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### Added value of the EU Cohesion Policy in Northern Sweden

Europaforum Northern Sweden (EFNS) is a network for politicians at the local and regional levels from Norrbotten, Västerbotten, Jämtland Härjedalen and Västernorrland. EFNS is a meeting place and knowledge arena where EU policies are analysed and discussed in regard to how they affect northern Sweden. EFNS monitors European issues to influence EU legislation, the EU's strategies and action programmes and the EU's budget. The objective of EFNS is to safeguard the interests of northern Sweden both in the European arena, as well as in relations to the national level in matters with a clear European perspective.

In the preparatory work leading up to the EU cohesion policy beyond 2020, a central issue is to what extent EU regional policies have achieved desired results. Europaforum Northern Sweden would like to showcase the importance of the cohesion policy for developments in northern Sweden and how it creates European added values. The regional development work with EU funds has to a large extent been absolutely crucial for regional growth and increased employment rates.

This report contains examples from northern Sweden of structural transformation, emergence of new sectors of industry, commercialization and internationalization, as well as increased institutional capacity for regional development.

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## The cohesion policy's development of Northern Sweden

#### From aid policy to strategic investment policy

Since Sweden's entry into the EU in 1995, the regions of northern Sweden have gradually left aid policy behind them in favor of a more strategic investment policy with clearer development objectives. From the turn of the millennium and thereafter, regional development work in northern Sweden changed from a broad distribution of resources to more concentrated attempts to transform structures and create better preconditions for growth. More purposeful ambitions at the regional level have gradually been supplemented and integrated with the EU's overall strategy for smart, sustainable and inclusive growth, the EU 2020 strategy. Long-term work to create regional innovation systems, business networks, clusters and strategies for smart specialization over time have developed the regions in areas with comparative advantages for increased competitiveness.

#### Common goals, increased dialogue, partnerships and collaboration

Through EU's cohesion policy stakeholders at local, regional and national levels adheres to the same planning complex. Continuous planning, programming, implementation and follow-up have required dialogue, partnership and collaboration. Small organisations, municipalities and actors with less institutional capacity have been given incentives to place themselves in bigger contexts, cooperate and take on the EU's objectives. Municipalities and regions have been linked up with the European project, which has given the EU greater legitimacy at local and regional levels.

#### Territorial cohesion and increased knowledge

The regions of northern Sweden have developed close cooperation across national borders to strengthen each other's capacity, knowledge and communication about regional development. The network Northern Sparsely Populated Areas (NSPA) made up of the 14 northernmost regions in Norway, Sweden and Finland, is a successful example of collaboration which would presumably not have been established without the EU's cohesion policy,

Over the years, NSPA has identified common potential for increased competitiveness with the aid of primarily two studies; Nordregio's study *Strong, unique and promising – a vision of the future for northern Europe,* in 2009, and the *OECD Territorial Reviews:* NSPA, in 2017. These studies show that the regions create growth to the benefit of the whole of Europe, and states that the competitiveness of the regions has the potential to further increase, provided that regional development work is-carried on in the long term, cohesively, purposefully and based on the regions' respective comparative advantages.

In parallel with the study of the NSPA, the Swedish government decided to carry out a follow-up on the national study which OECD published in 2010. The follow-up study *OECD Territorial Reviews: Sweden 2017* gives an overview of how Sweden carried out and worked with the recommendations the OECD had presented earlier, and also contributed new recommendations for regional development. For Sweden's part, the follow-up study was partly connected to the NSPA-study by giving it a special focus on innovative and sustainable rural development. Furthermore, OECD also chose to analyze growth in more sparsely populated areas in the study *Regional Outlook 2016*.

#### Major potential for growth in spite of specific challenges

OECD states that the geopolitically important northern Sweden makes a strong contribution to Sweden's and Europe's growth and has good chances of releasing further potential if it can create better preconditions for innovation, more investment in transport and digital infrastructure and also increased cooperation across borders. At the same time, northern Sweden faces special challenges that make the regions vulnerable, such as long distances, a sparse and aging population, a small critical mass, a cold climate, and also an economy based on natural resources, sensitive to economic fluctuations.

