Blekinge and Jönköping County and Kalmar County have a slightly lower level of education for the day-time population.

**Table 9. Share of individuals who have post upper secondary education in the day-time population based on the county, 2008, Source: SCB**

	Share
Jönköping County	16%
Blekinge County	19%
Kronoberg County	18%
Kalmar County	16%
Småland/Blekinge	17%

The comparison with Skåne also showed that companies in Småland/Blekinge invest far less on their own research and development, as defined by SCB. Although this figure is generally low for the counties, there are also differences between the counties in this context which are worth highlighting. The table below shows that companies in Blekinge invested the largest share of R&D in relation to the county's GRP (2.6), while Kalmar represents the county in which companies invested the smallest share of R&D in relation to the county's GRP (0.4).

**Table 10. The corporate sector's expenditure on internal research and development, regionally distributed in the county in 2007, at current prices, SEK million, Source: SCB**

	2007 SEK M	Share of GRP 2007	Regional share	Country share
Jönköping County	1,203	1.2 %	37.2%	2 %
Blekinge County	1,165	2.6 %	36.0%	1.4 %
Kronoberg County	571	1 %	17.7%	0.7 %
Kalmar County	294	0.4 %	9.1 %	0.4 %
Småland/Blekinge	3,233	1.2 %	100	4 %

The number of patents is an interesting measure of output of new ideas within an innovation system. Table 10 shows the number of patent applications per 1,000 inhabitants in the day-time population. As we can see there are also some differences between the counties in this context. In 2009, Kronoberg County had the lowest number of patent applications in relation to its day-time population and Blekinge had the highest number.

**Table 11. Swedish patent applications, by county, 2009, Source: PRV (Swedish Patent and Registration Office)**

County	Number	Patents /1,000 day-time population
--------	--------	------------------------------------

Jönköping	61	0.36
Kronoberg	27	0.29
Kalmar	37	0.35
Blekinge	33	0.48
Småland/Blekinge	158	0.36

Regarding the employment share of knowledge intensive business services (KIBS) in the day-time population, the share in Kronoberg County is 2 per cent higher than the county average.

**Table 12. Employment share of KIBS in the day-time population, by county, 2008, Source: SCB**

County	Number of employees in KIBS as a share of the day-time population
Jönköping	6 %
Kronoberg	9%
Kalmar	6 %
Blekinge	7%
Småland/Blekinge	7%

### Trade and industry:

The number of gazelle companies shows the number of fast-growing companies within a region. The table below shows that Kalmar is currently the county with the highest number of gazelle companies, while Blekinge has the lowest number.

**Table 13. Number of gazelle companies per 100, 000 inhabitants, 2009, Source: Dagens Industri**

County	Number of gazelle companies per 100, 000 inhabitants
Jönköping County	5.1
Kronoberg County	6
Kalmar County	7.3
Blekinge County	3.3
Småland/Blekinge	5.4

### Regional economy

There are also disparities between the counties in terms of gross regional product (GRP), the value of all production of goods and services in a region. As shown in the table below, Blekinge's value per person for the day-time population is well above the average for Småland/Blekinge.

**Table 14. Value added (GRP) at market prices (SEK M), 2007, Source: SCB**

County	GRP	GRP/day-time population
Jönköping County	103,535	0.62

<b>Kronoberg County</b>	56,409	0.6
<b>Kalmar County</b>	65,561	0.61
<b>Blekinge County</b>	45,400	0.66
<b>Småland/Blekinge</b>	270,905	0.62

This also applies to the overall aggregate wage per person in the day-time population, which indicates that wages are higher in Blekinge than the other counties. Female wages are significantly lower than those for males in all counties but the divergence is somewhat smaller in Blekinge.

**Table 15. Overall aggregate wage/day-time population, 2008, Source: SCB**

	Aggregate wages/day-time population	Female's share of male wages
<b>Jönköping</b>	259,304	71%
<b>Kronoberg</b>	259,108	71%
<b>Kalmar</b>	250,934	71%
<b>Blekinge</b>	265,870	73%
<b>Småland/Blekinge</b>	258, 250	71%

To sum up, there is a relatively small divergence in terms of knowledge and competency, trade and industry and the regional economy between the four counties. In general, Kalmar County has slightly lower values (except for the share of entrepreneurs and gazelle companies), while Blekinge often has slightly higher values, for example, regarding the share of R&D investment in the corporate sector and GRP/day-time population.

Below is a brief summary of how the four counties in the study relate to each other based on what has emerged in the statistical review.

# Summary of comparison of the counties

## Blekinge County

Number of inhabitants: 152,591

Number of municipalities: 5

### Knowledge and competency

- Companies in Blekinge County invest the largest share of R&D relative to GRP
- Blekinge has the highest share of individuals who have a post upper secondary education in the day-time population
- Blekinge County has the largest share of patent applications

### Trade and industry:

- Blekinge exhibits a lower employment share in manufacturing.

### Regional economy

- Blekinge County has the highest GRP per person for the day-time population
- Blekinge County has the lowest number of gazelle companies per 1, 000 inhabitants
- Blekinge has the lowest share of entrepreneurs in the day-time population

## Jönköping County

Number of inhabitants: 336,044

Number of municipalities: 13

### Knowledge and competency

- Jönköping County has (along with Kalmar county) the lowest share of individuals who have a post upper secondary education in the day-time population

### Trade and industry:

- Jönköping County has the highest employment share in the sector "manufacturing and mining"
- Jönköping has slightly fewer micro companies (0-9 employees) and slightly more companies with 10-249 employees compared to the other counties

### Regional economy

- The figure for Jönköping County is close to the average for Småland/Blekinge for the variables described

## Kalmar County

Number of inhabitants: 233,639

Number of municipalities: 12

### Knowledge and competency

- Kalmar County has (along with Jönköping County) the lowest share of individuals who have a post upper secondary education in the day-time population
- Companies in Kalmar County invest the smallest share of R&D relative to GRP

### Trade and industry:

- Kalmar has the largest number of gazelle companies per 1, 000 inhabitants
- Kalmar has the highest share of entrepreneurs in the day-time population

### Regional economy

- Kalmar County is slightly below the average for Småland/Blekinge, both in terms of GRP/day-time population and aggregate wages/day-time population

## Kronoberg County

Number of inhabitants: 183,162

Number of municipalities: 8

### Knowledge and competency

- Kronoberg has the largest employment share in KIBS

### Trade and industry:

- Kronoberg has the smallest number of patent applications relative to its day-time population.

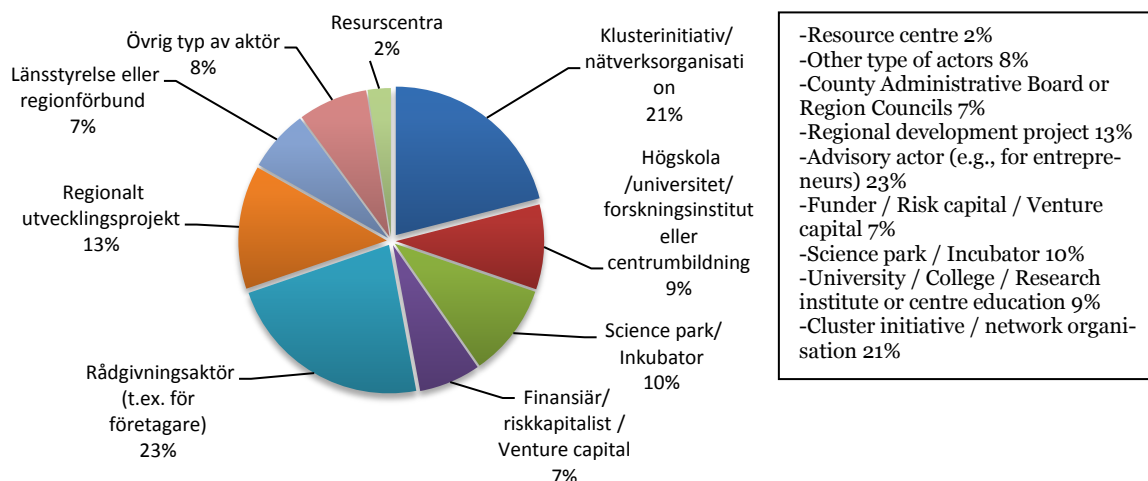
### Regional economy

## 4 The actors in the innovation system

This chapter describes the innovation system in Småland/Blekinge based on the actors who are operational in the system. The report focuses on the type of activities they undertake, how many people work in these organizations and which phase of entrepreneurship the actors primarily operate in.

The diagram below shows the distribution between the actors who were part of the study with regard to the type of activity. The diagram is based on data from regional associations, combined with responses from the survey. Naturally all the activities of the actors cannot be categorized completely accurately in this manner, but we still believe that it provides an indication of the integral components of the system. The diagram is constructed in a manner which makes it possible for an actor to appear in several categories, which we believe is the approach that best describes the actual conditions.

**Diagram 1. The actors by type of activity, Source: the survey and secondary sources**



As presented in the diagram, the majority of actors can be classified as advisory actors (23%). The second largest group is the cluster initiative/network organizations (21%). A significant proportion of actors also consist of projects or initiatives which run for a limited duration (13%), for example, projects funded by the Structural Funds.

The core data also allows us to estimate the number of employees engaged by the actors included in the survey. In this context we are permitted to make an estimate, as we do not have a 100 per cent response rate, and we must highlight that the figures thus have some margin of error. In this case the margin of error is expressed in the form that the number of employees indicated may be an underestimation, as we did not receive responses from a number of actors. In the table we have chosen to distinguish between the major research actors and other actors in the system, as it has been difficult for respondents of the survey to specify the proportion of the workforce that is employed in activities directly linked to the innovation system.

**Table 16. The number of individuals working for the actors, source: the survey**

	Number of employed (estimate)
actors in the system	450
Institutes/Centre education	80
University/College	2,800

The summary shows that approximately 400-500 persons are employed in the innovation system in the four counties. Add to this approximately 3, 000 persons who are employed by the research actors. These include, for example, Linnaeus University, Jönköping University and BTH Innovation, where it has been difficult to distinguish the number of persons working solely within the innovation system from the purely research activities, which makes the number of persons relatively large.

