

# Blekinge's strategy for smart specialisation

Blekinge's strategy for smart specialisation .....	3
Three specialisations .....	3
1. Smart industry - moulding technology and marine technology .....	3
2. Tech - digitalisation and smarter societies .....	4
3. Missions - focusing on societal challenges.....	5
Bottlenecks for innovation and innovation diffusion .....	5
Blekinge is lacking in critical mass.....	6
2. Lack of funding.....	6
3. The system restricts innovation (tackling innovation-inhibiting policies) .....	7
4. Low level of social capital.....	7
5. Gaps in the regional innovation ecosystem.....	7
6. Low level of willingness to become an entrepreneur.....	8
7. Shortages in the supply of required skills.....	8
An overall goal for the smart specialisation of Blekinge.....	9
Organisation.....	9
Initiatives and measures .....	11

## Blekinge's strategy for smart specialisation

Smart specialisation is about concentrating efforts on to a few thematic areas, so-called specialisations. These are usually areas that are characterised by a productive economy, innovation height and future potential. These areas can be long established but can also be areas of development that are under construction. When working with smart specialisation, it is important to achieve a balance between focus, clarity and structure, while at the same time maintaining the ability to be agile and adaptable in response to the changes and developments that are continuously taking place in society.

The purpose of Blekinge's smart specialisation is to maintain and strengthen our high productivity and to meet challenges linked to our unfavourable industry structure and low employment rate. For the future, it is also crucial that we activate Blekinge's potential to actively engage in developing solutions to current and future sustainability challenges.

### Three specialisations

Blekinge's work with smart specialisation focuses on three main areas of specialisation. By mobilizing within these specialisations, we can create the conditions for development and excellence. At the same time the initiatives that are being implemented could also spill over into other areas. All three specialisations have significance for one another in different ways and the ambition is to increase cross-connections between the areas in order to develop new areas of innovation.

1. Smart industry - moulding technology and marine technology
2. Tech - digitalisation and smarter societies
3. Missions - with a focus on society's challenges

The first two of these specialisations are based on already established industry areas with substantial operations in the region and a good mix of companies. Both smart industry and tech are large areas that make up significant parts of the regional economy. The third specialisation, Missions, differs from the others in that it is a method for addressing the societal challenges we face at local, regional and global levels. Through this specialisation, Blekinge can be at the forefront and play an active role in working towards a sustainable future.

#### 1. Smart industry - moulding technology and marine technology

The industry has long characterised the economy in Sweden. In Blekinge the automotive industry is the largest, in terms of both the number of employees and value added. Blekinge's industry is not dependent on a large local market, but its products are distributed globally and many of the region's large international companies are found in this area. At the same time, the mix of companies is good with an amalgamation of larger and smaller companies, especially when related industries are considered. One possible limitation in this context is, however, that several of the companies are regional subcontractors and few seem to have their own end products, furthermore several companies are also dependent on only one customer. One strategy is

therefore to focus on the skills that exist in the area and investigate possible areas of application for these skills both in the industrial sector and across different sectors and areas.

The entire industrial sector is under a great transformation pressure and is exposed to international competition. This means that innovation and new technical solutions together with a high degree of specialisation and knowledge in specific areas could in the long run create a good level of competitiveness for the companies in Blekinge. There is also potential here to combine and cross-link some of Blekinge's strengths and specialisations, such as investigating connections between moulding technology and artificial intelligence (AI). The pressure on the industry has also to do with sustainability. A future approach characterised by sustainable production and a restructuring of the industry is therefore crucial for maintaining and developing competitiveness.

The strong presence, specialised skills and the substantial knowledge that exists within this field can lead to new specialisations being developed gradually, which are related to the current existing strengths. Focus for the Blekinges specialisation in the area of Smart industry should be placed on moulding technology (including computer simulations of moulding processes that can contribute to increased efficiency and sustainability) and the development area of marine technology. On a broader level, transformation, renewal and sustainability are also important goals for the specialisation as a whole.

## **2. Tech - digitalisation and smarter societies**

Tech is also an important sector for Blekinge. A large part of the region's research and innovation takes place in this sector, and the area also supports transformation and development in several other parts, such as industry, business and society at large. Tech should thus be seen as both a horizontal specialisation that contributes to broader development as well as contributing with diversity as the area includes several different aspects of great importance for the future, including digital product development (digital twin, data driven design, etc.); software development; cybersecurity; artificial intelligence (AI); Big Data; marine digitalisation; EdTech, the gaming industry, etc.