The studies stress that both rural regions in the proximity of major cities, as well as peripheral regions, contribute to national and European prosperity in several ways. Amongst other things, the communities outside the so-called densely populated environments represent 68% of the areas in



which growth is taking place in the OECD countries. Hence, for increased growth and employment, growth policies need to be better adapted to the various and special preconditions and opportunities of the sparsely populated areas.

The regions of northern Sweden represent slightly more than 9% of Sweden's population and just under 9% of Sweden's GDP. OECD states that the national redistribution for additional costs in the sparsely populated northern areas is equivalent to something in the order of 0.2% of Sweden's GDP. In return, the regions supply a considerable share of Sweden's direct export revenue, represent over half of the country's electricity production, above all through hydropower, and have industries in forestry, mining and minerals which provide employment opportunities in various forms of service production in the rest of the country, not least in the capital region.

It is from this perspective the regions' vulnerability and need of aid in handling this vulnerability should be seen. The costs of more active, growth-promoting measures in northern Sweden are considerably lower than the socio-economic losses for Sweden and the EU that will be the result if the measures are not taken. Efforts to turn challenges into opportunities are needed by, for example, further processing and product development of natural resources, by utilizing the geography and cold climate for innovation and technology development, developing attractive living environments and tourism, and also by developing distance-bridging technology.

#### Need for place-based development and territorially adapted policies

The production paradox of northern Sweden is that increased productivity creates growth but also a reduced demand for labour. In order to create both growth and employment, OECD recommends that the regions invest more in innovation within northern Sweden's areas of strength, which requires a territorially adapted regional policy. Both the EU and the national level, in close dialogue and with support to the regions, need to contribute to increasing the regions' possibilities of managing their challenges.

The location's unique comparative advantages constitute the basis for development at the same time as the innovation systems are included in a common European structure for regional development requiring long-term and comprehensive goals. When growth potential is linked to natural resources in geographically vast areas, it is important that rural and urban areas are developed jointly in order to maximize power of attraction and growth. For this, a much clearer connection between what is today distinguished as regional policy and rural policy is needed at both national and EU levels.

Investments in transport and digital infrastructure are decisive for northern Sweden's chances of reaching out to a larger market. Furthermore, efforts for increased innovation support, access to capital and supply of services are also needed, as well as provision of skilled labor. The need of competence by the private sector and the public sector require a clearer connection between support systems for regional development and systems for education and skills development respectively in order to match the needs of new business sectors.

## Capacity building and long-term regional development

#### Extension of broadband and development of digital services

EU cohesion policy has been decisive for the emergence of the broadband network in northern Sweden. The digital core network which ties together communities with their networks has enabled a development of digital services. In sparsely populated areas with long distances to schools, services and health care, broadband has been of special importance for both individuals and companies. The extension of the broadband network in northern Sweden has been one of the major recent investments at the same time as distance studies, e-health, electronic commerce, digital infrastructure and knowledge-intensive business services have been priority growth areas.

Digitalization increases the amount of data which requires the establishment of a large number of new data centers throughout the world. Northern Sweden has succeeded in attracting several large data centers largely thanks to the region's unique characteristics, with the hydropower's stable and green energy supply, a cold climate and a well-developed fibre capacity. Northern Sweden's transformation



to more digitalised and sustainable industrial production has created new opportunities for strengthened competitiveness, increased employment and sustainable growth.

#### **Emergence of regional innovation systems**

The development of information and communication technology has enabled collaboration that is more independent of distances between several actors, which has compensated for the disadvantages ensuing from northern Sweden's sparse population and long distances between communities, companies and markets in and outside the region. Innovations are created everywhere in society, through both informal and formal networks. However, the possibility of taking advantage of the systems and environments that promote innovation is more limited in sparsely populated areas with a small critical mass. This is a difficult structural challenge that has called for new ideas and working methods.

Among other things, the EU's funds have enabled, he development of regional innovation systems independent of distance, which links businesses with academia and the public sector in a way that would not otherwise have been possible. In order to attract research funds this is particularly important for regions with leading applied research but with less academic tradition and advanced basic research. Lacking its own critical mass, based on smart specialization northern Sweden has built and linked up clusters within different social sectors, which has created regional capacity with a clearer focus. One effect of this development is that today northern Sweden has some of the highest innovation capabilities in Europe<sup>1</sup>.