In order to provide an overview of the diversity of the system in terms of gender and ethnic background, in the table below we have summarized how the respondents of the survey perceive the distribution in their respective organizations.

**Table 17. Employees based on background, source: the survey**

	Share of females among the employees	Share of foreign-born nationals among the employees
Less than 20%	9.3%	66.7%
Approximately 20-40 per cent	13.3%	8.0%
Approximately 40-60 per cent	32.0%	2.7%
More than 60%	28.0%	1.3%
Do not know/no answer	5.3%	8.0%

The summary shows that a majority of organizations stated that 40% or more of their employees are female. In terms of foreign-born nationals a clear majority of organizations state that the share of foreign-born nationals among the employees is less than 20 per cent.

Based on the findings of the survey, supplemented by desk-research of documents and websites, we have attempted to categorize participants in a conceptual model. It is important to stress that the model is primarily intended as an aid to the description and analysis and to provide an overview of the actors, which has naturally meant that we have had to adopt a simplification approach.

We are aware that reality presents a far more complex pattern, but still believe that it is extremely useful to sort the actors in relation to each other, based on their respective core business.

For the sake of transparency, we have chosen to present the actors linked to the phase in the organizational life cycle in which the actor mainly operates. In this context we use the following phases to schematically divide the participants:

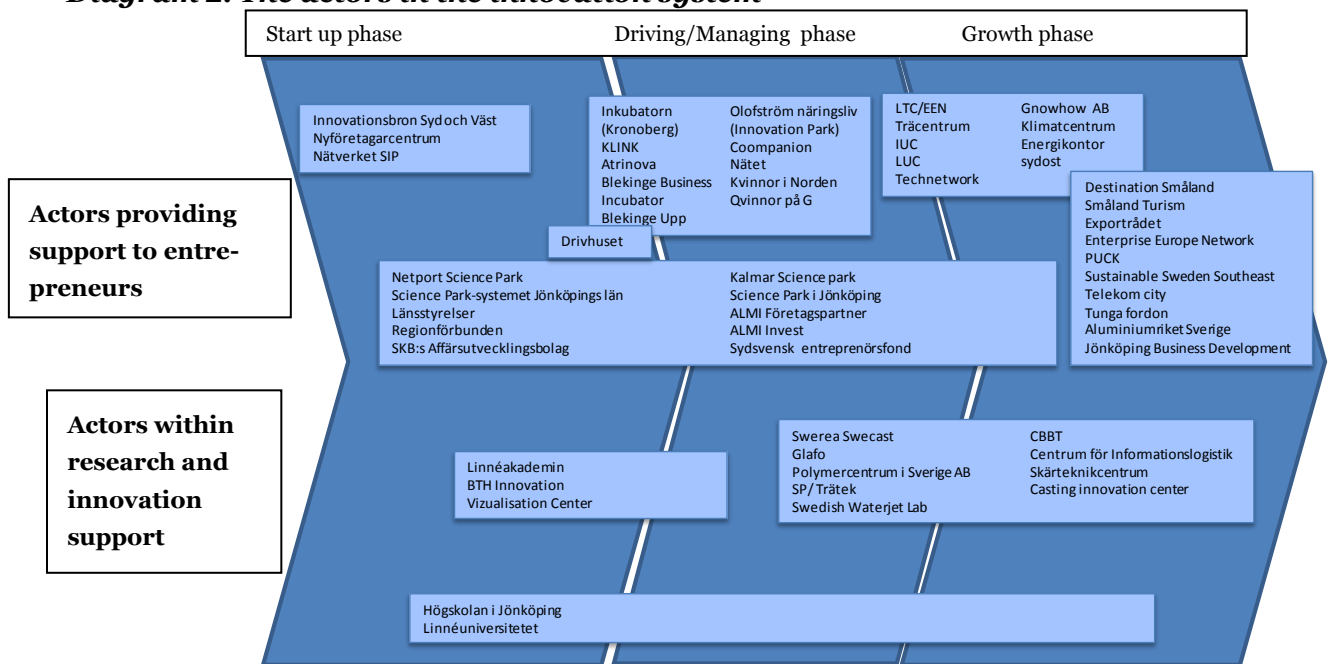
**The start-up phase:** This includes actors who provide support to potential entrepreneurs and innovators prior to or in connection with business start-ups. This phase also includes actors who provide support to innovators and initiators who are still relatively far from the market.

**Drive phase** This phase covers activities aimed at providing assistance to existing companies in connection with the regular operation, business development and management of companies.

**Growth phase** The growth phase includes actors who provide assistance for expansion, growth and internationalization by means of, inter alia, support for reaching new markets.

Based on the content of actors' activities and the target group they cater for, in Diagram 2 we have placed the region's actors in a manner which clarifies how the actors are distributed between the three phases of entrepreneurship.

**Diagram 2. The actors in the innovation system**



We have chosen to distinguish between actors operational in the field of research and innovation support and other corporate support actors.

The start-up phase includes actors who primarily work with assisting future entrepreneurs and innovators in order to help them take a step closer to a market or the commercialization of a product or an idea. One such actor includes Nyföretagarcentrum (Enterprise Agencies), which focuses on support for business start-ups. This phase also includes Innovationsbron Syd and Innovationsbron Väst, who mainly support researchers, innovators and entrepreneurs to turn ideas into business.

Several actors who are active in the start-up phase are also operational in the following phase, the "drive" phase. An example of such an organization is Drivhuset, who helps college and university students both to start and run a company by providing guidance, training and contacts. Coompanion focuses on support for cooperative start-up companies and existing cooperative companies. Incubators also provide support before, during and after a corporate start-up. They also usually provide a physical workplace for new companies.

Several actors are active in all three phases. One such actor is ALMI Företagspartner AB who, in addition to financing, also provides advice and coaching to those who have a business idea or an idea for an innovation, those who are in the process of starting a business and to those who want to develop their existing businesses. Other actors who are active in all phases include science parks, which provide academically-related support throughout the entire chain from the evaluation and development of an idea to continued growth and eventually internationalization. County administrative boards and regional councils are key funders and their operations are more comprehensive for all the phases.

There are also actors who are primarily active in the latter two phases and cater for existing businesses and for businesses looking to grow or find new markets. For example, this is the focus of the Industrial Development Center's (IDC's) activities, which are designed to strengthen existing businesses by, inter alia, providing support for developing new or improved products. Träcentrum, which provides services for business development, product development and production primarily to companies in the wood-related industries, is also a part of this category of actors.

Actors who mainly focus on the growth phase include the Swedish Trade Council, which provides advice and other types of consulting services to businesses looking to grow internationally. This category also covers the Enterprise Europe Network (EEN), which helps small businesses to find ways of accessing the European market, find European partners and for locating EU funding. Several of the existing clusters, such as Tunga fordon (Heavy Vehicles) and Aluminiumriket Sverige, focus on creating better conditions for growth for member companies and the sector at large.

Within the category of actors who work mainly with what we refer to as research and innovation support, we have found more academically-related research organizations, such as universities and colleges, for which the principal activity consists of providing support to students and researchers for commercializing their research. In the later phases, we find actors who engage in more applied research and provide support for research in established companies.

In addition to the actors who operate on a more or less permanent basis, there are also a number of temporary projects aimed at developing and strengthening the innovation system. These include projects which cater for target groups within all phases. The start-up phase includes the Sogi 2.0 project, designed to increase the number of young growth companies. Linnaeus University's project "Knowledge and Innovation in the Småland region of southern Sweden" (KIS) aims for research to be used in society to a greater extent. Critical steps in this context include 'Idea scouting', which provides support to researchers and students who want to test whether research ideas are commercially viable.

The later phases include the project FLiT which aims to promote growth for sub-contractors in the vehicle industry.

**Table 18. Selection of large ongoing projects in the four counties, Source: Regional Councils**

Selection of projects	
Cleantech Technopol	KIS
Creative growth	Ready 2010
Designregion Småland	SOGi 2.0
Delta garden	Tillväxtarena Syd
DISK	Trähus initiative
FLiT	Trästad 2012
	Våga Växa Vinna

In conclusion, we have observed that the summary shows a range among the operational actors in terms of activities and target groups. There is a dispersion of actors over the three phases. However, a majority of actors appear to be working against existing companies and companies that want to grow.

## 5 Funding of the system

In order to present an overview of the financial base for the innovation system in Småland/Blekinge and the capacity of the system and the counties to attract funding for various initiatives and actors, the table below provides a summary of the amount of funds supplied to the four counties during the period 2007-2010 from some of the largest sources of funding.<sup>7</sup>

The funders and funding sources for the innovation system in Småland/Blekinge presented below are:

- Regional grant 1:1 and 33:1
- The programs and investments of the Swedish Agency for Economic and Regional Growth
- The programs and investments of Vinnova
- ERDF, Objective 2 Innovation and regeneration
- The Knowledge Foundation
- Innovationsbron

Table 19 shows that during this period the four counties received combined funding of more than SEK 271 million from the six major funders. In terms of per capita the amount in Blekinge of SEK 1, 973 for a four-year period is significantly greater than for Jönköping, where the figure was 1, 028 per capita. The largest sum for the four counties, consolidated during this period came from regional grants within expenditure items 1:1 and 33, followed by funding under the European Regional Development Fund's Objective 2, Innovation and regeneration.

**Table 19. National and European project funding for innovation and regeneration of the economy (SEK thousand) Source: Processing of data from the Regional Council**

Type of funding	Jönköping	Kalmar	Kronoberg	Blekinge	Total	Per year average
Regional grant 1:1 and 33:1 (2006-2009)	74,560	143,759	54,507	113,588	372,826	93,603
The Swedish Agency for Economic and Regional Growth 2007-2010, National program	49,707	28,045	30,317	11,141	119,209	29,802
Vinnova 2007-2010	95,060	13,258	23,474	72,901	204,693	51,173
ERDF, Objective 2 Innovation and regeneration 2007-2010	63,682	63,682	63,682	60,958 <sup>8</sup>	252,003	63,001
The Knowledge Foundation (2006-2009)	40,329	11,212	8,011	23,372	82,924	20,731
Innovationsbron 2007-2010 <sup>9</sup>	16,000	5,000	5,000	14,000	40,000	10,000

<sup>7</sup> The period 2006-2009 applies for the regional grants and the Knowledge Foundation, as these are the most recent figures available. Also refer to the section "Restrictions" at the start.