Within the area of Tech, there are several large companies that are of great importance to the regional economy in terms of value added and number of employees. There are also smaller consulting businesses, and the area is considered to have a good business structure with a mix of larger and smaller companies. Tech is characterised by a high content of knowledge and a high level of training, with professional groups such as technical engineers and systems scientists as dominant elements. Blekinge Technical University (BTH) also conducts both research and training with a focus on digitalisation in a broad sense.

Although the development within Tech has been weak recently, the area is considered to have good potential to be further developed in the region as several companies may have markets outside of the region. Tech as an area is also emphasized as a key force in the work aimed at meeting challenges in welfare, sustainability, etc.

Tech encompasses a variety of aspects and at the same time is a starting point for the broader digitalisation of our society, our industry and our companies and public sector. Due to this, the initial ambition is to retain

Tech as a horizontal specialisation where several different aspects can flourish while the broader development can contribute to the development and realignment of other areas.

### **3. Missions - focusing on societal challenges**

Missions as an area of specialisation differs from Blekinge's other two specialisations as it is a method. The work within this specialisation will therefore consist of developing the method, but above all applying it thematically within the framework of a regional test bed. The thematic application of Missions should primarily focus on healthy seas and oceans, climate adaptation and climate-neutral and smart cities. The Missions methodology will also be applied in Blekinge's other two specialisations - Smart industry and Tech.

Missions is a policy instrument within the EU, where the approach is to work with challenge-driven innovation. In other words, Missions is a method of forming cross-sectoral partnerships in the work involved with addressing, adapting to and finding solutions to the major societal challenges we face. With a Missions-oriented approach, we have the ambition to achieve systems change and address societal challenges, at both regional and global level, through mobilising participants from different sectors of society and industries.

When choosing Missions as a specialisation, we highlight one of Blekinge's strengths that is most often emphasised by regional stakeholders, namely the smallness of our region. Within the framework of our small size, regional test beds and demonstration environments can facilitate the emergence of both systems innovation and systems-tested innovation. In a situation where global challenges such as climate and the current covid-19 pandemic, are becoming increasingly urgent, there is a clear need for society to organise at all levels to meet these challenges and not least to face their consequences.

The working method for Missions is thus crucial for the future and by choosing Missions as a specialisation, we in Blekinge are adopting an important attitude towards both ourselves and the outside world. Not least, we are demonstrating that we believe in our companies', researchers' and organisations' ability to collaborate and innovate on complex issues. Through Missions, we increase the region's innovative competitiveness by exploring new areas of innovation.

Through Missions, we also differ from other regions in Europe as we are choosing to integrate one policy instrument with another, i.e., Missions with Smart Specialisation. This opens a variety of possibilities, including that of Missions becoming part of Blekinge's priorities in the European Regional Development Fund, which provides a stepping stone to other funding sources at both national and international level, including the world's largest research and innovation programme, Horizon Europe.

### **Bottlenecks for innovation and innovation diffusion**

A starting point for working with smart specialisation is to address the bottlenecks for innovation and innovation dissemination that hinder development in Blekinge. We need to design and implement initiatives, of both strategic and operational character, that contribute to reducing the negative effects of bottlenecks.

## 1. Blekinge is lacking in critical mass

One challenge for Blekinge and a factor that inhibits growth and development is the lack of critical mass in various sectors, industries, and areas. It's about critical mass of entrepreneurs, researchers, skills etc. Critical mass is crucial for the dynamics in an area, ensuring access to the right skills, achieving impact for new ideas and succeeding in diffusing innovation.

### Proposed actions for increased critical mass

An enlarged regional labour market is part of the solution to increase critical mass. In light of this, the modernisation of Blekinge's coastal railway is an important initiative for increased mobility within the region as well as between Blekinge and neighbouring regions.

In today's connected world, consisting of virtual workplaces and network nodes, we can also in some respects liberate ourselves from the limitations of geography and work towards a Blekinge that has a global reach concerning both the labour market, the skills pool, business contacts as well as research and innovation environments. With the help of technology, we can "borrow size" from others by connecting to interesting networks and associations within each specialisation. Blekinge's tradition of international collaboration, both on interregional, European and global level, lays an important foundation for future collaboration with others on shared challenges and common specialisations.

The work with the Missions policy method is another strategic way to mobilise more participants in the work with innovation development in the region. Through Missions, we can turn Blekinge's smallness into a strength. In a similar way, the other specialisations and their different aspects offer advantages with connection to Blekinge. For example, Blekinge is a unique environment in the field of marine technology where geography and the composition of participants create special conditions around which the construction of critical mass should be centred.

