
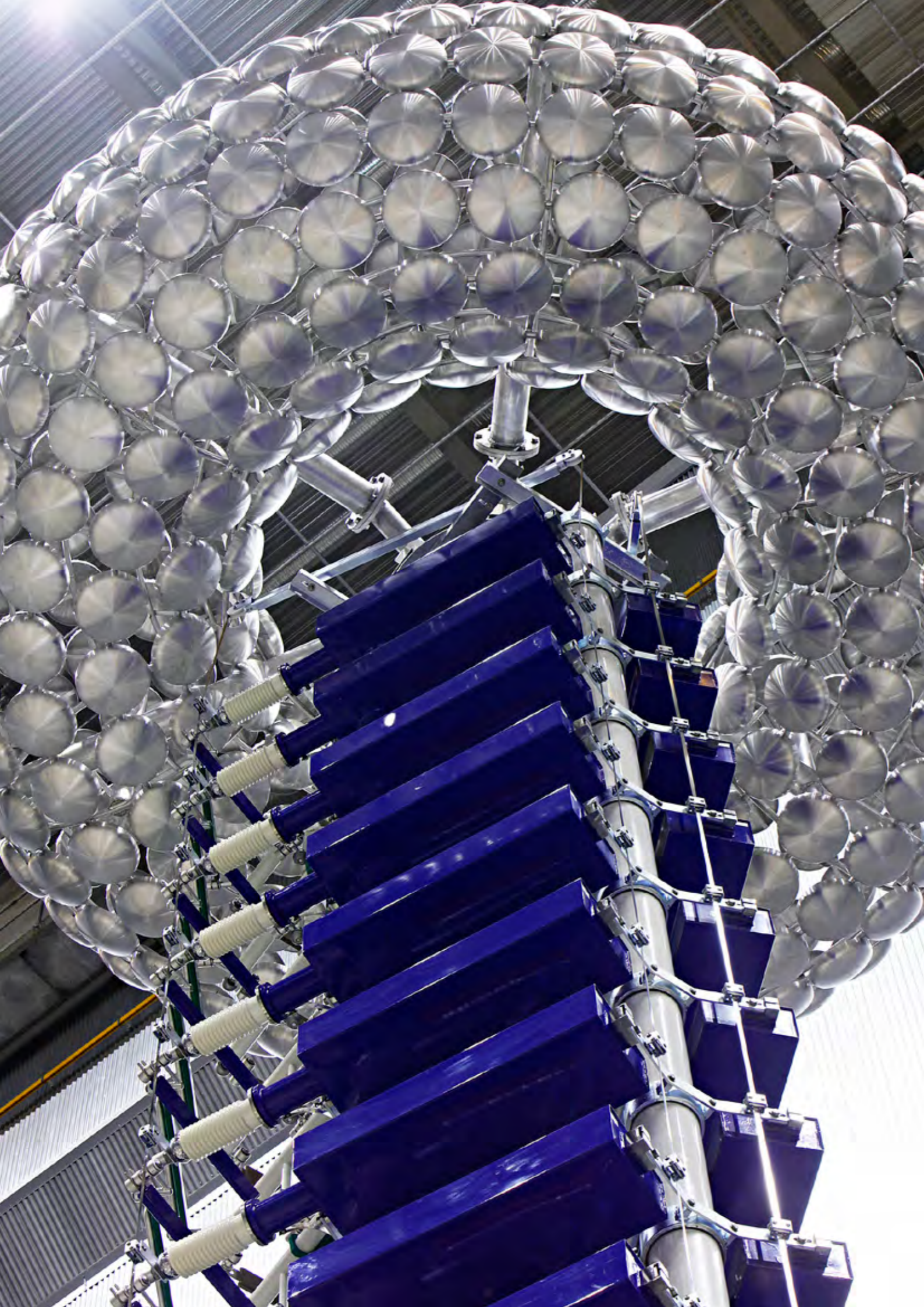


# MADE IN SWEDEN

A photograph showing several hands of different skin tones clasped together in a circle, symbolizing cooperation and teamwork. The hands are set against a light blue background. The lighting is bright, casting soft shadows. One hand in the lower right has a simple metal ring on the ring finger.