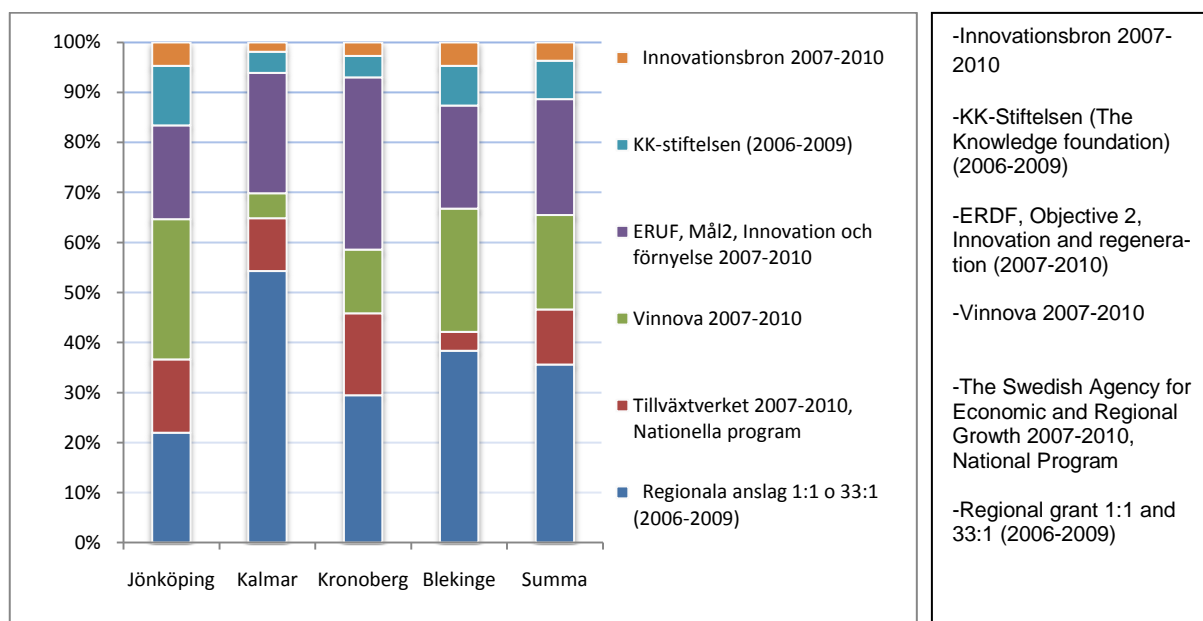
<sup>8</sup> ERDF, Objective 2, Blekinge are projects directly managed with Blekinge as the domicile and projects which may involve Blekinge. 15% of the amount included for these projects.

<sup>9</sup> Innovationsbron's assessment of the period. Exact figures are not available.

<b>Total</b>	339,337	264,955	184,990	295,961	1,071,656	271,311
<b>Amount per capita (SEK)</b>	SEK 1,028	SEK 1,137	SEK1,039	SEK 1,973	SEK 1,218	

The table below shows what the distribution looked like during this period between the six sources of funding in the respective counties.<sup>10</sup>

**Diagram 3. Distribution of regional funds, Source: Processing of data from the Regional Council**



As we can see Vinnova accounts for the bulk of the funding in Jönköping, while the item "Regional grant" is the largest source of financing in Kalmar County. In Kronoberg the European Regional Development Fund ERDF, Objective 2, Innovation and regeneration is the largest funding source, amounting to about 30 per cent of the funding.<sup>11</sup> In Blekinge the regional funds, followed by Vinnova, also account for the largest share of funding from major funders.

The regional grants represent a comparatively high share in Kalmar and account for about 50 per cent of the funding, compared with just over twenty percent in Jönköping. The total annual funding of about SEK 271 million from the six main funding sources of Småland/Blekinge is comparable to the situation in Skåne, where regional and national actors represent an annual investment of about SEK 350 million in the regional innovation system. However Almi's funding is also included in this figure.<sup>12</sup>

<sup>10</sup> ERDF, Objective 2, has been established for all of Småland. It is technically difficult to make the county break-downs. In the table, the county breakdown is simply 1/3 per county.

<sup>11</sup> With reservations for the fact that it was not possible to precisely examine the distribution between the three counties. The counties in this calculation received a third each of the total amount from this source of funding for all of Småland.

<sup>12</sup> Skånes innovationskraft- en nulägesanalys (Skåne's innovation power - a current analysis), Region Skåne

## 6 The activities of the actors for innovation support

The purpose of this section is to provide detailed information of the actors in the innovation support system in the four counties and the kind of support which they offer. The aim is to provide an overview of operations and services in the system and to determine the priorities and any gaps or overlaps that may exist in terms of operations and the target groups the actors cater for. The section is based on the findings of the survey regarding the duties and operations which each actor has indicated it works with and the target group(s) it caters for.

### 6.1 What are the actors working with?

In the questionnaire respondents were asked to state the activities which constitute a major or minor part of their business. The responses have been indicated by a number of set alternatives, but it has also been possible to provide open-ended responses. The table below provides an initial overview of the field of operations stated by the actors.

**Table 20. Most common operations of the region's actors, large part of operations, Source: survey**

	Actors who stated that they are based in ...				
	Of all the actors based in any of the four counties	Kalmar	Jönköping	Kronoberg	Blekinge
Building networks/strengthening collaboration	20%	20%	17%	21%	27%
Education/competency development	14%	14%	9%	21%	9%
Research and development	10%	9%	11%	13%	5%
Advice on product development and/or innovation	9%	9%	6%	13%	9%
Business intelligence/strategic analysis	9%	6%	11%	8%	9%
Advice on business development in existing companies	8%	9%	8%	8%	9%
Advice on start-up of companies	8%	9%	9%	5%	9%
Funding through grants	7%	6%	11%	3%	5%
Supply premises, equipment, etc. to the contractors	4%	3%	6%	3%	0%
Financing through loan and credit	4%	3%	3%	3%	9%
Export promotion activities	3%	3%	5%	0%	9%
Advice on patent/license issues	2%	9%	2%	0%	0%
Investment promotion activities	2%	3%	3%	0%	0%
Sum	100%	100%	100%	100%	100%

The table should be read as the percentages being added by the columns, and the table thereby shows each county's structure. This means, for example, that of all the actors based in Småland/Blekinge, 20 per cent stated that "Building networks/ Strengthening collaboration" is a large part of their activities. The options have been ranked so that activities with the largest percentage appear at the top.

The answers have been divided based on the geographic location of activities, as indicated by the respondents. The group "in several counties" includes those actors who have stated

that they are based in more than one county. In addition, actors who are based outside the four counties who are covered by the study have been included in this context. The table may appear difficult to grasp, however we believe that it provides a number of interesting indications as to which operations are represented in the region and possible gaps. We believe that the following is important to highlight and include in the analysis;

- Several types of activities appear to be well represented in the region - we see above that 20 per cent of respondents in the region stated "Building networks/strengthening collaboration", "Education/competency development" and "research and development"; in other words there is an emphasis on collaboration and knowledge-building.
- A number of activities are represented to a lower extent, such as: "Investment promotion activities", "Advice on patent/license issues" and "financing through loan and credit", "Export promotion activities" and "Supply premises and equipment". Less than 5 per cent of the actors in the survey are covered by each of these activities.

In our opinion, there are no geographic disparities between the counties in terms of number of actors covered by each operational area. Blekinge stands out with a slightly higher share of actors within collaboration/networking; Blekinge and Jönköping have a lower number within education and competency development.

The pattern we have seen is that in the counties studied there is a lower extent of actors who work with "concrete" or "tangible" resources which includes finding, patent/licence issues and the provision of physical resources in terms of premises and equipment, while there is a large number of actors who work with what we consider to be intangible resources such as capacity building, networking and education.

In the questionnaire respondents were also asked to state the activities which constitute "a minor part of their business". The following is evident if a summary, equivalent to the above, is devised with respect to the activities which constitute a minor part of the respondents' business :

**Table 21. Most common operations of the region's actors, minor part of operations, Source: survey**

	Actors who stated that they are based in ...				
	Of all the actors based in any of the four counties	Kalmar	Jönköping	Kronoberg	Blekinge
Business intelligence/strategic analysis	12%	10%	11%	16%	12%
Export promotion activities	11%	14%	11%	11%	12%
Advice on start-up of companies	9%	5%	8%	12%	10%
Advice on product development and/or innovation	9%	10%	8%	9%	10%
Education/competency development	9%	7%	11%	8%	12%
Investment promotion activities	9%	12%	11%	7%	8%
Advice on business development in existing companies	8%	7%	9%	8%	10%
Advice on patent/license issues	8%	5%	9%	7%	8%
Research and development	6%	5%	8%	5%	6%
Building networks/strengthening collaboration	6%	5%	5%	8%	4%
Funding through grants	5%	8%	5%	5%	4%
Supply premises, equipment, etc. to the contractors	4%	7%	4%	4%	4%
Financing through loan and credit	2%	5%	1%	1%	0%
Sum	100%	100%	100%	100%	100%

It can be seen here that the activities which were represented to a low extent in the previous table are given more emphasis here. For example, this is the case for "Export promotion activities". Business intelligence/strategic analysis is also increasing. Advice on start-up and product development is at roughly the same position as above. Similarly, we see that funding appears much lower even in terms of the areas which are a minor part of the actor's operations.