## 2. Lack of funding

There is a lack of funding in the region. Funding for collaboration between participants, funding for investment in research and innovation environments, and funding for skills development as well as structural transformation. There is also a lack of venture capital.

### Proposed initiatives for increased access to funding

We need to review the opportunities for increasing the development capital in the region and we need to work strategically with funding structures both nationally and at European and global level. Currently, Blekinge is the region in Sweden that allocates the least capital per capita for development, which has a negative effect on the generation of innovation in the region.

Both nationally and within the EU, there are several funding tools of different nature and scope. One ambition is therefore to synchronise and make these funds available to stakeholders in Blekinge. As part of this work, a strategic approach should be developed where partnerships and funding sources are combined based on long-term process design linked to each specialisation.

### **3. The system restricts innovation (tackling innovation-inhibiting policies)**

New technology and new solutions are not produced in a vacuum. These things happen in a context and in a system where organisational forms, institutions, laws and regulations can act as barriers to development. Today, we are also increasingly focusing on innovation and solutions that can counteract the effects of the major societal challenges we face.

#### Proposed actions

In this work, entire systems need to be analysed and sometimes adapted for the successful dissemination and implementation of an innovation. The work with systems innovation and innovation-inhibiting policies is therefore more important than ever.

### **4. Low level of social capital**

In a national comparison, Blekinge is low down on the index regarding openness, diversity, tolerance, and the ability to regenerate. These are factors which lay the foundation for an open and creative climate where individuals and ideas can meet and develop. A high level of social capital is based on well-functioning and inclusive networks, high level of trust as well as norms that enable diversity rather than limits it.

#### Proposed actions for increasing social capital

We need to develop and establish meeting places and test arenas that actively work with breadth and diversity in order to increase social capital. In this work, new types of participants and stakeholders need to be invited and new perspectives debated and explored.

### **5. Gaps in the regional innovation ecosystem**

The regional innovation ecosystem consists of a technology cluster, two science parks and an incubator. These are mainly located in the region's centres with higher population density. These stakeholders constitute nodes in the regional innovation ecosystem, however, there is untapped potential in terms of developing and scaling up the ecosystem so that it includes more types of innovation stakeholders as well as more geographical areas within, and perhaps also outside, Blekinge. A future-oriented innovation ecosystem requires several different skills and a cohesive management as well as governance. To work with innovation development today, a holistic perspective is required encompassing both product-, service- and process-innovation as well as a systems level perspective that includes sustainability. Linked to this, the supply of skills in the areas of specialisation should also be reviewed and due measures should be taken.

#### Proposed actions

To increase the region's capacity to build strength around smart specialisation areas, open meeting- and test arenas are required where stakeholders from all sectors of society can develop, design and test new cross-sectoral and cross-industry innovations and solutions. The existing support structure needs to be supplemented with new collaboration arenas to explore and develop new methods, such as Missions, with the aim of addressing societal challenges.

## 6. Low level of willingness to become an entrepreneur

Blekinge is characterised by a low level of willingness to become an entrepreneur. In comparison with other counties in the country, there are fewer residents in Blekinge who want to start and run their own companies. This is due to a variety of factors that also link to other bottlenecks mentioned in this strategy. To some extent, this may be about local attitudes to entrepreneurship and that employment is more highly valued, but also that the regional support system (consisting of educational as well as innovation stakeholders) is primarily aimed at supporting technical professions. Those who train as engineers have access to the entire support system, while those who want to study the arts or become social scientists must relocate to outside the region for further studies and then risk not receiving the same support when starting and enterprise and exploring entrepreneurship. Blekinge's gender-segregated labour market may also be linked to this. Today's regional labour market indicates a traditional view on work and manifests itself through the choice of profession.

Proposed measures:

This bottleneck is complex and elusive. Efforts with the aim to change attitudes are also something that requires long-term work. Initially, it is important to analyse this bottleneck in depth to better understand why so few people in Blekinge want to start their own companies. However, some actions could be taken already to:

- Explore the opportunities for young people to stay in the region even when their further studies have a focus other than technology and care.
- Focus on the regions anchor companies and the possible dispersal effects this type of company often has on entrepreneurship and spin-off companies in the local business community.
- Explore opportunities for entrepreneurship studies in the region or online.
- Experiment with and testing entrepreneurship as part of the test arena.

