

Skills Policies – Building Capacities for Innovative and Resilient Nordic Regions

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Preface

This report is part of the research undertaken by Nordregio on behalf of the Nordic Thematic Group for Innovative and Resilient Regions 2017–2020, within the Nordic regional cooperation programme, and under the aegis of the Nordic Council of Ministers.

The Nordic Thematic Group for Innovative and Resilient Regions 2017–2020 listed four themes through which to identify key factors supporting the creation of innovative and resilient regions across the Nordic countries. These were: resilience, smart specialisation (S3), digitalisation, and skills policies.

Taking the regional level as its starting point, this report explores how different regions work with skills so as to enhance development and foster more resilient and innovative regions. An in-depth study on skills policies was carried out over the period from 2019 to 2020. This was based on insights and experiences from six case study regions across the Nordic territory. The thematic group and its secretariat are grateful to the stakeholders and interviewees in the case study regions for sharing information and for contributing to this piece of empirical research.

Skills is a topic which is increasingly gaining attention from policymakers. The current Covid-19 pandemic, and its consequences for the Nordic economy and labour market, are now expected to increase interest in skills issues even further. The Nordic Region, which is characterised by many similarities with regard to its institutional frameworks, actors and responsibilities, also evidences important differences among the various countries and regions. Understanding both the similarities and differences involved provides considerable learning opportunities across the Nordics, but also in a wider, global context.

This report highlights who the actors involved in the regional skills eco-systems are. It also identifies the main enabling and hampering factors involved in working with skills assessment and anticipation, skills development, and skills governance.

The report has been produced by Nordregio researchers in close collaboration with the Nordic Thematic Group for Innovative and Resilient Regions. Nordregio expresses its gratitude to the Thematic Group for valuable discussions and guidance in the course of its preparation.

Mrs Birgitte W. Sem

Chair of the Nordic Thematic Group for Innovative and Resilient Regions, 2019–2020.

Summary

Long-term trends in Nordic societies (such as ageing populations), along with rapid social transformations (like those brought about by automation and digitalisation), have resulted in increased attention being paid to skills and skills enhancement – not least from policymakers looking to cope with those challenges. However, skills are complex and many actors are involved in their promotion and provision. In this study, we focus on the regional level, which is the point of scale at which the demand for, and supply of, various skills is often articulated.

In order to respond to the research question concerning *How regions work with skills*, six case studies were conducted in 2019 and 2020. That meant one case study in each of the Nordic countries. Those selected were Pohjois-Karjala (North Karelia, Finland), Värmland (Sweden), Hovedstaden (Denmark), Hedmark and Oppland (Norway), Norðurland eystra (Northeastern Region, Iceland), and one in Greenland.

Four different topic areas were explored in each of the case study regions: skills assessment, skills anticipation, skills development, and skills governance. The study is organised into a cross-sectoral and multi-level governance framework, and from the research literature, we may utilise the notion of regional skills eco-systems to describe this.

Despite differences between the regions examined, including their varied institutional contexts, important Nordic learning outcomes emerge. These entail, firstly, acknowledging the strategic importance of skills to individual, regional and social development. Secondly, they entail an understanding that it is necessary not only to appreciate the institutional framework for developing a regional skills eco-system but also to involve all parts of that system – i.e. skills assessment and anticipation, skills development and skills governance. Systematic and long-term collaboration among relevant players within the overall system is important, too. So is clarifying roles and responsibilities among those actors. In recognising the many similarities between the different Nordic countries, there is important room for learning across and between them, not least when it comes to skills development.

This report on skills for resilient and innovative regions is part of a series of reports conducted on behalf of the Nordic Thematic Group for Innovative and Resilient Regions 2017–2020, within the Nordic Cooperation Program for Regional Development and Planning, and under the aegis of the Nordic Council of Ministers.

Sammanfattning

Långsiktiga trender i Norden, till exempel den åldrande befolkningen, har parallellt med snabba samhällsförändringar såsom automation och digitalisering, resulterat i ett ökat intresse hos beslutsfattare för kompetensfrågor och kompetensförsörjning för att kunna hantera dessa utmaningar.

Kompetens är emellertid ett komplext begrepp och många aktörer är inblandade för att främja och tillhandahålla kompetens. I denna studie fokuserar vi på den regionala nivån, då det är på denna nivå som tillgång och efterfrågan på kompetens ofta uttrycks.

För att svara på forskningsfrågan *Hur arbetar regioner med kompetensfrågor och kompetensförsörjning?* har sex fallstudier genomförts 2019–2020, en i vardera nordiskt land: Pohjois-Karjala (Norra Karelen, Finland), Värmland (Sverige), Hovedstaden (Danmark), Hedmark og Oppland (Norge), Norðurland eystra (Nordöstra regionen, Island), och en fallstudie på Grönland.

Fyra olika verksamhetsområden har undersökts i fallstudieregionerna; kompetensanalys av nuvarande och framtida behov, kompetensförsörjning och kompetensstyrning. Ett tvärsекtoriellt perspektiv med flernivåstyrning utgör studiens ramverk, och i forskningslitteraturen finner vi begreppet regionala kompetensekosystem för att beskriva detta.

Trots olikheterna mellan regionerna och dess olika institutionella kontexter, finner vi viktiga nordiska lärdomar. För det första, att tillstå den strategiska betydelse som kompetens har för individens, regionens och samhällets utveckling. För det andra, att det inte bara krävs att ha god kännedom om det institutionella ramverket för att utveckla det regionala kompetensekosystemet, men också att involvera alla delar i systemet, det vill säga kompetensanalys, kompetensförsörjning och kompetensstyrning. Systematiskt och långsiktigt samarbete bland relevanta aktörer i systemet är viktigt, liksom att tydliggöra roller och ansvarsområden hos aktörerna. Med hänsyn till de många likheterna mellan de nordiska länderna, finns det stora möjligheter att lära av varandra i Norden, inte minst då det gäller kompetensförsörjning.

Denna rapport om Kompetens för resilienta och innovativa regioner, är del i en serie rapporter som har tagits fram på uppdrag av den nordiska temagruppen för Innovativa och Resilienta regioner 2017–2020 inom ramen för det Nordiska regionala samarbetsprogrammet under Nordiska Ministerrådet.

1. Introduction

Technological innovations and global megatrends, such as globalisation and urbanisation, have shaped economies in developed countries towards models in which knowledge constitutes the raw material for economic activity. In knowledge economies education and skills have become cornerstones for economic growth and regional development. The rapid transformation towards increased digitalisation and automation, sometimes called the fourth industrial revolution, poses important short-term and long-term challenges, not only to industries and enterprises but also to policy makers as regards economic development, education and the labour market – i.e. to all those actors who have a central role to play in the provision of skills. The ageing population (Grunfelder *et al.*, 2020), which points to a current and future lack of labour and skills, poses another important challenge, as does the recent outbreak of Covid-19, which is expected to have both short-term and deep, long-term consequences for the economy throughout the world.

The framing of skills

Skills is a topic that has gained increasing attention from a policy perspective both in national policymaking (a Nordic example is the establishment of Kompetense Norge) and from international organisations. For example, the European Commission places skills firmly within the global economy and social cohesion:

Skills are a pathway to employability and prosperity. With the right skills, people are equipped for good-quality jobs and can fulfil their potential as confident, active citizens. In a fast-changing global economy, skills will to a great extent determine competitiveness and the capacity to drive innovation. They are a pull factor for investment and a catalyst in the virtuous circle of job creation and growth. They are key to social cohesion. (European Commission, 2016, p. 1)

In 2016, the European Commission launched the New Skills Agenda for Europe, which aims to 'work towards a common vision about the strategic importance of skills for sustaining jobs, growth and competitiveness' (European Commission, 2016, p. 3). This is centred around the relevance and quality of skills and making skills and the role of skills more visible. The European Centre for the Development of Vocational Training (CEDEFOP) promotes closer European cooperation on the provision of vocational education and training policy, which are cornerstones for skills enhancement. CEDEFOP defines skill as "the ability to apply knowledge, use know-how to complete tasks and solve problems and carry out the tasks that comprise a particular job" (Skills Panorama, 2019).

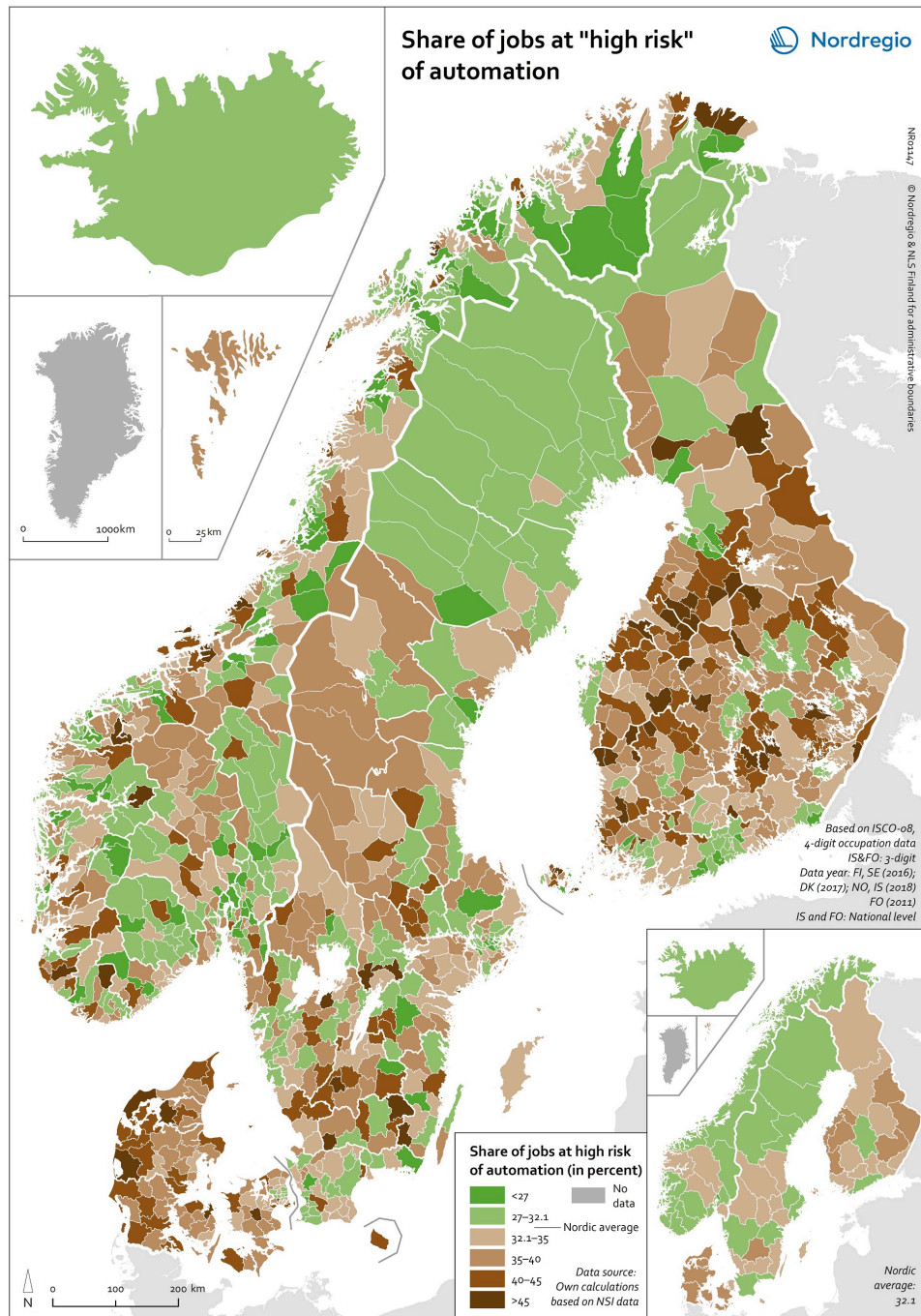
The OECD works to improve skills governance by providing evidence-based research, such as *OECD Skills Strategy 2019*, *Getting Skills Right* or the OECD Future of Education and Skills 2030 project, where they define skills as "the ability and capacity to carry out processes and to be able to use one's knowledge in a responsible way to achieve a goal. Skills are part of a holistic concept of competency, involving the mobilisation of knowledge, skills, attitudes and values to meet complex demands" (OECD, 2019, p. 3).

Within official Nordic cooperation, policymakers have paid particular attention to the labour market and skills, for example, the Nordic Future of Work initiative (Dølvik & Røed Steen, 2018). The Nordic countries share many similarities as regards the Nordic welfare model, the way labour market policy is organised in a hierarchical structure under the Ministry of Employment or its equivalence, and strong involvement of labour market partners. In all countries, and especially in Sweden, Finland and Iceland, legislation is used as a steering instrument for labour market policy. However, in Denmark also economic incentives play a very important role. The Nordic

countries have implemented recurrent labour market reforms the past decades where one of the challenges has been to strike the balance between national equality and efficiency on one hand and local adaptations on the other. In most cases, this has implied a stronger centralisation, but also important decentralisation, for example in Denmark (2007) with a stronger role for the local employment services, in Finland (2013) a stronger relationship between the labour market and business development with the 15 Centres for economic development, transport and the environment (ELY Centres) and in Norway (2005-2006) with the establishment of NAV whereby the national government and the municipalities were given a stronger and more coordinated role as regards skills. In terms of strategies, only Norway has a dedicated skills strategy (Norwegian strategy for skills policy 2017-2020). In the other countries skills, besides from being part of labour market policy, are framed into other policies and strategies, for example in Sweden into the National Strategy for Sustainable Regional Growth and Attractiveness 2015-2020 (Cuadrado, Lundgren, Wøien & Teräs, 2019)). A common challenge among all the Nordic countries seems to relate to governance and management, of how to implement a transparent and efficient steering mechanisms (Kullander & Tønnes Lönnroos, 2016).

One of the trends that the Nordic regions face, and that has implications for both the provision of skills and the content of those skills provided, is digitalisation and automation (Randall, Ormstrup Vestergård, & Wøien, 2020; OECD, 2018) Automation and digitalisation not only imply a higher level of complexity in production, which calls for skills enhancement, but also a shift in responsibilities affecting both high-skilled and low-skilled workers and changes in the labour markets towards more self-employment, for example (Avis, 2018; OECD, 2018).

Map 1. Share of jobs at "high risk" of automation in the Nordic region, 2019. (Grunfelder, Norlén, & Randall, 2020)



As illustrated in the map (Map 1) the average level of at risk of automation in the Nordic region is 32%. However, there are also large municipal and regional differences (Grunfelder, Norlén, & Randall, 2020). Municipalities with a large proportion of jobs at risk of automation are generally dependent upon individual industries, whereas those with less risk often represent municipalities with a higher diversification in the labour market and a larger share of public sector employment. However, it is also important to note that local labour markets are usually larger than individual municipalities. For example, in Sweden there are 52 local labour market areas, compared with 290 municipalities. This implies that many employees commute to work in a different municipality than the one they reside in (Borges, 2020).

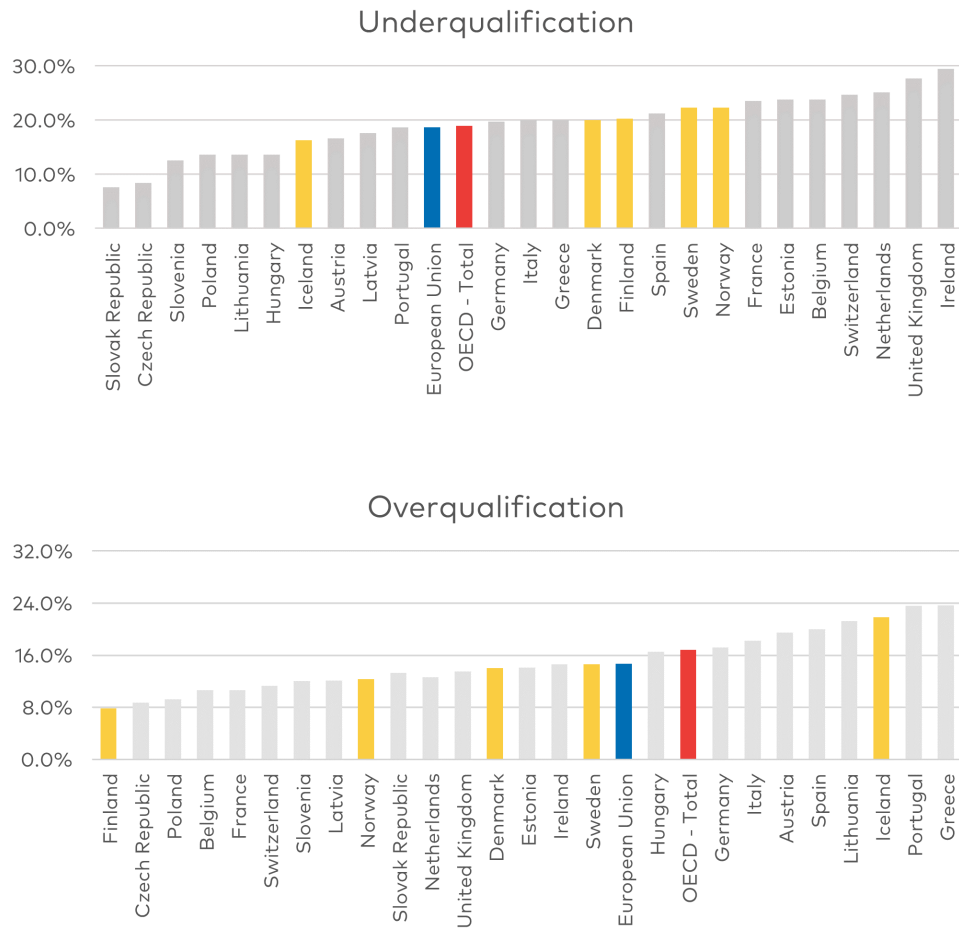
Table 1. Number of municipalities, regions and local labour market areas in the Nordic countries (Nilsson & Jokinen, 2020).

Country	Municipalities	Regions (NUTS 3)	Local labour market areas (2018)
Denmark	98	5	17
Finland	311	19	45
Iceland	72	2	13
Norway	356	11	75
Sweden	290	21	52
Faroe Islands	29	n.a.	1
Greenland	5	n.a.	0

The transformation towards increased automation and digitalisation is an ongoing process. We cannot yet fully see the results of this. It is also too early to determine the implications of the current economic crisis occasioned by the Covid-19 pandemic, which may also end up requiring changes to the way services and jobs are organised, so that they can be performed with 'social distancing'.

Finally, one trend with large implications for skills and the labour market, but which we know more about is the ageing population. All Nordic countries have an ageing population, and this is expected to have severe implications both for industries and for the welfare sector – which is already suffering from a shortage of skilled labour. Lack of skilled resources and skills mismatch in the labour market may also have significant implications for the regional economy. This may mean that businesses must turn down market opportunities. Additionally, the shortage of skilled labour in the welfare sector has important effects at local and regional levels, as most of these services in Nordic countries are provided by local and regional authorities. As illustrated below, the problems of skills mismatch are found across the OECD countries, where we find both underqualified workforces, i.e. when the educational level is below that required by the job market, and overqualified workforces, i.e. when there is a higher level of education compared to what is needed in the job market.

Figure 1. Skills mismatch in the workforce, aged 15-64 years old, 2016.
Source: OECD (2019).



Skills played out in a cross-sectoral and multi-level governance context

The challenges of a changing economy, ageing population and increasing automation and digitalisation are all played out at municipal and regional levels and may result in an overall surplus or shortage of skilled labour.

Public sector administration in Nordic countries harbours a strong tradition of sectoral policymaking (educational policy, labour market policy, SME policy, innovation policy, and so forth). However, the challenges we point to here, as well as the main topic of this study, skills have strong cross-sectoral dimensions. All Nordic countries have a decentralised system involving two or three layers of government, which means that there is a necessary division of tasks between those different levels of government. In many cases, the responsibility can be shared among several tiers of government within the same policy area. One example of this is education, where municipalities are usually responsible for primary education and sometimes also secondary education, and the state is responsible for higher education. On the other hand, vocational education in several countries is a shared responsibility, not only between different tiers of government but also between the government and private business sector.

This brings us to the central purpose of this study, which is to explore in greater depth how various actors in a regional setting cope with these challenges, and how they collaborate in order to enhance skills as the basis of building resilient and innovative regions. This means looking at the following questions. How do regions in Nordic countries work with skills development? Who are the main actors in this? What are the enabling and hampering factors? And what can Nordic regions learn from one another?

2. Analytical framework for the study of skills

To understand and respond to different challenges in society, different planning perspectives and frameworks have prevailed during different time periods. From comprehensive economic and rational planning after the Second World War, along with metropolitan and regional planning headed up by engineers and architects, to sectoral planning and policy planning by objectives. With collaborative planning starting at around 1980-1990, the focus was directed towards involving stakeholders with different backgrounds, values, knowledge bases and forms of expertise in order to improve capacity in dealing with uncertainty and increased complexity in society (Dryzek, 2000).

Despite different planning perspectives, we can still observe that sectoral planning has held a fairly strong grip overall. Looking at any national government budget will illustrate this. However, we will also find, in parallel, comprehensive development planning within regions, and more collaborative forms of planning involving public and private stakeholders.

That said, planning includes not only the management of different intersecting fields, or policy areas, but also the management of different levels of government, together with the cooperation of stakeholders from different sections of society. This gradual change is often referred to as the transition from government to governance (Rhodes, 1996; Pierre & Peters, 2000).

The focus of this study is on how regions work with skills. In order to explore that we need to frame the activities which promote and develop skills. In this study, we have summarised four key activity areas, which are further described below. These are:

1. Skills assessment and anticipation
2. Skills development
3. Skills mismatch, and
4. Skills governance

Most countries in the OECD have developed a system for **skills assessment and anticipation** to some extent. This aims at providing knowledge concerning the current and future skills needs of the labour market, as well as the availability of current skills (OECD, 2016b). The outcomes of these assessments can assist governments, labour market actors and education providers to adapt education and training provision towards the needs of the labour market (ILO & OECD, 2018). Among the tools employed for these exercises are surveys directed at employers, employees and graduates; sectoral studies; labour market data analysis, and quantitative forecasting models (OECD, 2016b). The difference between skills assessment and skills anticipation is primarily the timespan. So, whereas skills assessment evaluates the current supply of (and demand for) skills, skills anticipation looks to the future (OECD, 2016b).

Skills anticipation may consist both of skills forecasting and skills foresight exercises. However, it is important to note the differences between these two approaches. Whereas forecasting sheds light on trends in the labour market, foresight exercises are designed to *"provide a framework for stakeholders to think jointly about future scenarios, and actively to shape policies to match these scenarios"* (OECD, 2016, p. 39). So, although foresight exercises allow for a more dynamic approach to understanding potential futures, the main critique lies in barriers of cognition and imagination, which may determine the ability to develop various scenarios. (Bradfield, 2008).

Skills development refers to those activities organised by public and private institutions aimed at providing the labour market with the skills that are required. Educational institutions naturally play a crucial role in this. Skills shortages are often attributed to the failure of the education system to provide the labour market with the skills it needs (Cappelli, 2015; Cunningham & Villaseñor, 2016). However, the shift from industrial economies to knowledge economies, paired

with demographic transitions resulting in longer working lives overall, has broadened perspectives on the role of education in society and in lifelong learning. Lifelong learning strategies, non-formal training and workplace learning initiatives have been implemented in order to update, upgrade and better adjust skills to the needs of the labour market with a greater degree of flexibility. This means that education is no longer solely framed within the walls of the school, but rather takes place in many different arenas. However, in this context, it is important to remember that the roles and expectations of education are wider than simply providing the labour market with relevant skills. Education has a fundamental function in providing individuals with basic knowledge, as well as addressing social inequality by providing equal educational opportunities to all members of societies.

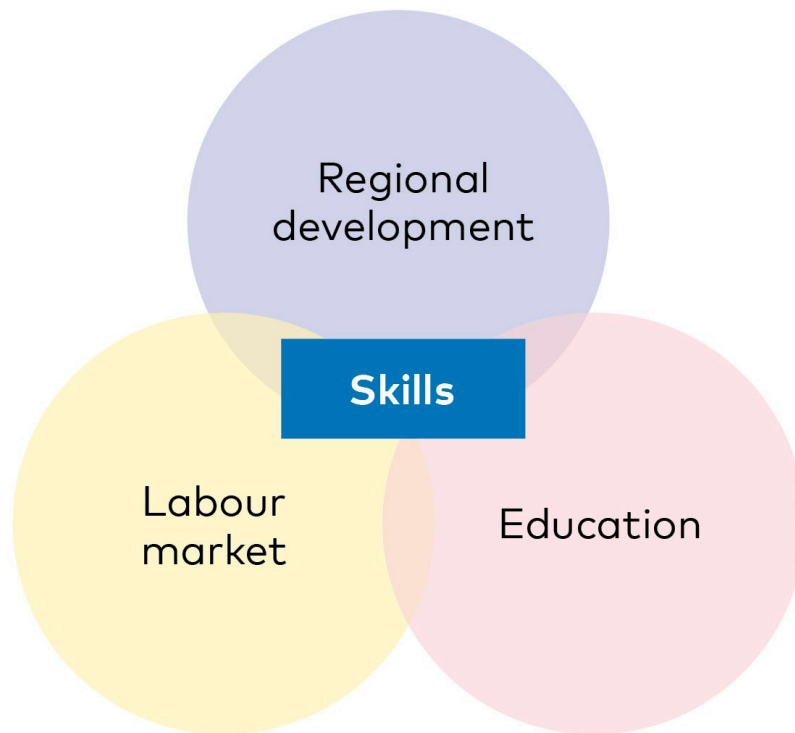
Skills mismatch is the situation that occurs when *"employers [are] unable to fill vacancies, despite high unemployment"* (Cedefop, 2015, p. 14). A skills mismatch includes both the notion of skills gaps in the working population and also a mismatch of qualifications – whereby employees are over or underqualified for the jobs they are performing. This skills mismatch is an illustration of the correlation between the educational supply system and labour market demand.

The fourth area examined in our study is **skills governance**. As mentioned in the introduction of this chapter, we are employing a multilevel governance perspective. Multilevel governance originated within the field of European Union studies in the 1990s, and since then the theory and its concepts have been evolving around the activity of governing and the role of actors involved in public decision-making (Bache *et al.*, 2016). In order to understand and respond to increased complexity, different forms of governance have emerged, of which multi-level governance (i.e. different levels of government), network governance (i.e. the involvement of different stakeholders) and market governance (i.e. the involvement of private actors) are perhaps the most widely-referenced (Marks & Hooghe, 2004; Sørensen & Torfing, 2007). Multi-level governance is certainly relevant to this study, as it addresses actors and policies across different sectors and levels of government. It has also been recognised as characterising the educational sector, where actors present at different operational levels are present in policymaking processes (Wilkoszewski & Sundby, 2014).

Towards an analytical framework for the study of skills

Skills is a policy area that is inherently cross-sectoral. That is, it is found at the intersection of educational policy, labour market policy, and regional development policy. This conceptualisation is illustrated in the figure below, where skills are placed at the centre.

Figure 2. Skills in a cross-sectoral context.



Skills are also framed within a multi-level governance setting, which means that it involves actors from different levels of government and stakeholders from different realms of society – as illustrated in the table below.

Table 2: Typology of skills actors in a multi-level government setting.