Thus, there are a wide range of operations. It is worth emphasizing that several actors working in the same field of operations does not necessarily mean that there is overlap and duplication in the region, or in each county. Naturally work with, for example, advice, networking or education may occur in very different domains and contexts. We will return to this when we look closely at the target groups of the actors' activities. That many actors are involved in similar activities may however indicate that there may be some overlap of activities and that greater functional cooperation could provide synergies. We also see that certain areas are poorly represented, where one can argue that there are gaps. This applies primarily to funding as only a small number of actors state that this is a major part of their business.

## 6.2 Which groups do the actors cater for?

The table below shows the most common target groups of the actors who answered the survey. We have divided the actors based on the main activity/operation and indicated the percentage of actors who stated that they cater for a specific target group for each area of operations.

From the table we can deduce that the actors involved in advice are the most common target group for all types of entrepreneurs and contractors. This group includes, of course,

other types of entrepreneurs such as females and foreign-born nationals. 43 per cent of the advisory actors stated that they cater for all types of entrepreneurs and contractors, without restrictions on the sector. Nearly 21 per cent of the advisory actors stated that they specifically cater for females and about 13 per cent stated that researchers and students are one of their specific target groups.

The largest target group among funders is "all types of contractors and companies" and about 50 per cent stated that they provide their services to this target group. The second largest target group among the funders is also females, followed by students and researchers and knowledge intensive businesses. Among the actors who mainly work with building networks and strengthening collaboration about 41 per cent cater widely for all companies and contractors. 21 per cent cater specifically for females and 16 per cent stated that students and researchers are one of their specific target groups. This distribution also applies to the actors within the category other operations.

**Table 22. The most common target groups of actors in the innovation system divided based on activity <sup>13</sup>, Source: summary of the survey responses**

	Advice	Funding	Building networks /strengthening collaboration	Other operations
Females	21%	17%	22%	25%
Foreign-born nationals	11%	8%	14%	16%
Students and researchers	13%	13%	16%	18%
Social entrepreneurship	3%	0%	3%	1%
Knowledge intensive businesses	10%	13%	5%	5%
Companies and contractors (general)	42%	50%	41%	35%
Sum	100%	100%	100%	100%

In the table below we have presented a summary of the most common sectors which actors in the survey have stated they cater for. In cases where the responses were provided both by means of set alternatives and open-ended responses, we have aggregated the responses based on the primary sectoral area the respondents stated.

Among the advisory actors who stated that they cater for a specific sector, the largest group particularly focused on the experience industry, which includes both the hospitality industry and creative industries. This target group is followed by companies and contractors in the sectors forestry and the wood industry. The third largest sector which the advisory actors cater specifically for include environmental technology and Cleantech. Among the funders who stated that they cater for a specific sector, the sectors forestry and wood, environmental technology, the experience industry and manufacturing generally rank the highest. However, the manufacturing sector also includes companies from many of the other specified sectors. Among networking organizations a clear majority focus specifically on forestry and the wood industry, but also on environmental technology and manufacturing more generally. Among other actors who are active in other operations, forestry and the wood industry also appears on top of the list for the sectors they have stated they cater for.

<sup>13</sup> The total sum will not always be 100% because of rounding-off.

**Table 23. Most common target groups - sectors, Source: the survey**

	Advice	Funding	Building networks /strengthening collaboration	Other operations
Forestry/wood	17%	20%	22%	32%
Aluminium	3%	0%	3%	5%
Plastic	3%	10%	3%	7%
ICT	14%	0%	9%	2%
Glass	0%	0%	3%	5%
Environmental technology/cleantech	17%	20%	13%	7%
Vehicles	3%	10%	9%	11%
The experience industry	29%	20%	25%	25%
Manufacturing industry (general)	14%	20%	13%	5%
Sum <sup>14</sup>	100%	100%	100%	100%

In conclusion, a majority of the actors cater broadly for all types of contractors or companies. A large share of actors also state that females are an explicit target group. In terms of sectors, forestry, the wood industry, the experience industry and the manufacturing industry represent sectors which the majority of actors cater for in general.

<sup>14</sup> In some cases the total sum will be just over 100% because of rounding-off.

## 7 Collaboration by actors in the innovation support system

In the previous section our aim was to provide a picture of the operations of the actors in the innovation support system. The purpose of this section is to provide an overview of collaboration between actors in the innovation support system in the four counties. Our starting point is the results of the survey where a number of questions were asked about collaboration and how this takes place within the study area. In the survey we have attempted to describe the collaboration between the actors by posing the following questions:

- Which actors are the most important in terms of the number of collaborations in the four counties, which actors can be seen as hubs in the innovation support system?
- Which actors are the most important in each county and within the operational areas we have identified?
- To what extent does collaboration between the actors take place across the administrative boundaries?

This has been studied in the survey by the respondents being asked to state which actors they have worked with in recent years. We are aware that this is not the only, and not always the best way of describing collaboration between actors in the system. As discussed in the study's restrictions at the start, we must refrain from commenting on the quality of the collaborations. It is important to emphasize that the purpose is to provide an initial overview rather provide a detailed description of the collaboration patterns within the counties. The section should be read with this in mind.

### 7.1 Which actors are the most important in terms of the number of collaborations ?

If we consider the four counties as a whole, most of the respondents stated that they have recently had or currently have contact with the large nationally operational actors. The table below lists the top ten actors with the highest number of collaborations with other actors in Småland/Blekinge.

**Table 24. Actors with the highest number of collaborations in the region, 10 actors with the highest number of collaborations within corporate advisory services, Source: the survey**

Actor	Number collaborated with
National actors (the Swedish Agency for Economic and Regional Growth, VINNOVA and/or the Knowledge Foundation)	57
ALMI Företagspartner	56
Nyföretagarcentrum	48
Linnaeus University	38
Swedish Trade Council	30
Industrial Development Center (IDC)	29
Jönköping University	25
Enterprise Europe Network (EEN)	25
Energy Agency for Southeast Sweden	24
Träcentrum i Nässjö AB	24

The aim of this summary is to provide an initial picture of the collaboration pattern in Småland/Blekinge on a comprehensive level. The summary indicates that a number of actors have a larger role in the innovation support

system. The respondents of the survey stated that most of the collaborations are with the Swedish Agency for Economic and Regional Growth, VINNOVA and the Knowledge Foundation (merged into one group in this context), followed by ALMI Företagspartner and the Swedish Trade Council. This probably reflects their role as funders and project owners.

In contrast to the actors stated above who operate on a national level, the actors based in Småland/Blekinge, Linnaeus University and the Industrial Development Center (IDC), followed by Jönköping University and the Enterprise Europe Network stand out. The Energy Agency for Southeast Sweden and Träcentrum i Nässjö, which is certainly an IDC, has been engaged in such a large number of collaborations that we have chosen to distinguish it. Hence taking into consideration the number of collaborations with other actors, these actors are key stakeholders in the system. In the next section we will conduct a closer examination and review the extent of collaborations across administrative boundaries, and within different operational areas.

## 7.2 Which actors are the most important in each county and within the operational areas we have identified?

If we conduct a closer examination of the above and break down the number of collaborations for each county and operational area, the picture of the actors within corporate support and advisory services is similar to the one we saw above. The answers in the table have been divided based on the county the respondents themselves stated they are based in (see also the section on restrictions). Collaborations are divided among the counties as shares of the total number of collaborations for each actor. The table should therefore be read as follows: of the actors in the survey who stated that they collaborated with Almi Företagspartner, 22 per cent are in Kalmar County, 26 per cent in Jönköping and so on.

The table shows that Almi Företagspartner, the IDCs, the Swedish Trade Council and the Energy Agency for Southeast Sweden are the most important actors based on the number

of collaborations. We can also see that the IDCs are important as collaboration partners in all of the four counties.

**Table 25. Collaborations with actors operational within advisory services and corporate support, by county (10 in the top), Source: the survey**

Actor	Share of respondents who had collaboration with the actors, by county					Total number
	Kalmar County	Jönköping County	Kronoberg County	Blekinge County	Outside the region	
ALMI Företagspartner	22%	26%	31%	11%	9%	54
Industrial Development Center (IDC)	20%	23%	23%	20%	7%	30
Swedish Trade Council	24%	41%	14%	14%	7%	29
Träcentrum i Nässjö AB	21%	50%	17%	0%	13%	24
Coompanion	14%	18%	45%	23%	0%	23
Drivhuset at Linnaeus University	29%	0%	62%	0%	10%	21
Länsteknikcentrum i Jönköping AB (LTC)	14%	62%	19%	0%	5%	22
NyföretagarCentrum	37%	26%	16%	0%	21%	20
ALMI Invest	5%	25%	35%	30%	5%	19
Innovationsbron Syd	37%	0%	21%	21%	21%	19

For IDC, ALMI Företagspartner, Nyföretagarcentrum and Coompanion it is possible to break the material down an additional level where we, for instance, can even see which of the county's Nyföretagarcentrum or IDC it relates to. The responses showed a clear geographic pattern in which collaboration largely takes place exclusively in the county where the actors are based. This in itself is expected as these actors have largely been a county-based, geographically focused commission, but it also has implications about the importance of geographical boundaries.

If we consider the actors who are deemed to have most of their operations within the area research and education, a relatively clear geographical pattern is also exhibited there. For example, we can see that Linnaeus University has a relatively high share of collaborations in Kronoberg and Kalmar. Blekinge Institute of Technology collaborates to a large extent with other actors based in Blekinge and in Jönköping's case the majority of collaborations are with actors who are based in the county.

**Table 26. Share of respondents who have collaborated with actors of the total number of collaborations, research/education, by county (10 in the top), Source: the survey**

Actor	Share of respondents who had collaboration with the actors, by county					Total number
	Kalmar County	Jönköping County	Kronoberg County	Blekinge County	Outside region	
Linnaeus University	26%	8%	47%	0%	18%	38
Jönköping University	12%	60%	12%	0%	16%	25
Blekinge Institute of Technology	11%	0%	26%	42%	21%	19
SP/Tråtek	12%	24%	47%	0%	18%	17
Swerea SWECAST	0%	73%	13%	0%	13%	15
Teknopol	29%	0%	14%	29%	29%	14

Centrum för boende och byggande med trä (CBBT)	15%	15%	54%	0%	15%	13
The Glafo Glass Research Institute	23%	8%	46%	8%	15%	13
Centre for Information Logistics	10%	10%	70%	0%	10%	10

For the Science Parks and incubators which are included in the study the geographical proximity appears to be important for collaboration there as well and for all the actors the majority of collaboration with actors takes place within their "own" county. Teknopol and SP/Trätek are possible exceptions.