## 7. Shortages in the supply of required skills

Specialisation and excellence require skills, these can be sourced outside of the region, as well as developed through training within the region. Today, there is a lack of required skills in Blekinge and from a future perspective, this will probably also apply to our specialisation areas. There is therefore a need for relevant training in the region, but also incentives for people with the required skills to apply for work in Blekinge.

Proposed measures:

This bottleneck is twofold, it is partly about getting people that already live in Blekinge to choose trainings and professions that are related to the primary skills required, partly it is about getting those who are here on a temporary basis to stay permanently and further attract additional talent from outside.

- Systematically list the companies' and organizations' needs in terms of skills.
- In dialogue with educational providers, work to ensure that training courses focus on the skills required.
- Explore the possibilities for getting students in Blekinge to stay after completed studies, through for example close contact with employers and opportunities for apprenticeships and trainee programmes.



- Make it is easier for companies to recruit top-quality staff - often there is more than one person who needs to move here. Also, investigating opportunities for developing flexible forms of employment for staff, such as teleworking, etc.
- Develop an action plan for achieving excellence in the region's areas of specialisation

## **An overall goal for the smart specialisation of Blekinge**

Blekinge's smart specialisation will contribute to increased employment through research and innovation, cross-border collaborations, increased entrepreneurship and growing companies, as well as through supplying skills focusing on emerging industries.

One contradiction in the work with increased specialisation is that the regional economy, especially in smaller regions, benefits from diversification. In Blekinge, we need to in a strategic and smart way combine specialisation and excellence with diversification and diversity, that's how we build both development capital and resilience.

To achieve this, in-depth collaboration is required between different participants in Blekinge, both within existing networks and in new constellations. A clear goal within the framework of this strategy is therefore to develop and implement new methods, processes and models for increased collaboration between academia, business, civil society and the public sector.

As an extension of this, the goal is also to strengthen our innovative power through the establishment and development of open and cross-sectoral networks, dynamic meeting places and arenas as well as test and demonstration environments. By turning Blekinge's smallness into an advantage, we can thus develop test beds for various forms of systems and collaborative solutions.

Blekinge is stronger when good collaborations extend beyond the region. Our starting point is that a peripherally located region such as Blekinge can still have a global reach. With the help of digital infrastructure, virtual working methods, digital networks and new organisational forms, we can build critical mass by connecting to other places. The nearest neighbouring regions are important, both within Sweden and within the Baltic Sea region. But other collaborations nationally, on a European level and globally can also add value to Blekinge's development. We will therefore work actively to link research and development in Blekinge to other participants outside the region, as well as to integrate Blekinge's various areas of specialisation into interregional and global value chains.

## **Organisation**

Smart specialisation is a slow and long-term process based on regional mobilisation and anchoring. Joint ownership amongst regional participants is crucial for the successful implementation of the strategy. The organisational model of the strategy can be described on the basis of four levels. At the top, we have the political level consisting of Region Blekinge's Regional Development Board (RUN). This is followed by an overall strategic level consisting of both Blekinge's Innovation Council and the strategy reference group. Finally, a coordinating level consisting of the strategy secretariat as well as a level for each specialisation consisting of operational working groups.