Levels of government	Education	Labour market	Regional development
International	EU	EU, ILO	EU, OECD Global businesses
National	Ministry of Education Government agencies Higher Education	Ministry of Labour Government agencies Labour market actors (Employers organisations and Unions)	Ministry of Finance/Trade and industry/ Justice Government agencies National businesses
Regional	Upper secondary education (NO) Vocational education and training (DK, NO, FI, IS)	Regional employment offices (DK, FI, NO, SE)	Regional government Regional business associations, cluster organisations etc. Regional businesses
Local	Upper secondary education (SE, DK, FI, IS) Vocational education and training (SE) Primary education	Public employment services (SE, DK, IS, FI)	Municipal government Local business associations etc. Local businesses

3. Methodology

The methodological approach of this study can best be described as abductive – whereby theory, in this case mainly multi-level and network governance theory, has laid the groundwork for an empirical study in which empirical findings feed back into the theoretical understanding (Alvesson & Sköldbberg, 2009).

Definitions

The central concept in this study is the notion of 'skills'. A lexical definition of skill refers to *"a type of work or activity which requires special training and knowledge", or "the knowledge and ability that enables you to do something well"* (Collins dictionary, 2020).

However, as we have noted in previous sections, skills may be framed from different perspectives, and there are also different expressions referring to skills across the various Nordic languages – such as 'kompetens' in Swedish, 'taito' in Finnish, and 'færdighed' in Danish. Beyond the nuances of language, we also find contextual elements that play into the understanding of the concept. In methodological terms, this poses practical difficulties when it comes to examining policy documents from all Nordic countries, for example. But it also advances the question as to how the actors in the different regions examined to understand the notion of skills themselves.

In this study we have been using the European Commission understanding of skills as a starting point for our study:

"Skills are a pathway to employability and prosperity. With the right skills, people are equipped for good-quality jobs and can fulfil their potential as confident, active citizens. In a fast-changing global economy, skills will to a great extent determine competitiveness and the capacity to drive innovation. They are a pull factor for investment and a catalyst in the virtuous circle of job creation and growth. They are key to social cohesion" (European Commission, 2016, p. 1).

This understanding of skills enables us to depart from a regional development perspective and explore how regions actually work to enhance skills. To acknowledge the cross-sectoral dimensions, as illustrated earlier, we place skills at the intersection of regional development, education and the labour market.

Research questions

This research addresses the following research questions:

- a. Who are the main actors at the regional level in the Nordic countries working with skills?
- b. What are the enabling and hampering factors to strengthening skills development in Nordic regions?
- c. What is the overall Nordic learning regarding skills development in the Nordic regions?

Case studies

In order to explore how the Nordic regions work with skills, and to answer the three research questions, case studies were conducted in one region in each of the Nordic countries and in one of the self-governing territories. The selection of case studies represents one region in each of the Nordic countries and one self-governing territory, as follows: Pohjois-Karjala (North Karelia, Finland), Värmland (Sweden), Hovedstaden (Denmark), Hedmark and Oppland (Norway), Norðurland eystra (Northeastern Region, Iceland), and Greenland.

Map 2. Map of case study regions.



The selection of case study regions was preceded by desk research, mapping out the relevant actors and key policy issues. This was published in a discussion paper (Cuadrado *et al.*, 2019). The regions selected represent different characteristics: rural and urban areas, one capital region, regions with different types of business and industry sectors, and regions with cross-border elements in them.

Table 3. Case study regions and their characteristics

*Hedmark and Oppland counties merged to form Innlandet County on the 1.1.2020 following a regional reform. Jevnaker and Lunner municipalities merged into the new Viken County.

Region	Typology*	Main economic sectors	Cross-border elements
Pohjois-Karjala	Predominantly rural	Bioeconomy, manufacturing, public sector	Yes
Värmland	Intermediate	Industrial region, manufacturing, public sector and tourism	Yes
Hovedstaden	Predominantly urban	Diversified economy; industry, manufacturing, services, public sector, tourism	Yes
Hedmark and Oppland	Predominantly rural	Industry, agriculture and forestry, public sector, tourism	Yes
Norðurland eystra	Predominantly rural	Fishing, agriculture, public sector and tourism	No
Greenland	Predominantly rural	Fishing, construction, public sector and tourism	No

*Urban-rural typologies of the Nordic regions are based on Eurostat's regional classification. The regions are classified into three categories based on their population density (2011 and 2015) in 1 km² grid cells. Predominantly urban regions consist of at least 80% urban population, intermediate regions of 50-80% urban population, and rural regions of less than 50% of the population living in urban areas (Nilsson & Jokinen, 2020).

As the study uses a cross-sectoral perspective in which the areas of regional development, education, and the labour market were all considered to be relevant, interviewees in the case study regions represent actors from each of these three areas. This includes public sector representatives from regional, county and city councils, employment services at regional and local levels, education actors from different educational levels, and representatives from business, industry, and business councils. The interviewees were selected through a snowball process. That is, relevant stakeholders provided key interviewees and those interviewees suggested other potential interviewees, based on the research questions provided and their cooperation with other actors. Semi-structured interviews following a questionnaire format (see Annex 1). In most cases, the interviews were conducted in the native language of the interviewees, so that the amount of data being lost would be minimal.

Limitations

This study has been conducted within the framework of the Nordic Cooperation Program for Regional Development and Planning, and the thematic group for Innovative and Resilient Regions within the Nordic Councils of Ministers during the period between March 2019 and September 2020. Five case study regions, one in each country, plus Greenland, were selected. This was so as to provide a broad overview of how different types of regions work with skills. In each of the regions, between four and six actors were interviewed. As illustrated in the introduction, skills constitute a complex area of cross-sectoral perspectives, involving many stakeholders from different levels of government and public and private sector. Hence the actors reflected in each of the case study regions in this study do not constitute an exhaustive list. Rather the selection aims to illustrate some of the most important actors in the regions studied. With regard to these limitations, we believe, however, that this study contributes towards a better understanding of how regions work with skills in different institutional settings, and also increases knowledge about issues of particular importance for regional skills ecosystems.

4. Case study reports on regions' work with skills

This chapter will present the case studies and the main findings from the Nordic regions that have taken part in this research. The first section on case studies provides an overview of the region. This is followed by a description of the main actors working with skills development; the enabling and hampering factors for working with skills; and the best practice from the regions' work with skills which could be useful for the rest of Nordic region.



Anders Wideskott / unsplash.com



Joensuu, Finland
Shutterstock.com

North Karelia, Finland

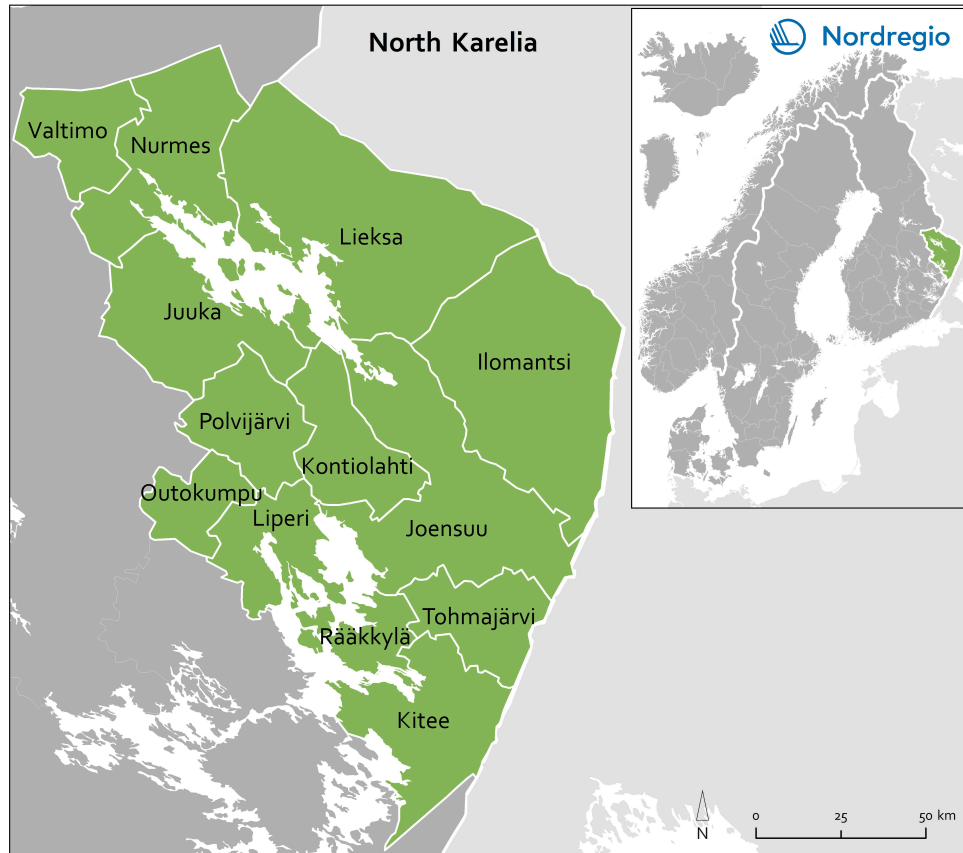
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Facts about North Karelia

Population: 162,265 (expected to increase by 3,500 when Heinävesi municipality merges with North-Karelia at the beginning of 2021).

Region: 13 municipalities divided into three sub-regions. Joensuu is the regional capital (inhabitants 76,551).

Map 3. Map of North Karelia



Overview

North Karelia (Pohjois-Karjala) is a Finnish region located in the most eastern part of Finland. It borders to the east with Russia, to the south with South Karelia and South Savonia, to the west with North Savonia, and to the north with Kainuu. Like many other Finnish regions, North Karelia faces the challenges of an ageing population, a decreasing volume and proportion of those in the working-age population, and low birth rates. In fact, the Regional Council identifies the ageing of the population and the high retirement rate as two main demographic challenges which, together with a shortage of skilled workers, could pose a barrier to the region's economic growth (Varis & Pitkänen, 2018).

North Karelia profiles itself as an education-intensive region. In fact, it is the region in Finland with the most students per capita. The University of Eastern Finland (UEF), Karelia University of Applied Sciences and the Vocational School Riveria are all crucial agents for enhancing the region's attractiveness to those outside. It is expected that the recent increase in cooperation among these actors in the education sector will support innovation at the regional level.

In 2018, the region enjoyed positive net inward migration, but negative natural population changes (Regional Council of North Karelia, 2019). Nearly half of the population still live in rural areas, although there is a recent trend toward increased urbanisation in the regional capital of Joensuu (Ministry of Economic Affairs and Employment in Finland, 2019).

Like many other Finnish regions, North Karelia faces the challenges of an ageing population, a decreasing volume and proportion of persons in the working-age population, and low birth rates. At the end of 2018, the unemployment rate was 13.7% (register-based). This is more than 6% higher than the national average in 2018 and in practice, it means that there are nearly 10,000 job seekers (Työ ja Elinkeinoministeriö, 2019).

These demographic and labour market challenges are well-acknowledged among regional actors, who have proactively tested and created tools and practices in order to respond to the challenges – even though urbanisation and demographic trends imply practically inevitable changes across the region in the long term. While there are several positive initiatives in place to overcome skills mismatch and gaps in the labour market, there are significant intra-regional disparities. This means that the skills mismatch and a lack of both training and job opportunities are higher in those municipalities located furthest away from Joensuu.

In North Karelia, about 11.2 % of the labour force comprises entrepreneurs, slightly above the Finnish average of 9.9%. North Karelia's private sector is also predominantly made up of small businesses. While there is thus an active small and medium enterprise (SME) environment, the internationalisation of business activities appears to be a specific challenge and bottleneck for the region, with only approximately 1.5 % (100 out of 7,000) companies in the region involved in exports. Regional actors have identified this challenge, and they are actively working to address it. The direct challenge of internationalisation is closely related to an overall deficit in business administration skills, which inhibits companies' readiness to grow and internationalise. Regional companies are predominantly small businesses focused on traditional sectors involving vocational and practical skills. They are often companies with just a few employees, if any. This is in situations where entrepreneurs have not acquired much designated training in business and HR administration and management. They, therefore, devote less attention to the strategic vision and long-term growth plans, focussing instead on their core business model for the local environment. For example, according to a local study, only 19 companies in the region have their own Human Resources (HR) director (Interviews: Riveria & Regional Council).

At the moment, local development corporations, especially in the Joensuu area, are working to increase dialogue and networking among small companies, and to provide a range of projects as a response to this challenge. In North Karelia there are four of these corporations promoting each subregion's business opportunities, supporting start-up networks, and providing services for regional companies both to grow and to access international markets. Together with educational institutions, they are also trying to engage companies as active nodes in the local innovation system, and to discover their long-term needs in order to adjust skills development better in the educational sector. Despite this ambitious aim, the very existence of four separate development corporations, with scattered activities all aimed at business support, produces challenges for strategic regional working. Despite an active dialogue among these different actors, a strategic and joint vision for regional business support is still absent (Interview: ELY-Centre).

Amid the presence of many regional challenges, regional actors' approaches to skills development remain very pragmatic and business-oriented. There is a clear willingness to integrate the whole region into joint discussions. The importance of joint action and strategic planning is well understood, and actors are in the process of building a shared vision for regional skills development. Regional actors' long-term mutual interaction, joint working group meetings, and recently increased cooperation with educational institutions have combined to create favourable conditions for the continuance of this development.

Main actors and their roles working with skills

The **University of Eastern Finland** is divided into two campus areas: Joensuu and Kuopio. The Joensuu campus has approximately 9,100 students. It is one of the biggest employers in the city, providing 1,122 jobs in 2018 (Joensuu city). Three faculties operate across the Joensuu campus area. One of the University's strengths is its extensive teacher-training programme, which is unique in Finland.

Forest-based bioeconomy is one of North Karelia's two domains, as specified in the regional smart specialisation strategy. The University of Eastern Finland, the European Forest Institute, the Finnish Natural Resource Institute, the Finnish Forest Centre, the Finnish Environmental Institute, and Karelia University of Applied Sciences – as well as a vocational college in the locality of Valtimo – all provide unique expertise in this field in North Karelia. The Regional Council's estimate is that there are 6,000 experts working in this field across the region. Research activities, small businesses with special expertise, and a skilled workforce in these

areas, are important for boosting the regional economy and its development. Partnership and cooperation between the research, education and business sectors are one of the region's strategic priorities. Partnerships in this field are consequently quite strong. However, there is still potential to develop the entrepreneurial discovery process further, along with cooperation between the education and business sectors, in order to harness regional capacity in this S3 domain.

The **Regional Council of North Karelia** is the main actor responsible for the regional development strategy and overall regional development. The regional strategic programme for 2018 to 2021 guides the use of European Union (EU) funds and other resources (approximately €170 million in total) allocated to the regions. It also aligns with smart specialisation as one of the regional goals. Coordination of regional cooperation is a principle responsibility of the Regional Council. The council has been hosting thematic working groups for education and skills foresight, with around a one dozen members representing all dimensions of society. As a result of this, the Regional Council working group published a separate skills and education strategy for the period 2019 to 2021. This addresses regional priorities for skills development. While the Regional Council has been successful in bringing together all regional actors to debate regional strategic priorities and cooperation, other dimensions of the regional economy have not necessarily been thoroughly engaged beyond their involvement with work of strategic task forces. So there is potential to further increase outreach and networking efforts, in order to boost information about, and engagement towards, a coherent regional vision.

Karelia University of Applied Sciences (UAS) had approximately 3,800 students in 2018. It provides educational programmes, and it operates in seven study fields: health care and social studies, business, engineering, forestry, media, and hospitality management. Karelia UAS has been actively involved in strategic work for regional skills development. It is working closely with local companies and with other educational institutions on research and development projects. Altogether they have approximately 900 partnering companies, with the latter also being the main employers of graduate students. Approximately two-thirds of recent graduates find a job within this network of partners. The aim of Karelia UAS in this field is that each student should receive a solid induction into the regional business ecosystem through their studies.

Riveria vocational school is the only educational institution in North Karelia offering vocational secondary education. It has approximately 6,000 full-time students (15,000 altogether, including short-term students and adult learning programmes). It employs 750 people across the region, located in six separate training centres. Riveria provides vocational training, adult education, apprenticeship and summer university activities. The current organisational structure was formed as a result of organisational changes at the beginning of 2018, whereby all the regional vocational schools merged into one institution. This change helped the region to coordinate and target vocational education across municipalities better, involving different companies with different needs. Riveria, along with the University of Eastern Finland and Karelia UAS, provides a targeted programme for small-scale business experiments, operating with a low-threshold principle and less bureaucracy. Through this programme, students can get up to €4,000 funding to enable them to test out their business ideas.

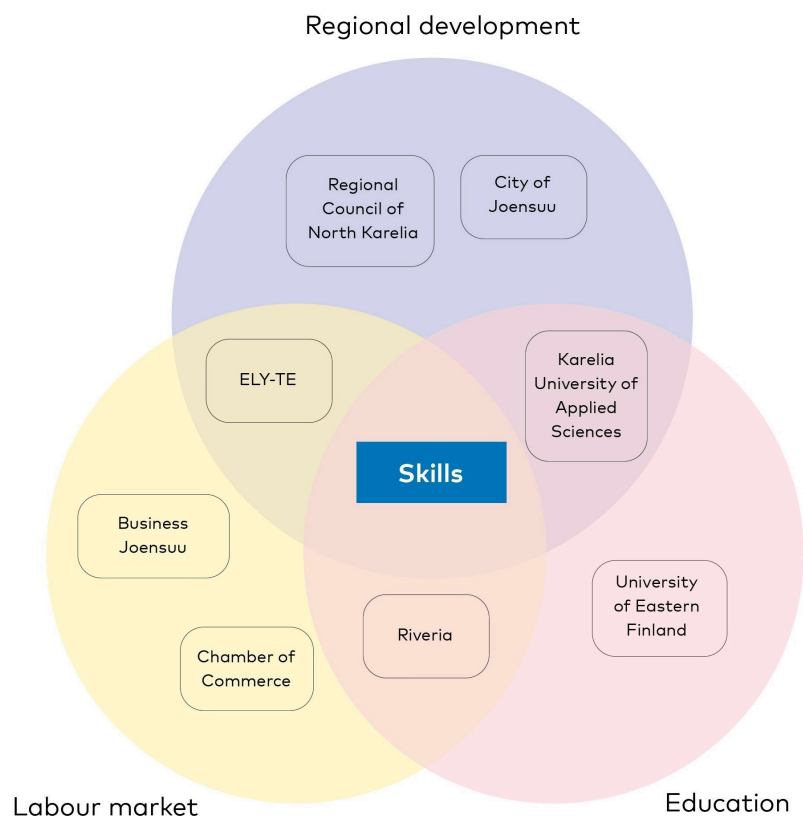
Regional business services in North Karelia are mainly provided by **four development corporations** which operate at a sub-regional level. These are non-profit organisations which work to increase the growth and competitiveness of regional businesses. **Business Joensuu** is the largest of them and has recently been remodelled to broaden and strengthen its services. The operational focus is in the Joensuu area, with seven surrounding municipalities. The main rationale of Business Joensuu is to support the skills development and entrepreneurial spirit of existing and aspiring businesses by engaging companies and entrepreneurs in more active dialogue, thus helping them to address their skills development needs. Addressing skills mismatches or human resources questions has not previously been the primary concern of development corporations in North Karelia. However, through the redesigned working approach of Business Joensuu, which is aiming to address business growth more comprehensively, there are new expectations about improving strategic work across the region. Business Joensuu's current organisational structure was established at the beginning of 2019. Besides their business revenue, their budget is funded by the Regional Council and by member municipalities, of which the city of Joensuu is the largest

contributor.

The **City of Joensuu** works closely together with Business Joensuu. The latter are also aligning their strategy to fit the city's vision concerning skills development. Skills and education are identified as the city's strengths, and are seen as key factors in increasing its attractiveness. The educational sector is a large employer, but it also provides business opportunities to the city of Joensuu, which is why Joensuu has been actively creating more network and possibilities recently, in order to utilise this opportunity. Joensuu has been active in a governmental cluster programme, Education Finland, too. This shares insights from the best education providers internationally, so that people from all over the world can learn about the Finnish education system. The city has been coordinating regional cooperation over this. It has created a shared working platform, *Global Education Park Finland*, which brings together Business Joensuu and main educational institutions in Joensuu. In August 2019, for example, a Chinese delegation of 200 people visited Joensuu, with the aim of becoming more familiar with the education ecosystem in the Joensuu area.

North Karelia's Chamber of Commerce and the local entrepreneurs' organisation are the main actors representing the private sector in regional strategic dialogue and policy dialogue. The chamber of commerce has also been involved in regional strategic work for skills. Increasing the active participation and voice of businesses further has been identified as a need in the forthcoming strategy process.

Figure 3. Main actors working on skills development in North Karelia.



National policies and legislation

ELY-Centre is a regional agency responsible for implementing national policies regarding economic development, transport and the environment, as decided by the central government of Finland. Their responsibility for supporting economic development in the regions is particularly directed towards business and industry services, competent and skilful labour force development, and allied cultural activities. They are financing and developing services for enterprises, employment-based assistance and labour market training. They are also the main distributors of the national R&D and EU structural funds. They are working closely with the regional councils, too.

TE-services (Employment and Economic Development Office) is local public employment and business service agency which arranges targeted courses for job seekers and companies. ELY-Centre coordinates the operations of TE-services in Finland. ELY-Centre, together with TE-services, is responsible for the planning and procurement of labour-market training for adults. But it is also responsible for tasks relating to the integration of immigrants. The tools and activities section will outline more of these national activities, all of which have been introduced to enhance skills development.

Interviews in North Karelia reveal a sense of distrust from the region towards the national coordination of skills development. Regions would like more concrete national instruments to support the quest for attractiveness among those regions with the highest demographic and labour market challenges (e.g. tax relief and student loan reimbursement). But recent years have been characterised by insecurity, with transitional arrangements being required for a planned reform in regional divisions and policy competences. An additional factor which has a notable impact at the regional administrative level is the division of mandates between ministries. For many years, national skills policies and their regional applications have been coordinated by the Ministry of Education and Culture. This remains the managing authority for all educational institutions in the region. However, the Ministry of Economic Affairs and Employment also has a significant role as the coordinator of Finnish regional policy, especially with regards to addressing a skills mismatch in regional labour markets (Interview with Regional Council). Communication about skills development, therefore, takes place in parallel between different actors. A recurring area of attention and concern, for both national education strategies and regional skills development discussions, has been to diversify education systems from their normally degree-oriented focus, so as better to support regional labour market training needs. In North Karelia, the Riveria and Karelia schools are in constant dialogue with the regional economy, in order to facilitate the tailoring of teaching content to regional skills needs. But there have not been significant structural/top-down efforts to support these endeavours.

Regional skills strategy

Representatives of the ELY centre have noted a lack of systematic thinking and shared vision concerning mismatching and skills challenges in the region. There are ideas for pragmatic solutions, but no real ownership of the 'big picture' challenges. ELY has therefore been gathering a task force for a designated **mismatch strategy** for the region – this work has been in progress since February 2019. Surveying by the task force has calculated that the region loses €185 million in added value and €74 million in regional and national tax revenues, due to the mismatch in the current job market. The operational plan on the basis of this analysis is being finalised. The idea is to increase understanding and ownership of the present challenges among the regional actors, so that businesses can engage in stronger recruitment measures through on-the-job training and so on, thus narrowing the mismatch and increasing employment across the region.

The Regional Council, in turn, has developed a **regional skills strategy** for the period 2019 to 2021, with the *Skills and Anticipation* cross-sectoral working group as its main driving force. The strategy is identifying business opportunities and skills development potential to support the expansion of the educational sector – so that the latter can back regional needs in skills and

training in an efficient way, by increasing the flexibility of pathways to acquiring specialised know-how. The strategy further identifies the need for increased cooperation and shared vision among all actors working in the educational sector. The strategy process is relatively institutionalised, and it has various access points for the wider public. The working group has arranged a series of visits and talks for the purposes of working on the skills strategy. While the working group includes representatives from all relevant stakeholders, including the private sector and different administrative actors, interviewees recount that the role and operations of the educational institutions has been more heavily represented and discussed in the strategy process, with relatively less focus and input from the numerous stakeholders in the private sector, such as small businesses.

"The Regional Council's strategy didn't include enough private sectors views. It was more driven by the education sector." - Respondent from the Regional Council

A third important strategy for the region is the **Joensuu area growth strategy**. A current strategy was created for the years 2016 to 2019, and now a new three-year plan is in progress. The current strategy emphasises three priorities: forest-based bioeconomy, technology and materials, and creative industries. The strategic goals, such as skills development, are integrated within these priorities. In the updated strategy, education and regional attractiveness are going to be given even more emphasis. The city of Joensuu is currently conducting background studies concerning inward and outward migration, tourism, and the international image of Joensuu itself.

Emerging from these different strategy processes in operation across the region is, on the one hand, the belief that a coherent long-term vision is still there to be shaped. In particular, it is recognised that the broader success of regional strategy processes will hinge upon whether the wider regional ecosystem is sufficiently engaged. This is needed in order truly to connect 'reality on the ground' and day-to-day skills-related projects to a larger picture. In other words, regional dialogue and strategy concerning skills development come across as disconnected in relation to overall regional aims. In this regard, it is relevant to ask whether it would be useful to draw parallels with the regional S3 process and strategy, and its clear bottom-up focus on creating strategy through entrepreneurial discovery. At present, North Karelia has an S3 strategy, with the two identified key domains being bioeconomy and the metal industry. (Interestingly, the education sector is not identified as a key domain.) But this strategy is an extension of the regional programme of the Regional Council. So, for example, no extensive entrepreneurial discovery process has been designated and conducted. Regional actors have clearly identified that current efforts on skills development are not systematic enough, and neither are they equally strong across the region.

On the other hand, these strategy processes also reflect a generally positive attitude and drive among regional actors, encouraging them to come up with pragmatic, solution-oriented responses to the challenges present in the regional economy and labour market. Actors are freely and actively collaborating with each other, without undue inhibition from administrative structures or hierarchies. Our next section will outline some of the primary tools and activities which have been introduced to enhance skills development in North Karelia.

Tools and activities to address skills development

TE-services arranges vocational labour market training and promotes recruitment to educational courses as a way of lowering unemployment rates. Vocational labour market training is targeted towards adults who are unemployed, or at risk of losing their jobs, and who have completed their compulsory education. TE-services, together with ELY-Centre, Social Insurance Institution (KELA), NGOs and local authorities, have been implementing a national programme for integrating young people into society. The tool here is one-stop-shop guidance centres (Ohjaamo), which focus on all young people under the age of 30 years, in their transition from education to work. The essential aim is to shorten the service provision process (European Commission, 2018).

The TE jobcentre offers a range of skills training formats: training for workers, which aims directly at improving the skills of the working-age population; entrepreneur-oriented training for aspiring entrepreneurs; and recruitment training for current entrepreneurs and workers who will be able to support them in obtaining vital new skills. Recruitment training has been very successful. The idea with these specifically tailored training opportunities is to achieve 100% employment for the participants involved. The state pays 70% of expenses during the training period, and the business involved pays for the remaining 30%. How it works is that the employer presents an idea for a training module, which is then planned out in collaboration with the trainer. The job is first posted as vacant, and then the idea is that training will help to fill the vacant position by equipping a worker to develop the required skills on the job. Interested trainers can bid for the training position. These have usually been filled by freelance professionals from the private sector, or from education institutions. Different employment fields have made use of the recruitment training concept. Mostly this has been different industrial sectors, and more recently transport, for example.