**Table 27. Share of respondents who have collaborated with actors of the total number of collaborations, Science Park county matrix (10 in the top), Source: the survey**

Actor	Share of respondents who had collaboration with the actors, by county					Total number
	Kalmar County	Jönköping County	Kronoberg County	Blekinge County	Outside region	
Videum Science park	17%	4%	50%	4%	25%	24
Kalmar Sciencepark including incubator	50%	9%	18%	5%	18%	22
Science Park in Jönköping	5%	62%	10%	5%	19%	21
The Science Park system in Jönköping County	10%	60%	10%	5%	15%	20
Inkubatorn i Kronoberg AB	18%	6%	41%	6%	29%	17
Atrinova	47%	0%	13%	7%	33%	15
Netport Science Park	0%	0%	21%	57%	21%	14
Blekinge Business Incubator Karlskrona	0%	0%	10%	50%	40%	10
Gameport Blekinge Business Incubator	0%	0%	13%	63%	25%	8
Blekinge Business Incubator Olofström	0%	0%	14%	57%	29%	7

If we consider the clusters included in the study, our impression is that these more often exhibit collaboration with actors in all four counties, even if the geographic centre is the "home county". The collaboration of clusters across counties may be related to the fact that to a large extent the clusters use their starting point as a functional affiliation which spans across administrative county/regional borders.

**Table 28. Actors with the largest number of collaborations - Clusters and networks (10 in the top), Source: the survey**

Actor	Number of respondents who had collaboration with the actors, by county					Total
	Kalmar County	Jönköping County	Kronoberg County	Blekinge County	Outside region	
Enterprise Europe Network (EEN)	16%	36%	24%	8%	16%	25
Energy Agency for Southeast Sweden	17%	25%	42%	4%	13%	24
Möbelriket AB	11%	21%	53%	0%	16%	19
Aluminiumriket Sverige	17%	22%	39%	0%	22%	18
Tunga fordon (Heavy Vehicles)	7%	29%	43%	0%	21%	14
Sustainable Sweden Southeast	46%	8%	23%	8%	15%	13
Nätverket SIP	15%	0%	77%	8%	0%	13
PUCK (including the marine cluster)	45%	27%	9%	0%	18%	11

TelecomCity	0%	0%	18%	55%	27%	11
Tech Network	10%	10%	30%	50%	0%	10
Polymercentrum i Sverige AB	22%	67%	11%	0%	0%	9

It is also worth noting that several clusters and industry networks appear have widespread collaboration between the counties (as seen by the fact that actors based in several counties have collaborated with them), which is naturally due to that much of the operations comprise building networks and strengthening collaboration. It also means that at present to a large extent they appear to operate within the entire, or at least large parts of the four counties. At the same time we have noticed that actors based in Blekinge, to a lower extent, seem to have collaborations with the other three counties.

The overall conclusions which we can draw from the above tables are as follows. We can see that a number of actors have a large number of collaborations with other actors in the four counties. In addition to the national actors, such as the Swedish Agency for Economic and Regional Growth, VINNOVA, the Knowledge Foundation and the Swedish Trade Council, ALMI, Nyföretagarcentrum, the IDCs and Linnaeus University stand out. Such collaborations appear to largely follow the administrative boundaries and occur between actors in each county. For Blekinge's case we have noticed that the county's actors, to a lower extent, seem to have collaborations with actors based in the other three counties. Although within the framework of this study it is not possible to assess where these collaborations take place, it is reasonable to assume that Blekinge is relatively tightly linked to Region Skåne. Cluster organizations, and to some extent Science Parks appear to have greater collaboration with actors in all four counties and appear to a lesser extent to follow the administrative county boundaries in their collaboration constellations.

### 7.3 Collaboration across administrative boundaries in the four counties

The brief summary above also indicated that geographical proximity is important for the number of collaborations; for example, we could see that Träcentrum i Nässjö has nearly 40 per cent of the collaborations in Jönköping County, Länsteknikcentrum i Jönköping has nearly 60 per cent of the collaborations with actors in Jönköping County, to name a few examples.

From an operational perspective it is interesting to attempt to gain an overview of the extent to which collaboration occur between actors based in any of the four counties. In our opinion, the fact that actors in the region also work across the administrative boundaries which exist within Småland/Blekinge can be seen as an indicator of how well collaboration works in the area (we are obviously aware that it does not give a complete picture, but it should only be seen as an indicator among several others).

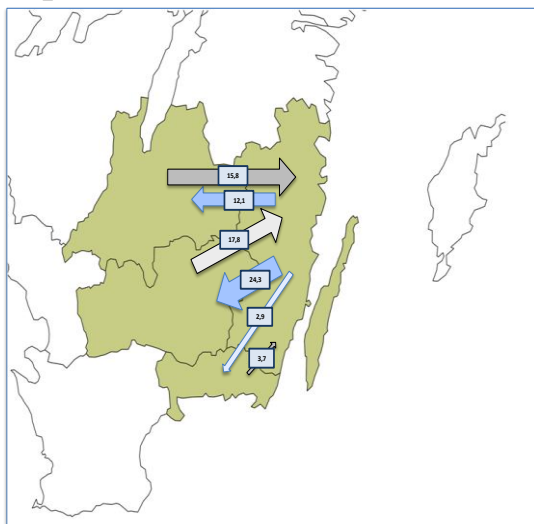
Below is a map of each county, where the arrows indicate the number of actors who stated they are based in the county and those who also stated that they have operations in other counties. The aim is to provide a rough picture of the linkages between actors in each county in Småland/Blekinge.

Survey responses provide the opportunity to study the actors' activities outside their home county in more detail. More specifically, the maps show how actors based in each county stated that they collaborate with actors outside their "own" county.

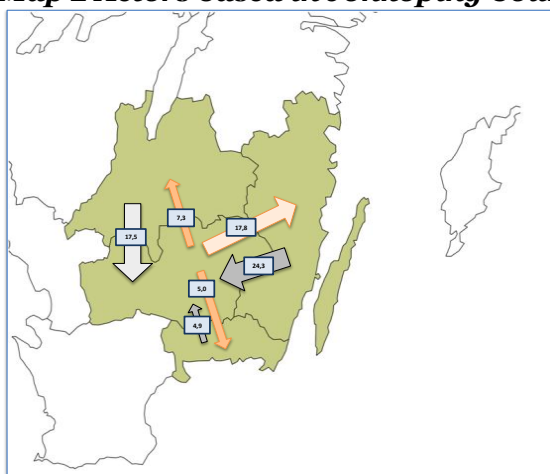
The map below should be interpreted as follows: of the collaborations which actors who are based in Kalmar have stated, about 12 per cent have taken place with actors based in Jönköping County. Approximately 24 per cent have been with actors in Kronoberg County, and about 3 per cent with actors in Blekinge County. In the maps we have also chosen to include the collaborations which "go" from other counties to, as in the case below, Kalmar County.

We must emphasise that it is not entirely unproblematic to geographically distribute the actors and that there may be some margin of error. Our main aim of using the maps is to, in the line with the study's purpose, provide an overall picture of the collaboration patters in the region.

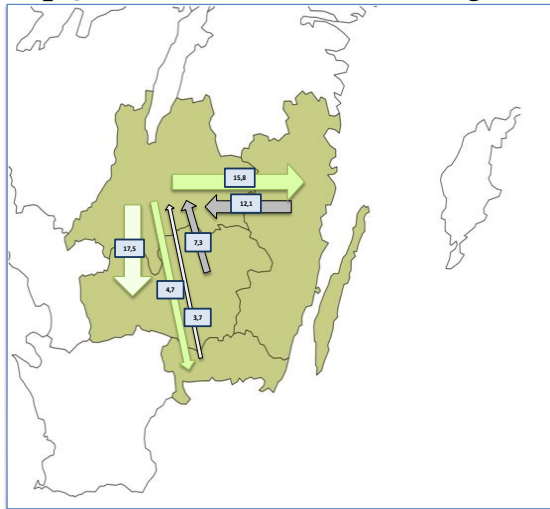
**Map 1. Actors based in Kalmar County collaborations, Source: the survey**



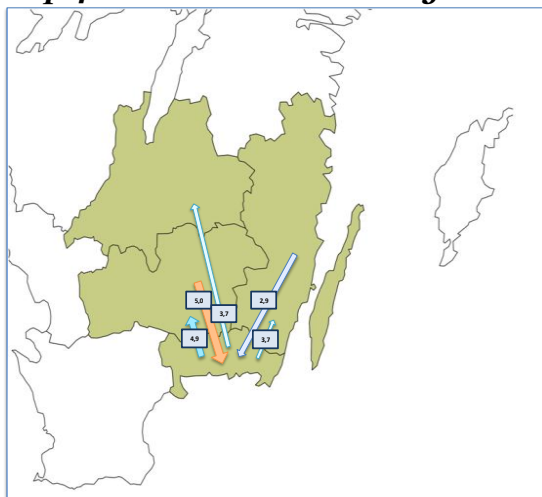
**Map 2 Actors based in Jönköping County collaborations, Source: the survey**



**Map 3 Actors based in Kronoberg County collaborations, Source: the survey**



**Map 4 Actors based in Blekinge County collaborations, Source: the survey**



In conclusion, we see that collaboration largely takes place within the administrative boundaries. This in itself is not unexpected as one of the first tasks of many actors is likely to be the execution of activities within "their" own counties, and also due to geographical proximity playing a role in the interaction between people. We see, however, that actors have collaborations across the administrative boundaries of Småland/Blekinge. Collaborations between the counties vary somewhat. A clear pattern that is beginning to form, is that actors based in Blekinge collaborate to a lesser extent with the other counties and actors in Kronoberg and Kalmar have relatively high levels of collaborations between each other.