### The regions' shift to bio-economy

The EU's cohesion policy has been absolutely crucial for the development of bio-based industry in northern Sweden. Since the early 2000s the regions have better utilized the development potential of the extensive research efforts carried out relating to forest raw materials.

Swedish forestry has long worked for resource-effective use of the various parts of the tree. Active forestry contributes to binding carbon dioxide from the atmosphere, and also to continuous growth and regrowth of forests in Sweden. The EU's structural funds have contributed to a long-term sustainable economic development with innovations, new companies, as well as equipping an already existing business sector with tools for readjustment.

The paper and pulp industry, for example, has carried out a successful readjustment in which the whole commodity is utilized to produce new products, chemicals and processes. At the same time, the structural funds have contributed to the development of sustainable products, more efficient use of the forest, and hence also reduced climate impact. Biomass and bio-based products are a priority area in the implementation of the EU's circular economy action plan where the assessment is that use of forest raw materials has the potential to become more effective.

#### Build-up and development of the tourism industry

Northern Sweden's economy is largely based on enormous natural resources and processing of raw materials. These continue to be important resources for the whole of Sweden and Europe. However, in pace with technical developments and increased productivity, the number of people employed has decreased, which has forced northern Sweden to develop and strengthen more different types of industries. The tourist industry is one example of a business sector that has grown, matured and been greatly internationalized thanks to the EU's structural funds. This industry is personnel-intensive, offers employment to women and men, utilizes the countryside and creates local attractiveness.

Long-term and strategic efforts for the development of knowledge, collaboration, place-branding and skills enhancement have gradually increased the number of overnight stays, which has led to greater faith in the future, optimism and joint development of the sector. Development of the tourism industry in its turn has also meant more private investment and additional positive knock-on effects, for, amongst others, the construction industry, retail, logistics and the service sector, with increased

<sup>&</sup>lt;sup>1</sup> European Commission's Regional Innovation Scoreboard



growth and employment as a result. EU funds have also been of major importance for Sami industries, which often lack resources and support systems for operational development.

In combination with infrastructural investments such as upgrading of regional airports, removal of bottlenecks for goods and passenger transport and also strengthened connections to neighboring countries, accessibility to tourist destinations in northern Sweden has increased.

#### Increased opportunities for investments in transport infrastructure

The regions' possibilities to develop transport infrastructure in northern Sweden by themselves has proved insufficient. The EU's structural funds have created a flexibility where the regional development perspective has received supplementary resources to develop specific measures or strengthen the national resources provided. This applies, for example, to the development of terminal structures, port infrastructures, a change-over to a fossil-fuel-free infrastructure, special measures for parts of the railway network, which from a regional perspective is very important but has difficulty in fully asserting itself in competition at the national level, or where insufficient funds have been allocated in the framework of county transport plans to be able to achieve more tangible improvements. The national transport plan has proved insufficient for creating partnerships around specific regional efforts, where the scope of the efforts requires long lead times.

In this context, EU structural funds have increased chances of assembling adequate resources, creating partnerships and reducing lead times in order to be able to carry out measures in the national transport system in the near future.

#### Skills supply and adjustment to meet new demands

Through the EU's cohesion policy and funds, northern Sweden has prioritized efforts that strengthen the need of industries and workplaces to develop employees' skills and ability to adjust to meet new work methods and demands. Efforts have also been directed to strengthen the employability of those who are outside the labour market or have the risk of becoming unemployed.

Furthermore, in previous program periods, investments in infrastructure to create preconditions for learning and skills supply, such as the construction of distance studies opportunities and local learning centers, were made possible. They have improved the possibility of taking advantage of education services and environments that promote skills supply in sparsely populated areas with long distances between communities and training centers.

## The structural funds develop EU's priority areas

#### In-depth example: The regions' shift to bio-economy

The EU common strategy for growth and employment, EU 2020, for smart and sustainable growth for all, together with the EU's structural funds, have created new incentives for industry, academia, the public sector and civil society to work together, strategically and focused, in priority areas that are particularly crucial for developments in northern Sweden, and for Europe.