One of the practical tools for responding to regional skills mismatch problems is the so-called *Education factory*, a specific *apprentice-master* model coordinated by the development corporations. This model is primarily targeted towards facilitating the capacity of small companies to grow. The initiative for this working model started in the Central Karelia development corporation, which created and tested the model in an ESF-funded project. After the first successful project, the working model was implemented and further developed in an individually tailored way to other sub-regions in North Karelia. The model is based on thorough dialogue between the coordinator, job-seekers and a company potentially looking for new workers. Flexible and fast training provides quick solutions for companies whose needs are constantly evolving in a dynamic business environment. It supports companies to communicate their actual needs for skills, and improves access to education, with courses targeted to both sides of the labour market. Helping companies to communicate better about their needs has been particularly beneficial for small businesses with limited resources in growing or managing their business development. Communication and understanding the potential supply and demand for skills is essential for this network-based model, which complements conventional learning through a 'doing' model with the active involvement of coordinators. The coordinator's role is to introduce the actors to each other and to organise the educational approach to the *apprentice* – but also to the *master*, so that the company's capability of hiring again and growing is fully supported. The vocational school in Riveria has been the main education provider for this particular model.

Luotsi, meanwhile, is a project which aims to reduce the relatively high unemployment rate in Joensuu. The city of Joensuu coordinates this project with an approximately €8 million budget from the EU's ERDF. Cooperating partners in the project are the regional ELY-Centres, regional health and welfare services, and TE-services. These actors have together created a service on the 'one-stop-shop' principle, for people of all ages. However, one particular aim is to identify young people at risk of exclusion as early as possible, and to offer them individualised, low-threshold services. The service is based on personal and targeted services for individual job seekers particularly, but also for regional companies. Individual and targeted services are provided by personal job agents with different educational backgrounds. These are people who can assist job-seekers on their career paths. This is a three-year project which aims to create a fixed working model for local employment services. It is a pioneer project in Finland, and one which has also gained national interest.

Incentives and models for entrepreneurship and innovations

Systematic cooperation between all the educational institutions in Joensuu region – the University, the University of Applied Sciences as well as the vocational schools, has resulted in an innovation environment and entrepreneurship community known as Spark. This nationally unique working environment allows students from all educational institutions to study together and to develop their ideas further in a community-minded environment. Entrepreneurial courses and

training opportunities are well integrated into study programmes in all these educational institutions. The aim of Spark is to bring these separate entrepreneurship training and coaching programmes together in one place, so that the dialogue between students with different educational levels with various entrepreneurial mindsets is fully supported. Spark fosters the possibility of combining vocational and academic skills, and utilises joint efforts to encourage regional innovation. Business Joensuu and entrepreneurs' organisations are actively involved in this community-based learning environment. Universities are often criticised for only operating on one research field, or for providing too rigid (or degree oriented) educational programmes. This cooperative venture is one of UEF's concrete actions in support of regional innovation and business.

Another important recent development in North Karelia is the remodelling and widening of the role of the development corporation. This is something which Business Joensuu has carried out in recent months. The revamped strategic objectives of Business Joensuu aim to address more comprehensively the actual needs of entrepreneurs in North Karelia – covering start-up support; growth and business development; internationalisation, and support for investors. While there is no separate prioritisation of reducing unemployment, the strengthened support and networking activities with small businesses have the potential to address the most critical skills bottlenecks currently facing North Karelia's business ecosystem. That is the lack of entrepreneurial skills and a lack of courage to expand and grow business operations. If similar upscaling activities could thereby spread to the three other development corporations in the more peripheral municipalities, businesses in the entire region would be increasingly networked and agile in addressing and mitigating the skills mismatch challenges in their own operations and business development plans.

Regional strengths and challenges

North Karelia has many regional strengths, including abundant natural resources, and a well-developed educational system. A forest-based bioeconomy provides the region with new, sustainable business opportunities. The University of Eastern Finland is a stronghold of East Finland, together with other educational institutes, such as, for example, Karelia University of Applied Sciences. There is a fair amount of trust between the main actors, including public-private cooperation.

North Karelia also faces the challenge of an ageing population. Demographic challenges pose a barrier to the economic growth of the region. Moreover, there is a skills mismatch especially for municipalities located further away from the capital city of Joensuu. The lack of both training and job opportunities are elements of these intra-regional disparities: Joensuu versus the rest of the region. The internationalisation of businesses in North Karelia remains a challenge. There is an insufficient number of experts with the business skills needed to help the growth and internationalisation of the companies.

Nordic learnings

Nordic learnings can be identified, too, when it comes to North Karelia and skills development. The interplay between regional development, the labour market and the educational sector has proven to be a success factor in the development of North Karelia as a region. Specific actions to tackle the mismatch of skills, such as a specific mismatch strategy, and the regional skills strategy, are recent examples of joint efforts across the region regarding skills development. These have attracted a fair number of pragmatic, solution-oriented responses. Practical tools (e.g. Education factory, Luotsi) are worth having a closer look at in the wider Nordic context, too.



Karlstad University
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Värmland, Sweden

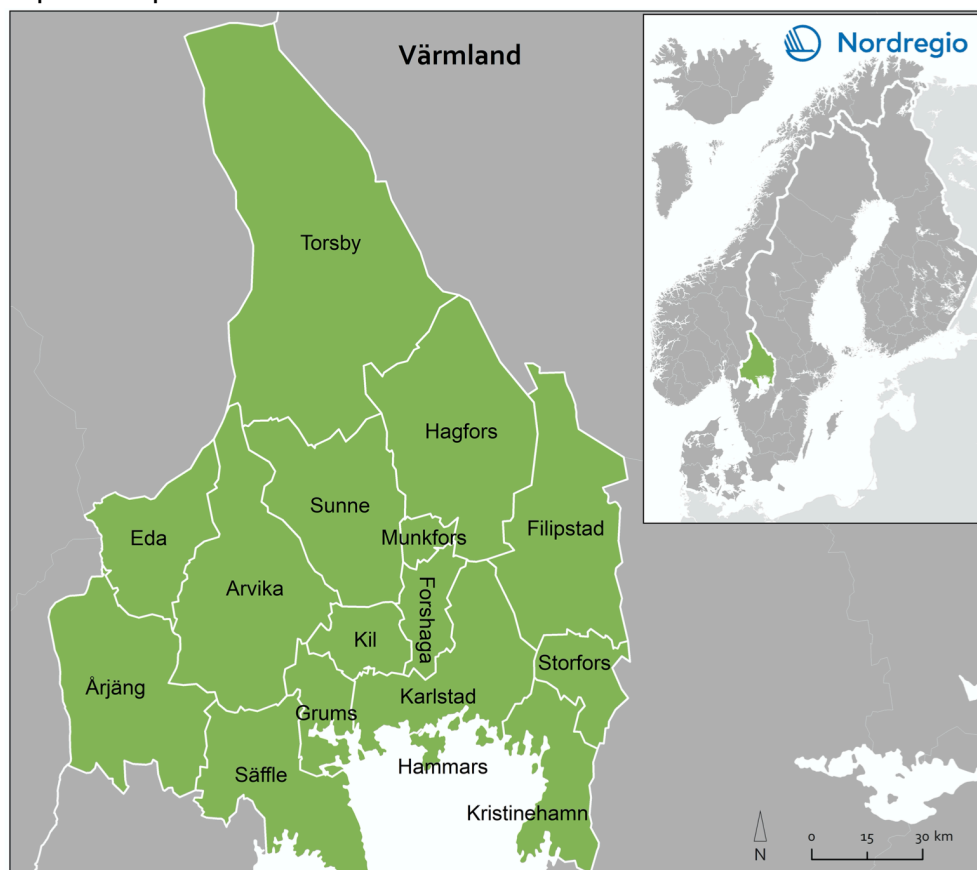
Authors: Anna Lundgren and Mari Wøien Meijer

Facts about Värmland

Population: 282,414 inhabitants (2019).

Region: 16 municipalities of which Karlstad is the biggest municipality with 93,898 inhabitants (2019).

Map 4. The map of Värmland



Overview

Region Värmland is situated in the west of Sweden and neighbouring Norway. It is a highly internationalised, middle-income region, with an export profile in the paper and pulp industry, steel and manufacturing, and ICT. Karlstad is the largest city in the region, and Karlstad and the four surrounding municipalities constitute its largest labour market area.

An increasingly older population, the global competitiveness of the industry sector, and long distances within the region are important challenges. Both within the industry sector and the public sector, there is an urgent shortage of labour. Between 2019 and 2023, some 13,000 skilled workers will be retiring. In parallel, four out of ten companies report not being able to recruit staff, and three out of ten companies report that they have experienced a business decline due to a shortage of labour (Region Värmland, 2019a). There is a lack of interest in the industry programmes offered at upper secondary level school, and adult education programmes offered in the region are mainly directed towards the healthcare and childcare sectors.

Despite strong economic clusters, and despite being a university region, the labour market in Värmland is characterised by a low level of education. As a result of the large inflow of refugees to Sweden in 2016, the percentage of immigrants in Värmland is high – and many of these immigrants have low educational levels. Värmland also has a large number of so-called NEETs – young people that are not in education or training. However, the region consists of many platforms and networks for collaboration among actors from the public, industrial and civil sectors. This includes skills development, too.

The main actors and their roles in working with skills

The main actors in Värmland involved in working with skills are Region Värmland, which is responsible for regional development, the recently-started Värmland Industry Council (Industriråd Värmland), which has an important role in relation to vocational education and training, the Public Employment Service (Arbetsförmedlingen), the municipalities responsible for providing education at primary and secondary levels (as well as adult education), and Karlstad University.

Other important actors are the regional business cluster organisations (Paper Province, IUC/ Steel and Manufacturing, Compare (ICT)), the Chamber of Commerce, and the County Administrative Board. Educational institutions such as Teknikcollege and Healthcare college (Vård- och omsorgscollege) and several collaborative platforms, such as Gymnasiesamverkan Värmland (from 2020), Smart specialisering and Regionalt integrationsforum, also have important roles to play in assisting development in skills and growth.

Region Värmland, one of the 21 regions in Sweden¹, is responsible for regional development and also for elaborating a regional development strategy for the region. Region Värmland's strategy, 'Värmlandsstrategin 2014-2020', is well-known among local and regional actors, and also serves as a platform for joint activities aimed at strengthening regional growth and development. A new strategy is being elaborated in close collaboration with local and regional actors, since the present one runs out in 2020.

Concerning skills, Region Värmland has multiple other roles, as well as being responsible for regional development. It is responsible for the five folk high schools, and it has a strategic role in serving as a facilitator of collaboration among different local and regional actors, with the aim of enhancing regional development and growth. Region Värmland has, for example, contributed to the establishment of the Värmland Industry Council. With regard to education, the regions in Sweden do not have a clear role or mandate, since they do not hold any formal responsibility in the provision of education. The government has assigned some responsibilities to the regions in terms of establishing learning centres and overseeing validation. However, this transfer of responsibility has been criticised by Region Värmland, along with other regions, for not being enshrined in a clear mandate, or furnished with adequate tools to fulfil the new responsibility properly.

Värmland Industry Council (Industriråd Värmland) was established in 2019, with the aim of strengthening industry in Värmland through active collaboration within the area of skills with the 16 municipalities, public and private educational providers, Region Värmland, the Public Employment Service, and the business sector in the region.

Värmland Industry Council represents more than 300 companies in the steel and manufacturing sectors (110 industries via IUC/Stål och verkstad), the forest industry (100 industries via Paper Province), ICT companies (100 companies via Compare), along with industries in other sectors and three labour unions (IF Metall, Unionen and GS). The Industry Council is unique to Värmland, and it has attracted interest from many other regions, too. The overall aim of the council is to shape conditions for life-long learning and future skills development in Värmland. This includes the task of having an overview of the situation as regards skills, and communicating current, short-term and long-term labour market requirements. It also needs to have knowledge about relevant actors and ongoing projects, and to be able to advocate the region's skills needs.

In order to ensure that the adult education offered corresponds to industrial and labour market needs, and to be able to improve the skills situation for the industry, the Industry Council in Värmland has assumed the task of coordinating adult education industrial programmes. These are offered with different industrial profiles in five municipalities (Karlstad, Hagfors, Sunne, Arvika and Kristinehamn), to which students from all over the region may apply.

The national **Public Employment Service (PES)** is assigned both to serve the unemployed and assist employers. The PES in Sweden is undergoing substantial reform in 2019-2020, according to which services will be concentrated in offices in fewer municipalities, and whereby more services

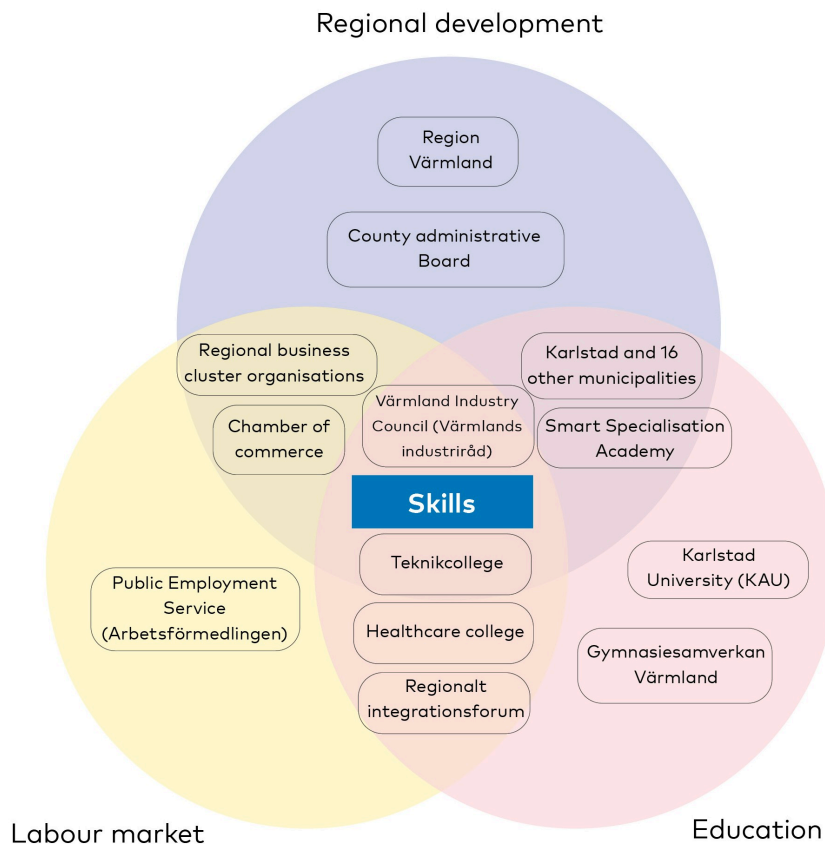
1. Region Värmland was formalised in 2019. The responsibility for regional development was previously performed by an association comprising the municipalities and the county council

will be provided by digital means. In Värmland this means a restructuring of the organisation into one that serves the entire region, and a reduction of public employment offices from 14 previously, to three with full services (Karlstad, Torsby and Arvika) and two offices with limited services.

Värmland region consists of **16 municipalities**, of which Karlstad is the largest one. As regards skills, municipalities are first and foremost, and by law, responsible for primary education, upper secondary education and adult education. However, municipalities also have other roles related to skills and the labour market. This is set out within the framework of the Local Government Act according to which they also work to stimulate business development and assist with local labour market issues.

Karlstad University (KAU) is one of Sweden's younger universities, with some 16,000 students. The largest faculty is the Faculty of Arts and Social Sciences, with 7,000 students. The other faculties are the Faculty of Health, Science and Technology, and the Faculty Board for Teacher Education. Education and research are the main priorities of the universities, but outreach and collaboration with external partners from the public and private sectors are integrated within both education and research. Karlstad University is well-known by the OECD and EU, for participating in the regional triple helix collaboration, and for contributing to the regional cluster work. The Academy for Smart Specialisation and the Service Research Centre are two examples of this. KAU also provides courses to both the public and business sectors (professional services), engages with secondary schools, and collaborates with public and private employers regarding internships, et cetera.

Figure 4. Main actors working with skills in Region Värmland.



National policies and legislation regarding the provision of skills

Upper secondary school education (gymnasieskolan) is provided by municipalities and aims at giving students a basis for future work and studies. According to the Education Act, upper secondary education shall contribute to personal development and the ability to participate actively in society, to the skills supply in the labour market, and to recruitment for higher education (Skollagen 2010:800, referred in SOU U 2018:01).

Adult education plays an important role for different target groups, e.g. to compensate for those who wish to change profession with secondary education, for immigrants wanting to establish themselves on the labour market, and for unemployed people returning to employment. Adult education also plays an important role in the supply of labour to the market. It is compulsory for municipalities to offer adult education – that is, basic education, upper secondary education that prepares students for higher education, and studies in the Swedish language for immigrants. However adult vocational education is not compulsory.

Higher education is regulated by the Higher Education Act (Högskolelagen 1992:1434) and the Higher Vocational Education Act (Lag 2009:128 om Yrkeshögskolan), and it is provided by **universities and higher vocational education** (Yrkeshögskolan). The public inquiry into the governance of higher education (Styr- och resursutredningen, SOU 2019:6) promotes academic freedom and the quality and responsibility of higher education institutions, but it also points to their social responsibility and to “do what they can to ensure that the knowledge and competence they build contributes to society in various ways” (SOU 2019:6, p.30).

Apart from the regular education system, the Public Employment Service is entitled to offer **education and training courses** to support unemployed people (Arbetsförmedlingen, 2020).

Regional strategies

“Värmlandsstrategin” is the regional growth and development strategy. It takes both the goals of EU cohesion policy and of a national strategy for national growth and attractiveness into account, and it is elaborated by Region Värmland, in close collaboration with many other actors in the region. It is also complemented by several other targeted strategies, for example, the Smart Specialisation Strategy.

Värmland has a long industrial tradition, a strong international business sector, and many export companies in the pulp and paper industry, the steel and mechanical engineering industry, and the ICT sector. The fastest-growing sector in terms of new employment is, however, the tourism industry. Among the challenges for the industrial sector, there is a lack of skilled labour, a need for incentives to improve equality, and better employment opportunities for immigrants. To reduce the effects of climate change, the transition to a more resource-efficient society is needed. Digitalisation and access to broadband play an important role in more efficient service delivery in both public and private sector. Neighbouring Norway is an important partner, and EU and international collaboration is important both to learn and to influence. This includes EU-funding, which plays an important role in skills development (Region Värmland, 2019b).

The strategic and facilitating networking role that Region Värmland assumes is confirmed and appreciated by several other actors in the region, among them Karlstad University and the Public Employment Service. One of the interviewees says: “Network governance is an important skill that cannot be neglected.”

One of the main priorities as regards skills development in Värmland is *raising the educational level*, which is lower than the national average, and where the differences between men and women are important. A higher educational level implies a better position in the labour market and improved health for the individual. It also contributes to the region’s competitiveness and social development.

A second priority is to *improve the mismatch situation*. This is a priority which is closely connected to regional businesses’ ability to recruit skilled labour, to attract investment, and to contribute to the region’s competitiveness. The main actors and initiatives working with these issues are the Värmland Industry Council and adult industrial vocational education programmes,

Teknikcollege (TC) and Healthcare College (Vård- och omsorgscollege, VOC), the Higher Ambition programme (which is a trainee programme to retain student after tertiary education), information to schools about the labour market, the Regional Development Centre (RUC), and local programme councils for TC and VOC.

Skills mismatch is very high on the agenda, and it seems to be the general understanding that in order to improve this, it is important to achieve closer collaboration between educational providers and employers, to analyse the supply and demand of skills better, to use this knowledge in close dialogue with educational providers, and to engage more with school-age young people.

Regional strengths

Värmland has a number of strengths that add to the attractiveness of the region. One example is the cluster collaborations in forest bioeconomy, ICT, tourism, manufacturing – all of which involve the public sector, the business sector and the academic sector as partners. These clusters contribute to economic growth and to a more varied business sector. The business climate in Värmland is highly ranked, especially tourism, which is growing fast in terms of the number of jobs. However, entrepreneurship is low, employment differs between those with at least an upper secondary education and those without education, and there are important intra-regional differences.

Region Värmland is well known for its forests, and it is distinguished as a region with a beautiful natural environment which is attractive for recreation, sports and tourism (Region Värmland, 2019b). Värmland has a long tradition of forestry, along with the paper pulp and packaging industry. The forests have also contributed to steel and manufacturing. However, they hold not only economic and recreational value, but also, from a climate perspective, forests and the forest-based bioeconomy are of huge importance. A regional forest programme is now being developed, in collaboration with many regional stakeholders.

Värmland is also well situated. It is 3 to 3.5 hours from Oslo and Göteborg and 4.5 hours from Stockholm. Surveys show that Värmland is recognised as an open, welcoming and positive region (Region Värmland, 2019b). Its proximity to the Oslo region holds the potential for an increased exchange of business, labour and trade. In 2017, trade from Norway amounted to SEK 5.5 billion. Some 3.2 million trips connected to trade were conducted between Norway and Värmland during the same period. (Region Värmland, 2019b). Karlstad University has many collaboration projects with the University Inn in Oslo.

Improved infrastructure and digital connectivity through broadband are expected to contribute further to the increased attractiveness of the region and to cross-border exchange in other sectors, such as education and healthcare. To date, there is no institutionalised cross-border cooperation in the field of skills (interview with a representative from Region Värmland).

Värmland is rather small, and scale is among the strengths of Region Värmland. Other interviewees point to the strong networks and multiple arenas for collaboration. As regards skills, many actors have a strong involvement in activities aimed at improving the attractiveness of the region. There is a strong willingness to engage in collaboration and several actors are singled out as "eldsjälar" in that regard. These are important strengths of the region. But as some interviewees also point out, a lack of formalisation and institutionalisation may also create a deficiency in terms of transparency and be a sign of vulnerability when key people change position.

Regional challenges

The most important challenge to Värmland is the current and future shortage of skilled labour. The employment service in Värmland estimates that, in 2025, 500 fewer people will be of employment age, compared to 2018. More than 13,000 workers will reach retirement age between 2019 and 2023, and in the same period, the number of people in the age group 16 to 64 years will be significantly reduced. Lack of skilled competence is regarded as the most important obstacle to economic growth among small and medium-sized companies (Region Värmland, 2019b).

However, immigrants constitute an important labour market reserve in Värmland, if they can gain the right education and skills to match the competence requirements of the labour market. Along with increased immigration, the need for a combination of language and vocational training courses has increased. These programmes have been criticised for being both complicated and costly for the municipalities to organise since they are not fully financed by national authorities (SOU U 2018:01). Despite positive results, Region Värmland has concluded that the current educational system does not sufficiently address the challenge of integrating immigrants into the labour market (Region Värmland, 2019b). Also, gender aspects are important to take into consideration. In those terms, Värmland has been found to have the most segregated labour market in Sweden (Region Värmland, 2019b). Also, with regard to immigrants, there are important gender factors at work. For example, 77% of students enrolled in the Swedish language programme in 2017/18 were men (SOU U 2018:01).

Unemployment in Värmland is somewhat lower than the Swedish national average. The highest unemployment is to be found among immigrants with only primary education, and young people without upper secondary education. However, there are large differences within the region. Fulfilling upper secondary education seems to be an important divider when it comes to getting established on the labour market, and most employers require at least upper secondary education (Region Värmland, 2019b). Värmland also has 6,000 NEETs (Not in Education and Training), which several of the interviewees describe as the result of a failure of collaboration among public sector services.

Many of our interviewees raise challenges with regard to how the educational system is organised, and its ability to provide the skills that are most needed in the labour market. The largest challenge in upper secondary education, to do with the shortage of skilled labour in Värmland, is lack of interest among students regarding industry-related programmes, and the need for increased collaboration among municipalities in offering attractive industrial programmes. Another important concern is the inherent conflict of goals in legislation, whereby student preferences are used as a guiding principle to determine upper secondary education programmes on the one hand, and labour market needs on the other. This conflict of interests has been further accentuated by marketisation and competition among providers of upper secondary education (SOU U 2018:01).

In Värmland as in many other parts of Sweden, there is the insufficient provision of suitable labour with upper secondary vocational education (yrkesinriktad gymnasieutbildning), especially in sectors such as transportation, construction, manufacturing, automation, restaurants, and healthcare (SOU U 2018:01). There is also a lack of interest among students for these programmes, which makes it hard to fill up classes, and in a long run to offer viable programmes in these areas. We also found significant gender segregation, and our evaluations show that those choosing a non-traditional upper secondary vocational education programme run a larger risk of dropping out (SOU U 2018:01).

As regards adult education, the municipalities are responsible for providing both the kind of adult education that prepares for higher education, and also adult vocational education. These two forms of adult education rely upon different regulations². Whereas it is compulsory for the municipalities to organise adult education (Komvux) and studies in Swedish (SFI), it is voluntary for them to organise adult vocational education. That has to be organised in collaboration with

2. (Förordning (2016:937) om statsbidrag för regional yrkesinriktad vuxenutbildning referred to in in SOU U 2018:01, Planering och dimensionering av komvux och gymnasieskola.

at least three municipalities, involve labour market actors, and is only partly financed by the state.

According to the public inquiry, SOU U 2018:01, this implies fewer and lower incentives for municipalities to offer adult vocational education. In other words, because it is voluntary, it is less of a priority, and in practice accessibility to adult vocational education varies considerably among municipalities – not only as regards which programmes are offered, but also on account of different interpretations of the regulations. Generally, the healthcare sector has been more successful in recruiting students to vocational programmes, in comparison with other sectors such as industry and construction (SOU U 2018:01). In the case of Värmland, there is a strong need for adult vocational education outside the healthcare sector (interviews with representatives from Industry Council Värmland and Region Värmland). The inquiry referred to above also points to the limited resources for student counselling (studie- och yrkesvägledning), which has a negative impact on both individuals and on the mismatch in the labour market.

As regards higher education, Värmland performs well in comparison to the national average. Despite the generally positive effects of higher education on unemployment, income levels, health, socio-economic outcomes and future employability, the long term Swedish prognosis points to a surplus of labour with upper secondary education in theoretical programmes, and a deficit of labour with upper secondary education from vocational programmes (Statistiska centralbyrån, 2017). However, within certain sectors such as teaching, and the different professions involved in healthcare, there is still a shortage of those with a university degree. Reduced demand for people with a university degree is a situation also found in Värmland. Many students from Karlstad University leave the region after they have finished their studies, with only 15% of students staying in Värmland (Interview with a regional representative). To address this problem, relevant education programmes and closer collaboration with the business and industry sector are likely to have an important role to play.

Karlstad University (KAU) is a key partner in the industrial clusters in Värmland, which serve as platforms for the university to reach out in relation to research results, to collaborate with external partners, and to develop commissioned educational programmes (uppdragsutbildning). In comparison to other regions of a similar size, KAU offers more educational programmes in healthcare (Interview with University representative). Despite strong networks and a strong tradition of collaboration with external partners, the university finds it difficult at times to respond to expressions of interest from the business sector related to specific labour market needs. The fast pace of change in the business sector is also a challenge. This reminds us that the university has a wider role than just responding to regional labour market demands (Interview with University representative).

In order to address the problem of a mismatch between educated and skilled labour and labour market needs, it is crucial to have a system for the assessment of current and future skills needs and to anticipate educational responses. Twice a year, the Public Employment Service conducts a national labour market evaluation (arbetsmarknadsundersökning). In the evaluation for the autumn of 2019, the national questionnaire was complemented by interviews with 600 companies in Värmland representing all types of industries. This has been expected to provide the region with more in-depth knowledge concerning current labour market requirements for different parts of the region. The evaluation is also expected to contribute to the dialogue among regional actors regarding skills needs.