Due to the framework of the study, it has not been possible to highlight the reasons for this pattern, but in the case of Blekinge a hypothesis worth examining is that a large number of the collaborations outside the county are with the southern region, in Skåne. The fact that Kronoberg, Kalmar and Jönköping counties show a somewhat higher share of collaborations between each other, could be partly explained by the fact that they have a number of similarities in economic structure, as we presented above, network organiza-

tions, focusing on industry or sectors, collaborate to a greater extent across administrative boundaries.

The national actors play an important role as partners in the four counties. This is probably largely related to their role as funders of projects and activities in the region. We saw earlier that there is a relatively large amount of public funds from the national level in the system, so even this picture may be said to be expected.

## 8 How does the innovation system currently work?

In this study we also try to capture how well the actors in the system perceive the system to work and which operations need to be strengthened, or are deemed to function effectively. It is important to stress that respondents in the survey were asked for their views on the region in which they operate. In practice this means that the answers may include more than one county.<sup>15</sup> The tables should be read as the view of the respondents, who are based in a county, on the region within which they operate. Not every county has been "graded" and the counties should not be put be compared to each another. The respondents were asked to judge how they perceive the innovation system's functions on the basis of four perspectives or areas:

- Advice to businesses and entrepreneurs
- Conditions for innovation and regeneration
- Capacity of supplying skills
- Capacity of regional leadership

Each of these perspectives is composed of a number of underlying issues raised in the survey. We take a weighted value for the responses within each perspective. The responses have been graded on a scale of 1-5, where 5 equates to "very good".

The responses are reported here as the average for the four counties, and distributed for each county according to where the respondents said that they are based. The goal is to obtain a basis to be able to, along with the reflections and comments received at the workshops held within the framework of the project, discuss development needs and the potential within the region.

If we consider all perspectives together, the results can be seen below, where the average value is listed by county. Respondents were asked to respond to the region in which they operate. The responses were divided by county, based on where the actors who responded are based.

**Table 29. Assessment of all operations, the average value, Source: the survey**

	Average for all four counties	Kalmar County	Jönköping County	Kronoberg County	Blekinge County
Advice and support for businesses and entrepreneurs	3,4	3,1	3,5	3,5	3,1
Förutsättningar för innovation och förnyelse	2,8	2,9	3,1	2,7	2,8
Kompetensförsörjning	2,9	3,0	2,7	2,9	2,9
Regionalt ledarskap	2,7	3,0	2,3	2,9	2,7

Before we look at each operation in more detail, we can see that there are some differences, although not as dramatic, depending on which county you are based in. A first sim-

<sup>15</sup> As far as it is possible to check in the survey, however, in a large number of cases it involves one county.

ple analysis, where we simply add up values by county shows the difference between the highest (Kalmar and Kronoberg) and the lowest (Blekinge and Jönköping) is 0.5. What we can see is that Jönköping and Kronoberg have the highest weighted value of the Advice and support for entrepreneurs, while respondents based in Blekinge and Kalmar give the region a lower value. Actors based in Jönköping give the region a higher value in terms of opportunities for innovation and regeneration and a slightly lower value for the supply of skills.

## 8.1 How do the respondents view the support and advice for businesses and entrepreneurs?

If we take a closer look at the area of support and advice for businesses and entrepreneurs, we can see that this area consists of two main questions: advice and funding for entrepreneurs in various stages of development. However, it is worth remembering that a large group of actors, included in the study, work with support and advice for businesses and entrepreneurs. This brings into play a slight bias with regard to the view of support and advice.

Regarding advice, in the first instance we see that the region's conditions for providing advice on start-up are good – and receive a four by the respondents on average (it is, however, the actors based in Kalmar, who stand out, as they were given a lower value) while advice for existing businesses looking to expand and advice on export are given lower values in all the counties, but are still above three on the five-point scale.

**Table 30. Assessment of advice and support for entrepreneurs, the average value, Source: the survey**

	The whole region	Kalmar County	Jönköping County	Kronoberg County	Blekinge County
Advice to existing businesses looking to expand	3,5	3,1	3,5	3,7	3,3
Advice to existing businesses looking to export	3,3	3,0	3,6	3,4	2,6
Advice to people looking to start a business	4,0	3,4	4,2	4,3	4,4
Support for companies looking to establish themselves in the region	3,2	3,1	3,6	3,3	2,9
Funding to existing businesses looking to expand	3,1	3,0	3,1	3,4	2,7
Funding to existing businesses looking to export	3,0	2,9	2,9	3,1	2,4
Funding to people looking to start a business	3,3	3,2	3,6	3,2	3,4

The biggest differences we see are the low values actors in Kalmar have given to Advice on start-up of companies, that actors based in Blekinge provide advice to companies exporting and funding to exporters at a lower value. Actors based in Jönköping have a higher value with regard to support to companies looking to set up in the region compared with Blekinge, in particular. On the basis of the material provided, it is difficult to provide an explanation for the differences seen between the actors based in the various counties.

## 8.2 How do the respondents view the conditions for innovation and re-generation?

Respondents graded the region's conditions for innovation and regeneration of trade and industry by assessing the following:

**Table 31. Assessment of support for the commercialization of innovations, average value, Source: the survey**

	The whole region	Kalmar county	Jönköping county	Kronoberg county	Blekinge county
Support for the commercialization of research results at University/College	2,7	2,8	2,9	2,5	3,4
Support for R&D and for the commercialization of innovation in existing businesses	2,6	2,6	3,0	2,5	2,3
Support for the development/commercialization of innovations by individual innovators	2,9	3,1	3,2	2,9	2,9
Advice on Patents/license issues/other innovation-related issues	3,1	3,1	3,3	3,0	2,6

Within this area we find that Jönköping (which we saw in the table above) is characterized by higher values for all variables except for Support for the commercialization of research results at University/College, where actors based in Blekinge gives their region the highest value. Moreover, Blekinge has relatively low values for the other variables when compared to the other counties. Otherwise there are no great differences between the counties.

## 8.3 How do the respondents view the four counties' capacity for supply of skills?

In this area, we asked respondents to give their view on the region's supply of skilled labour, and the capacity to attract skills to the region.

**Table 32. Assessment of the region's capacity to supply skills, the average value, Source: the survey**

	The whole region	Kalmar County	Jönköping County	Kronoberg County	Blekinge County
The availability of skilled labour	3,0	3,1	2,7	3,2	3,0
The ability to attract qualified labour	2,6	2,7	2,5	2,4	2,8
The supply of qualified service providers	3,0	3,2	2,8	3,2	2,9

The availability of skilled labour is expected to be consistently better than the region's capacity to attract skilled labour. The differences between the counties appear to be small with regard to these two issues, however Jönköping distinguishes itself with somewhat lower values. The supply of qualified labour is given a higher value in Kronoberg County and Kalmar County, than the other two counties.

#### 8.4 How do the respondents view the regional leadership?

Towards the end we decided to ask about what we refer to as "regional leadership". With that, our aim is to try to capture the responding actors' view in relation to, for example, the region's capacity to devise a common objective and vision, and to create an outward image of the region.

**Table 33. Assessment of regional leadership, average value, Source: the survey**

	The whole region	Kalmar County	Jönköping County	Kronoberg County	Blekinge County
Formulate a common vision for the region, based on both private and public actors' interests and motivation	2,6	2,7	2,2	2,8	3,0
Formulate strategies for the region which include both public and private actors	2,7	3,0	2,3	2,8	2,7
Working towards common business intelligence for the region	2,7	3,0	2,5	2,8	2,6
Assemble the region's actors for strategic collaborations	2,8	3,5	2,3	3,1	2,7
Create a regional brand	2,6	2,9	2,1	2,8	2,7

We can note that this area is given a lower value than other capacities. As presented in table 31, we can see that the region has an average of 2.7. Creating a regional brand is given the lowest scores by actors, regardless of domicile, along with the capacity to "formulate a common vision for the region, based on both private and public actors' interests and motivation".

From the above we can deduce that the view on these issues will vary between actors in the various counties. Actors based in Kalmar have throughout held a more positive perceptions of this, while actors based in Jönköping give lower values on average.

## 9 Strengthened innovation system in Småland/Blekinge

### 9.1 How will the actors develop the common innovation system?

This concluding section outlines the observations and reflections that emerged in the survey and at the workshop conducted within the framework of the project. We will further conclude our picture of the innovation system in a SWOT. We end this section with five recommendations for the continued process.

### 9.2 How do the actors want to develop the innovation system?

In the survey, the respondents had to decide whether they believed that the efforts to create functional collaboration between the four counties' corporate support actors should be intensified and to state the reasons for their answer. Almost 75 per cent of respondents believe that work should be intensified. They then received a follow-up question about what they regard as being the highest priority areas for continued work. During the workshop, on 22 September in Alvesta, development needs were also discussed, for future collaboration across county boundaries. Here are some of the most frequently mentioned development needs, which the survey respondents and workshop participants presented for intensified future collaboration.

#### **Clearer regional leadership - a common strategy and objectives to be established in the system**

Many actors feel that we still lack a developed coherent vision for our achievements and priorities for supporting a more integrated innovation system. It is considered important to develop such a strategy with clear objectives which are established among the concerned actors. It also requires a clear time-and action plan for work. In order to drive forward and lead the establishing measures and to follow up the compliance with the schedule, transparent management of the issue is necessary.

#### **Increased knowledge and understanding of the potential of functional collaboration**

Another development need highlighted by several respondents, is to increase the understanding of the functional cooperation in Småland/Blekinge. This includes even more clearly defined and set measurements of the innovation system in order to attain a basis for the efforts to improve efficiency and continuously improve the system.

#### **Clarify the implications of added value of collaboration within Småland/Blekinge**

It is important that increased collaboration provides added value for all counties and it is therefore important that representatives from the four counties jointly identify the areas in which they are looking for greater collaboration and where they believe added value would be created. Advanced collaboration requires a shared view on the political level and you need to ascertain if you want to collaborate and if so, why?