The emphasis on combining climate-smart, inclusive and competitive cuts across most strategic efforts that are made today and characterizes northern Sweden as the engine for the shift to a European bio-economy. Examples includes, among others, the creation of a common development platform through the collaboration organisation *BioFuel Region*, which since 2003 has inspired and concretized projects in order to contribute to "brain circulation, a fossil-fuel-free vehicle fleet and a well-developed bio-economy in northern Sweden."

Another illustrative example is the development of high-rise estates and road bridges built with a wooden frame. The building process for high-rise estates or tower blocks of wood has about half the climate impact compared with an equivalent building on a concrete frame. Manufacturing wooden buildings requires less energy than other types of material. Wood binds carbon dioxide throughout its life and is a renewable building material. Over the past ten-year period, EU structural funds have contributed to the development of wooden buildings in northern Sweden through some ten wooden building projects.



The development of the forest as a resource is an area that has been given priority in the regional development strategies and EU programmes throughout the 2000s. The forest is an important resource both for bio-based industry, recreation and tourism, as well as for protection of important species and environments. Over the past 10 years, 30 organisations in northern Sweden have carried out some 50 structural fund projects (including pilot studies) within the bio-economy theme. They have focused above all on research, development and innovation, to use forests more effectively and innovative, for example for renewable fuels, chemicals and clothes. In a second step, new ideas and methods have been further developed through internationalization, cross-border collaboration and common positioning in matters concerning the development of the bio-economy.

An illustrative example of the development of the forestry industry with the aid of various EU funds is the development of Processum<sup>2</sup>, the roots of which are to be found in the chemical activities that MoDo³ built up based on ethanol from the pulp factory in Domsjö. In the early 2000s Processum started companies in the Domsjö area with support from the municipality and the county administrative board, Mid Sweden University and Umeå University, Swedish University of Agricultural Sciences Umeå, Luleå University of Technology and Åbo Academy University. A joint study was carried out that lay the foundation for development of a biorefinery based on the forestry industry. The companies of Processum stated "Modo sold a pulp factory without future prospects, and new buyers purchased a Biorefinery with excellent future prospects".

In the course of 2008 Processum won status as a centre for forest biorefinery development in connection with the initiative Biorefinery of the Future<sup>4</sup>, in competition with many others, long-term government financing was granted to be developed into a globally competitive innovative environment. As a recognized strong innovative environment, the work has been geared up in several steps. In 2011 public funds were invested to build up a pilot park with the equipment to scale up promising ideas within biorefinery. The regional structural fund projects Biorefinery Centre and Biorefinery Next Step Centre (2009-2014) made it possible to strengthen the cluster through, amongst other things, needs motivated R&D projects in industrial biotechnology, energy processes, green chemicals, processing of residue, as well as commercialization and development of business models.

During the ongoing program period 2016-2020, the structural fund project Bioraff 2020 is being carried out with the aim of producing new products, amongst other things through investment in pilot equipment for iteration and optimization of new products and processes. In parallel, work is being scaled up to a clearer European dimension through R&D cooperation with partners in Finland and Norway with the support of three regional border projects; Biorefinery Mid-Scandinavia, Bioraff – More Wood and Bioraff Bothnia. Since 2016 development projects have largely been carried on exclusively together with European partners in Horizon 2020.

The example shows how EU funds create courage and strength to take advantage of new opportunities based on traditional industries. This type of effort often requires public commitment from

<sup>&</sup>lt;sup>2</sup> Processum AB is 60% owned by RISE Research Institute of Sweden and 40% owned by Porcessum's association and is hence a subsidiary of the RISE group. The company was founded in 2003 and is located in Örnsköldsvik. Processum supports and initiates research and development within biorefinery. Together with other biorefinery initiatives, this cluster with partners from industry and academia constitute an important hub for development of new products, processes, and energy solutions from forest raw materials and the residue of the processing industry.

<sup>&</sup>lt;sup>2</sup> Previolus industrial group of companies that is today part of Holmen AB. Historically was an important actor for the development of the sawmill and pulp industry in northern Sweden.