The inquiry SOU U 2018:01 suggests more finely tuned tools for labour market analysis; ones that also take regional perspectives into account. This is also in line with OECD recommendations (OECD, 2016a), which point to the need for closer collaboration at regional level – in order to mobilise actors at different levels (national, regional and local), and to make qualified assessments of regional competence requirements. The need for enhanced collaboration among actors as regards skills is highly prioritised among several actors in Värmland, among them the Public Employment Service. PES particularly points toward the area of adult vocational education and adult education, and the collaboration with the business sector and the municipalities. They also suggest that collaboration with the University could be more formalised than it is at present. The current reform of the Public Employment Service, by

which the organisation will correspond with the territory of Värmland, is likely to further facilitate cooperation.

In order to fulfil the request for closer collaboration, Region Värmland points firmly to the need for a more formalised regional cooperation, where roles and responsibilities are clarified, and whereby regions are given a clear mandate and efficient tools regarding their expected role in skills development (Interview with a representative from Region Värmland).

Of importance is the collaboration and proactive coordination among municipalities as regards educational programmes, in order to achieve a better match with the region's labour market needs, and with a large skills deficit in the industrial sector. Among others, the Public Employment Service refers to the system for inter-municipal reimbursement as a hampering factor in relation to the quest for closer collaboration. The PES underlines the crucial role of the municipalities, and their intention to strengthen this relation, both regarding labour market matters and business development issues.

This complements the comments of the Värmland Industry Council, which is requesting much stronger cooperation in the educational sector, and more specialised programmes tailored to the industry. This is necessary to be able to attract students, to respond to the industry's skills requirements, and to reduce the skills mismatch.

"Today the municipalities in the region are poorly coordinated, and the supply of education does not sufficiently reflect the skills demanded by employers in industry and in the private sector." - Representative from Region Värmland

Main priorities for skills development

In collaboration with regional partners from the public and private sector, Region Värmland has started elaborating a new regional development strategy which will replace 'Värmlandsstrategin 2014-2020'. This new strategy will also be coordinated in tandem with the new structural funds period. In parallel, the region's strategy for Smart Specialisation 2015-2020 will be updated in collaboration between Region Värmland and Karlstad University. When it comes to analysis and prognosis, and the assessment of future skills needs, some important elements and statistics are already in place, or underway (for example population prognosis, the Public Employment Service labour market evaluation, scenarios from Värmland 2060, studies of future competence needs, a study based on the World Value Survey, and statistics on the economy, business development, labour market and education, plus a study of skills and competence in smart specialisation areas). Shared data and statistics are important sources of information and serve as a common, pooled resource for many actors. However, a coherent structure for working with analysis and prognosis of skills needs is still lacking.

The OECD concluded in its 2016 study, 'Getting Skills Right', that the national analysis and prognosis of labour market demands were not adapted to use in regional planning to determine the volume and scope of education. The ongoing public inquiry concluded that it is likely that new measures will therefore be needed to facilitate the regional planning of education in relation to regional labour market needs (SOU U 2018:01).

The collaboration in established Värmland is certainly a good start. However, as mentioned earlier, the role of Region Värmland needs further clarifications; a clear mandate, and effective resources and tools in order to support cooperation among actors to reduce the mismatch between education and labour market needs, and to reduce negative impacts of structural change in the economy. The Värmland Industry Council and the five adult vocational industrial training programmes need to be developed further. A joint and coherent structure could also serve in responding effectively to national government initiatives (such as, for example, the ongoing public inquiry on adult education SOU U 2018:01), and it could also help to monitor current projects.

In the longer run, Region Värmland would like to see a stronger involvement from the business sector and would prefer. It would also prefer upper secondary and adult education to be based on regional territory along with a formalisation of the regional work in skills development. This is

in line with several studies showing that close collaboration between education, employers and working life facilitates establishment in the labour market (SOU U 2018:01).

The Public Employment Service also signposts the role of public transportation, and in the Värmland case regional east-west connections especially. This is, in turn, an argument for the importance of cross-sectoral planning also including transport planning. Another cross-sectoral topic raised by the PES, is working with attitudes towards immigrants and long term unemployed. They have experienced very good results in projects where employers have been closely involved in establishing training programmes for immigrants.

Nordic learning

Important Nordic learnings from Värmland include the strong networks and the multiple collaboration arenas. Värmland Industry Council is a good example of collaboration between the business sector and educational sector and a platform that can be further developed. We also find several good examples of institutionalised and long-term collaboration between the Public Employment Service and the business sector, for example. One example is an education and training programme for drivers that was organised by the PES in close collaboration with employers in the transportation sector. Important success factors, in this case, were to involve employers in the evaluation of applicants and to offer a job guarantee for the students when starting the programme. However, we also find challenges in Värmland that we can learn from. One of them is the unclear role and mandate for the region as regards skills and competence. The multiple arenas for collaboration are indeed a strength but may also imply a lack of coherence. And finally, the reluctance to engage more actively that was found among some business and university representatives, sometimes due to lack of time and in other cases lack interest, may in a long term in fact hamper the development of the Värmland regional skills ecosystem.



Copenhagen, Denmark
Razvan Mirel / unsplash.com

Region Hovedstaden, Denmark

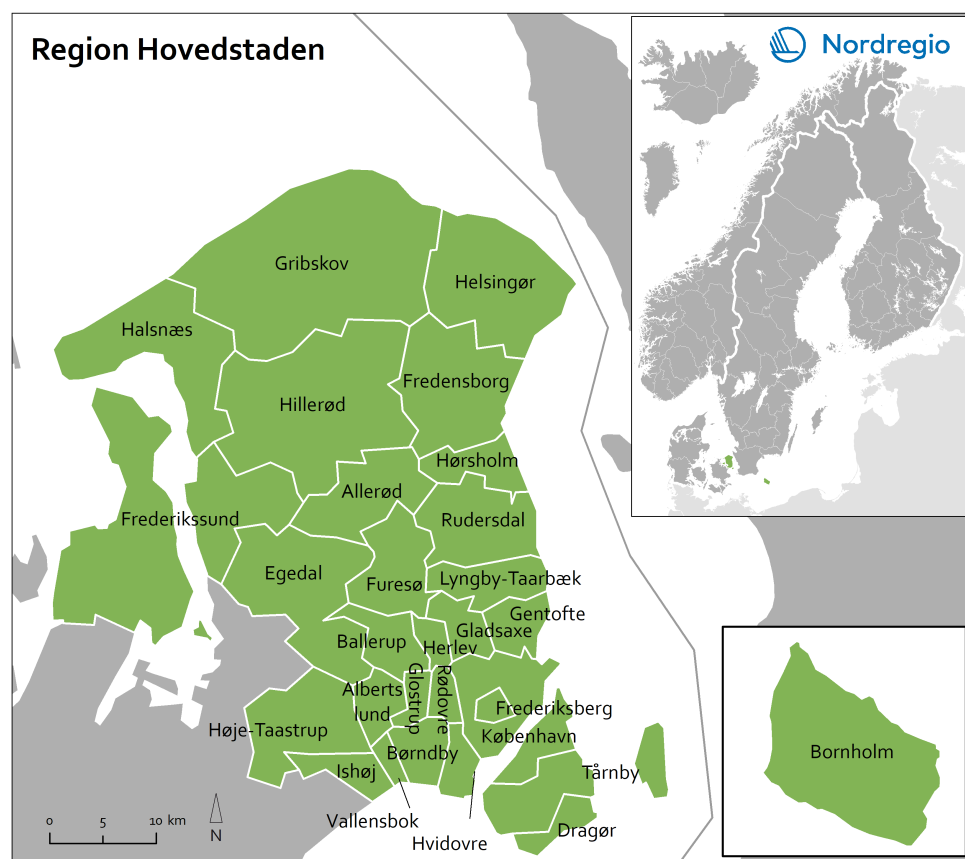
Authors: Anna Lundgren and Jens Björn Gefke Grelck

Facts about Hovedstaden

Population: 1,848,989

Region: 29 municipalities. The city of Copenhagen is the largest municipality (Inhabitants 626,508).

Map 5. The map of Hovedstaden



Overview

Hovedstaden is the Danish capital region, and it is located in the eastern part of the country. It is bordered on the east by the Swedish region of Skåne, and on the west by the Sjælland region. Copenhagen is the largest city in the region, and has 633,021 inhabitants, more than a third of the total of 1,848,989 inhabitants for the Hovedstaden region (Statistics Denmark, 2019).

Region Hovedstaden is the capital region, leading when it comes to economic development and the growth engine for the country. It accounts for 40.8% of the Danish GDP. The population density and concentration of businesses contribute to specialisation, knowledge-sharing and the matching of jobs, businesses and skills. In terms of unemployment rates, Denmark is performing well, with only 5.4% are out of work (Statistics Denmark 2019). Region Hovedstaden is performing comparatively better, with a rate of 3.8% (Region Hovedstaden 2019). In contrast, Region Stockholm has an unemployment rate of 5.6%. Oslo performs best out of the four Nordic capitals, with 2.7% (Arbetsförmedlingen, 2018).

As a result of its knowledge-based economy, a dynamic economy and high economic growth, Region Hovedstaden where 40% of the population has gone through higher education, is facing very different challenges compared to the rest of the country (Center for Vækstanalyse, 2017). However, there are also important geographical differences within the region. The biggest challenge that Region Hovedstaden is facing, according to both representatives from the public authorities, labour market experts and the business and industry sector, is the lack of skilled labour. This gap is expected to increase in the coming years. The problem is closely connected to the lack of, and indeed decreasing numbers of, young people choosing a vocational education (*erhvervsuddannelse*) in Region Hovedstaden. A second challenge, which already emerged a decade ago, is growth in unemployment among the highly educated in a situation where jobs for

the highly educated are decreasing. In 2009, the unemployment rate among highly educated people was 2.5% in Region Hovedstaden, and 1.5% in neighbouring Region Sjælland. In 2019, this has moved up to 4.9% in Region Hovedstaden and 3.4% in Region Sjælland.

These two challenges could well lead to growing problems in the regional labour market, and to a balance and mismatch problem (Center for Vækstanalyse 2017:49).

Main actors working with skills

In Region Hovedstaden, there are **four universities** – the University of Copenhagen, Copenhagen Business School, the Technical University of Denmark, and the IT University of Denmark. The University of Copenhagen is the largest, with approximately 37,500 students. Apart from traditional academic programmes, the universities also provide professional education (erhvervskandidatuddannelse) for professions such as nursing, accounting and law. The universities can also offer vocational courses or programmes.

One example of collaboration among universities is the Copenhagen Health Innovation (CHI Vest), which started in 2016 and aims to promote education programmes for entrepreneurship and innovation in healthcare (Region Hovedstaden, 2016b). The main motivator behind the collaboration between research, municipalities and Region Hovedstaden, was the growing cost of health and the potential of developing fresh innovations in the health sector. This has resulted in a new Master's programmes at Copenhagen Business School, a new research department at the Danish University of Technology, and conferences and increased collaboration between the public and private sector.

As a complement to the universities, there are also professional academies (Erhvervsakademier and the Professionshøjskoler) for teachers and nurses in Denmark. Erhvervsakademier are targeting those with a lower level of education, and offering programmes close to the labour market which build on modules and give merits for future university studies. Erhvervsakademier have existed for ten years, and in Hovedstadsregionen there are two Erhvervsakademier, KEA and CBH Business, along with Københavns Professionshøjskole. Despite their proximity to employers and to labour market needs, only 7,000-8,000 students per year attend an Erhvervsakademi.

Upper secondary education in Denmark is divided into **general upper secondary education** programmes, preparing students for higher education, and **vocational upper secondary education and training (VET)**. Within the general upper secondary education, there are four different programmes: Gymnasium (stx), Higher Commercial Examination (hbx), Higher Technical Examination (htx), and Higher Preparatory Examination (hf). Within the VET (Erhvervsuddannelse), there are more than 100 different programmes in the areas of healthcare and pedagogy, administration, commerce and business service, food agriculture and hospitality, and technology, construction and transportation.

The VET in Denmark is organised by the labour market partners – that is, the state, the employers' organisation, and trades unions (the so-called "dual system", which is also found in Germany). The education provided includes a combination of both theory and practice, and students spend 20% of their time at school and 80% of their time training in a company or organisation. The students in erhvervsuddannelse are paid a monthly salary from the employer, approximately DKK12,000 to DKK16,000 per month, over four years. About 20% of Danish young people attend an erhvervsuddannelse. VET programmes are offered by vocational-technical colleges, business colleges (erhvervsskoler) and social and healthcare colleges (social-og sundhedsskoler). The duration of programmes varies from two years, to five-and-a-half years.

Region Hovedstaden, the capital region, is the most densely populated region in Denmark. It consists of 29 municipalities, of which Copenhagen is the largest one. Since the structural reform of 2007, where 14 counties (amt) merged into five regions, the region's primary responsibility is within healthcare. Regions also hold some responsibilities in the areas of environment, infrastructure and public transport, regional development and tourism, employment education and culture, as well as the development of peripheral areas (Finansministeriet, 2019). Region Hovedstaden is working on a regional development strategy which is expected to be adopted in

2020.

According to national education law, the regions are responsible for the coordination of upper secondary education (Danske Regioner, 2017). As regards skills, it is primarily in a coordinating role that Region Hovedstaden works with the aim of improving employers' access to skills in the labour market through the promotion of vocational education programmes. The biggest VET schools in the region are NEXT (a general school), TEC (a technical school), U-Nord (only North Sjælland), SOSU H (a social and healthcare school) and Copenhagen Hospitality College. Copenhagen Skills, aiming at increasing students in vocational education and training, is an example of a specific project to enhance skills in the region highlighted by many interviewees.

Region Hovedstaden also collaborates with regional stakeholders in different projects to attract qualified, skilled workers and highly-skilled international talent, in order to create new jobs in the region. Another project is the 'Qualified Labour for Greater Copenhagen' programme, aiming at supporting the construction sector with skilled labour for the building of a new metro line, a new light railway, and a new hospital in the region. It also supports labour market analyses in Region Hovedstaden and in the nearby Region Sjælland.

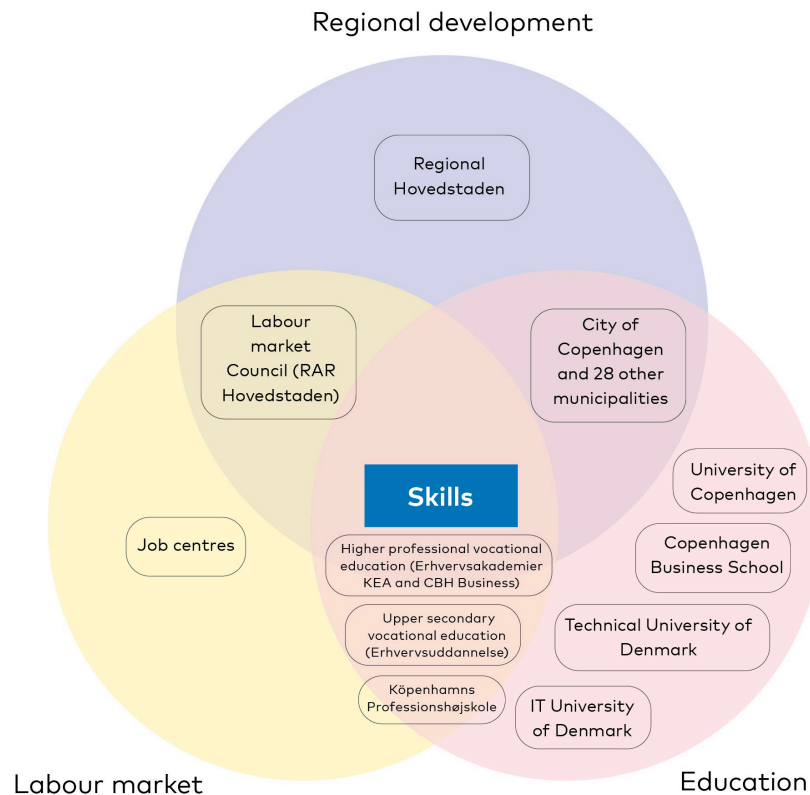
City of Copenhagen, along with the other 28 municipalities in the region, is responsible for support to the unemployed, and for employment services, through so-called "job centres" (Finansministeriet, 2019). These job centres are responsible for the employment benefits, the upgrading of skills, skills enhancement, and strategic development. These are activities strongly regulated by national legislation. Employment benefits are administered by job centres in the municipalities but are financed by the state. One of the main tasks for those working in job centres is to match unemployed people with new jobs, or with up-skilling education – which is a demanding task that requires up-to-date knowledge of labour market demands, and insight into the rich plethora of educational programmes and courses which qualify for state funding. To fulfil their tasks, job centres collaborate with other job centres and with appropriate stakeholders in the region and neighbouring municipalities and regions. Adult education and vocational training varies from formal qualifying education and continuing vocational training to non-formal education. In general, vocational training connects with the long-standing tradition of life-long learning in Denmark. An important building block within the system is the validation of non-formal and informal learning (AMU, AVU, EUV), which allows for reduced training periods, or admission to educational programmes without meeting the formal requirements.

The Danish Agency for Labor Market and Recruitment (STAR) led by the Ministry of Employment has three labour market offices located regionally in Denmark: AMK Midt-Nord (Labor market office Mid-North), AMK Syd (Labor market office South) and AMK Øst (Labor market office East). **RAR Hovedstaden** is one of eight regional labour market councils under the aegis of STAR. RAR Hovedstaden is part of the Eastern office (AMK- Øst), which covers three regions, six vocational training centres, and 42 municipalities. The members of the Regional Employment Council consist of labour market actors (employers' organizations and union representatives), municipal representatives selected by KKR Hovedstaden which is a collaboration between the 29 municipalities and their mayors in the region and Region Hovedstaden.

The main responsibility of RAR Hovedstaden is to coordinate the Regional Employment Council, to support municipal job centres implementing initiatives and reforms, and to coordinate labour market initiatives between municipalities and other actors – such as educational ones, actors from business and industry, and social partners, e.g. employers' organisations and trade unions. To that end, RAR Hovedstaden facilitates collaboration between unemployment funds, vocational education, and the Regional Growth Forum, and works to establish and share best practice and effective tools among municipalities. RAR Hovedstaden has two main foci – to support social partners and businesses in the region in an advisory role, and to work proactively to improve the situation of the unemployed. The latter is achieved through a close and attentive collaboration with the business sector and vocational educational institutions.

RAR Hovedstaden also holds the responsibility for an assessment of the labour market in the region which is published twice a year, "Arbejdsmarkedsbalancen".

Figure 5. Main actors working with skills in Region Hovedstaden.



The Danish educational and labour market framework

The labour market system in Denmark, just as is the rest of the Nordic countries (Kullander & Tønnes Lönnroos, 2016) is built upon tripartite cooperation between government and the social partners, i.e. the employers' organisations (DA and LO) and the unions, whereby collective agreements and a high degree of unionisation play an important role. The collective agreements cover a large portion of employees, and the system is supported by welfare measures which combine relatively high levels of unemployment benefit and an active labour market policy. The so-called 'flexicurity model', introduced in 1994, through which reduced employment security is combined with relatively high average levels of income and active labour market policies, defines a shift from the previously passive focus of labour market policies to an active focus on employment (Andersen & Svarer, 2007). A new law, coming into effect in 2020, aims at further facilitating and simplifying processes and regulations, using more digital solutions, and focussing on results – all in order to get more skilled labour into businesses, and help the unemployed back to work (Kommunernes Landsforening, 2019).

In Denmark, labour market policy is closely tied to educational policy, due to their mutual commitment to the planning and implementation of policies such as the vocational education and training (VET) policy. One of the key characteristics of the Danish VET policy is that it offers services and training for the employed, as well as for the unemployed.

Strengths and challenges

Region Hovedstaden has several strengths regarding skills. In the autumn of 2019, when this study was conducted, the region had a strong economy, low levels of unemployment, and overall employment was increasing. The region also has the highest levels of education in Denmark, and since 2009 a growing degree of entrepreneurship, counting for as much as 44% of the Danish new enterprises (Center for Vækstanalyse, 2017).

Region Hovedstaden is also an innovative region, scoring a third place on the European Regional Innovation Scoreboard (Hollanders *et al.*, 2019). Medicon Valley in the Øresund region features a leading cluster of life sciences in Scandinavia, with 40,000 jobs in the private life science sector, and consisting of strong university environments, innovative businesses, and high-quality healthcare systems.

However, global competition is also strong, which pushes a requirement on large businesses as well as small and medium-sized enterprises (SME) to internationalise and take advantage of the opportunities of digitalisation and automation. Region Hovedstaden excels in medical technology and cleantech, in which it functions as a national magnet for talent and skills development on a national scale. But on an international scale, there is still a need for improvement. To this end, Region Hovedstaden points in the former regional development strategy to more cooperation between small and large businesses to ensure access to foreign markets, and improved public-private partnerships between universities and private parties to attract investment and international talent (Region Hovedstaden, 2016a). As regards the attraction of talent, it has been signalled that restrictive immigration policies at national level may conflict with, and hamper, the need for international talent in the regional business sector (Musterd *et al.*, 2016).

Region Hovedstaden is also an important cross-border region. The cross-border collaboration body, Greater Copenhagen, consists of Region Hovedstaden and Region Sjælland on the Danish side, and Region Skåne and Region Halland on the Swedish side, along with 85 municipalities from the four regions.

The Øresund Bridge, the fixed-link opening in 2000, intensified collaboration and increased commuting across the sound to close to 20,000 commuters in 2008 – mostly going from Sweden to Denmark. This has been dropping since the economic crisis. In the cross-border strategy, Greater Copenhagen points to three areas they want to strengthen: life sciences, digitalisation and the integration of the region through public transportation and the reduction of cross-border obstacles. Research also highlights that easing legal and administrative obstacles (e.g. unemployment benefits, medical treatment, work insurance and more recently border controls) could improve the cross-border labour market (Wihlborg & Jeffrey, 2017). However, some of the interviewees are more pessimistic about this potential, due to severe difficulties in harmonising very different institutional settings and legislative frameworks between the two countries. Albeit with a long tradition of cooperation across the strait, institutional differences have proved difficult to overcome before (Olesen & Metzger, 2017).

The most important challenge raised by all those interviewed, is, however, the lack of skills, and especially the vocational education-related skills. The need for skills cuts across all sectors – from life sciences to manufacturing, construction, tourism and public sector health and social care. There is not only a need for more vocationally skilled labour, but also for skills upgrading to new requirements for the skilled labour – for instance in plumbing, the building industry and the social and health care sectors. In order to address this cross-sectoral problem, several initiatives have been started, such as a collaboration between the City of Copenhagen and social care educational actors to fill the gaps in skilled labour for the public healthcare sector, and further collaboration between municipalities and the building and construction sector.

The lack of students attending vocational training programmes is a major concern among all those interviewed. The challenge is how more students can be attracted to vocational education programmes, and how the risks of closing programmes as a result of too few students can be avoided. At the same time, the young generation is growing. Region Hovedstaden is the only one experiencing net growth among the 16-19-year-olds. For example, Copenhagen will have as many as 17% more young people in 2025 compared to 2017 (Danske Regioner, 2017).

Low unemployment in the region plays an important role in this situation, it is easy to get a job

without education in the industry or in the service sector. However, at the age of 30 or 40 years, the situation may become much more difficult if people don't have an education and must compete in the labour market with those who are younger and more highly educated. This means that in the longer run, they are at high risk of being unemployed. This also has a gender angle, as more women than men gain an education, and immigrants without education may be even more vulnerable. Several interviewees come back to the lack of understanding why there is such weak interest in vocational education and training, and the need for more in-depth research on the motivation and incentives (or lack of these) to pursue vocational education and training.

RAR Hovedstaden has three main priorities alongside national targets. These are to get more young people starting and completing an education; to better support those at risk of falling out of the labour market; to decrease long term unemployment, and to achieve a closer dialogue with the business sector. RAR strategies towards these ends focus on early measures, targeted actions and forging a close relationship to the jobs market. A new national agreement on adult and vocational training in 2017 consists of 81 initiatives, and the targets set out for Region Hovedstaden are; to focus on the demand, to provide a cross-sectoral overview of supply and demand of education and labour, to support cross-sectoral education, and finally to commit to regional and/or local business sector collaboration.

Another important challenge for Region Hovedstaden, raised both by educational actors and labour market ones, is the high level of unemployment among those with higher education, especially those educated in the arts and humanities. When the interviews were conducted, the unemployment rate among university-educated people amounted to 6,000 out-of-work, from a total of 12,000 unemployed in Region Hovedstaden. In order to cope with this challenge, several initiatives have been taken by the University of Copenhagen – for example, courses on entrepreneurship and digitalisation in higher education, and activities to enhance cooperation between the business sector and higher education institutions in the arts, humanities, and social sciences.

Best practice and Nordic learning

The Danish model, with a strong focus on getting unemployed people into the labour market, requires close collaboration between the demand and supply side of the system – that is, educational actors, labour market actors, the business sector, and the public sector. The dual system, whereby industry and businesses are tailoring vocational education (erhvervsuddannelse) to their needs, is one example. The flexicurity model, with strong incentives and very active job centres, whereby the unemployed are quickly transferred to a new job or to a job training course (to be better equipped to get a job), is another one. Despite these long since institutionalised examples, Region Hovedstaden is still facing important challenges regarding skilled labour, and the need for closer cooperation and strengthened dialogue with business, to meet the demand for skilled labour.

In practice, this means that RAR Hovedstaden needs to be more proactive, for example arranging short-term courses to meet specific needs in the labour market, such as the six-day course in maintenance or the five-week course for immigrants working in the restaurant sector, with close collaboration from other actors throughout the process that was mentioned in the interviews. A hotline for employers in need of labour has now been set up to respond more quickly, and RAR also supports municipal job centres. Three main questions guide the work: What labour is needed? Who can do that job? What does it cost?

Copenhagen Skills is a collaborative initiative whereby all 29 municipalities, Region Hovedstaden and all VET programmes participate together, working to promote vocational training and to attract young people to vocational training programmes. Copenhagen Skills invites pupils in eighth-grade primary schools from the whole region to take part in a three-day programme, with activities aimed at exploring vocational education. The programme culminates in a yearly event with skills competitions, exhibitions and a guide to future job opportunities. The partners behind this initiative are the vocational schools in the region, local youth guidance centres, and Region Hovedstaden (Copenhagen Skills, 2019).