### **Find forms for the continuous collaboration across counties**

A majority of actors in the respective counties believe they have much to learn from each other and that the relatively small counties would be strengthened in collaboration. By meeting more often over the county boundaries and thus getting to know each other better, you can hopefully create even better matching of support functions. For this learning to be effective, it is important to create opportunities for continuous relationship building. Specific themes and cases to work around are seen as a way to collaborate. By meeting and discussing specific cases or topics, participants from the various counties gain access to each others' knowledge. Several respondents have even sought more joint projects which cross county boundaries. The potential to attract external funding is considered by many respondents to be greater if you work together across county boundaries rather than competing. It is therefore considered important to reflect on what areas would be interesting to collaborate on across the administrative county boundaries, create a joint project and market it as a collaborative project. One challenge in this context has been to create clear incentives for actors to increase collaboration across county boundaries as their time and resources are often limited.

### 9.3 Deepening the functional collaboration between the four counties—analysis

Based on the findings in the different elements of the survey, we have summarized below our analysis of how we consider the possibilities of developing the innovation system in Småland/Blekinge. To illustrate this in a simple manner, we have used a SWOT analysis. Thus, the SWOT analysis involves identifying the innovation system's strengths and weaknesses and the opportunities and threats which can be encountered by an initiative aimed at strengthening the system.

**Diagram 4. SWOT analysis on the development of Småland/Blekinge's regional innovation system**

	Increase opportunities to achieve set targets	Protect the possibilities to achieve targets
	<p style="text-align: center;"><b>STRENGTHS</b></p> <ul style="list-style-type: none"> <li>• Internationally competitive profile area, primarily within manufacturing, in all counties</li> <li>• Several national and international strong clusters</li> <li>• Seen from a functional perspective we can see that there are collaborations from innovation support actors between counties</li> <li>• Established actors with strong positions as inter-regional collaboration partners</li> <li>• The summary shows that there are relatively large financial resources when the four provinces merge.</li> <li>• Universities and colleges in every county – provide a solid foundation for the supply of skills.</li> <li>• Wide range of functions and activities in the four counties' innovation systems - no obvious gaps.</li> </ul>	<p style="text-align: center;"><b>WEAKNESSES</b></p> <ul style="list-style-type: none"> <li>• A shared vision and leadership needs to be developed according to the respondents in the survey and workshop participants.</li> <li>• The share of investments in R&amp;D in companies is relatively low, seen as a share of GRP.</li> <li>• Low share of knowledge intensive service companies within trade and industry in the four counties</li> <li>• The education level of the day-time population is relatively low and the region's capacity to attract competent labour is considered as being low by the actors</li> </ul>
	<p style="text-align: center;"><b>OPPORTUNITIES</b></p> <ul style="list-style-type: none"> <li>• Functional collaboration to improve effectiveness and division of roles in the system</li> <li>• Sectoral cooperation in common areas of strength (ICT, manufacturing, wood)</li> <li>• Common strategies for using/increasing joint funding from national actors</li> <li>• Act as a joint innovation system towards the national and European levels in order to attain greater emphasis and importance than that which is attained as four individual counties.</li> <li>• Work to fully benefit from the universities and research actors to raise competency levels within trade and industry</li> </ul>	<p style="text-align: center;"><b>THREATS</b></p> <ul style="list-style-type: none"> <li>• Emergence of strong regions nationally and internationally, increase competition and pressure on the individual county</li> <li>• Not being able to agree on areas of collaboration or establish a strategy among actors is a threat to resource mobilization in the counties</li> <li>• Not being able to find ways to work together towards national and EU level, can lead to negative competition (such as national funding) between the counties, colleges and universities</li> <li>• From a functional perspective the actors in Blekinge currently seem to be linked in a lower grade than actors in other counties.</li> </ul>

**Strengths:** A clear strength that has emerged, both in the survey and during the workshops, is that there is an internationally competitive profile, perhaps primarily in manu-

facturing, engineering and ICT in Småland and Blekinge. The four counties combined have even more national and international strong clusters around where it would be beneficial to develop thematic collaborations. Our investigation has also shown that actor cooperation already exists to a certain extent between the counties, so there are natural collaboration patterns to build on. Our investigation has also shown that the counties have a number of established actors with positions of strength who act as inter-regional collaboration partners.

The annual inflow of financial resources to the four counties' innovation system from the EU and the national level of about SEK 271 million indicates the presence of relatively large resources in the system when we add up the four counties. Another positive aspect is that there are universities and colleges in each of the counties, resulting in an influx of students into the region that could lead to a long-term increase of the education level in the counties.

**Weaknesses:** Both in the survey and the workshop, the lack of a shared vision for Småland/Blekinge was addressed, and questions were asked about what they want to focus on in their collaboration and what they want to achieve in the medium and long-term. At present, there is no clear cross county leadership to pursue these issues. Thus, this needs to be developed for continued in-depth functional collaboration.

The share of companies in Småland och Blekinge who are investing in R&D activities is low compared to Skåne and Sweden as a whole. A large part of the R&D activities of the county's companies is conducted elsewhere. However, this is a weakness as innovations benefit from taking place in close proximity to trade and industry.

Småland/Blekinge also has a relatively low share of knowledge intensive business services (KIBS). This can be a weakness as these companies often have competencies which can facilitate the transition towards a more service-based business concept even in traditional sectors. KIBS are also an important part of the knowledge infrastructure in a region as they complement colleges and research institutes and help to create a platform for knowledge exchange within and between clusters.

**Opportunities:** Among the opportunities we see for more integrated innovation systems in Småland/Blekinge, we would particularly like to highlight that looking beyond and working across the administrative boundaries can result in a more functional collaboration which can improve the effectiveness and division of roles in system.

We also see it as an interesting opportunity to initiate various forms of sectoral collaborations within the common areas of strength (ICT, manufacturing, wood) where the various counties may have much to learn from each other. Working together on different themes can result in strong collaboration. Furthermore, there is a possibility of jointly developing strategies for the increase of the counties' funding from national actors, and thus obtaining a larger share of the national "funding pie".

**Threats:** The emergence of strong regions both nationally and internationally, increases competition and the pressure on the individual counties in Sweden. The four counties included in this study are no exception. This is a threat both in terms of the regions capac-

ity to attract national and international funding and to maintaining a leading position within the counties' areas of strengths in the national and international markets.

Another factor that would make it more difficult to develop a more integrated innovation system in Småland/Blekinge is that the counties and the actors are unable to agree on areas of collaboration, that all can see value in. Not being able to establish the idea that more integrated collaboration is a good thing or failing to establish a strategy among the respective actors for what you want to achieve is a threat to resource mobilization in the counties

It can also be seen as a threat that Blekinge, on the basis of our study, is integrated to a lesser degree, compared with the other counties. Interaction patterns are not so obvious between this county and the three counties of Småland. Blekinge also stands out from a statistical perspective with a higher GRP and higher salary levels as well as a higher R&D level within companies and may need clearer incentives to expand its collaboration.

Finally, the negative competition for national funding may hamper collaboration between counties and even between colleges and universities if they choose to brand themselves all too similar. There is often a higher level of funding within some specific areas, which can reduce incentives for the division of roles and the investment in complementary activities.

#### 9.4 Recommendations for continuing the process

If you choose to continue working towards actively deepening the functional collaboration between the four counties, there are a number of areas that we recommend you take into account. Below we highlight the five areas which we consider are the most important to deal with as a part of the continued process. We base our reasoning partly on what has emerged in this study and partly on previous experience from the development of innovation systems and work within regional development. The areas we see as most important are:

- **A strong regional leadership is required to drive the process**

It is essential that there is clear leadership to indicate the direction and maintain momentum in the process. It involves, for example, working out common goals and agreeing on which areas the innovation system should prioritize for continued work. The multiplicity of actors and activities in the four counties' innovation support system is, as we see it, both a challenge and a strength.

The challenge is to coordinate and orchestrate actors to minimize overlaps and duplication in activities, and to ensure that the use of the resources found in the system is optimized. This requires a regional leadership which can view the situation at a strategic level. The strength lies in the breadth of activities, but emphasis on activities in the system lies in collaboration and consultation efforts, and there is somewhat less emphasis within funding, so we cannot identify any significant gaps in relation to activities.

At the workshop, and in the open survey responses, the need for actors to increase the possibilities of working long-term was revealed. Someone puts it as, setting clear long-term goals for the innovation system, working towards and creating "greater security in

the system" of where we are heading in the medium and long-term. This is important for reducing competition between actors for the available project funds, and to reduce the reliance on short-term project funds to create a long-term approach at work.

We believe this is important and in order to succeed we require a regional leadership that is able to view the situation and see the whole system at a strategic level, and has the ability and mandate to formulate and manage the long-term strategic issues. One proposal that emerged in the survey is to continue working on common foresight processes. Another is to jointly work out a basic strategy with clear priorities and milestones to be achieved. We consider both of these suggestions worthy of consideration in this process.

**• Align the work of sectoral innovation systems around the industries/sectors that are currently important for the region's areas of strength**

We believe that the functional cooperation between the four counties would be strengthened by the fact that, at the strategic level, a number of frontier areas or sectors around which to form collaborations are selected. The point would then be to find areas that cross administrative boundaries and where greater functional cooperation would result in even greater exchange.

We believe that a step in the continued development could be to focus identification and analysis efforts on a few of the industry sectors or sectors where the region now has areas of strength and see what the needs are from companies and which measures from the publicly funded scheme can be offered to them. The region has an sectoral emphasis within manufacturing and the engineering industry and trade and industry with slightly larger companies than the national average, albeit marginally. We believe it is wise to build on the tip of the areas that exist today in the four counties such as engineering, ICT, manufacturing, wood and environmental engineering.