<sup>&</sup>lt;sup>3</sup> Biorefinery of the future involves companies, public sector and universities in the Västernorrland and Umeå region. Processes and projects are carried out together with the aim of meeting the energy and climate challenges of today and the future with the residue from forestry and industry.



local and regional actors as well as EU resources to venture in the initial phase to create new opportunities through regional funds and social funds. If the efforts are successful they are ready in a second step to finance the development through more market-based solutions, and, above all, ready to further develop the work with partners in other EU countries.

This is one of several examples of the type of structural transition which we would want to continue to be able to create together with the EU.

## Structural funds creates more innovative and sector-integrated development

#### In-depth example: Build-up and development of the tourism industry

Northern Sweden has several significant natural resources that contribute to enterprise and jobs creation. One of these is the regions' magnificent and fascinating nature with mountains, forests and archipelagos. During the period that Sweden has been a member of the EU, long-term investments have been made to make visiting experiences available to more and larger groups of visitors through long-term work.

The work to develop the regional preconditions for tourism is complex and requires good collaboration between the communities' actors and different sectors over time. Some of the challenges northern Sweden faces are for example, mobile coverage and access to broadband, supply of services and infrastructure in areas with lack of resources, as well as limited mountain and sea rescue. Illustrative examples are two projects in the Botnia-Atlantica program (2007-2013) to organize joint mountain rescue between Sweden and Norway, and also enhanced collaboration between actors in the event of accidents in the Kvarken Strait between Sweden and Finland.

Other examples include access to skills and capital in sparsely populated areas and in lines of business that are often considered insecure for investors. In Swedish Lapland, the structural funds has enabled small actors in tourism with limited resources of their own, for example Sami entrepreneurs, to build up structured cooperation and collaborative structures around common tourism packages with major global visibility. Today this cooperation is being scaled up in the INTERREG North project Visit Arctic Europe to also include northern Norway and Finland.

The EU funds' financial contribution together with the focus on place-based development of comparative advantages creates essential opportunities to build up political and administrative capacity and, above all, capacity for collaboration between the public, private and non-profit sectors.

The tourism industry has a long tradition in the region of Jämtland Härjedalen Region. Starting from the arrival of the railway in the late 19<sup>th</sup> century, Jämtland's mountains became accessible to a cultivated target group willing to pay with high demands on the standards of service and reception. It constituted the starting-point for a development of tourism in the region which is still based on the interplay between the visitors and the suppliers of tourism services in the region.

The economic association JHT (Jämtland Härjedalen economic association) was founded in 1995 to improve quality and develop better offers to market. JHT is a collaboration platform for development of the tourist industry in Jämtland Härjedalen<sup>5</sup> During the period 1995 to 2017, JHT carried out extensive development work with structural funds and other financing. All in all, the projects have been fundamental building blocks in a regional mobilization of public and private actors that contributed to more enterprises, job opportunities and a transformation of local communities.

During the program period 2007-2014, the project Tourism 2020 focused on organisation and structures which included setting-up local destination companies, developing a regional event strategy and a sustainability policy as important starting-points for development efforts. In the subsequent project Sustainable tourism industry 2013-2015, the region's tourism industry was ready to focus on

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<sup>&</sup>lt;sup>5</sup> Jämtland Härjedalen Turism represents the tourist industry in the region in national and international contexts and collaborates with the region's destinations and tourism companies, with representatives of the public sector, interest organisations, etc. The association's board includes representatives of the region's tourism industry as well as representatives from Region Jämtland Härjedalen



skills development and European benchmarking. Among other measures, international study tours to Copenhagen, Chamonix and Mallorca was made. The next stage in the development will now be taken through Tourism 2030, 2015-2018, directed to develop common digital marketing, sa well as other business development efforts.

In parallel with the development work close to small businesses, an innovation system within the tourism industry has been built up in cooperation between public actors, companies and Mid-Sweden University. The regional innovation system Peak Innovation was established and developed at and in symbiosis with Mid-Sweden. Amon other things, a laboratory with possibilities to carry out tests in extreme climate that was constructed as a test centre for winter sports, but also provides a test environment for development of clothes, which global clothing companies from the region with their tradition of sport and outdoor life can utilize. A good example of interesting synergies that arise in the intersection between different sectors.