Lillehammer, Norway

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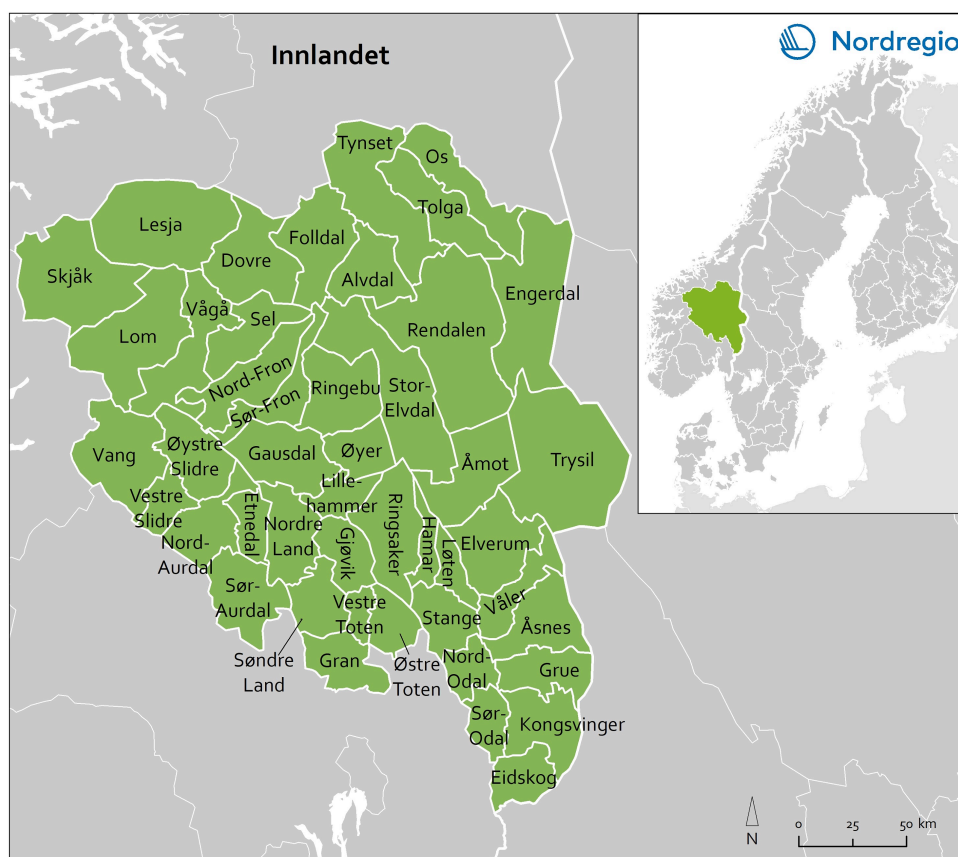
Facts about Hedmark and Oppland

Population: 371,385 (as per 1st January 2020).

Region: Hedmark and Oppland (As of 2020: Innlandet County). 48 municipalities, 10 regions.

Map 6. The map of Innlandet

Hedmark and Oppland counties merged to form Innlandet County on the 1.1.2020 following a regional reform. Jevnaker and Lunner municipalities merged into the new Viken County.



Overview

Hedmark and Oppland were neighbouring counties in central-eastern Norway up until January 1st, 2020 when they merged into Innlandet County (Innlandet Fylkeskommune, 2020a). The region is characterised as a predominantly remote rural one, and its population of 371,385 inhabitants makes it one of the least populated regions in Norway. According to NAV Innlandet's report from 2019, Innlandet is very dependent upon migration and immigration, since the birth rate deficit for both Hedmark and Oppland is significant (NAV Innlandet, 2019). This population trend requires increasingly regional cross-sectoral collaboration for handling imminent challenges connected to old-age dependency, but there is also significant potential when looking at preconditions for developing competency-based employment opportunities in both Hedmark and Oppland, and by extension the new Innlandet county.

Innlandet is one of three new counties where centrally located municipalities are the ones with the greatest number of young people having only primary-level education (Ministry of Local Government and Modernisation, 2019b, p. 92). The percentage of people with only primary education was 32.0% in Hedmark and 30.2% in Oppland, in comparison to the national average of 25.8% (Statistics Norway, 2019b). Interestingly, the share of dropouts from upper secondary education was higher among women (4.2%) than men (3.6%) in Hedmark in 2017-2018³ (Directorate of Education, n.d.). The percentage of dropouts in upper secondary vocational studies is much higher for women in both Hedmark and Oppland than for men in this

3. The figures for 2018-2019 have not been included due to a change concerning registered pupils, and thus the figures cannot be used comparatively (Directorate of Education, n.d.; Directorate of Education, 2020).

time period, which is in line with national trends (Directorate of Education, 2020). The numbers of dropouts in upper secondary school (across all three years, courses and private/public schools) across Hedmark and Oppland were similarly situated, fluctuating around 3.2% and 4.0% for both sexes between 2015 and 2018 (Directorate of Education, n.d.). The national average for dropouts has been steady, at around 3.8% and 4.1% in the same period. The national percentage for 2017-2018 was 3.8%. Additionally, the number of people on disability benefit is the third highest in Norway, at 13.6% (aged 18 – 67 years). Again, the share of women on disability benefits (16.3%) is higher than that of men (11.1%), and the number of young people under 30 years of age on disability benefits is at 13.3% as of May 2020 (NAV Innlandet, 2020). In 2018, the overall percentage of the population with university-level education (up to four years) in Hedmark was 15.8%, and in Oppland, 15.6%, compared to 24.1% in the country at large; and the percentage of the population with technical vocational degrees was 3.4% (Hedmark) and 3.8% (Oppland), in comparison with the national average of 2.9% (Statistics Norway, 2019b).

The main industries in both counties are rather similar. Agriculture, forestry, tourism and industrial sectors are important for the labour market, and both the plan for value creation and for competence policies are structured around these: Bioeconomy, industry, tourism, gamification and entertainment, and public sector innovation (Hedmark Fylkeskommune, 2018a; 2018b; Oppland Fylkeskommune, 2018a; 2018b; Hedmark Fylkeskommune & Oppland Fylkeskommune, 2017). With both counties focusing on the bioeconomy and experience-based tourism, there are significant possibilities for diversifying traditional sectors into more dynamic labour market opportunities, as innovation plays an important role in growth and value creation in both sectors (Hedmark Fylkeskommune, 2018; Oppland Fylkeskommune, 2018). The bioeconomy segment already has a dedicated strategy (Innlandet Fylkeskommune, 2017). Oppland is also home to a large industrial park in Raufoss; a Norwegian Centre of Excellence in light-weighted materials and autonomous production. The Norwegian University of Science and Technology (NTNU) campus at Gjøvik additionally brings cyber and information security onto the labour market, and various cluster initiatives encompassing gamification, health and bioeconomy exist across both Hedmark and Oppland (e.g. VRINN, 2020; NCE Heidner Biocluster, 2020). Public and private services also play an important role (NAV, 2019).

Skills policies in Norway

The recent government white paper, 'Report to the Storting 14 (2019-2020) Competence reform – Learning throughout life' states: *'Norway is a rich country. The most important reason is not the natural resources, a large machine park or monetary wealth, but our educated population. The value of human capital is worth approximately 75% of the national wealth. That is three times the value of our natural resources, buildings, machines and other values put together'* (Ministry of Education and Research, 2020, p. 19). This statement sets a precedent for the policies surrounding skills and competence in the years to come. The focus on skills policies is not new, but imminent changes to the structure of the labour market, digitalisation and the green transition will require Norwegian regions to amplify resilience through strategic planning for regional skills supply and demand. This puts emphasis on overcoming skills mismatches in the labour market, ensuring sound skills governance and a strengthened approach to skills policies through multipartite collaboration between the labour market, and educational and regional development actors (Ministry of Education and Research, 2020, p. 12).

The recent competence reform, described in the Report to the Storting 14 (2019-2020), sets out a two-fold but interlinked goal. Building on the *National competence policy strategy 2017-2021*, the white paper states the government's intention to focus on lifelong learning to prevent employees from 'expiring' due to a lack of updated knowledge and also to help employers to overcome skills mismatch. This is also intended to have positive effects on people's own agency related to acquiring competence and skills, enabling greater freedom and choice (Ministry of Education and Research, 2020, p. 12). The *National competence policy strategy 2017-2021* is an overarching, guiding strategy document with a broad memorandum of understanding between strategic and mutually dependent actors in competence politics. This includes several Norwegian ministries, the Sámi Parliament of Norway, the various confederations and federations of labour market actors and employees in Norway, as well as third sector actors represented by the Norwegian

Association for Adult Learning (Ministry of Education and Research; *et al.*; Sámi Parliament; Confederations of labour market actors; The Norwegian Association for Adult Learning, 2017). In the wake of the competence reform (Report to the Storting 14), several Norwegian Official Reports (NOU) were published focusing on e.g. providing guidance on lifelong learning (Markussen *et al.*, 2019), the competence needs as seen in the future labour market (Holden *et al.*, 2019:2), and a revision of the structure and content of upper secondary education in the Lied-commission, as seen in NOU 2019: 25 'Right to achieve – structure and content in upper secondary education' (Lied, R. *et al.*, 2019).

The complex nature of skills policies is recognised as being largely regionally contingent. With the regional reform, expectations connected to the increased responsibility regarding competences have been concretised (Ministry of Local Government and Modernisation, 2019a) – also, with regards to ensuring that the regional labour market has access to the competence needed (Ministry of Education and Research, 2020, p. 9) In the *National expectations regarding regional and municipal planning 2019–2023*, the regions are tasked with using their planning tools as a central component of charging-up a collective strategic direction for a regionally social and sustainable welfare society, including competence development. Using regional planning tools will be key to tracing out that path. The government has made it an obligatory part of the regional objective to develop regional planning forums that include municipalities and other relevant actors (Ministry of Local Government and Modernisation, 2019a, p. 9).

Main actors

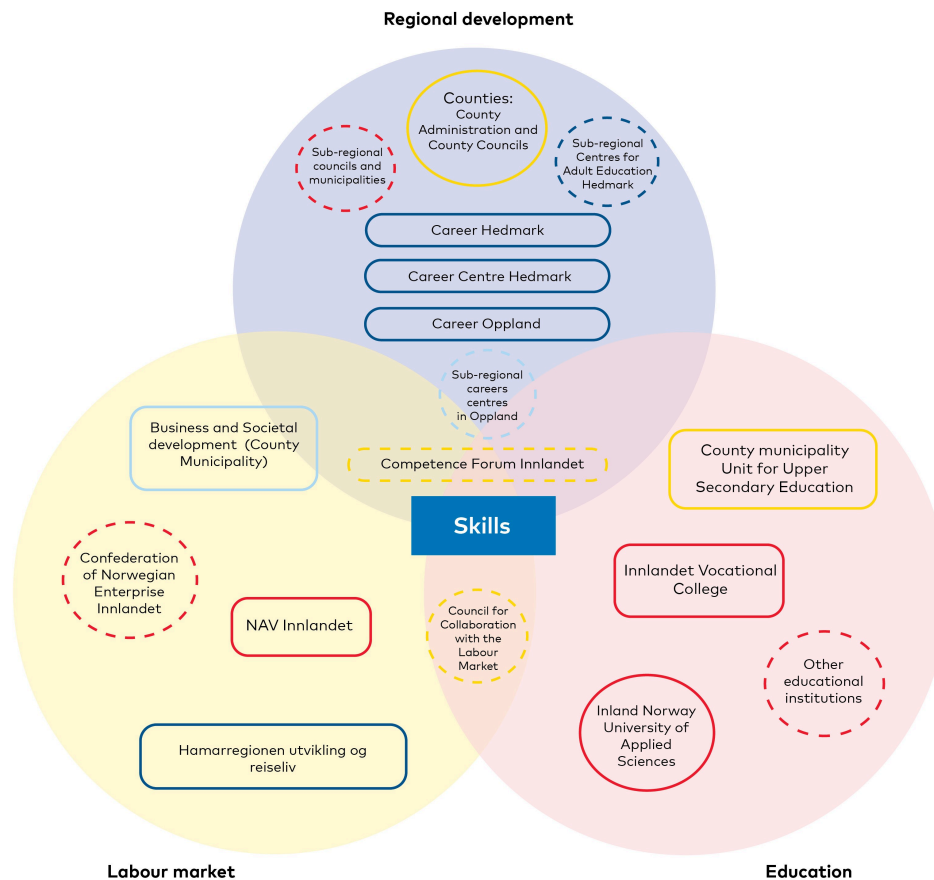
This case study considers the two counties of Hedmark and Oppland before their merger to form Innlandet county. The interviews were undertaken prior to that regional merger. This case study is therefore not about the new Innlandet County, but the two counties of Hedmark and Oppland. This case study attempts to provide insight into possible future skills development trajectories, and it considers already overlapping structures. Some of the main actors working with competence development in Hedmark and Oppland are listed below, and the actors interviewed for the case study are elaborated later on. Both the figure and the list of actors is *illustrative* and not exhaustive.⁴

The primary actor responsible for competence and skills development is, at an overarching level, the county council. As the owner of, and presider over, upper secondary schools, vocational colleges and career centres, as well as the added strategic responsibility for developing regional plans both pertaining to the development of the labour market and the development of competences and skills, the county council clearly plays a key role.

4. This is a list of the actors that were available for interview during the empirical data collection period. Other actors, such as Oppland County Municipality's Unit for Upper Secondary Education and the Confederation of Norwegian Enterprises Innlandet, were not available for interviews during the limited timeframe in which they needed to be held. The case study is also limited, as important actors, such as the Unit for Business and Labour at Hedmark County and the sub-regional career centres administered by Career Oppland, were not interviewed for the case study, due to its prevailing scope and size.

Figure 6. Actors involved in skills anticipation, governance and development in Hedmark and Oppland.

Colours in the figure: **Red:** Shared institutions; **Yellow:** Institutions that are the same in both counties; **Purple:** Institutions HEDMARK; **Light blue:** Institutions OPPLAND; **Stipulated lines:** Identified actors not interviewed.



Oppland County (Department for Business and Societal Development) (*Næring og Samfunn*) is responsible for strategies for regional development and value-creation in Oppland. The department works in a regional partnership with municipalities and public agencies to define and discuss regional strategic trajectories and goals, based on regional strengths, according to one interviewee. The department also works closely with regional businesses and organisations. The department is responsible for eight sub-sections, including business development, competence development and higher education, and R&D&I (Oppland Fylkeskommune, 2016). Conceptualising competence-demand within the frame of industry and business development, the county council focuses on enhancing economic growth and regional development by providing grants for R&D&I, supporting technical development programmes, and supporting and participating in regional development activities. One example is the support given to the Centre for Cyber and Information Security (CSIS) at NTNU in Gjøvik. The county council is also focusing on competence development in vocational areas, such as in the agricultural sector. The 'adult agronomist' programme (*Voksenagronom*) was launched on behalf of the Ministry of Agriculture and Food in 2016 to develop a national model for adult agronomist education (see e.g. Haugum, Sæther, Lørfald, & Sand, 2017). Oppland's regional plan for competence is conceived within the

frame of regional attractiveness, overcoming the skills mismatch, and preparing for the green transition. This requires an adaptable workforce that can see the need for continuously engaging in lifelong learning. The overarching goal is to contribute towards demographic growth (Oppland Fylkeskommune, 2018b). Based on the Innlandet committee's recommendation from 2015, the focus on competence-based labour market opportunities is necessary to achieve the overall goal of simultaneously developing an attractive region and labour market opportunities (Innlandet Committee, 2015; Oppland Fylkeskommune, 2018b).

The county's *Competence strategy for a rapidly changing labour market* states that 'competence is one of the most important measures for development, adaptation and growth for the individual, for organisations, and for society at large. As our skills are outdated at a higher pace than before, the regional plan is to ensure a better balance between supply and demand for skills in the labour market' (Oppland Fylkeskommune, 2018b, p. 20). Collaboration is key in this strategy, but it also recognises the need to focus on learning and competence at all levels – from kindergarten to tertiary education, and for individuals in the labour market. The region has therefore selected three areas to prioritise: 1) a holistic approach to education – *seeing the connections* and targeting these, and *understanding the connections* between all levels of competence development; 2) Increasing the level of education and adaptability amongst adult citizens, both within and outside the labour market, by means of flexible solutions and good foundational skills; and 3) improving the balance between the supply of, and the demand for, skills by coordinating actors. (Oppland Fylkeskommune, 2018b, pp. 32-42).

Hedmark County (Department for Upper Secondary Education / Hedmark Fylkeskommune, Videregående opplæring Hedmark) is responsible for upper secondary education for pupils in all age groups, and the completion rate is currently above the national average. Although the Department for Upper Secondary Education is in close cooperation with, e.g. NAV Innlandet, an explicit link between upper secondary education and competence needs in regional businesses has been largely missing, according to one interviewee. Finding platforms for cross-sectoral collaboration that include skills and competence development have been on the agenda in recent years, according to another interviewee. The process for the development of the regional competence plan gathered 50 representatives from across the private and public sectors, identifying thematic areas for the development of a new strategic vision.

The framing of regional development considering competence mismatch, and the possibilities provided by both adult education and upper secondary education with a focus on e.g. vocational studies, is understood to benefit the region. The focus on vocational skills was highlighted in the regional competence strategy (Hedmark Fylkeskommune, 2018a). This strategy involved a move to create closer collaboration between key actors in key areas of strength across the region. The plan comprised of four main focal areas: 1) lifelong learning, with a strategy supporting both the increase of young people and adults engaged in lifelong learning; also increasing the share of people with a vocational background and ensuring fewer dropouts; 2) Attractiveness, by focusing on entrepreneurship, innovation and competence-based jobs; 3) Market-oriented clusters and networks, to strengthen competitiveness and connections to higher education institutions and research centres; 4) Public sector innovation, particularly focusing on innovation in the healthcare sector (Hedmark Fylkeskommune, 2018a, pp. 18-25). Common to these focal areas is targeting, and conscious reference to building a stronger general attitude towards education and learning in the region. Additionally, a renewed focus on both entrepreneurship and the availability of competence-based employment constitutes an attempt to attract people to the region, while also building private sector resilience by focusing on creating a culture for continuous in-house learning (Hedmark Fylkeskommune, 2018a). To create engagement among young students, Hedmark County Council has been participating in the national vocational school competition, *WorldSkills Norway*, organised by key national labour market actors.⁵ The winners represent Team Norway in both European and World Championships (see WorldSkills Norway, 2020).

Career Oppland (*Karriere Oppland*) is organised under the county administration's Department for Education and Training. Career Oppland was established in 2009, and it is the result of Oppland County Council's systemic and long-term approach to adult education and career

5. The Confederation of Norwegian Enterprises, the Norwegian Confederation of Trade Unions, the Directorate of Education, Norwegian Association of Local and Regional Authorities, et cetera.

guidance. Career Oppland is a strategic part of operationalising the overall regional plans for social and economic growth. Thus, Career Oppland is responding to regional changes on the labour market, as well as contributing towards increasing regional attractiveness, population growth, reducing the numbers of people on passive benefits, personal growth, and increasing competence and skills for the individual (Karriere Oppland, 2019). Career Oppland helps clients from NAV, as well as enhancing personal career development and adult education. Career Oppland comprises five sub-regional career centres. These career centres are immersed in the local and sub-regional context, and its partnership consists of municipalities, regional coordinators, Oppland county council, regional coordinators, the heads of the upper secondary schools, the local NAV offices, and local businesses. The local career centres are key to enabling competence development in local areas, according to one interviewee. Career Oppland Lillehammer recently tested a module structure for adult vocational education, which encourages skills examinations upon completion (Karriere Oppland Lillehammer, 2019). With growing awareness of their services, there is increasing pressure on these services. It is plausible that this can be connected to increased requirements and demands in businesses to obtain or possess skills certificates.

Career Hedmark is divided into two subsections, *Career Centre Hedmark* and the *Centre for Adult Education*. **Career Centre Hedmark** (*Karriere Hedmark*) is owned and financed through a partnership between Hedmark's County Council and NAV, reporting to both NAV and the county's department for business and innovation. It opened in 2018, and it is available to everyone over 19. The centre is tasked with coordinating learning assessments and career guidance for adults, as well as developing competencies for career counselling in primary and upper secondary schools. When working with clients, the Career Centre draws up personalised plans based on the individual's skills, potential, needs, motivation, interests, and other relevant traits and experiences which will help in furthering their career development, says an interviewee. Their service aims to develop the jobseeker's career management skills, and their ability to navigate an ever-evolving labour market. The five **Centres for Adult Education** are located at five upper secondary schools throughout the county and are led by the principals at each school, including a web-based forum providing digital courses. The Centres for Adult Education are primarily concerned with providing adult education specifically connected to securing upper secondary-level competence certificates.

Validation of prior learning is part of both centres. In Hedmark's competence strategy, it is stated clearly that career centres will be crucial in supporting local companies in adjusting and adapting to the future (Hedmark Fylkeskommune, 2018a). It also states that there is the potential there to establish even closer cooperation between career centres and municipal business consultants in the sub-regions, as they possess the immediate knowledge of their surrounding areas.

Inland Norway University of Applied Sciences (INN) (*Høgskolen i Innlandet*) is a university college established on 1st January 2017, following a resolution to merge two university colleges – the University College of Lillehammer, and the University College of Hedmark. INN's students are spread across six campuses in both Hedmark and Oppland, offering Bachelor's, Master's, and PhD (doctoral) degrees (Inland University of Applied Sciences, 2019). These courses intend to be mirroring some of the regional demand for skilled labour, both to support regional areas of expertise, but also public sector demands (e.g. biotechnology, health, and social services, teaching degrees, innovation, and creative arts). INN also has a significant number of adult students, and it offers flexible programmes which meet their needs. Generally, the development of such a decentralised higher education structure has been shown to contribute positively towards greater access to qualified labour, and greater regional productivity (Ministry of Local Government and Modernisation, 2019b, p. 92). However, the mobility of highly educated people is very high, which means that there is arguably a need to understand the role of universities in light of their wider regional embeddedness, including the local labour market and the general attractiveness of the area (see e.g. Gythfeldt & Heggen, 2012).

Addressing this, one of INN's primary objectives is to work closely with the region. According to an interviewee, the university college is very interested in ensuring that their vision is aligned with those of the region. Three discussion points are particularly important in conversations with the

counties. These are regional development, the transition towards becoming a university, and the amplification of their profile as a regional engine. It is also important to retain a strong connection to the region through a university status. University colleges have traditionally had a stronger connection to the regional business sector than universities (Spilling, Brorstad Borlaug, Scordato, & Sveen, 2014).

Since 2011, universities and university colleges have been charged with establishing Councils for Collaboration with the Labour Market (henceforth, *RSA*⁶). The structures in Hedmark and Oppland have differed somewhat, but since their merger into the Inland University of Applied Sciences, a common council has been established. The council's vision is to 'develop a strong connection between education, research and development and the labour market' (Høgskolen i Innlandet, 2019). In the period 2018-2019, the council comprised key regional actors across the county's leadership and administration, as well as labour market actors and funding agencies.⁷ The council is also comprised of internal representatives from INN, as well as two student representatives (Høgskolen i Innlandet, 2019).

Innlandet Vocational College (*Fagskolen Innlandet*) is the largest technical vocational college in Norway, offering tertiary education in areas such as technical and industrial production, programming, technical-theoretical education in the construction sector, healthcare, and agricultural courses (Fagskolen Innlandet, n.d.). The college also offers web-based studies. As a publicly owned institution, it has a close collaboration with its owners, Oppland and Hedmark counties, and additionally works in close collaboration with NAV Innlandet. In addition to its permanent lecturers, guest lecturers from local and regional businesses are invited to speak, adding to the college's value as a regional actor. Building on the concept of lifelong learning, Innlandet Vocational College offers flexible programmes and training modules. One of these has been dubbed 'the Raufoss model'. It is a collaboration with the local industrial park at Raufoss. The students working full-time in the industrial park study mechanical engineering part-time on Monday and Wednesday afternoons for four years. Module-based education is steadily emerging, but factors as to *how* to design these to fall within specific education parameters and *what* degrees are conferred, remains a challenge at present, according to one interviewee. The interviewee also pointed out the potential that rests in collaboration for developing a course specifically connected to healthcare technologies and linked to the horizontal nature of digitalisation. Flexibility is key for the college in responding to labour market needs, but long-term strategic thinking is also necessary, according to our interviewee.

NAV Innlandet is the regional branch of the *Norwegian Labour and Welfare administration* for both Hedmark and Oppland. NAV Innlandet has been working as a joint organisation since before the merger between the two counties took place. They are responsible for administering programmes related to reducing unemployment, supporting job seekers, jobseeker-related training, and helping to validate prior learning⁸ (*realkompetanse*). The primary goal here is to increase employment, but also to enhance skills and competences. Not having an education brings a considerable vulnerability to people's employability, and ultimately to their wellbeing. NAV Innlandet works closely with the counties by monitoring developments on the labour market. Their work on skills development is mainly through agreements with businesses and related organisations, offering training and mentoring for job seekers. These initiatives are based on assessments of local recruitment needs, for which NAV contributes to organising training in agreement with employers. NAV Innlandet also has a connection to Innlandet Vocational College and supports people getting through the barriers of entry by validating their prior learning. As part of the regional network of actors supporting competence development, NAV Innlandet is a knowledge-sharing node and a broker between businesses, the county councils, schools and other local actors working with skills. NAV Innlandet is a crucial partner for developing strategies in relation to competences and value-creation. On the whole, the Norwegian Labour and Welfare administration is hierarchically organised on the national, regional and local levels.

6. In Norwegian: *Rådet for Samarbeid med Arbeidslivet – RSA*.

7. More specifically: the County governor for Innlandet, the County mayor of Oppland, the County Councillor of Hedmark, the director of the Confederation of Norwegian Enterprises Innlandet, the Director of Innovation Norway Innlandet, the regional secretary general of the labour organisation for both Oppland and Hedmark, and the regional director of Norwegian Association of Local and Regional Authorities.

8. Prior learning (*realkompetanse*) comprises the accumulated competence a person has acquired over time, through 'paid or unpaid work, in-service training, continuing education and leisure activities, in addition to the competence documented through basic education and training' (NOKUT, n.d.).

Hamar Region Visit and Business (*Hamarregionen Utvikling og Reiseliv*) is an example of a coordinated support and networking platform for local companies, and for the tourism sector. The agency works to enhance collaboration and development opportunities between local and regional actors in the private sector. A central component in this is competence development. According to an interviewee, the agency focusses on strengthening existing business ecosystems and is trying to use qualitative and quantitative measures to help businesses see the value of competence development for their enterprises. The agency is heavily involved in the VRINN-Cluster. It is focussing on augmented reality, virtual reality and gamification (Hamar Region Visit and Business, 2018). This connection enables excellent insight into the qualitative aspects of what the businesses and start-ups need. Entrepreneurs are offered courses in business establishment and the agency offers competence development courses. Our interviewee emphasised that the agency cannot solve all the competence challenges in the region, but they motivate change, because the meaning of education is a shifting form, and is now moving into a lifelong learning perspective. In addition to having knowledge of the skills needs in the area, the agency is working in triple helix structures with the Inland University of Applied Science and NTNU at Gjøvik, with a focus on running courses for businesses that were otherwise missing in the region.

The 'Mjøsbyen' – collaboration between the municipal cities around Lake Mjøsa, including Hamar, Lillehammer and Gjøvik and seven other municipalities. The *Mjøsbyen*-collaboration aims to increase the attractiveness of the region by focusing on sustainability and regional competitiveness. But it also seeks to promote employment opportunities (Mjøsbyen, 2019). This strategy bears witness to the wider functional cross-county labour market. The area of Mjøsbyen is also home to the vast majority of immigrants in Innlandet (NAV Innlandet, 2019). Coupling these collaborative efforts to the work undertaken by Hamar Region Visit and Business, to enhance and build competence and skills among entrepreneurs in local start-ups, it is clear that the approach to skills and competence development is framed by creating attractive and functional housing and labour market. The combination of labour market opportunities, housing and a forward-thinking region will help draw highly skilled professionals to the region (Hamar Region Visit and Business, 2018). Hedmark has slightly more favourable conditions, largely due to their proximity to larger concentrations of labour markets on the central East-Norway.

Enabling and hampering factors

The counties have been given an increasingly important role in regional development and planning since the regional reform. This includes skills and competence development (Ministry of Education and Research; *et al.*; Sámi Parliament; Confederations of labour market actors; The Norwegian Association for Adult Learning, 2017). Competence development is critical for the future of both Hedmark and Oppland, as it influences regional attractiveness, competitiveness, and resilience. The need for competency-based employment opportunities connects to wider efforts in enhancing local and regional attractiveness for the purposes of encouraging a population increase, as well as more business development and visitors. There are several sub-regional collaborations in place across the two regions (For example, see the box above).