Cluster cooperation in  
Northern Central Sweden  
Assessments 2010



## From an industrial to a knowledge region

**In Northern Central Sweden, in the regions of Värmland, Dalarna and Gävleborg, there are some 60,000 employees in 700 companies, gathered into 15 cluster organisations. In this big “testing laboratory”, cluster construction is taking place.**

Northern Central Sweden is characterised by enterprises from traditional Swedish industrial sectors such as steel & engineering and pulp & paper, which account for a large share of the Swedish export sales. By cooperating in clusters, the companies increase competitiveness and add value through knowledge and innovation-based services. Using their industrial competence, they can enter new expanding sectors to grasp opportunities for the future, such as the renewable energy and energy efficiency sectors, ICT and industry-oriented services.

In this environment, the SLIM project takes advantage of cross clustering between different sectors where, for instance, ICT companies work together with companies in the industrial sector in new partnerships and new business operations. Thus, the cluster organisations enhance the transition of companies from an industrial to a knowledge-based business model.

SLIM is a good example of how cluster organisations can be used to improve and vitalise cooperation between companies, universities and public organisations in order to stimulate regional economic growth. The cooperation takes place in innovative platforms, where networks are initiated. This leads to business projects as well as research projects contributing to innovations, new companies and jobs for skilled people in the region.

By enhancing trust and social capital between entrepreneurs from different enterprises, growth and competitiveness are increased, and the products and services of tomorrow are invented. This is achieved through close cooperation with the universities in the regions, with 50,000 students and 3,000 researchers and academics.

### Learning, support and evaluation

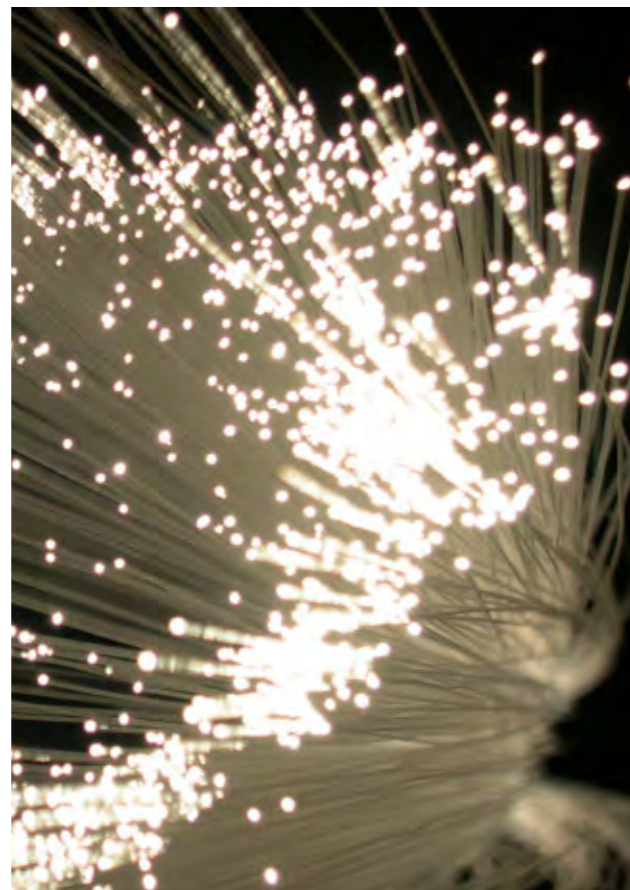
The SLIM project is based on a model for system management that contains the three components policy learning, process support and evaluation.

A fundamental concept of the project is the common learning on how regional innovation environments can be built up, supported and further developed in dialogue between the cluster organisations, the regional business communities, universities and institutes of higher education, politicians, and national growth players. The aim is to increase the understanding for long-term investments as a precondition for the structural changes and renewal that are needed in order to develop business life in the regions. Policy learning focuses above all on cluster and innovation policy by emphasising how innovative environments help to strengthen the competitiveness of companies and create an understanding and a firm foundation for long and complex innovation processes to support growth through triple helix.

Process support is aimed at the managements of the cluster organisations and includes mentorship, coaching and competence development. It is important to increase the interfaces between process leaders, the business sector, political life and the academic world, and to establish cross-connections between different knowledge areas and sectors. By involving the regional business sector organisations in the cluster work, the smaller companies also become involved in new business solutions, international



Steel industry in Dalarna



Close-up of optic fibres

marketing and R&D. Preconditions are in this way created for greater efficiency in the use of public funds and greater impact, since the supporting players cooperate on a regional level.