The development of the innovation system is based on research with the potential to generate goods and services to be commercialized in cooperation with companies and other actors in the region. This is a clear example of the type of enterprise-driven innovation systems that the EU has essentially contributed to create in rural and sparsely populated areas in the European Arctic. The logic and driving forces differ considerably from the innovation systems that characterize more densely populated environments. The innovations systems in research-intensive regions are often based on commercialization of research results made in strong research environments created by strong research institutions, often at major universities with support from multinational companies.

EU funds and programmes have been of central importance to create resources and capacity in order to work as sector-integrated and place-based as required, developing resources that demand efforts in several sectors and at various political levels. The link to the EU's growth policy has had a clear focus on innovation, which has contributed to a clearer component in collaboration with academia and other innovation environments in a field that has been limited to hands-on business. This has created an innovation system that obtains strength from the local preconditions and revises the idea that innovation capacity can only be created in densely populated areas.

We would like to continue to benefit from the strategic guidance and multidisciplinary approach that the EU's growth policy contributes with. We hope the EU will continue to be the key to working with complex development issues in areas that require cooperation with actors and areas that often have limited capacity for participating in complex development processes.

# Challenges are turned into unique opportunities for smart specialization

### In-depth example: Investments in fundamental structures for global connection

Today, northern Sweden is one of Europe's most innovative areas<sup>6</sup>. Through strategic and economic support, it has been possible to gradually build up infrastructure, innovation systems and business opportunities based on the special characteristics of the area.

The chance to invest in transport infrastructure has been crucial for efforts that have tied the region together and, above all, it has strengthened collaboration on a European system thinking. These efforts on the one hand have streamlined and developed freight transport, but also strengthened the links between communities within and outside the region. An illustrative example is the upgrade of small airports to the necessary international standard. This is infrastructure that is not economically viable in itself for the individual airport within the very sparsely populated hinterland, but has been crucial for the development of the region's high profile automotive testing activities and other emerging winter test environments, with direct flights for global stakeholders to the location where the activities are taken place, which in its turn has also created opportunities for the tourist industry and the internationalization of other industries.

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<sup>&</sup>lt;sup>6</sup> Regional unique innovation systems made possible in the EU's periphery



During several program periods, northern Sweden has constructed and developed digital infrastructure. In an area with considerable interregional distances and in a sparse population structure, digital technology is naturally a key factor for competitiveness, attractive living environments and innovative ability. Today the area is ideal for establishing data centers thanks to access to high-speed broadband, excellent universities, as well as a cold climate and climate-smart hydropower. This development continues to be of major importance, however the region have taken further steps and are focusing on digital services and applications – in the broadband network.

Through the EU's interest and financing, there has been capacity and courage to test new solutions in a context that now forces us to develop services and working methods that will be demanded by the rest of the world in only a few years' time. At the same time, large areas of the region do not have the critical mass to be commercially interesting to build broadband with anything other than public investments. Thus the EU's contributions have speeded up the chance of being at the forefront to take the next steps by filling the physical infrastructure with content of new applications and services.

Innovative services in digital health care are crucial for people's access to equally good health- and medical care in every part of the region. In Västerbotten, the health care services are now constructing virtual care and nursery rooms as a result of several development projects. Today northern Sweden is well established on the national, European and international arena. Norrbotten, for example, has been designated by the EU – as a "reference site" within "Active and healthy aging" and leads the network in Assembly of European Regions (AER) eHealth Network, for collaboration and policy development in e-health.

A more business oriented example is the *Centre for Distance-Spanning Technology (CDT)*, a collaboration within the IT industry based on a partnership between Luleå University of Technology, Ericsson, Telia and several partners from the public sector. CDT, which was established as early as 1994, has a strong position on the EU-arena and the international arena, within for example in Living Labs. CDT has assisted and coordinated many EU-projects, which has also contributed to several spin-off companies such as for example: Marratech AB, which developed a world leading e-meeting tool and also participated in several projects in the EU's framework program for research and innovation. Marratech was a finalist for the European Grand IST Prize in 2000. The technology is today an integrated part of Google.

## Regional unique innovation systems made possible in the EU's periphery

## In-depth example: Innovations from northern Sweden are scaled up and create added value to the EU

Northern Sweden has gradually built up greater capacity regarding creation of synergy effects between the EU's programmes by combining structural funds with the EU's research programs. The model the regions apply is to create a basis in national and/or regional efforts in the region, for example by investments in infrastructure for innovation and capacity-enhancing measures in research and other environments. In a second step, the efforts may be scaled up and spread in a larger regional contact through the Interreg-programs.