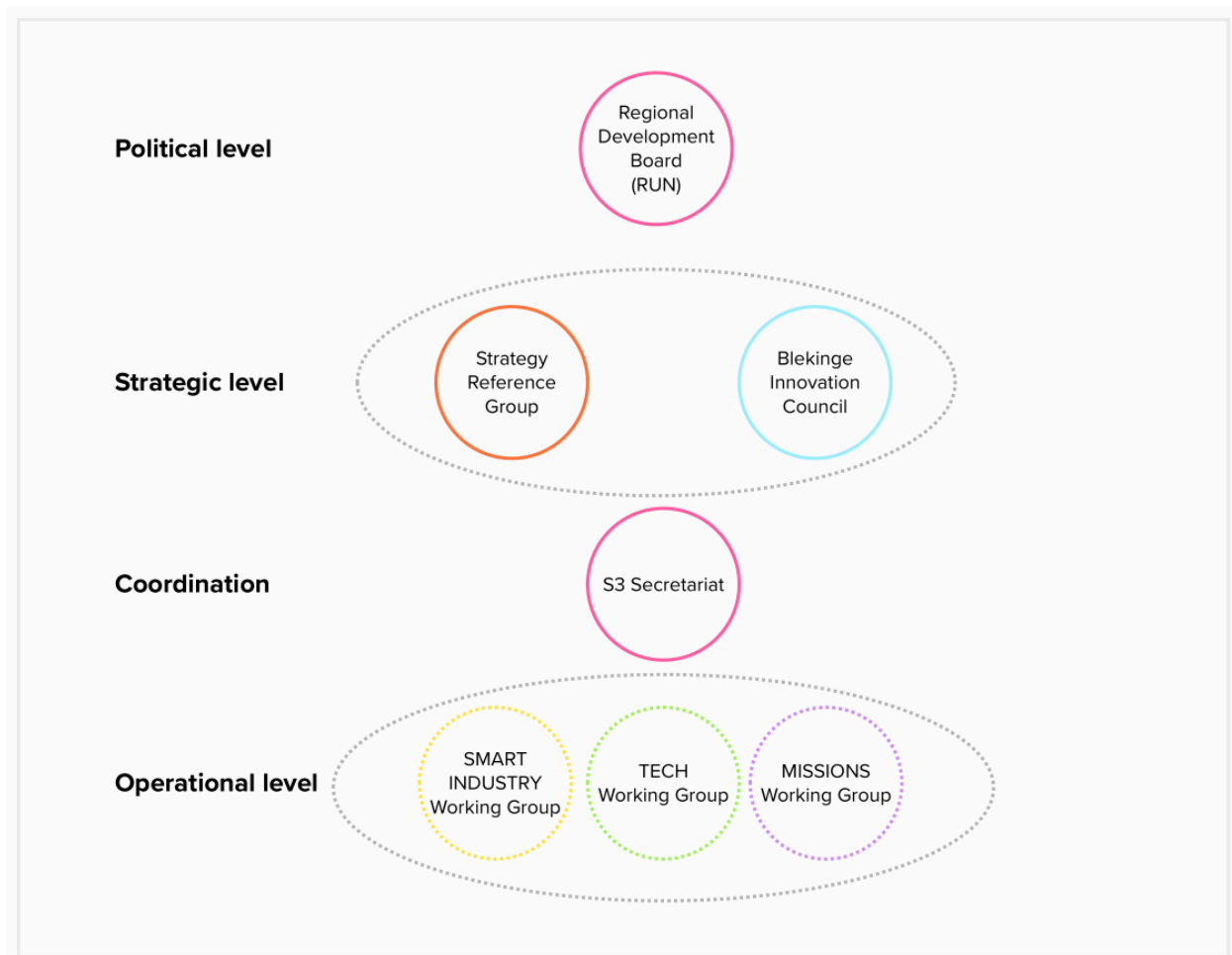
RUN, Region Blekinge's regional development committee, is the political body that has the ultimate responsibility for the strategy and its implementation. RUN decides on strategic issues.

The proposal is that the Blekinge Innovation Council functions as a reference and expert group whose role is to highlight Blekinge as a test arena for the work with sustainable growth and smart specialisation. The Blekinge Innovation Council consists of representatives from within as well as outside the region.

The Strategy Reference Group should consist of strategic participants based in Blekinge. It would be an advantage for the composition of the group to be diversified and participating organisations should represent different sectors. The reference group has a strategic task with the aim of guiding the work with smart specialisation in the region.

The strategy's coordinating secretariat is located at Region Blekinge and is responsible for ongoing coordination and management of the tasks. The secretariat reports to RUN and also prepares the Innovation Council's meetings and meetings with the reference group. The secretariat works both strategically and operationally with the strategy and its various processes.

For each area of specialisation, an operational working group is appointed consisting of representatives from the area's research environments, business clusters, etc. The working group is responsible for managing the implementation of the action plan prepared for each specialisation.



## Initiatives and measures

Below are a number of overall initiatives and measures that in the first stage serve to operationalise the strategy and its goals. Concrete efforts and measures for the three specialisations are identified in the respective action plan.

1. Within the framework of each specialisation, objectives and action plans are developed that will guide the initiatives and investments that are made in the future.
2. At a strategy-wide level, regular analysis and monitoring of the overall strategy work shall be carried out, this also includes ongoing trend spotting and external analysis.
3. Continuously work to synchronise various strategic documents and programmes relevant to Blekinge so that conflicting goals can be avoided (e.g., Blekinge's regional development strategy, public transport provision programme, local development plans and other strategies and programmes at national, macro-regional, European and global level).
4. Coordinate and intensify interregional and cross-border collaboration. In connection with this, develop meeting places and arenas for the exchange of knowledge and ideas as well as to enable new contacts and partnerships.
5. Define, develop, and put into operation concepts such as test bed and demonstration environments.