A principal activity of the evaluation part of the project is the yearly assessments, which monitor the cluster cooperation from the perspective of the participating companies. The assessment is an important part of the regional intelligence system, and supports smart, sustainable and inclusive growth in the regions.

Measurements are conducted at corporate level and are based on the companies' own assessments of the benefit of their collaboration in the cluster organisation. The first measurement survey was conducted in Värmland in 2005. The method has subsequently been refined, and since 2008 the results of the cluster organisation efforts in Dalarna and Gävleborg have been gauged.

In cooperation with the regional universities and institutes of higher education, the measurements are now being extended to include the effects of the social interaction that binds together the interested parties in a cluster and innovation system. The aim is to create new knowledge on how public funds for regional growth can be used.

Close cooperation on developing the measure-

ment model has also been established with the European Cluster Observatory.

### Feedback to regional politicians

The assessments of the effects of cluster organisations on regional economy serve to provide a greater understanding of the work among the politicians responsible. When it is possible to discern concrete growth effects from the activities, the politicians acquire basic input on which they can make clearer prioritisations to support regional development.

The measurements also serve to increase the know-how among the cluster process managements as to the needs of the participating companies, and lend legitimacy to the organisations' work on creating new cooperation and networks with companies and other players in the region.

**The SLIM project** (System Management for Innovative Platforms and Cluster Organisations in Northern Central Sweden) was set up in 2007 and will run until 2013. SLIM is funded equally by ERDF grants and the Northern Central Sweden regions of Värmland, Dalarna and Gävleborg.

The project is connected to the European Cluster Observatory, financed by the EU Commission, and has contributed to a joint DVD production entitled "On Clusters", moderated by Professor Örjan Sölvell from the Stockholm School of Economics.

See [www.regionvarmland.se/slim](http://www.regionvarmland.se/slim)

## Cluster practice at its best

### A test lab that creates business opportunities

Six years ago, the Swedish Parliament invested half a billion Swedish kronor (€50 million) in four regions where ongoing close-downs in defence operations would be economically noticeable. Värmland was one of these regions.

A precondition for being eligible for these funds was that the activities should offer a potential for future growth. Here, IT and telecom companies in the Karlstad region, gathered under the cluster organisation Compare, saw an opportunity.

Compare was awarded SEK 5 million as a commissioning grant, which was the starting point for the testing laboratory that has now been built in Hammarö outside Karlstad. Here, companies apply to hire infrastructure for the testing, quality assurance and certification of software and systems. The test lab is operated via Compare by several companies working in cooperation with the common motto;

"Together we can conduct major testing assignments which individually we would never be awarded".

The test lab also creates new business opportunities.

"We are about to start a project in which we emergency test IT systems for authorities and large companies. Put simply, we are trying to knock out their systems and study how well the systems can cope, how quickly it is possible for customers to put their systems back into operation if the worst were to happen and what they need to do in order to be less vulnerable," says Göran Österman at Compare.

"Our strong side is that we work quickly and have short decision routes. If you want to set up a business here we can arrange a meeting with the principal of the university or with the county governor within a day. That's one of the advantages about being outside the metropolitan regions".

Contact: [www.compare.se](http://www.compare.se)  
Göran Östman, +46 54 12 04 00

Compare's test lab for software and systems



## The Chinese market needs cooperation

Future Position X (FPX) is an independent arena for the testing, development and marketing of geographical information technology, services and know-how. During recent years, FPX has focused increasingly on finding new business opportunities abroad for its member companies.

“Four or five years ago, we were convinced that it was the Baltic area that should be the first step out into the world for companies,” says Johan P Bång at FPX. “We helped some of our companies into Norway and the Baltic countries. What we discovered was that it takes a lot of effort for a company to change country, culture, legal system and language. So why invest all this effort in setting up operations in countries that are even smaller than Sweden?”

So FPX changed its strategy. If the cluster was to spend time and energy it should do so on a market that offers the potential for growth. The choice fell on China.

“If we can only gain a foothold in one province in China, we suddenly have a population of 100 million and a completely different customer base. And they have a growth rate of nine to ten per cent. But if you are a Swedish company with something like 75 employees, you don’t stand a chance in this situation. As a cluster we can say that we have 26,000 members and annual sales of SEK 44 billion. Then we start to become interesting – we get to meet the mayor and the Governor, and we are invited to a meeting with the principal of the university.”