Interreg is a good arena for testing and creating preconditions to reach Europe and submitting different applications to European research programs. In this last step the European added value is evident when efforts are scaled up to the EU's central programmes such as the European research program, which in its turn leads to an increase of the region's research financing. That is to say that research organisations are given more opportunities to take part in European research programmes.

An example of how the model works in practice is the project SATIN (ERDF 2007-2013, Upper Norrland) which developed a tool for visual programming (Applications), with a particular focus on equality and diversity aspects. Parts of the SATIN project went on to the MÄTA JÄMT) project (Interreg North 2007-2013) for work on measuring the effects of an integrated equality and diversity project in IT and innovation. The work was summarized in a handbook called *Innovation and gender – how to boost and measure change*. MÄTA JÄMT went on to a project under the name GENOVATE



within the Seventh Framework Program (FP7 2007-2013) with the purpose to develop and implement strategies for gender sensible management in organisations.

Another example of capacity building and development of a regional system is Process-IT-Innovations. Cooperation between a number of municipalities, regional representatives, industry and universities, mainly in Norrbotten and Västerbotten, laid the basis for a model that connects new technology with traditional comparative advantages. The goal was to produce new solutions with existing knowledge and development in the region's traditional strong processing industries, and then transfer them to other sectors and areas of use in the form of development projects, involving the industry, SMEs and academia. Process-IT-Innovations receives support from the parties involved and from Sweden's Innovation Agency VINNOVA, which has designated Process-IT a national center, and created opportunities for regional stakeholders and individual projects with support from the regional structural funds, including Interreg, as well as adding other EU instruments.

Process-IT-Innovations has contributed to a number of different business ventures and leading research projects in the EU with applications that are used around Europe today. The development has been made possible thanks to unique cooperation in which the major companies' technology and knowledge contribute to opportunities for smaller actors to further develop and adapt to new products, services and business opportunities. At the same time, the traditional industries gain access to the innovations of others and leading research, which they in turn implement in their processes in order to retain global competitiveness by being at the forefront of technology. Process-IT is, with the suport of EU, a driving force in creating an equivalent competence center in the EU with the model they have established for their processes, to be applied in other regions as well.

EU's different programs are an important source to create better preconditions, but also a catalyst for further development by scaling up efforts and initiatives that give EU added value. In northern Sweden we hope that the efforts that are today in the early stages of development will be given the same good conditions and motivations to create EU added value, and also that we will be able to continue to build capacity and fundamental preconditions for even more strategic development work.

## EU contributes to skills supply and higher employment

#### In-depth example: Access to training and higher education

Skills supply, access to education and more people finding employment are important elements for regional development in northern Sweden. Within the framework of especially ESF, the EU has been of major importance for creating structures and methods for collaboration at the regional level, although efforts in Sweden has mainly been focused on developing labor market policies on the national level.

The EU funds have contributed to enhanced cooperation between state, regional and local stakeholders in Sweden on issues pertaining to the complex system of skills supply. A concrete example is the project *Integration Jämtland Härjedalen* where development and learning concerning the establishment of migrants in the communities was coordinated to strengthen the capacity of all municipalities in the region.

This is essential as many municipalities and other stakeholders in northern Sweden have great needs but are are too small to apply themselves for financial support and more strategic collaboration. The guidance and support for development of a model for regional collaboration which the EU programs are steering towards is therefore crucial. An illustrative example of how the funds have gradually built stronger structures is the development of distance studies and decentralized education, which is now considerable and has substantially increased the access to higher education in Upper Norrland. A specific example include the funds' contribution to extended university education at Mid-Sweden University and the establishment of Campus Örnsköldsvik within Umeå University. Thanks to structural fund investments in Middle Norrland to build-up R&D at Mid-Sweden University to have permanent research resources, an increased university education has been established in the region.