Competence enhancement in local labour markets is closely connected with the ambition to incentivise demographic growth. Furthermore, the Report to the Storting 5 (2019-2020) acknowledges the challenge of being able to retain regional competences, or to attract qualified labour from outside the region, if part of the labour force decides to change jobs (2019b, p. 103).

However, immigration is perceived as an essential contributing factor in maintaining a steady labour force. Although the percentage of immigrants in Hedmark and Oppland is lower than the national average, 76% of the net population increase in both counties is from immigration (NAV Innlandet, 2019, p. 4). One strategic priority is to support immigrants in Innlandet to settle and to become an active part of the workforce. This requires cooperation between actors at the regional and municipal levels. Career Centre Hedmark is actively working to support immigrants through language courses, validation of prior learning, and finding suitable employment that matches their prior competencies and skills.

The sheer complexity of 'skills' is evident when tracing out the enabling and impeding factors for its development. Its all-encompassing nature requires a systematic and structured conversation between regional stakeholders, and the responsibility and leadership connected to its coordination need to be sufficiently clear. According to our interviewees, a more strategic and systematic organisation for skills governance is clearly desirable. With the potential of starting anew by restructuring, reorganising and finding new paths, there is reason to suggest that competence policies should be one of the main focusses for regional development in the new Innlandet County.

Overcoming challenges on the regional labour market

The Ministry of Education's recent white paper states that the responsibility for addressing skills mismatches is primarily connected to the responsibilities of the enterprise concerned (Ministry of Education and Research, 2020, p. 14). This connects to the increasingly important role of the region in providing the premise for a dynamic and favourable regional business context. It also demonstrates the complexity of competence as a policy objective. It is key to everything, and the shared responsibilities are evident in the way skills connect across policy areas. This requires a clear and systematic approach to ensure a common knowledge background. That has been addressed in recent government demands for the establishment of Competence Forums across all regions in Norway, consisting of key regional and local stakeholders.

Despite slightly different trajectories when handling competence development and skills mismatch amongst the unskilled labour force, the counties seem to be grappling with similar issues connected to relatively low levels of unemployment – but also low levels of highly skilled or competent labour. According to NAV Innlandet, the existence of labour market opportunities for unskilled professionals reduces the necessity of obtaining professional skills certificates. As automatisisation and digitalisation are fast approaching, the skills requirements from businesses are likely to change in order to keep up with regional, national, and global demands. However, this is not always easily solved, since the recognition of the skills and innovation needed has to come from the businesses and industries themselves (Hedmark Fylkeskommune, 2018b). According to an interview with Hamar Visit and Business, part of their task is to enable businesses to understand their own competence needs. In considering skills mismatches, being closely connected to the local business arenas is a key advantage. Hands-on approaches, as seen in many rural municipalities, are key to creating favourable conditions for entrepreneurship through trust and good practice examples – thereby inspiring future opportunities (see e.g. Alvdal in Kull, *et al.*, 2020). That being said, both Oppland and Hedmark have a considerable focus on developing clusters to support the local labour market and to drive competence-based workplaces. Nevertheless, businesses in both counties expected recruitment challenges in the years to come, according to a business survey in Innlandet conducted by NAV (NAV, 2019). According to that survey, eight out of ten businesses in the region are unable to employ anyone, and the remaining businesses are employing people with 'lower or other formal competence than what they need', because the applicants either had too little or no, relevant qualifications (NAV, 2019, p. 1). The move towards understanding education in a cyclical way, through lifelong learning, as opposed to a traditional linear educational approach, is key to unlocking the potential in both new and old industrial sectors in the two counties.

Lifelong learning

With Career Oppland experiencing a growing number of people requiring their services, this may also indicate a growing awareness among individuals, as they realise their need for developing their own skill sets, one interviewee suggests. According to our interviewees, skills and competence development remains a significant bottom-up conception, as the responsibility for lifelong learning is still largely in the hands of individuals and businesses. The individual's responsibility was also highlighted by one of our interviewees, who pointed out that pupils in upper secondary education rarely acknowledge labour market needs in the area. A strengthening of careers advice in local secondary and upper secondary schools is therefore necessary. In light of strengthening the career advisory services, it is also probable that other public sector jobs will be subjected to institutional innovation, in order to grapple with coming systemic pressures. On account of both an ageing population and increased digitalisation and automatisisation, recognising the role of the public sector and services as the biggest employer of high competence workplaces in the region is key (see e.g. Innlandet Fylkeskommune, 2020c; Statistics Norway, 2019). This pertains both to the demand for skilled labour, especially in healthcare services, but also in administrative jobs at the local level (NAV Innlandet, 2019; Innlandet Fylkeskommune, 2020c).

Both Hedmark and Oppland can demonstrate methods for cooperation among regional actors spanning the regional labour market, the education sector and regional development. But it is only through regional reform that this seems to have become more institutionalised, via the establishment of Competence Forum Innlandet. Several key actors, such as NAV Innlandet, the Confederation of Norwegian Enterprises, the Norwegian Confederation of Trade Unions, the Norwegian Association of Local and Regional Authorities, the Innlandet County Governor, and INN have expressed an interest in participating, in order to help break down silos for more systematic and structured approaches. Creating a common vision and a common understanding of the main challenges and opportunities is important for policy development and skills governance, and for the mindful application of financial measures and priorities. This leads to a broadened perspective on skills as a horizontal policy objective impacting on actors across the labour market, in the regional development sphere, and in the education sector.

Vocational training

Hedmark and Oppland both highlight relevant enabling factors, such as strong industries with a high demand for vocational skills, as well as strong educational institutions for the provision of vocational education. Ensuring appropriate competence is essential for economic development in the region, but this is on the condition that the educational institutions offer students programmes that answer to the employers' demands. The counties' respective competence strategies, and strategies for regional growth, both stress the need for vocational skills (Hedmark Fylkeskommune, 2018a; 2018b; Oppland Fylkeskommune, 2018a; 2018b). As noted in an interview with NAV Innlandet, it is essential to increase the level of skilled workers to meet present and future demands. Both counties' regional competence plans are seen as being closely connected to the future labour market and are conceived as a response to the need for renewal in meeting global challenges and changes, such as climate and environmental challenges and the green transition. Changing our mindset and attitudes towards education and training is key to achieving this (Hedmark Fylkeskommune, 2018a).

Oppland and Hedmark have experienced success in providing flexible education programmes accessible to adults learners through sub-regional career centres, though the structures differ.⁹ Module structures for educating adults are well implemented in both Hedmark and Oppland, and they help to develop skills by combining theoretical and practical education in the workplace. A gradual shift away from linear thinking towards lifelong learning can be detected in the conversations with our interviewees. The greater focus on an interdisciplinary understanding

9. Career Oppland combines adult education and career development, whereas Career Hedmark is divided into two units: career development (Career Centre Hedmark) and the sub-regional centres for adult education pertaining to the right to upper secondary education (Innlandet Fylkeskommune, 2020). Career Centre Hedmark includes career development guidance beyond upper secondary education.

across school subjects in recent years (see more: interdisciplinary topics in the *Core Curriculum* in Directorate of Education, 2017), as well as the recent statement in the Report to the Storting 5 (2019-2020), combine to increase focus on interdisciplinarity for general competence development. Here we might be witnessing a gradual but significant shift, breaking away from the traditionally linear thinking and promoting a new way of understanding the effectiveness of education.

Higher Education

Innlandet Vocational College is another important enabling factor for addressing the skills mismatch in the two regions. Through their close collaboration with NAV Innlandet, which helps validate prior learning for their future students, the college welcomes people from across career paths to study at their premises. In this way, the college helps to provide an important service for both local and regional businesses wishing to update or enhance their employees' skill sets, as well as enabling people to add to their already existing vocational training portfolios. Owned by the county councils of Oppland and Hedmark, the vocational college is an important strategic tool for answering the demand for skills in the local private sector, and it is evident that its key learning opportunities are created in conjunction with the local labour market. This is also highlighted in the Government White Paper Meld St. 9 (2016-2017), which says that education needs to follow the changing capacities and competence needs (Ministry of Education and Research, 2016). Educational trajectories which are geared towards vocational skills may help buttress regional development needs in the long term, as these trajectories are more flexible and responsive than the education provided by universities and university colleges. One impeding factor to unlocking the potential of the vocational college is that the structures still are slightly too rigid in responding to future needs on the labour market (Holden *et al.*, 2019:2). This can be noted especially in relation to the requirements seen in the existing credit system, and the ways this might hamper quicker responses to the changing labour market (Markussen *et al.*, 2019). According to NAV Innlandet, the greatest challenges ahead are the high paced transition of both the Norwegian and the regional labour markets. This requires a shift in the way that education is perceived, as lifelong learning takes centre stage and people with both higher education and higher *vocational* education find themselves in high demand. Innlandet expects to see a decrease in demand for workers without such higher competences, which is a challenge for a region that has a large segment of lower-skilled workers. This pertains not only to the older generations but also to younger people since the existence of good jobs without higher education requirements has been readily available to date. A government strategy for the development of higher vocational education is due in 2021 (Ministry of Education and Research, 2020). In their Report to the Storting 14 (2019-2020), the Ministry also proposes to remove the minimum requirements connected to the length of vocational education.

An increasingly integrated and concerted competence strategy in a regional perspective, which includes key actors needed for a practical dialogue, for participation and for the operationalisation of future regional development plans, will be key to safeguarding a skilled-up and competent future for Innlandet County. This means ensuring that the council is responding to the profile of the institution and the nature of the local labour market; that it is comprised of key actors across both the regional authorities and the labour market; and that there is active participation from these actors in the development of the RSA agenda. All this was highlighted as part of the interim evaluation of the RSA by the Nordic Institute for Studies in Innovation, Research and Education (NIFU) published in 2017 (Tellmann, Aamodt, & Elken, 2017).

R&D&I and smart specialisation for regional competence development

The two counties share a research, development and innovation (R&D&I) strategy, which was developed in partnership with key actors, such as Innovation Norway, the Industrial Development Corporation of Norway (SIVA), the Research Council of Norway and the County Councils (Hedmark Fylkeskommune, 2018b). The strategy is an important knowledge overview for strategic priorities, and it connects to key funding agencies, such as the regional research fund Innlandet, Innovation Norway Innlandet and County Council grants (Hedmark Fylkeskommune & Oppland Fylkeskommune, 2017). It points to the need for the increased use of

R&D&I to enable regional resilience and adaptability, and it also acknowledges that '*research provides new knowledge and competences, which in turn provides a basis for new products, services and processes with high knowledge intensity. This will contribute towards increased competitiveness and enable the establishment of competency-based workplaces*' (Hedmark Fylkeskommune & Oppland Fylkeskommune, 2017, p. 11). Their common R&D&I strategy also alludes to the need to prioritise areas of regional strength (Hedmark Fylkeskommune & Oppland Fylkeskommune, 2017, p. 7). The strategy's vision is 'new knowledge for sustainable value creation and development across the region', and their main goal is that 'Innlandet has companies which actively develop and apply research-based knowledge as a foundation for increased, sustainable value-creation and service production, adaptability, and competitiveness' (*ibid.*, p. 8). R&D&I in Innlandet is firmly anchored in the ability of research institutes and companies to collaborate and to apply the knowledge so developed for the benefit of regional development. This contributes to the aforementioned premise of developing competence-based employment opportunities (*ibid.*, p. 11). A Smart Specialisation strategy (S3) has also been on the cards via the Eastern Norway County Network, with the agenda of developing an S3 as part of their strategy document for 2016-2019 (now extended to 2020). Connecting this to the focus on bioeconomy in the Eastern Norway County Network (2016), where Innlandet has significant resources to play with, S3 may help to create a funnel for channelling both focus and funding in the years to come.

R&D&I and S3 may not seem directly related to overcoming the skills and competence challenges of the region. However, it is connected to the long-term development of the labour market and may assist local employers in bringing competence demands onto their agendas in response to the increasing need for R&D&I. In their recent strategy for small and medium-sized businesses, the Ministry of Trade, Industries and Fisheries pointed to the importance of networks for unlocking and covering competence needs. The strategic use of clusters is key to foster positive development for the company on three levels: 1) as a learning environment for employees, 2) as a sharing platform to cover knowledge gaps, and 3) to bolster competitiveness (Ministry of Trade, Industry and Fisheries, 2019). Marrying these aspects demands further integration between the local labour market and regionally embedded research institutions, as part of a set of overall measures to ensure regional growth and resilience. The recent establishment of the RSA in the region may be one way to enable this.

Good practices and Nordic learning

With the decentralisation of the skills and competence development area to the regional level, Norwegian counties have a greater opportunity to address local and regional issues. However, this naturally depends upon multilevel governance, where the national, regional and local actors are in a mutually reinforcing relationship, supported by excellent information and communication flows. The local and regional level is increasingly being recognised as key to solving issues in the regional context, and actively using planning tools to address and overcome skills mismatch through active and horizontal skills governance is another important lesson from Norway.

The establishment of Competence Forums as a mandatory feature in all counties in Norway is a good practice example for skills governance in a Nordic perspective and use the role of the county council as a coordinating body is important. The role of the RSA is another enabling feature, incentivising collaboration across regional stakeholders, research institutions and higher education, firmly anchoring their regional embeddedness. Although universities, in general, may not have an explicit regional mandate, collaboration with the regional labour market through councils such as the RSA may help these institutions more readily understand their regional value. Multiple interviewees shared narratives which indicated that flexible structures for education should be developed further and that there is much potential in building closer cooperation between INN and Innlandet Vocational College, and the counties, in order to work more practically with prioritised areas – by, for example, using S3 to structure the work further.

Successfully positioning the region to tackle future demands requires important work with people's attitudes towards skills development, lifelong learning, and education. Creating a

culture of learning is important. The encouragement to participate in school competitions, such as WorldSkills Norway, is one way to create an appetite for innovation, entrepreneurship, and learning. It also helps gradually to change the status of vocational studies, by demonstrating the opportunities for, and potential of, vocational professions from an early age. Ensuring local anchoring of skills policies, both with regard to responding to the individual, to local businesses and to understand the local labour market needs, is key to enabling dynamic response to such labour market requirements. The career centres are pertinent for continued education, too. And module structured adult vocational education, as tested by Career Oppland Lillehammer, is additionally useful as a tool for systematically working against the skills mismatch.

Innlandet Vocational College is another key strategic institution, and tool, by which the county council can elevate regional competence development, and reduce the skills mismatch for the future. Its agility in responding to the labour market by being connected to key regional businesses and industrial parks is particularly important (see e.g. the Raufoss-model). With Innlandet County as its owner, it may now be used strategically in operationalising regional plans that fulfil the county council's regional societal development mandate. Continuing to remember the importance of flexibility remains crucial for contributing to an evolving, dynamic regional labour market.



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Northeastern Iceland

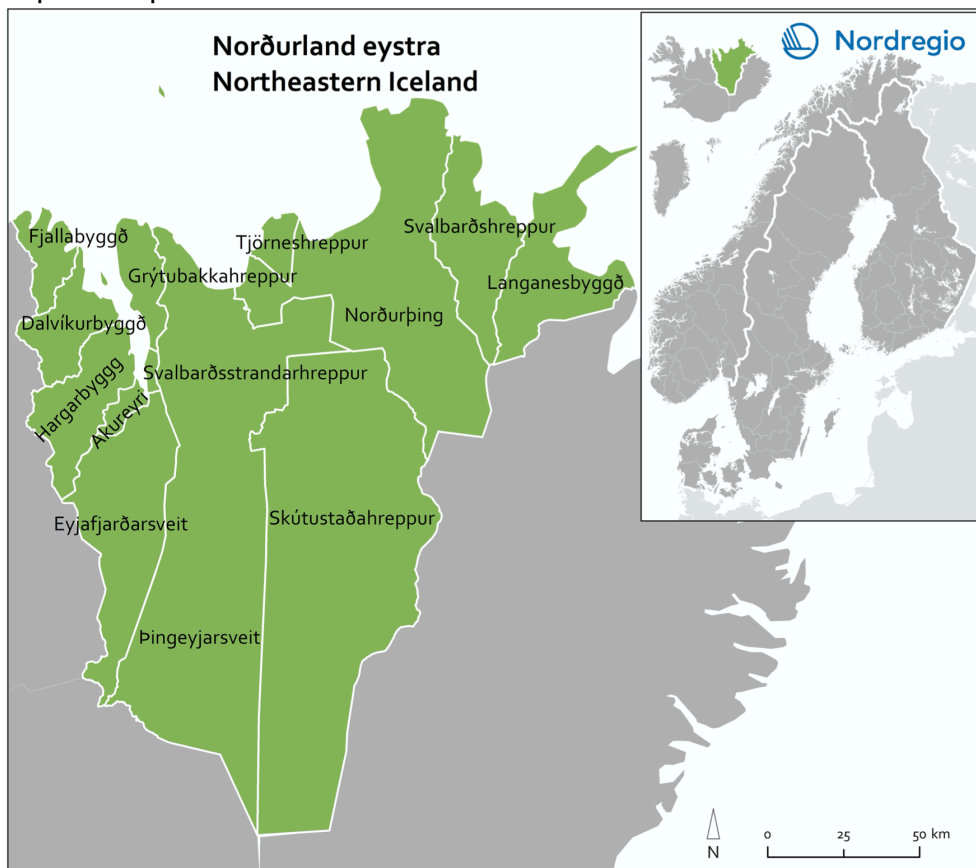
Authors: Hjördís Rut Sigurjónsdóttir and Mari Wøien Meijer

Facts about Northeastern Iceland

Population: 30,445 (2019).

Region: 13 municipalities. Largest settlements are Akureyri (18,925) and Húsavík (2,323), Dalvík (1,381), Siglufjörður (1,184) and Ólafsfjörður (787).

Map 7. The map of Northeastern Iceland



Overview

The Northeastern Region in Iceland is vast, with a rather small population. But is still the most populated region outside the capital area. The most substantial part of the population is in Akureyri, a centre of trade and services in northern Iceland. It is often called the capital of the north. Akureyri's strong position nationally, with a diverse business community and powerful knowledge activities led by the University of Akureyri, provides opportunities beyond those of other regions. The region also features a strong and diverse cultural life, extensive tourism, and growth in the creative industries.

Even though the region's population has slowly been increasing, its share within the nation as a whole has been declining, because the population growth has mainly been in the capital area. The age and gender distribution of residents outside the urban area of Akureyri is characterised by older residents, a decrease in children, and relatively fewer women (Byggðastofnun, 2015). This demographic composition may have an impact on the future and prospective labour force, and social viability of the Northeastern region of Iceland.

Diverse educational opportunities

People in Northeastern Iceland have access to diverse educational opportunities at all school levels, from pre-school to university. An important element of educational development is the University of Akureyri, established in 1987. The number of university courses has increased steadily since then, and now the university has been granted permission to offer doctoral studies. Only 31 students were registered in the first year. But in 2019, the total number of students was up to 2,400. A rich variety of vocational studies and vocational training is also available within the area, as well as good access to lifelong learning (Regional Action plan

2015-2019; the University of Akureyri, n.d.).

The level of education in Northeastern Iceland is lower than the national average. The share of people who have only completed compulsory schooling, have internships from upper secondary school, or have only lower levels of education is 33% for men and 47% for women.¹⁰ For both men and women, the ratio is higher than the national average, at 25% and 42%, respectively. The proportion of men with tertiary education is 20% for men and 27% for women in Akureyri, compared to a national average of 29% and 31% (Byggðastofnun, 2015).

Education and labour market mismatches

The region boasts a diverse labour market which contains most of the types of industry and business that are found in Iceland. This diversity also applies to the scope of business operations, both in terms of turnover and the number of employees. That is one of the region's main strengths, and it creates a good foundation for innovation, employment, and the development of the labour market. However, it also involves challenges, according to the regional action plan, since the region needs to be able to cope with a diverse set of needs, and the variable conditions that the business community in different parts of the region faces. This ranges from software design and large-scale technological manufacturing to rural self-employment (Eyþing 2015-2019). The mismatch between education and the labour market is considered one of the region's weaknesses. But on the other hand, future opportunities are clear when one looks at the excellent level of access to education at all school levels (Eyþing 2020-2024).

There is a considerable labour shortage in the region, especially in Akureyri and its surrounding areas, according to a survey sent to employers and published in May 2019. More than half of the companies surveyed expressed a need for labour right away, or within the next five years. The survey revealed that the greatest need is for employees who have received vocational education, mainly in the construction sector and in the metal industry. This situation can partly be explained by the fact that many in these fields today are moving closer towards retirement age. Also noted was the great requirement for people with a university education, mainly education within technology and information studies, engineers, nurses and teachers. Regarding the needs of people with traditionally shorter educational backgrounds – professional drivers, social workers and employees with licences to work on machinery were specifically mentioned (Einarsdóttir *et al.*, 2019).

National policies and legislation

A report evaluating the consequences of the fourth industrial revolution on Icelandic society, and Iceland's opportunity in relation to these changes, was published in February 2019. A committee was appointed in mid-2018 by the Icelandic Prime Minister, with the task of gathering information about the technological changes incorporated in the fourth industrial revolution, and to stimulate the debate on inherent threats and opportunities (Þorsteinsson *et al.*, February 2019).

In the report, it is said that if the cycle of changes develops as predicted, it is clear that coordinated responses are needed. Changes in employers' recruitment requirements have already occurred, whereby more emphasis is placed on features that are less automated – such as interdisciplinary skills. The nature of these future changes is likely to influence everyone on the labour market, and the committee suggests a systematic evaluation of needs in regard to skills, education and human resources. Structured steps towards supporting high technology development, technology and knowledge transfer, and innovation are also suggested. Employers are recommended to support employees in retrieving appropriate retraining and skills opportunities to meet future challenges. It is recognised that trade unions have a role in assisting their members by strengthening the environment for skills training and lifelong learning. Also, the individual's responsibility is highlighted, so to observe and acquire the appropriate skills needed

10. Capacent gathered information for the Icelandic Development institute based on the Capacent database, obtained in various surveys where people are also asked about their level of education. For the sample to be considered significant enough, it was necessary to go back to the 2011 database.

to negotiate the future (Þorsteinsson *et al.*, 2019).

In the report, it is also pointed out that the share of STEM-educated (Science, Technology, Engineering, Mathematics) graduates, as a percentage of university graduates overall in Iceland, is very low compared to other European countries. That is, it is only 16%. It is therefore recognised as important that more people are recruited into the field of science so that the country can be better equipped to meet the upcoming technological changes. The development of interdisciplinary learning is also important to consider, both to increase the role of vocational training and the arts and to improve children's and young people's wellbeing during the course of their education (Þorsteinsson *et al.*, February 2019).

Work is now underway to formulate Iceland's new educational policy. This policy is supposed to address and prioritise the challenges facing Icelandic society in both education and welfare. The United Nations' Global Sustainable Development Goals (SDGs) are considered significant in shaping this policy.

The role of local and regional government in Iceland

In Iceland, there are only two formal levels of government – the state government and local government (municipalities). The role of regional associations of municipalities (Landshlutasamtök sveitarfélaga), which are voluntary interest organisations for the municipalities within specific areas, has increased over time. In other words, municipalities are not required to participate in these regional associations, and their associations functions can change without legislative alteration. The primary task of these associations is to safeguard and work on the common interests of the municipalities involved (Samgönguráðuneytið, 2009; Alþingi, 2011). Arnardóttir (2011) concluded that the local government association of municipalities is an indicator of the existence of what is in effect a third governmental level, due to its increasing role in various projects and relations involving the official bodies (Arnardóttir, 2011, and in Oddson, 2013). In 2015, their role was increased, with new laws on regional development. The purpose was to promote regional development and to increase consultation. That is, engagement between regional ministries with responsibility for regional issues, among regions, and between different administrative levels of government. The Act also gives municipalities increased responsibility in regional and community development (Alþingi, 2015; Alþingi, 2011).

The main actors working with skills

There are several educational institutions in the region; among them, the largest university outside the capital area, six upper secondary schools and two life-long learning centres, located in Akureyri and Húsavík, offering a variety of courses and educational opportunities for adults.

The University of Akureyri offers general studies within various fields, such as the social sciences, healthcare, education, ocean science, business education, police science, and many more (the University of Akureyri, n.d.). A Department of Computer Science was established in early 2000 but was closed down following the economic crisis of 2008. However, it was only later on that the demand from the local community resurfaced, seeking to re-establish this programme. Considering the costs and the difficulties involved in recruiting the human resources needed, the re-establishment of the course was both difficult and complicated. So instead, the University of Akureyri came to an agreement with the University of Reykjavík, to host studies in computer science together. This was made possible with support from employees on-site, who were funded by associations and companies in the local community for the first two years. Currently, one project manager and two lecturers are financed by the state.

The University of Akureyri also began to implement distance learning in an attempt to allow people to study where they live and work. Distance learning courses have enabled the university to service the whole country, and the distance learning structure seems particularly to be working in favour of rural development. According to the statistics, around 65% of students come from outside the capital area.

Eyþing is one of eight local government associations in Iceland. Eyþing consists of 13 municipalities in Northeastern Iceland. Eyþing was originally founded in 1992, and it covers an area of over 30,000 inhabitants. It manages the projects and funds entrusted to it by the local and national government. Eyþing works to promote cooperation between the municipalities in the region, to safeguard their interests, to support industry, and to enhance the quality of life for the entire region – economically, socially and culturally. Eyþing also has a significant role in providing services through cooperation in fields such as social services, culture and business innovation. It collaborates with other institutions, too, and networks across the region and the country as a whole (Eyþing, n.d). In 2020 a merger took place between Eyþing and two Business Development Agencies (Eyjafjörður Business Development Agency and Atvinnuþróunarfélag Þingeyinga). The new regional development association will have a broader scope in its operations and will be working in the interest of the region. By amalgamating organisations into a unified platform, communication with the state is also expected to be shortened and simplified. (Atvinnuþróunarfélag Þingeyinga, 26.11.2019; Eyjafjörður Business Development Agency, n.d.).

Eyjafjörður Business Development Agency and **Atvinnuþróunarfélag Þingeyinga** are regional associations of municipalities working specifically on labour market development. The former is in Eyjafjörður, and the latter is in the eastern part of the region. Both Eyjafjörður Business Development Agency and Atvinnuþróunarfélag Þingeyinga intend to be leading forces for development in Eyjafjörður, increasing employment opportunities, economic growth, jobs diversity, innovation and the overall attractiveness of the place (Eyjafjörður Business Development Agency, n.d; Atvinnuþróunarfélag Þingeyinga, 2019). Both are involved in the GERT¹¹ the project which is aiming at increasing student interest in STEM (Science, Technology, Engineering and Mathematics) subjects. Both Eyjafjörður Business Development Agency and Atvinnuþróunarfélag Þingeyinga merged with Eyþing to form the new regional development association in January 2020.

The Directorate of Labour¹² holds overall responsibility for public labour exchanges, and it handles the day-to-day operations of the Unemployment Insurance Fund, the Maternity and Paternity Leave Fund, and the Wage Guarantee Fund. By law, it promotes a balance between the supply of, and the demand for, labour in the country (Directorate of Labour, n.d.).

Two lifelong learning centres are located in Northeastern Iceland. There is **Símey** in Akureyri, and **Þekkinganet Þingeyinga** in Húsavík, each covering its own district within the region. Both centres focus on lifelong learning and adult education, offering courses and seminars. Símei and Þekkinganet Þingeyinga have a defined role to play in the field of lifelong learning and adult education, as do eight other lifelong learning centres across the country. These lifelong learning centres all operate according to the law on continuing education 27/2010 (Símei, n.d; Þekkinganet Þingeyinga (n.d.).