“A typical example is two companies each with a hundred employees, which in Sweden are competing for the same customers, but which by cooperating can set up an international business venture and reach new customers. The cluster provides them with a project manager who ‘puts together’ the company, gets them to drop their guards and realise that they can hunt together internationally.”

Contact: [www.fpx.se](http://www.fpx.se)  
Johan P Bång, +46 26 61 44 00

Through the use of GPS transmitters FPX tracked the progress of two wooden Dala horses en route to the Shanghai World Expo. Sculptor: Torbjörn Lindgren



HVDC light is a high-profile product manufactured by ABB, one of the cooperating companies in HVV. (Photo: ABB)

## Still a world leader in ten years’ time

In the autumn of 2009, High Voltage Valley (HVV) joined forces with a number of the cluster’s players to apply for funds from the Swedish innovation authority Vinnova for the “SmartGrid Energy Storage” project.

The project develops new technology and know-how for future “smart” electrical power networks, as well as Swedish competence for green energy and SmartGrid-solutions.

“We were given SEK 15 million and put up the same amount ourselves,” says Linda Nilsson, HVV’s project manager for the SmartGrid Energy Storage scheme. “When we prepared the application we were very careful to identify what sort of business opportunities there were. If we are to consider working on a project, there must be products or

services that can be commercialised.”

SmartEnergy Container is a concrete example of a product within the project. It’s a scalable and modulated energy solution for self-balanced electricity supply. It has fuel cells, solar cells and a wind power plant, and can both generate and store electricity.

“In the application stage of the project we focused on what is important for the region, and for strengthening it. We have ABB in Ludvika, which is a world leader in power transmission, as well as all the companies around it that are involved in the development work. For us, all projects we work on are about making sure that the region will still be a world leader within the area in ten years’ time”, says Linda Nilsson.

Contact: [www.highvoltagevalley.se](http://www.highvoltagevalley.se)  
Linda Nilsson, +46 240 56 55 10

# Concrete results today and a high level of competitiveness in the future

Participation in cluster cooperation leads to concrete results for companies. This is shown by the assessments for 2010 of the contribution made by the cluster organisations to development and growth among companies in the three regions of Northern Central Sweden. There is also a continued confidence among companies that the cluster cooperation will continue in the long term to help strengthen the competitiveness of the companies.

The companies taking part in the assessment are all positive to the work of the cluster organisations. The reasons why companies have wanted to participate in the cluster cooperation have, above all, been the possibility for cooperation with other companies and the potential for new business on the domestic market. Now when the companies are asked to assess the results of the cluster participation, increased cooperation with other companies and greater knowledge of the sector are confirmed as being the most important contributions of the cluster cooperation. However, another reason given is greater cooperation with universities and institutes of higher education.

#### Four growth indicators are measured:

- Growth in existing companies
- New business establishment
- Increase in near-industry research
- Long-term competence provision

#### Increased sales is the principal growth factor

According to the companies, the principal concrete growth factor is increased sales, even though sales slowed somewhat during 2009 as a result of the recession. In Gävleborg, the companies have also been able to conclude that their participation in cluster cooperation has led to new investments.

The companies also conclude that cluster cooperation will increase their long-term competitiveness by contributing towards new or improved products and services. A large majority of the companies –

four out of five – anticipate that their participation will contribute towards innovations in their own company.

The cluster companies wish to expand in terms of both turnover and personnel. In Värmland, some 85 per cent of the companies interviewed have this as their ambition, whereas only approximately 40 per cent of all the county's small companies have the same ambition. The largest single obstacles are said to be competition with other companies and a lack of demand for the company's products. In Gävleborg, the supply of suitable labour is experienced as being the primary obstacle to growth.

#### Easier access to near-industry research

Cluster co-operation makes it easier for companies to gain access to near-industry research. Half the companies questioned state that they have increased their R&D cooperation with universities and institutes of higher education, and a third have increased their R&D cooperation with other companies. Several of the cluster organisations have also started test laboratory activities, which has contributed towards closer cooperation with R&D players. This is especially the case in Gävleborg.