Working sectorally, from functional rather than administrative, perspectives could pave the path for a form of work or division of roles between the innovation support actors in the counties where they are able to "channel" between the contractors themselves to a greater extent. In a continuation we also see opportunities for a greater degree of specialization, where for example a network actor in Jönköping focuses on developing its approach to support entrepreneurs in the engineering sector in the early stage, while actors in Kronoberg work out a model to get the mid-sized companies in the same industry into export markets. The focus is then intended to be added to complement each other's work, in the form of an intra-regional division of labour.

Furthermore, we believe that a specific area for intensifying the work is the knowledge intensive business services (KIBS). Previous studies have shown that they function as a kind of lubricant in trade and industry and as knowledge carriers across companies and sectors. They also provide greater flexibility on the labour market. The analysis shows that the four counties have a low share of knowledge intensive business services seen as part of the day-time population and we see this as an area for deepening functional collaboration. More specifically, it may mean identifying the types of services currently available in Småland/Blekinge (these are probably largely related to the workshop and manufacturing industries which exist in the counties) and then engaging in dialogue with both the demand side (in the first instance mid-sized and large companies) and the supply side (spe-

cialized service companies within technology or marketing issues) on how these can be strengthened and how the collaboration between large companies and smaller suppliers of expertise can be strengthened.

Another concrete area of collaboration may be to create an initiative for bringing together the actors in the region who can offer support for R&D in small and mid-sized businesses in order to support innovation and regeneration in the county's companies by outreach activities. Good examples and experiences in such an approach are already available from, inter alia, the project at LTC in Jönköping County.

In this connection, we believe, which is also in line with what emerged in the survey and the workshop, it is important to build on existing structures, actors and networks to as large an extent as possible and avoid creating of additional arenas. Here, for example the region's clusters could play a key role, as was presented above, several of them have had collaborations in a number of the other counties.

**• Strengthen collaboration between the four counties in order to upgrade the competency level within trade and industry**

The analysis shows that the region's overall capacity for the supply of skills receives comparatively low values. We also saw in the statistical description that the region has a lower share of academics and a lower share of knowledge intensive business services than, for example, Skåne. At the same time, we see that there is a relatively large number of actors within research and innovation in the region, and that it is one of the activities which most actors say they are working with. A key challenge for the four counties is to further strengthen the structures of knowledge transfer between the region's universities and research actors and trade and industry, to ultimately enhance the level of competency and accelerate the capacity for innovation. This is of great importance for ensuring the overall competitiveness of the four counties' trade and industry.

It is about finding interaction models at different levels that benefit both academia and trade and industry, in the form of individual companies. This can involve, for example formalized student exchanges in various forms such as internships and thesis projects, based on common concrete research projects, or engaging in businesses for education at universities, such as the mentor programme. We believe a challenge in the continued process is the development of collaborative models for these different levels and integrating them into the existing structure. The guiding principle should be involving companies in the four counties in the process (more on this in the following paragraphs).

Working to strengthen the functional side can also mean ensuring that the university systems complement each other rather than compete for research funds. This of course requires close collaboration with academia, and a willingness on their part to work with the third task.

**• Acting together towards national and international actors to attract resources to the region**

We have seen in the analysis that there are a relatively large amount of financial resources in the system, which come from a national and EU level. The national actors, (such as the

Swedish Agency for Economic and Regional Growth, VINNOVA and the Knowledge Foundation) are important collaboration partners for the region's actors.

We believe there is value in acting to a greater degree as a joint innovation system towards the national and EU level in order to display the region's emphasis and national significance. In this study, we see that when the four counties merge, with regard to business statistics, the cumulative region has a relatively large weight, primarily on a national basis. In a competitive situation for the national funds, and with regard to highlighting "their" issues on a national agenda, including the regions Mälardalen, Region Skåne and Västra Götaland, it is essential to work together and move in the same direction to a greater extent. A participant at the workshop formulated this as "the external and joint work to highlight the region's potential needs to be developed - more coordination and less competition" and the discussion surrounding this issue was incorporated into the possibilities of attracting EU funding for major projects by more collaboration across the county boundaries. Closely related to this is the issue of finding ways for continuous cross county collaboration.

We believe that a key issue for the regional leadership is both to highlight the added value of the innovation system for increased collaboration across county boundaries and also to find incentives and motivation for individual actors to participate in such collaboration. It is important not to end up competing for resources for development, but to always ensure the increase of input funds through collaboration.

Linked to this field and to the question of regional leadership, is the need to create a regional "brand" or common external image. This is something that is given low values by the actors in the survey (see table 33 above) and it is evident from the responses that many respondents see this as an important issue to work with.

**• Start from the target group in the continued process - their needs and demand - the system is not for the system's sake.**

Finally, it is important to involve businesses, entrepreneurs and innovators in the development process. We believe it is essential that further work is based on the actual needs and problems experienced by these groups. In the survey, some respondents pointed out the importance of ensuring that you listen to companies, entrepreneurs and innovators in the region. In this study, the innovation support system was in focus. To get a complete picture of the functionality of the innovation system, the needs and views of the target groups of the system must also be considered. In our opinion this is extremely important for the continuation of the process. How this can be made more specific is worth thinking about. It can mean, for example, designing a type of regional trade and industry barometer that continuously monitors the activities of enterprises through focus groups or sample surveys. Forums can also be created to collate the experience from the actors currently working closely with business. Linked to the point about the formulation of goals for the innovation system, this type of input is key to measuring achievement of goals.

**• Workshops for initiating concrete joint actions**

As a first concrete step in the continuing effort to develop a more functional innovation system in Småland/Blekinge we propose a workshop to draw conclusions from the study and identify, and prepare the rigging of, concrete proposals for action.

## Appendix 1. Definitions

**GRP (Gross Regional Product):** GRP is calculated based on the production side, i.e. the sum of the region's added value. The total of all regions GRP is equal to its GDP.

**R&D (Research and development)** Defined here in accordance with SBC's R&D research survey: "a systematic effort to search for new knowledge or new ideas with or without a specific application in mind". The development activities are defined as: "a systematic approach that utilizes research results, scientific knowledge or new ideas to produce new materials, products, services, processes, systems, methods or significant improvements of existing ones".

**Gasell companies::** Dagens Industri conducts the annual Gazelle survey. To be designated a Gazelle company you must meet all the criteria below. The company's four most recent annual reports always form the basis for the Gazelle survey

A Gazelle company shall have...

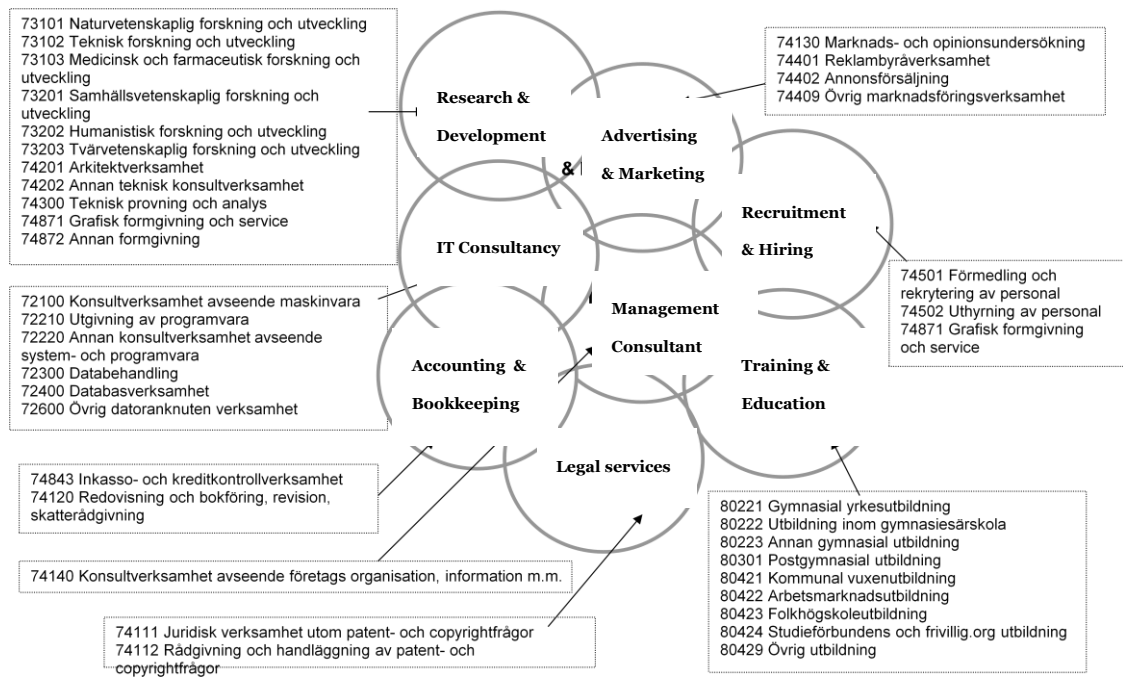
- an annual turnover exceeding SEK 10 million.
- at least ten employees.
- published at least four annual reports.
- at least doubled its turnover, if you compare the first and the most recent financial year.
- increased its turnover each year over the past three years.
- a positive operating profit for the four financial years.
- essentially grown organically, not through acquisitions or mergers.
- sound finances.

**Innovation system:** Here we use Vinnova's definition of an innovation system "The combination of actors, the links between them, driving forces and rules that affect the ability to innovate."

**Cluster:** We use the cluster concept as a cluster consisting of companies, public actors and universities/colleges from the same geographical area. Some of the advantages of geographic concentration in the form of a cluster are, for example, access to specialized labour, specialized inputs, technology, information and experience-based knowledge. A cluster initiative is a joint project in which private and public trade and industry work together to boost growth and competitiveness in an area.

**KIBS (Knowledge Intensive Business Services):** The following SNI codes are used here to define KIBS (the diagram is taken from the County Administrative Board of Stockholm, read the report, "A statistical overview of KIBS in the Stockholm Mälaren region"):

## Diagram 5 . Definition of KIBS





The regional councils of Jönköping, Kalmar, Blekinge and southern Småland are cooperating in several areas in connection to regional development and growth.

This report describes the common innovationssystem.

[www.smalandblekinge.se](http://www.smalandblekinge.se)