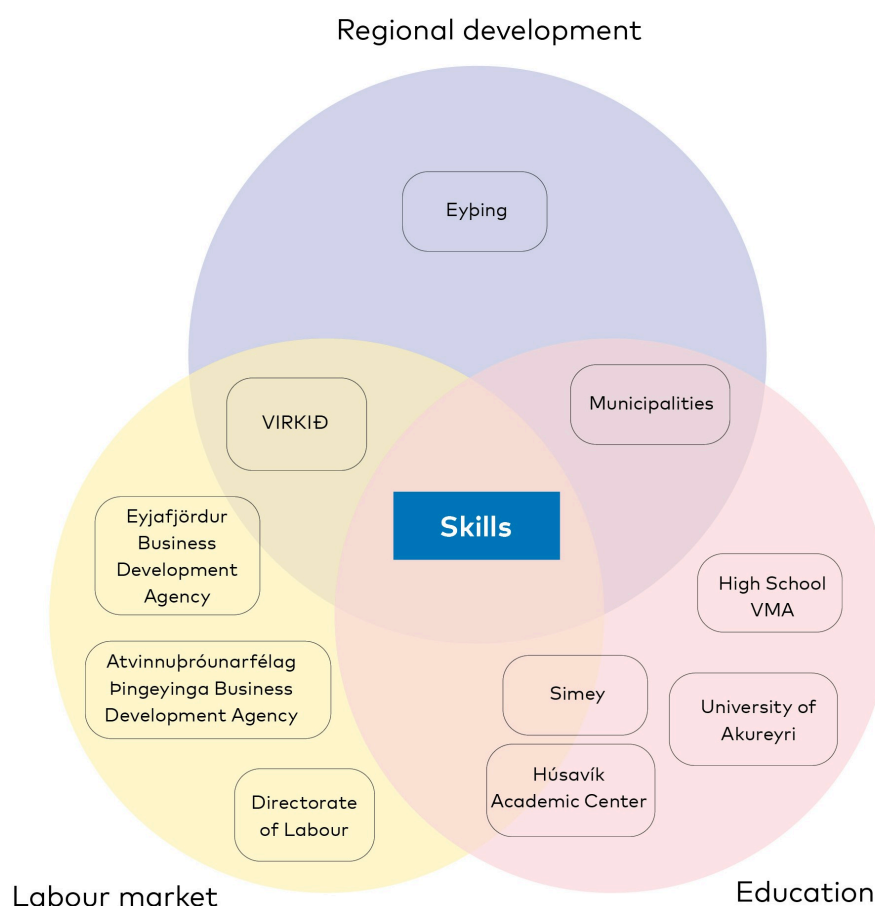
Virkið/The Fortress is a collaborative project of the 12 public and private actors in Akureyri, providing a rich variety of services aiming at the age group between 16 to 25 years. The aim is to involve them in educational or labour market activities directly.

Akureyri Comprehensive College (VMA) is one of two upper secondary schools in Akureyri, and one of a total of six upper secondary schools across the whole region. The college is characterised by its attention to a variety of studies for all types of students, from industrial and technical subjects to more academic fields. These are organised with a 'phases structure' which allows students to tailor their studies to their particular situations and needs. The educational choices that are available to students are varied: general studies, culinary studies, assistant nursing, sports, engineering, studies for students with disabilities, hairstyling, construction, electricity and electronics, mechanics, and metal industries.

11. GERT is a cooperation project between the Federation of Icelandic Industries, the Ministry of Education and Culture, and the Association of Local Authorities.

12. The Directorate of Labour is under the aegis of the Ministry of Social Affairs

Figure 7. Actors involved in skills anticipation, governance and development in Northeastern Iceland



Regional skills strategy

In recent years, a systematic regional vision regarding skills has been lacking, even though labour market needs have been given due consideration, and practical skill development is being carried out. With the merging of Eyþing and the two Regional Development Agencies, a more comprehensive view and a more collaborative approach to regional development is to be expected.

Eyþing's action plan for East-Iceland, 2015-2019, declares the importance of strengthening the connection between education and the labour market, and analysing the needs of the labour market in particular. The year 2016 brought a substantive addition to the action plan, whereby more emphasis was placed on increasing educational opportunities in the region at all school levels. Many different aims are spelt out in the action plan. These include ensuring adults good access to continued learning, increasing the number of students within the fields of technology and vocational occupations, creating an active collaboration platform between school and businesses, increasing educational opportunities both at secondary and tertiary level, and strengthening teacher education in the area. However, the effect of the action plan is difficult to measure, due to the absence of targets and indicators for the purposes of monitoring and evaluation.

The new action plan, or development strategy¹³ for 2020-2024, is based on the UN Sustainable Development Goals (SDGs). The action plan is also slightly different from the previous one, focussing less on labour market needs. Rather it gives attention to a more comprehensive approach to skills development and access to education, and it has a clear goal of increase the level of education in the region by 5% within the duration of the strategy. The action plan is duly divided into three main categories: culture, environment, and employment and innovation. Each of these touches upon several UN goals. The fourth industrial revolution is mentioned specifically, with a focus on the ways it may be aggravating a disappearance of jobs, and on actions that may help to support the transition. This includes promoting high-tech companies and innovation, and at the same time promoting both vocational education and continuing education. The regional action plan emphasises measurable targets and indicators in order to be able to evaluate progress. The specific goals regarding employment and innovation are to increase the proportion of full-time equivalent positions held by the state by 15%, to increase the number of registered companies by 10%, to increase turnover from the creative industries and high-tech by 20%, and to raise public funding for research, development and innovation by 40%. The strategy also expresses a will to increase teaching and skills in technology, computer science and vocational training at all school levels.

The new regional platform forms the backbone of a fresh approach to regional collaboration. The process of developing the action plan resembles the method for developing Smart Specialisation strategies elsewhere in Europe. In this process, various regional stakeholders come together on an equal footing and decide on regional strengths and what they are to focus on and prioritise – which in turn determines where funds and money should go. That is, it is a less fixed and more organic process. The idea is that this allows the region to act more concertedly, as it targets investment towards pre-defined and agreed categories and objectives. These include skills, as an underlying horizontal policy objective.

Tools and activities to address skills development

Skills and the skills mismatch is addressed in different areas and policy contexts in Northeastern Iceland. The skills concept is not widely used, except in those institutions working more closely with the labour market. These include the Directorate of Labour, lifelong learning centres, and employment development agencies such as Eyþing, Eyjafjörður Business Development Agency, and Atvinnuþróunarfélag Þingeyinga – which recently merged. How skills and skills mismatch are conceptualised and approached is currently undergoing review and alteration.

The regional action plan for 2015 to 2019 has had a vision of improving the connection between education and the labour market, including access to education and analysis of labour market requirements. The focus has slightly changed in the new action plan/development strategy, because the emphasis is more on increasing skills and education in general, with a less focus on labour market needs. Regarding the labour market, however, attention is more on making the circumstances better for establishing new companies and encouraging entrepreneurship. It also includes the concern to improve physical and digital infrastructure, in order to be prepared for, and to take advantage of, the fourth industrial revolution. The chairman of Eyþing has described this in an interview, noting that the new strategy that was then in progress needed to be flexible and open to change in a rapidly shifting society. In this way, it should not be assumed that the labour market is capable of changing on its own, in a suitable way. Considering the labour market needs alone could head the community in the wrong direction, leaving the labour force with outdated education in a few years' time.

Different actors use different tools to address skills development in the region. For example, the Directorate of Labour provides individuals with assistance in becoming active participants in the labour market. It uses tools such as courses, counselling and work-related rehabilitation. These services are tailored to individual needs, they and follow a job seeker's skills evaluation. This evaluation is a plan for individual job seekers, and it helps the person concerned to participate in

13. Since the new action plan has measurable goals, it can be categorised as a regional development strategy.

relevant labour market programmes (Directorate of Labour, n.d.). Another actor providing services to reduce the risk of young people falling between cracks in the system is Virkið/The Fortress. This service integrates resources aimed at finding the right measures, and developing functional ones for young people who are neither in employment nor in education. With this service, the goal is to facilitate access for the user, to provide early components for adaptability, and to reduce the likelihood of someone crashing between systems (Virkið n.d.).

Even though the University of Akureyri is a very important actor in the region in terms of education, it is a national government educational actor, and what is offered therefore depends upon what the government prioritises and is willing to fund. To establish new programmes simply to respond to short-term local needs is not within the frame of the University, which is fixed in a much heavier system of national law and national government regulations, along with old establishments and practices which are sometimes difficult to break. Despite this, the rector of the University of Akureyri describes a close collaboration with the local labour market in some cases. One example is the ocean science programme, which focuses on the value chain – one that has been adapted twice, according to the needs of the industry. The rector attributes this success to how young, and therefore flexible, the University is. Good communications among the different local actors have proven capable of moving a heavy system and navigating national regulations for the benefit of the region. Another example is how local companies funded both the administration and the support needed for hosting studies in computer science at the University of Akureyri, drawing on resources at the University of Reykjavík. This demonstrates how the University may also work to accommodate local needs by collaborating with local companies and other higher education institutions.

Akureyri Comprehensive College (VMA) is an important educational actor in the regional skills development system, offering various educational programmes for which anyone who has finished compulsory schooling is eligible. It has a central role in the community due to its broad scope. But the school is also contributing to the wider European workforce by graduating high-quality carpenters, masons, electricians and blacksmiths. This demonstrates the flexibility of a vocational workforce; their skills and competences are not place-based, but transferable. In addition to a strong vocational focus, VMA also produces many entrepreneurs, which is valuable for a community that has a long tradition of industry.

However, when looking at European statistics, Iceland shows a relatively high drop-out rate among vocational students. This is partly explained by the way apprenticeships are organised by private actors. When entering apprenticeships, students are no longer registered at the school, but registered as dropouts, which somewhat skews the overall picture. Another factor explaining the high drop-out rates could be the availability of jobs. This is evident when looking at the relatively low unemployment rates in Iceland. Similarly, it can be seen elsewhere in the Nordic region, where high-school dropout rates, or indeed lack of ambition to pursue higher education post-high school, is evident due to well-paid jobs being available, along with the position that does not require additional skills and diplomas.

Our interviews with key persons at the VMA also touched on how the labour market and the local authorities sometimes demand certain education to be in focus, without concomitantly considering the amount of time it takes to educate people, and the pace of the changing labour market. Interviewees also pointed out that the capacity of young people to read and understand the labour market, and to tailor their education to fit its future needs, should not be underestimated. Thus, there needs to be a balance between taking charge of education, creating possible paths, and letting students pave their own ways forward in deciding on their future. Regardless of what the present need of the labour market is, this may have changed by the time the students starting high school have finished. The extent to which educational pathways can be directed to correspond and overlap with the labour market depends in turn upon the power of government and the responsible authorities to predict and direct the future labour market. With the fourth industrial revolution, this power will be truly put to a test.

The role of distance learning in skills development

The importance of offering various forms of education and skill development options was expressed in one way or another in all our interviews. Bjarnason and Thorarinsdottir's 2017 study on teacher students supports this observation, showing that relatively few rural teachers return to rural areas after on-campus studies in the capital area, or in Akureyri. In parallel, rural distance-learning students are almost equally likely to stay in their home areas after graduation as urban on-campus students. This is leading the Bjarnason and Thorarinsdottir to the conclusion that distance education seems more effective to increase the supply of qualified teachers in rural areas than regional campuses (Bjarnason and Thorarinsdottir, 2017).

Discussion and key findings

Low levels of unemployment, as in the case of Northeastern Iceland, are desirable. But they can have a downside in terms of skills development. Easy access to the labour market may keep people from developing due to the lack of incentives to develop new skills, which in turn can involve the risk of a stagnated labour market in the future. The actors in Northeastern Iceland working with optimising the labour market do collaborate, but until now much focus in the region has been on labour market needs, and how education could help overcome these challenges. However, the interviews we conducted demonstrated a changing mindset in considering the connection between the labour market and education. What emerged was the view that it was time to change the perception that skills and education are one and the same, and to be more flexible and targeted in efforts to meet labour market needs. Labour market actors are not able to predict with certainty the development of these markets, and arguably operate with a shorter, needs-based lens. Striking the balance between deciding and guiding educational choices is difficult, therefore. It can be argued that the future labour market will be formed by people's interests, which might not be shaped by the current educational system. Nevertheless, labour market needs must be addressed, and developing the skill set of the current workforce through life-long learning is an idea which is gaining increasing attention. This change can be detected in the new regional strategy, from 2020 to 2024, which considers rapid changes in the labour market today and in the future. Whether a shift in skills development will be realised, and what effect that will have, remains to be seen. However, a more holistic regional perspective is expected to follow the merger of the labour market development agencies and Eyþing, involving an increased role for the regional association in matters connecting skills and labour conditions.



Greenland School of Minerals & Petroleum, Sisimiut, Greenland
Leneisja Jungsberg, Nordregio

Greenland

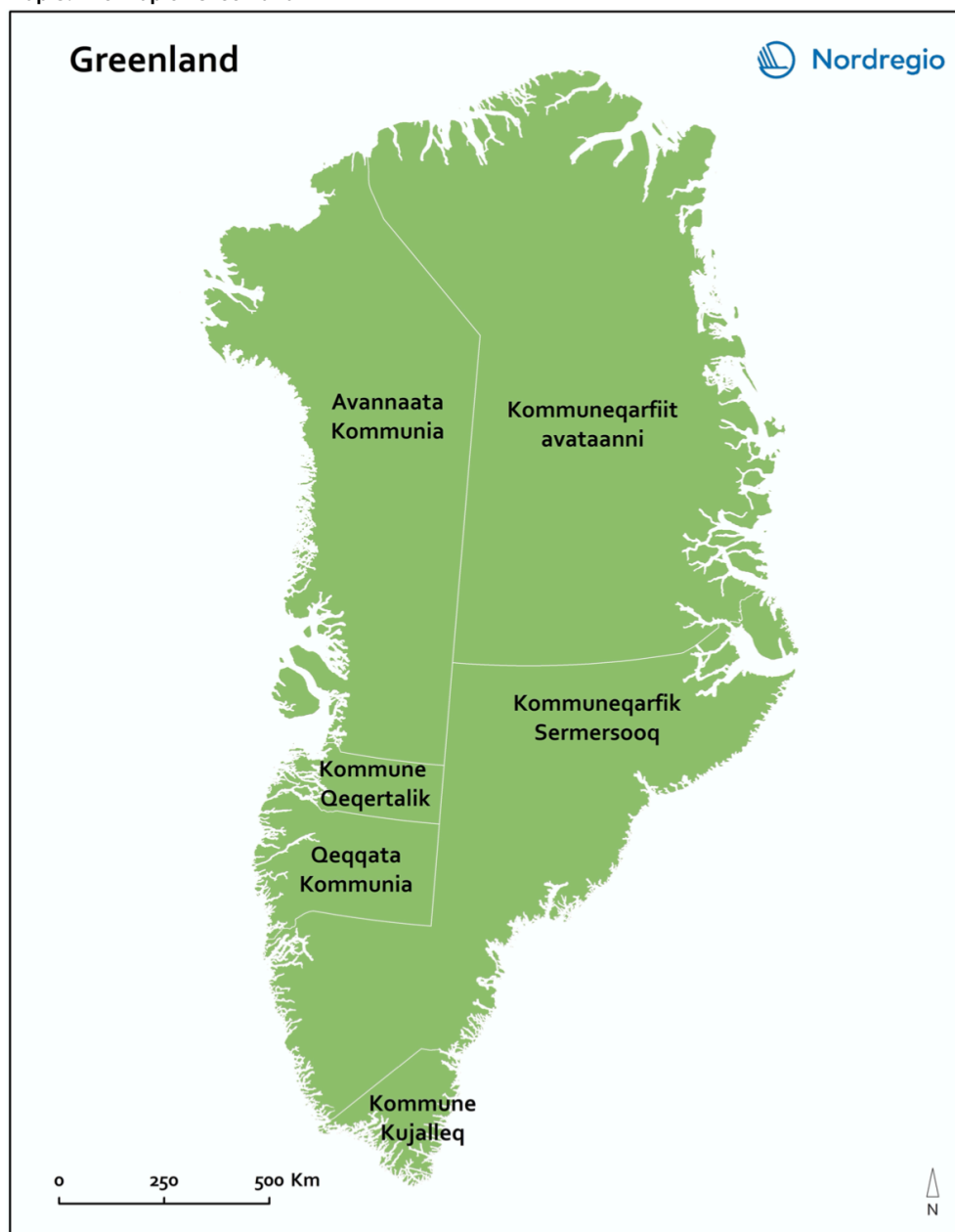
Author: Alex Cuadrado

Facts about Greenland

Population: 56,081

Region: 6 municipalities. Largest settlements are Nuuk (18 326) in the municipality of Sermersooq, Sisimiut (5 582) in the municipality of Qeqqata, Ilulissat (4 998) in the municipality of Avannaata, Qaqortoq (3 189) in the municipality of Kujalleq, and Aasiaat (3 185) in the municipality of Qeqertalik.

Map 8. The map of Greenland



Overview

Greenland is a self-governing territory of the Kingdom of Denmark. It is the world's largest island, and it is located between the Arctic and Atlantic oceans. It is considered a remote rural region. It had, in 2020, a total population of 56,081 inhabitants, of which 18,326 were in Nuuk, the largest settlement in the territory (Statistics Greenland, 2020a). In 2017, Greenland ranked in 61st position in the Nordic regional potential index, climbing from 67th in 2015 (Grunfelder *et al.*, 2018).

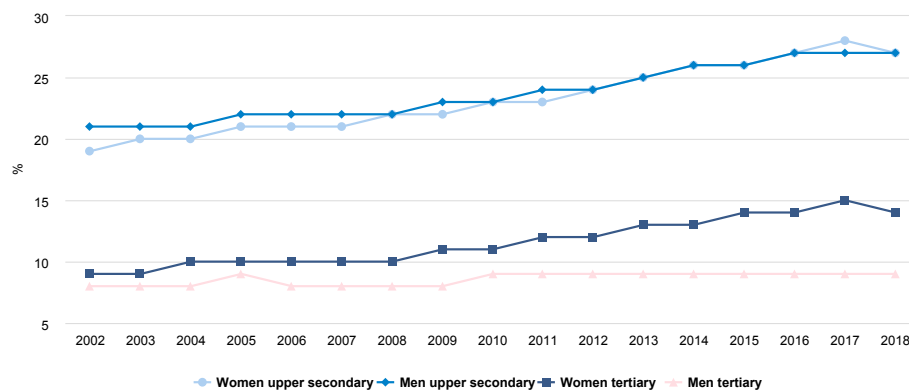
By being the largest island in the world, having 80% of its territory covered by ice (Central Intelligence Agency, 2020), and is characterised by very long distances, Greenland offers a very particular context for the issue of skills. This self-governing territory faces challenges such as low levels of qualified labour, geographic dispersal, lack of industrial diversification, and emigration

(Central Intelligence Agency, 2020).

Despite low levels of qualified labour, Greenland's population's educational attainment has been improving during the last two decades. Although educational attainment keeps being low, since almost 60% of people aged 18-25 years have not achieved upper secondary education (Statistics Greenland, 2019b), gross enrolments to all levels of education have increased noticeably since 2003.

This has led to a slow increase in the percentage of the population with an upper secondary and tertiary education (Statistics Greenland, 2019a). As the chart below shows, the trend for women has been slightly stronger than for men, especially in attaining tertiary education.

Figure 8. Educational attainment in Greenland by sex, 2002-2018. Source: Statistics Greenland, 2019a



However, as there are more students enrolling in upper secondary education, the share of graduates aged 16-25 years old from upper secondary education joining tertiary education has diminished since 2010. Conversely, the share of graduates joining the labour market has increased. While in 2010 some 45% of upper secondary graduates enrolled in tertiary education, only 34% did so in 2018. At the same time, the share of upper secondary graduates joining the labour market increased from 33% to 41%. This means that, nowadays, upper secondary graduates see the labour market as a more attractive career path than tertiary education.

NEET rates (young people not in education nor training), school dropouts and youth unemployment are strong concerns for Greenland (Karsldóttir *et al.*, 2019), as they represent heavy barriers for Greenlandic youth. In the case of NEET rates, although they keep being high, they have been evidencing a steady decline between 2010 and 2018, from 37% to 32% respectively (Statistics Greenland, 2020b).

In economic terms, the main industries in Greenland are fishing, wholesale retail, and transport (Statistics Greenland, 2019b). In addition, 25% of Greenland's income comes from subsidies provided by the Danish government (Central Intelligence Agency, 2020), along with fish exports, which account for 90% of the country's exports (Central Intelligence Agency, 2020).

Main actors

Although Greenland has not developed a skills strategy, diverse actors from the areas of education, the labour market and regional development have engaged in cooperative networks seeking to address the different needs of the region.

The **Department of Labour** is one of the particularly relevant actors within the Greenlandic context because it has developed Projekt Kompetenceudvikling for Ufaglærte, or the Skills Development Project for Unskilled. The aim of this project, which is conducted in cooperation

with vocational and technical schools, is to skill those employees who lack necessary equipping for their jobs. They provide courses on different areas of concern, such as business, healthcare, construction, or mining.

The Department of Labour is also aware of the skills mismatch, and it puts emphasis on healthcare and construction courses because of the fundamental role played by these sectors. The advent of a new airport, currently under construction in Greenland, is another project that requires more employees with the right skills. In this regard, the Department of Labour is working together with vocational schools in order to provide courses in that field, such as building and transport.

The **Qeqqata** Municipality is in the central-western part of the country. Qeqqata has 9,378 inhabitants, 5,582 of whom are in Sisimiut (Statistics Greenland, 2020a). Qeqqata has also been a crucial actor in developing skills in Greenland as a whole. The approach taken in the municipality has been focused on digitalisation. Qeqqata Municipality has engaged in at least two initiatives addressing the need to improve skills in different work areas. First, together with the Ministry of Education and the national authorities, it provided all students and teachers in primary education in the municipality with iPads. This was carried out with the intention of fostering the digital skills of both students and teachers. Second, it engaged in a programme to arrange real-time online lessons with other schools across the world – namely, Hong Kong, Canada, Argentina or Brazil, among the participant countries. These programmes improved the English skills of both teachers and students but also, and perhaps more importantly, allowed greater contact with other cultures.

The **Greenland Business Association** (GBA) is one of the relevant actors in this scene. GBA represents around 350 companies, with approximately 6,000 employees, among its members. Thus, Greenland Business Association represents the vast majority of companies, and around 80% of the country's business turnover (Greenland Business Association, 2020). Their vision is to be a strong business community, and a guarantor of sustainable industrial development, new workplaces, good training and education possibilities, economic growth and welfare in Greenland (Greenland Business Association, 2020). They work with skills in two ways. In the first place, they provide training to the companies within the association, using courses to improve presentation skills at networking events or conferences. Secondly, they are represented on the boards of all the vocational education institutions, together with the trade union SKI, where they design and develop vocational programmes based on young people's demands and the needs of the labour market.

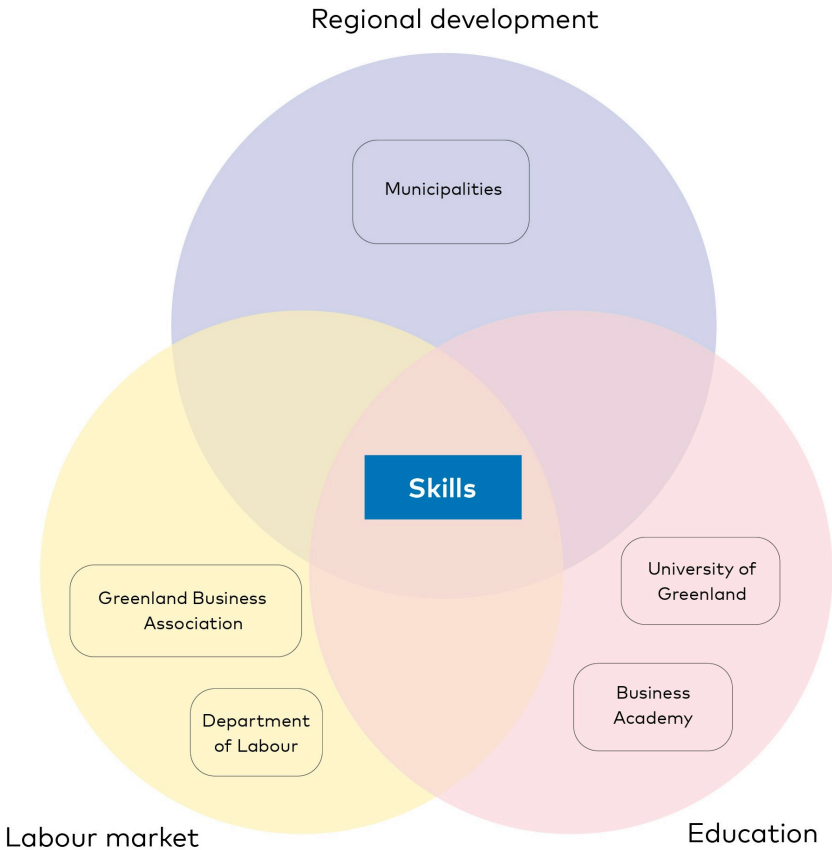
Currently, their main foci are contributing to the reduction of school dropout rate, and assessing the skills needed for the tourism industry, which is expected to grow in the mid-term due to efforts in place such as the construction of the airport in Nuuk, plus several hotels as well. In order to help mitigate school dropout rates, the Greenland Business Association launched a campaign, in which municipalities and the teachers' association were involved, aimed at raising awareness of improving primary education. This campaign received some support from the University of Greenland, which served to engage in an open dialogue about primary schools. One output of that campaign was a realisation of how much administrative work schools need to perform. For that reason, the Greenland Business Association developed a vocational programme to be taught at the Business Academy, which is a vocational college. It was aimed at training young people in school administration work. Regarding skills assessment, GBA is due to conduct a short survey to find out what the relevant skills needed in the tourism sector are.

In terms of cooperation, Greenland Business Association and the Business Academy work very closely with each other. Greenland Business Association is represented on the board of the Business Academy, and they cooperate in designing vocational programmes tailored to the needs of students and the labour market. In this regard, Greenland Business Association has pushed for an opportunity for the Business Academy to offer courses at higher education level, which could raise the educational level of the population. GBA also cooperates with the Ministry of Education in the design of programmes to be implemented by the Business Association. In addition, Greenland Business Association receives funding from the Ministry of Education to address the problem of school dropouts.

The **Business Academy** is a vocational college where several programmes in the field of business are taught at different educational levels. The Academy hosts around 400 students for a broad range of programmes on finance, business, economics and management. One concern for the Business Academy, as for many other actors, is the low level of education generally, and the high rate of school dropouts in Greenland. The Academy reports that between 30% and 50% of their students do not finish their course, due to a variety of reasons – such as language difficulties, cultural differences or socioeconomic barriers.

Some programmes are aimed specifically at pupils who have not acquired compulsory educational qualifications. The focus of these programmes, which last for one year only, is to train students in basic skills, and to enable them to join the labour market. Other programmes last four years and are focused on providing students with real experiences of the market. The academic course component is divided into two semesters, with students spending one semester at the school and the other doing an apprenticeship in a suitable company. The outcomes of this model are highly positive because it offers students the possibility of applying to their workplace while they learn in school.