In the process 2001-2005, EU funds for the financial build-up of research were key for the university to demonstrate the width required for the government's final decision on permanent research resources. Without support for capacity-building from the EU, not least in forestry and IT research, it is



doubtful whether the region would today have had an academy with full examination possibilities. In later program periods efforts has been further developed into establishing business-related research centers linked to regional areas for smart specialization and capacity-building in order to participate in Horizon 2020-projects. The result may also be seen in statistics, showing an increased share of the population with university education.

Today the EU funds have left a clear structural mark on the region's skills supply and research infrastructure, study centers and vocational university environments, as well as business-initiated training platforms. This is all beside what has been indirectly created through R&D investments linked to the universities. Opportunities to work with new forms of learning and decentralized models has been crucial to region since a long-term trend at universities and colleges in Sweden has been to centralize many study programs. However, the largest share of structural fund money in the area has gone to direct training efforts at companies and reinforced labor market measures.

During the period 2001-2008, a structure of learning centers was established and became a very important platform for adult education and came to be implemented in most municipalities. The platform, which was built up with the support of the structural funds, coordinated and developed adult education, distance studies and vocational training for adults, and was made available to everyone in the region. This involved a necessary regionalization of adult education and the creation of an established structure for flexible provision of education.

The learning centers and the distance-dependent infrastructure that was built up in connection, also opened up new opportunities to develop models and methods for distance-independent education in collaboration with universities and other educational institutions. Several learning centers carries out university education where the center is a local hub and provides access to study programs for a larger share of the population than previously. The above mentioned infrastructure and work models were built up with the support of structural funds.

Furthermore, the structure with learning centers opened up a dialogue with sectors of industry concerning the need for skills supply in local and regional labour markets. Since study counseling and vocational guidance are part of the learning centers' activities, improved and closer study counseling was created for the applicants. As an effect of the learning centers, the Association of Local Authorities' Academy North was established, a cross-border cooperation organization made up of 13 of the most sparsely populated municipalities in Norrbotten, Västerbotten, Jämtland Härjedalen and Västernorrland.

Academy North was made possible through investments from the structural funds, and has been an important stakeholder to provide access to higher education in the inner parts of northern Sweden for more than two decades. Each municipality taking part in the hub has a learning centre where through Academy North higher education is initiated, coordinated and implemented.

Sweden has a relatively well developed national and local infrastructure for education and labour market policy, but it is also very complex and needs to become more flexible and regionally adapted. The EU's funds have played an essential role in creating new innovative ways of cooperating, working and providing access to education in the region. We hope EU funds to a higher degree can become tools for creating innovative regional models for skills supply and for higher employment.

## Summary of the cohesion policy's added value

The cohesion policy provides strength and incentives for northern Sweden to take the next steps in regional development. The combination of financial support with strategic management towards new thinking and new cooperation means the regions can renew their economic structure and contribute to the common priorities of the EU. There are several examples from northern Sweden that shows how money from the structural funds has created opportunities to gradually construct innovative environments, from venture during an initial phase to coming increasingly close to markets and taking steps onto larger arenas - the build-up of Processum is an example of this. The SATIN-project is another good example.

The cohesion policy provides capacity for more people to take advantage of the potential in complex development resources, in which place-based development efforts are of central importance to have



different interests, sectors and aspects interplaying for success. This is particularly apparent in sparsely populated areas with limited resources of their own. The structural funds has built capacity to take advantage of the potential embedded within the tourism industry, not least by creating a genuine place-based innovation system based on the preconditions of sparsely populated environments, with close cooperation between small businesses and academia.

The cohesion policy turns challenges into opportunities. In northern Sweden the EU has contributed to building up infrastructure, creating new preconditions for innovation and prosperity. An example of this is the extension of broadband which at present covers large parts of the geography. The combination of sound infrastructure, strong centre establishments in academia and structural challenges in the form of an aging population, long inter-regional distances and a sparse population have contributed to northern Sweden being today at the forefront in the EU regarding use of distance-independent technology and innovative models for creating accessibility to services. It has also been a source of strong innovative environments in the business sector and academia.

The cohesion policy has contributed to create enhanced accessibility to education in northern Sweden. Access to EU funds has provided incentives and opportunities to cooperate in new ways, and to build structures for distance-spanning study programs and place-based models for education that reinforce the industry's supply of skills. EU funds have also been crucial to improve the accessibility to higher education and creating university environments with strong links to industry.

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