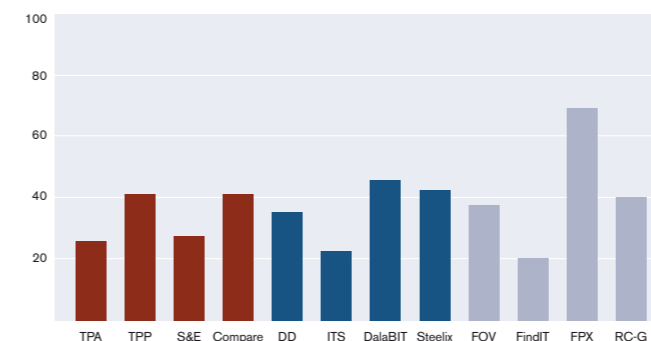
Competence provision is an important factor for the chances of companies to grow and develop. Just over half of the companies questioned judge that their participation in cluster cooperation has increased their opportunities for recruitment. Many of the companies also feel that cluster organisations have a significant capacity to initiate training and competence development activities that are relevant for their operations, and in that way contribute towards the long-term competence provision within the company.

The assessment of cluster organisation effects has comprised interviews with the cluster organisation process leaders, supplementary document studies and interviews with follow-up research staff, and a questionnaire to the individual companies in the respective cluster concerned. Some 700 companies were contacted, approximately half of which responded. The 2010 assessment is the fifth in succession to be conducted in Värmland and the third in Dalarna and Gävleborg.

## Concrete effects reported on companies' growth

### Increase in sales

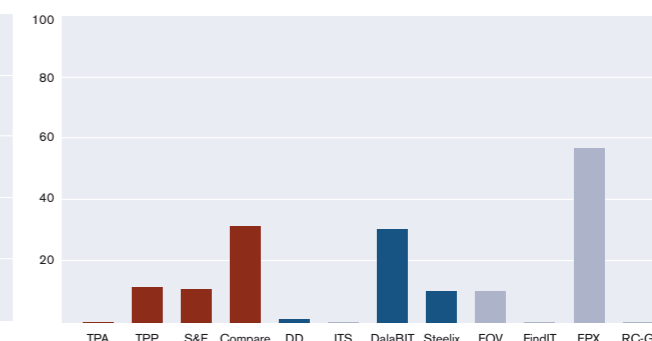
Proportion of companies that agree, per cent



The companies are of the opinion that the principal concrete growth effect of cluster cooperation is increased sales. This applies in the case of all three regions and all clusters.

### Increase in number of employees

Proportion of companies that agree, per cent

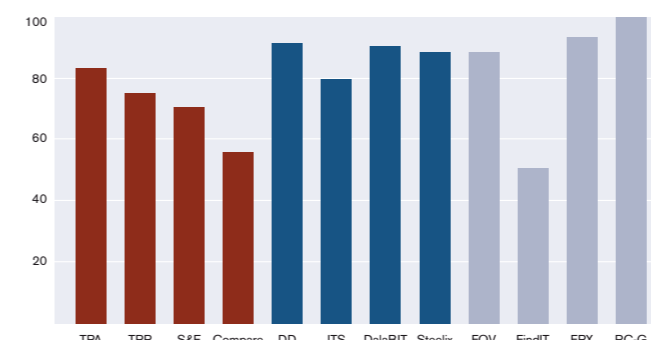


The effect in the form of an increase in the number of employees in the companies varies between the clusters. As was the case last year, the greatest effect is noted at FFX in Gävleborg.

## Companies' prediction for future growth and competitiveness

### New products and services

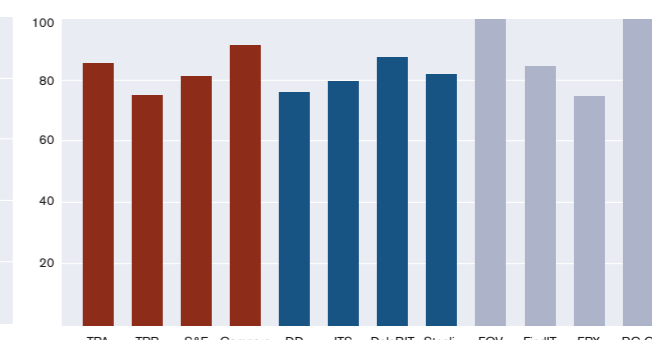
Proportion of companies that agree, per cent



Just over 80 per cent of the companies believe that the cluster cooperation will result in both new and improved products and services. This belief is especially strong in Dalarna and Gävleborg.