Figure 9. Regional actors involved in skills in Greenland



Enabling and hampering factors

Two challenging factors for skills development have been mentioned by almost all interviewees in the region. The first one is that the educational attainment level of the population is very low, due to several causes. First, unemployment is almost non-existent in the region and, in addition, the fishing industry offers jobs with high salaries, but without requiring any qualification. These conditions provide an attractive incentive to young people to leave education, to join the labour market, and to start a family. In the second place, school completion is low due to socioeconomic circumstances and language difficulties. It is common that young people in Greenland to prioritise having a family over enrolling in education, due to cultural norms where the family, first, and society, second, are given importance over the individual. In addition, while bilingualism is well established in Greenland, young people's level of both Greenlandic and Danish is not high enough to follow lessons at school. While primary education is taught in Greenlandic, secondary and tertiary education courses are taught in Danish. The differences between these two languages are profound, and this adds an element of complexity to both teaching and learning. Therefore, as the headmaster of the Business Academy explained, "Greenlandic is a descriptive language in which, for example, the word 'harbour' is translated as 'the place where you come when you have been sailing.'" Translations from one language to the other are difficult because the languages are very different grammatically. These difficulties, therefore, require more teaching time in order to ensure the quality of education, and this concomitantly increases the risk of dropout, since students' level of disengagement increases.

The second challenge raised by some of our interviewees is the lack of capacity in Nuuk, particularly in terms of housing. Waiting lists for houses and for school applications are increasing because more and more pupils are moving to Nuuk to study. According to Statistics Greenland, "Children from small settlements need to leave their homes and move to the nearest town in order to attend eighth to tenth grade" (2020c). In addition, only four towns have high schools, and many young people must move to another town to pursue an upper secondary education (Statistics Greenland, 2020c). During the period between 2013 and 2018, enrolments to upper secondary and tertiary education in Nuuk increased by 11%, making up the 61% of total enrolments within the territory for these levels of education (Statistics Greenland, 2019c). While the Tech College was the largest institution, with 314 enrolments in 2018, enrolments to the Business College increased by 53% in the five years up to 2018, when they went up to a total of 205 (Statistics Greenland, 2019c). In addition, there is a strong geographical component to vocational education, given that vocational schools are located across the country, and each of them offers programmes in just one field of study. Therefore, students who want to become kindergarten teachers, for example, must move to Ilulissat. In the same way, students who want to study construction must move to Sisimiut.

On the other hand, growing networks of cooperation between educational institutions and the business community, the increased use of distance learning, and efforts to diversify Greenland's economy all represent opportunities for skills development. In the first place, the cooperation between education and labour market actors means the increased provision of more tailored programmes, in line with the labour market needs. The education model in vocational education is also focused on apprenticeships, and pupils, therefore, alternate each semester between classroom education and on-the-job learning. They are placed in actual job positions in which they receive a salary. This model, according to the head of vocational schools, works very well for all parties involved. It is therefore growing in popularity. Secondly, initiatives focused on distance learning could turn out to be an equalising factor for those young people living in remote settlements. Distance learning not only represents a way to ease access to knowledge for remote populations, but it could also be a way to overcome the challenge of relocating to a big city. As one interviewee explained, there are young people in remote settlements in Greenland who have never been outside their own settlement. So, moving away can entail a substantial cultural shock. For that reason, being in contact with other schools around the world is an opportunity for such pupils to experience and discover other cultures in a secure way, as well as practising their English skills. Lastly, there are several sectors where the Greenlandic economy

may grow and become diversified. Tourism and mining have the potential to expand with the development of the required infrastructure. In the case of tourism, a new international airport is supposed to be finished in Nuuk by 2023. This would increase Nuuk's connectivity to other cities outside Greenland, given that nowadays all passengers must stopover at Kangerlussuaq's international airport. Tourism jobs could therefore spark thanks to this development, and if that happens people will require skills in different areas. In this connection, one initiative started by Greenland Business Association involves preparing research into what skills will be required.

Nordic learning

Two elements from the Greenlandic case could be highlighted as important aspects for Nordic learning. In the first place, efforts to implement distance learning can be a good solution to the challenge of raising the population's general level of education, as well as for broadening students' and teachers' understandings of the world beyond their settlements. The Greenlandic and Northeastern Iceland case illustrates the geographical challenges of their territories and although not involving formal cooperation, both cases have engaged in similar solutions to overcome geographical skills challenges. In the second place, close collaboration between education, labour market actors and national authorities is proving useful in developing skills in key sectors of the Greenlandic economy. The consensus between these three areas has resulted in the design and implementation of new programmes aiming to match students' interests and labour market needs.

5. Analysis and discussion

The main motivation for this study on skills is that they are closely linked not only to regional economic development in general, but also to the ability of regions to cope with major challenges such as an ageing population, and digitalisation and automation. All regions face challenges with regard to skills. Some regions, as for example in North Karelia, have high levels of unemployment, whereas others such as Hovedstaden and Northeastern Iceland have low levels. Both these situations, however, involves challenges in terms of skills. In the first case, there is the need to provide skills and to re-skill unemployed, and in the second case, it is necessary to attract skills to the region and to up-skill the existing labour force. In many regions we find a mismatch problem, and regions to having a lack of skills in particular industrial areas. In this study, we find common problems among the regions, such as lack of interest in vocational education, need for more students in the STEM area (science, technology, engineering and maths), and the importance of recruiting international talent in order to stay internationally competitive in core industrial sectors.

Table 4. Key challenges and strategic focus.

Region	Examples of key challenges	Examples of strategies
Pohjois-Karjala	- Ageing population - Outmigration - High unemployment - Lack of skills - Skills mismatch	- Increase entrepreneurial skills - Improve dialogue between educational institutions and private actors - Adaptation of education to business needs
Värmland	- Lack of skilled labour in industrial sector - Low interest in vocational education (VET) - Integration of immigrant labour	- Raise educational level - Address mismatch - Closer collaboration between educational providers and employers
Hovedstaden	- Lack of skilled labour - Low interest in VET - High unemployment among the tertiary educated	- Flexicurity model - Closer collaboration between educational providers and employers - Attract international talent
Hedmark and Oppland	- Ageing population - Lack of certified skilled workers - Skills mismatch - Lack of workers with higher educational attainment	- Strengthen the Council's role as societal developer, following the national skills strategy - Need for higher vocational education for skills
Norðurland eystra	- Skills mismatch - Transition from fishing to tourism	- Upgrading skills on technology - Increase STEM graduates
Greenland	- Low educational levels - Strong demand for low-qualified jobs	- Digitalisation - Raising the population's overall skills level

This study of how regions work with skills departs from a regional development perspective, which means that we are primarily interested in what is happening at the regional territorial level. However, as elaborated on earlier in this report, skills is an area that is cross-sectoral (i.e. it intersects regional development, education and labour market), and framed in a context of multi-level governance, which means institutions and agencies working with these issues from national, regional and local levels of government.

Who are the main actors?

As illustrated in our case studies, many actors and stakeholders are involved in the work of skills – that is, skills assessment and anticipation, skills development, and skills governance. These actors come from the three realms of regional development, education, and the labour market, and they represent actors at different levels of government, and from both public and private sectors.

Despite many commonalities between Nordic countries, there are also important differences. These relate to different institutional contexts in individual countries. There are also differences in culture, legislation, historical experience and traditions, which are translated into differences in norms, policies, practices, habits and behaviours. An acknowledgement of the role of the institutional setting in understanding different phenomena in society, not least those relating to policy development and governance, has been gaining increasing attention in research (e.g. North 1990, March & Olsen, 1989).

However, despite differences of the institutional context in the Nordic countries, our case studies show that the main actors in skills development come from the previously identified three realms of regional development, education, and the labour market.

From the regional development realm, we find the regional councils in North Karelia, Värmland, Hovedstaden and Hedmark og Oppland, and the association of municipalities in Norðurland eystra. The precise setup for regional development actors in the Nordics reflects the governmental structure of the individual countries. All Nordic countries have a system of three tiers of government (national/state, regional and local/municipal), except for Iceland which only has two tiers (national/state level and local/municipal level). In Norway, Sweden, Finland and Denmark we find that the regional councils are assigned with responsibilities and tasks with regard to regional development, although the extent of this responsibility varies among those countries. The role of the regions has been extensively debated in recent decades across all Nordic countries. This has resulted in administrative reforms in several countries, whereby more competencies have been assigned to the regions (Sweden and Norway). In Denmark, on the other hand, this has resulted in a reduction of tasks and responsibilities assigned to the regions. In Sweden, Norway and Finland, regional councils are responsible for taking out a plan or a strategy for development in the regions. In Denmark, the regions have a weaker role, and in Iceland, the association of municipalities in every region has this role. Hence, the role of the regions in the individual countries also reflects the role and responsibility assigned to those regions as regards skills.

Although working at the local scale, the municipalities have a very important role in relation to skills in the regions. Local government is very strong in the Nordic countries and the authorities at this level have several roles regarding skills. Primarily in their role of providing education but also their labour market role in supporting and bringing unemployed citizens back into the labour market and their role in supporting local business development. The extent of these latter roles varies, however, from country to country. Of these different roles, the role as educational provider seems to be the most important for most municipalities in the Nordic countries, perhaps with the exception for Denmark and Norway, whereby being responsible for managing employment services (job centres), they have an equally important role regarding the labour market.

Educational actors naturally have a very important role in providing skills. Looking at education, we also find similarities and differences in the institutional setup among the Nordic countries. Whereas primary education is organised by the municipalities in all Nordic countries, upper secondary education is organised by the municipalities in Sweden, Finland and Iceland, by the regions in Norway, and by the municipalities, the state and labour market actors (erhvervsudannelse) in Denmark. Higher education is organised by the state in all Nordic countries. Regarding vocational education and training, there is a rich collaboration between different actors. Fagskolen Innlandet (Innlandet Vocational College) is a good example here.

Fagskolen Innlandet is owned by the region (both Hedmark and Oppland), and collaborate closely with the regional labour market and with the National Labour and Employment Administration. It is the biggest vocational college in Norway and has been used strategically to respond to regional labour market requirements.

Table 5. Education at different administrative levels are organised in the Nordic countries

	Primary and secondary education	Upper secondary education	Tertiary education	Vocational education and Training (VET)
Sweden	Municipal	Municipal	State	Municipal
Denmark	Municipal	Municipal/state and labour market actors	State	State and labour market actors
Iceland	Municipal	State	State	State
Norway	Municipal	Regional	State/ Private	Regional / Private
Finland	Municipal	State and municipal	State	State
Greenland	Municipal	Municipal	State	State

The third set of actors central to the development of skills are the employers, the business and industrial sector, and the labour market actors. How these are involved in the regions' work with skills varies to a large extent among the regions. In Denmark, labour market actors have a crucial role in the educational system, as they are responsible for the *erhvervsudannelse*, that is vocational education at the upper secondary level. In all Nordic countries, industry and employers' organisations have an important role as regards vocational education and training. However, the extent to which they are involved varies within the institutional setting of each respective country. The case of Värmland is a good example where this is channelled through the Värmland Industry Council, a collaboration tailored to the needs of the industrial sector. However, in all regions, those we interviewed expressed the desire for closer collaboration between business and industry and the educational sector.

To summarize the results of the first research question on who the main actors are, we have found many commonalities between the regions studied. In all regions, we find regional development actors, educational actors, and labour market actors involved in skills, although the exact configuration of those actors varies among the regions, due to different institutional contexts and cultures.

How do regions work with skills?

In our analytical framework we identified four key activity areas performed in the enhancement and development of skills. These are skills assessment and anticipation, skills development, addressing skills mismatch, and skills governance.

In our study, we found that all regions work with **skills assessment and anticipation**. The scope of these analyses (i.e. comprehensive or sector specific, how the work is organised, the frequency and coordination among actors to both conduct the analyses and act upon the results), varies among the regions and, again, is related to the institutional context. A more thorough analysis of the content of these analyses conducted by skills actors in the regions is beyond the capacity of this study. We believe, however, that by exploring the actors and providing a framework for the study of skills in a regional development context, this study can work as a starting point for further analysis of this kind.

As regards skills anticipation (i.e. skills needs in a longer term perspective), interviewees from several regions, for example, in Iceland, Norway and Denmark, expressed a reluctant view about the relevance of anticipating skills needs in a longer view, due to markets (and labour market needs) changing very rapidly. The different perceptions of time frames, especially between a short-sighted business sector and a long-sighted educational sector, emerge as a relevant issue. In this context, it is also important to acknowledge the wider role of education. It is not just there to react to current needs in the labour market. Education is both part of a Human Rights agenda, and also laid down in the UN 2030 Global Goals. It is hence of essential importance to the individual development, but also to development of society, where education is perhaps the strongest driver.

It is within the area of **skills development** that we perhaps find the most examples of Nordic learning in a transferable sense. What many of these examples have in common is that they consist of a close collaboration between the business sector, or employers, and educational providers. Examples of such collaboration includes Spark in North Karelia, a community of innovation and entrepreneurship combining vocational and academic skills for the enhancement of regional initiatives; Värmland Industry Council, which provides tailored vocational education in collaboration with industry, educational providers and labour market actors; and Innlandet Vocational College in Norway, which marries regional objectives with opportunities in the labour market and its surrounding industry. University colleges, such as the Inland University of Applied Sciences, play an important role in attracting people with a higher level of education to come to an otherwise rural region.

Several of these examples include dimensions of life-long learning and flexibility in their set-up – which may be the right response to the kind of fast-changing economies mentioned above. One example of this is the Luotsi project in North Karelia, a collaboration between ELY-TE centres and the City of Joensuu, aiming to match jobseekers at risk of exclusion with regional companies in need of their services. Other examples are the module based educational system, or the hotline for businesses in need of labour support organised in Region Hovedstaden. In Norðurland eystra, distance learning has become an indispensable tool whereby the University of Akureyri, in collaboration with regional companies, has a central role in helping provide the region with a more skilled workforce. Finally, in Greenland, the Greenland Business Association in cooperation with the University of Greenland and the Business Academy set up a vocational programme aimed at addressing the shortage of skilled workers in jobs within the administration.

From a policy perspective, apart from facilitating unemployed people to get a job, and assisting private and public employers in finding the right skills, inclusion is yet another strong motivation for actively working with skills – since lack of inclusion in society is largely determined by unemployment (OECD, 2018).

As regards **skills governance**, we have seen that several stakeholders are involved, from different realms and sectors of society, from different levels of government, and from both the public and the private sector. Clearly, skills are not an area of responsibility assigned to one single actor. Given the cross-sectoral nature of skills intersecting between regional development, education and labour market policy, it would be difficult to make any one single actor assume total

responsibility. However, a lack of common understanding concerning the challenges involved, a lack of knowledge about different roles and responsibilities among the different actors, and a lack of arenas and instruments for coordination and collaboration – all this entails a risk that skills are not treated comprehensively, and results in a patchwork of singular activities with limited effects. Enabling or hampering factors as regards skills governance will be discussed further below.

What are the enabling and hampering factors?

Despite differences found among the regions – which relate to the type of region involved, key challenges, and the institutional context varying among Nordic countries – we also find commonalities as regards enabling and hampering factors in work with skills.

Table 6. Enabling, hampering factors, and best practices in regions working with skills.

Region	Examples of enabling factors	Examples of hampering factors	Examples of best practices
Pohjois-Karjala	- Broad network of actors involved in skills - Strong healthcare and real estate sectors	- Lack of clear and common vision - Lack of innovative structures to address labour market challenges	- Luotsi (Joensuu project to reduce unemployment) - Education factory - Spark and Riveria dialogue with labour market
Värmland	- Strategies for regional development, cluster collaboration and Smart Specialisation - Many arenas for collaboration	- Need for a more formalised regional cooperation, where roles and mandates are clarified - Poor municipal coordination of secondary education and VET	- Strong networks - Värmland Industry Council
Hovedstaden	- Diversified labour market and low unemployment - Strong involvement of labour market actors in VET	- Lack of overview of actors and responsibilities - Lack of comprehensive strategy	- Copenhagen skills - Hotline and courses tailored to labour sector demands
Hedmark and Oppland	- Strong educational sector - Strong industries with vocational skills demand - Clear regional profile	- Lack of systematic structures for cooperation between actors - Lack of cross-sectoral frameworks to analyse skills mismatch	- Flexible adult education programmes at local career centres
Norðurland eystra	- Varied educational opportunities - Collaboration between sectors - Diversified labour market	- State responsibility for secondary and tertiary education has a stronger focus on national level - Lack of common regional vision regarding skills development	- Strong distance learning
Greenland	- Collaboration between all sectors	- Low level of education - Societal problems - Lack of skills strategy	- Granny Cloud

Institutional context and legislative framework matters

The institutional context in the regions with regards to skills is to a large extent framed by the government structure and the legislative framework. For example, in Denmark the flexicurity model is implemented by the municipalities. The dual system, whereby the business and industrial sector are co-organisers of the *erhvervsudannelse* at upper secondary level, stipulates a very different framework for skills compared to Sweden, for example. In Sweden, public employment services are run by the state, and vocational education and training is to a large extent the sole responsibility of municipalities. These different institutional contexts frame the regions' work with skills and give the different actors' roles and responsibilities that include varying room for manoeuvre as regards skills development and skills deployment.

Need for more analyses and strategic platforms

As mentioned earlier, all regions conduct analyses and assessments of skills demand and supply – however the scope, methods and aims of these analyses varies quite a bit, depending on the institutional framework and the respective roles of different actors. All the regions we have studied face challenges in regard to skills which entail the need for a cross-sectoral perspective, not only in relation to education, labour market and regional development, but also in relation to other cross-sectoral dimensions, for example, in relation to immigration and immigrant workers, unemployment in different segments of the population (such as youth employment), and gender differences. How to deal with the green transition, digitalisation or resilience are also issues closely linked to skills needs currently and in the future.

Some of the regions we have looked at have a regional development strategy where skills are related to the economic development of the region. The advantage of this is that, if it is well anchored among all the relevant actors in the region, it can serve as a joint strategic platform for actors with different responsibilities as regards skills. However, none of the regions studied have a comprehensive strategy for skills which is also well anchored among all the relevant actors in the region. It is important to note that, whereas many actors in our case studies refer to a need for enhanced collaboration, very few translate this into the concrete need for a comprehensive skills strategy. This might be due to an understanding of the complexity of the issues, but perhaps it also reflects a sense of priority. The pace of change in the labour market is very high, both regarding new jobs and new ways of working, (e.g. SOU 2019:3). Hence, there is a strong need to pay close attention to skills assessments and skills anticipation.

Cross-border perspectives

Despite several of the regions studied being cross-border regions (i.e. they are close to a national border, in a situation where cross-border dimensions would be expected to play a role) in fact this seems to play very little role as regards skills. However, the need to attract international talent (not necessarily cross-border) is mentioned on several occasions. In Region Hovedstaden the requirement for cheap Swedish labour in the booming service industry in Copenhagen was mentioned, but formalised cooperation across the Öresund as regards to skills seems to have been scaled down, partly because of institutional differences and difficulties caused by these. One conclusion from our case studies is that the main challenges as regards skills are expected to be solved primarily in a national context, and only to a very limited extent through enhanced cross-border collaboration.

Enhanced collaboration and clear roles and responsibilities

This study has shown the rich array of actors responsible for different portions of the overall eco-system of skills. The analysis points to the Nordic regions as holding a potential to create useful tools and arenas for the development of skills. One of these is to enhance collaboration between different actors from the areas of regional development, the labour market, and the education sector.

The regional councils are primarily involved in skills issues through their role as responsible for regional development (a role that is more extensive or more limited depending on the institutional framework in the respective countries) and for the regional development strategy. Although all regional councils in this study and the association of local authorities in Iceland are to some extent involved in skills, in general regional councils do not seem to have a clear-cut role or explicit responsibility as regards skills. This is the case in Sweden, for example, where the regional council has been assigned with some tasks, but where its mandate and tools are considered weak for the region's ability fully to embrace this assignment. The Nordic regions constitute a well-defined territory for conducting analyses of economic development, labour market and skills needs, and labour and skills supply. In some countries the regional council holds this responsibility, as well as having a certain role in coordinating a range of actors in relation to skills development. However, a responsibility for the regions to act upon these analyses seems to be lacking, and the role of coordination that is often assigned to the regions is not always followed through with a clear mandate and proper resourcing.

Of the different roles that the regions have with regards to skills, perhaps the role of fostering skills assessment and anticipation, and the role of promoting and coordinating skills governance, are considered the most relevant and important. However, in terms of specific skills development, the regions can have a very important role, as illustrated by Hedmark and Oppland.

It is not just important to involve all relevant actors in the skills eco-system. Some actors also have several different roles. For example, the municipalities who have different roles as educational providers, supporting local business development, and support to unemployed. In order effectively to target the challenges of working with skills, it is important to embrace these different roles fully.

Many actors in our case studies highlight the need for closer collaboration between the business sector, the public sector, and (especially) enhanced dialogue and cooperation with educational providers. The lack of interest in vocational education among students is illustrated in several of the case studies. This is primarily due to the ease of getting a job without having a formal education, or else due to the perception of vocational education as a dead end. However, since this is one of the major challenges in all case study regions, there are several interesting initiatives where it seems that Nordic regions can learn from one another, despite their different contexts. For example, through the experience of WorldSkills Norway or Copenhagen Skills.

The importance of collaboration between actors with clear roles and responsibilities is well recognised in our research. This is so both in economic research on regional development (for example, regional clusters and Smart Specialisation), in spatial planning, and in political science theory related to multi-level and network governance.

Nordic learning

In an international comparison, the Nordic countries have high levels of economic growth and education, and low levels of unemployment. Even so, Nordic countries also have challenges relating to unemployment, mismatch on the labour market, gender differences, regional inequalities, and so forth. In order to cope with challenges relating not only to the changes in the labour market but to evolving economies and societal changes, skills development plays an important role.

As illustrated in this research, skills are managed in both cross-sectoral and multi-level contexts. As a result, skills are not one single actor's responsibility and is not laid down in one single strategy or policy. Rather, it is a shared responsibility between many actors at different levels of government and is partially laid down in different policies (Cuadrado *et al.*, 2019). Kompetense Norge, the national authority under the Norwegian Ministry of Education, but collaborating closely with other ministries, was established in 2017 as an attempt to deal with the cross-

sectoral perspective. It was aiming at a "whole government approach". In the same direction, the Swedish investigation is known as Arbetsmarknadsutredningen (SOU 2019:3) proposes a national authority for skills and a stronger and clearer role for the regions as regards working with them.

Identifying best practice examples of how regions can work with skills, illustrated in the individual regional case studies in this report, has led us to identify the main Nordic learnings in this study as:

1. **Acknowledging the strategic importance of skills:**
Along with education, skills play a vital role for the individual, regional and social development.
2. **Knowing the institutional framework:**
In order to understand and develop regional skills eco-systems, it is necessary also to understand the institutional cross-sectoral and multi-level governance framework.
3. **Dealing with all parts of the regional skills eco-system:**
In order to develop regional skills eco-systems, it is necessary to pay attention to all parts of that system – skills assessment and anticipation, skills development and skills governance.
4. **Enhancing collaboration:**
To foster regional skills eco-systems, it is necessary to enhance systematic and long-term collaboration among relevant actors from the three realms of regional development, education, and the labour market.
5. **Clarifying roles and responsibilities among actors:**
To achieve this, it is necessary to increase knowledge and recognition among actors of their different roles and responsibilities within the skills eco-system.

Limitations and future research

As referenced in the introduction to this study, skills are complex. Many actors at different levels of government and across different policy areas are involved in working with skills. In this study, we have focussed on the regional level – particularly on regional skills eco-systems, and on how particular regions work with skills. In order better to understand how skills are situated at the intersection between regional economic development, the labour market and education, it would be interesting to explore national skills eco-systems and mechanisms for cross-sectoral collaboration in the individual Nordic countries further. One conclusion from this study is that applying a cross-sectoral perspective contributes to a more in-depth understanding of the factors which enable or hamper good skills development and effective skills governance. By applying both a cross-sectoral and a multi-level governance perspective, mechanisms necessary for coordination and collaboration can be revealed more clearly. This complements previous and ongoing sectoral studies of skills enhancement in the fields of education and the labour market.

The case studies in this piece of research refer to six case study regions in the Nordic Region, one region in each of the Nordic countries and Greenland. More case studies in each of these territories would have provided richer material to draw upon. However, despite differences between the case study regions, important common learning outcomes were discovered. To deepen knowledge about regional skills eco-systems and mechanisms for collaboration within those systems further, participatory action research would be both an interesting research approach and a positive way forward.

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7. Annex

Target group: Regional agents

Main questions:

'How do regions in the Nordic countries work with skills?'

1. Who are the main actors at the regional level working with skills?
2. What are the enabling and impeding factors for strengthening skills development?
3. What is Nordic learning/added value regarding skills development?

Please provide a general introduction to the project (five lines max)

1. **How would you characterise this region's work with skills (broadly speaking)?**
 - a. Is there a regional skills strategy?
 - b. What is the motivation for working with skills?
 - c. What role does this [agency/organisation] play in skills development in this region?
2. **Who are the main actors working with skills?**
 - a. Who is the main actor responsible for developing and implementing policies related to skills development?
3. **What is the current status of the regional skill supply and demand?**
 - a. Important socio-economic factors influencing this?
 - b. How is demography playing a role with regards to this?
 - c. What are the most important challenges?
4. **What are the main priorities for skills development?**
 - a. Short-, medium- and long-term perspectives?
 - b. Is skills development a priority in regional development strategies, and how is it expressed?
 - In which areas (e.g. digitalisation) and at what level (e.g. university, high school, vocational studies...) are skills addressed?
 - c. How are priorities and policies at the regional level related to, or supported by, policy and decision-making at other levels (e.g. local, regional, national, Nordic, EU)?
 - d. To what extent do you address these three groups in your strategies on skills: Gender, youth, migrants, plus sustainability?
5. **How are you working with skills assessment and anticipation?**
 - a. Who are the actors that you work within the region and how do you collaborate?
 - Educational actors
 - Labour market actors
 - Regional actors (cross-sectoral, public and private)
 - b. What tools do you have in place?

6. How do you work with skills mismatch?

- a. Who are the actors that you work within the region, and how do you collaborate?
 - Educational actors
 - Labour market actors
 - Regional actors (cross-sectoral, public and private)
- b. What tools do you have in place?

7. How is skills work organised in the region?

- a. Who are the actors that you work within the region and how do you collaborate?
 - Educational actors
 - Labour market actors
 - Regional actors (cross-sectoral, public and private, civil society [civil society – e.g. cultural and traditional arts and crafts, churches, voluntary organisations])?
- b. To what extent are you collaborating with neighbouring regions?

8. What are the enabling and impeding factors for working with skills in the region?

- a. How do you work to overcome challenges with regards to skills assessment and anticipations?
- b. How do you work to overcome challenges with regards to skills mismatch?
- c. What are the enabling and impeding factors for achieving good coordination of skills and competence development in the region?

Closing questions

1. What can other regions learn from you in terms of skills development?
2. Is there anything else that you would like to add?
3. Any reports, documents or data that could be shared?
4. If you want to add something else at a later point, please do not hesitate to contact us.

Questions: Regional reforms (Norway)

1. How are you working with strategies for skills development in the merger? Is there a common strategy development?
2. What will the merger mean for skills development?
3. What will the merger mean for the functional labour markets and peripheral areas in the region?

Cross-border perspective:

1. Have you considered the broader cross-national labour market when working with skills development and supply?
 - a. Is there a plan / concrete initiative(s) to support skills supply/labour mobility across borders?
2. What are the main opportunities and challenges for skills supply across borders?
 - a. Complementarity of labour markets/skills available?
 - b. Transport/commuting possibilities
 - c. Institutional support / barriers
 - d. Language, social relations, history.

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