### Willingness to grow

Proportion of companies that agree, per cent

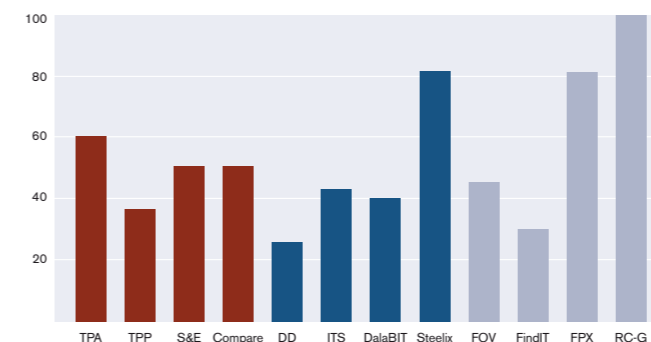


Between 80 and 90 per cent of the companies want to grow in terms of both turnover and number of employees. Access to the right competence is of decisive importance if a company is to be able to grow.

## Companies' participation in industry-related R&D

### Increased R&D cooperation with universities and industrial research institutes

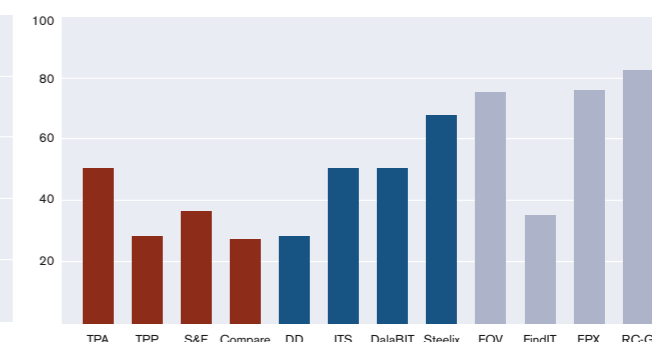
Proportion of companies that agree, per cent



Every second company in Värmland and Dalarna and two thirds of the companies in Gävleborg state that they increased their cooperation with R&D players as a result of their cluster cooperation.

### Increased R&D cooperation with other companies

Proportion of companies that agree, per cent



R&D cooperation with other companies has also increased. This is especially apparent in Gävleborg, where two out of three companies increased their cooperation.

# Participating cluster organisations in Northern Central Sweden

## Värmland

**The Packaging Arena**  
[www.packagingarena.com](http://www.packagingarena.com)

**No. of companies:** 45  
**Cooperative**  
**No. of employees in region:** approx. 8,000  
**Sample companies:** Stora Enso, Motherland, Procordia, Wasabröd, Karlstad University, Rottneros, Broby Grafiska, Löfbergs Lila, Billerud, Attityd i Karlstad

The Packaging Arena is an environment for consumer-driven packaging development, and it collaborates, cooperates with and brings together companies and specialists from all sectors of the industry, and from all over the world. With its unique services, access to leading experts and advanced development environments, The Packaging Arena creates world-class packaging. The vision is to create the most innovative environment for consumer-driven and sustainable packaging development in Europe.

**The Paper Province (TPP)**  
[www.paperprovince.com](http://www.paperprovince.com)

**No. of companies:** approx. 90  
**Cooperative**  
**No. of employees in region:** approx. 8,600  
**Sample companies:** ANDRITZ, Billerud Gruvön Mill, GL&V, Metso Paper/Metso Fiber, Mondi Packaging, Rottneros Bruk, Stora Enso, Tetra Pak, Voith Paper

The Paper Province is positioned as a "Top European Cluster in High Innovation Regions", with the highest ratings for powers of innovation. The Paper Province coordinates and develops cooperation between the players in the paper and pulp industry in Värmland, the northern part of Dalsland and the County of Örebro. This concentration of competence is unique in the world.

**Steel and Engineering**  
[www.stalverkstad.se](http://www.stalverkstad.se)

**No. of companies:** 55  
**Non-profit association**  
**No. of employees in region:** approx. 14,000  
**Sample companies:** Rolls-Royce, REC Scanmodule, GE Energy, Uddeholm, Outokumpu, Volvo Bus, Volvo Construction Equipment, Karlstad University

Steel and Engineering supports the steel and manufacturing industries within the

region in cooperation with other regional players in the areas of entrepreneurialism, business development, research and development, and competence provision.

**Compare**  
[www.compare.se](http://www.compare.se)

**No. of companies:** approx. 95  
**Foundation**  
**No. of employees in region:** approx. 2,300  
**Sample companies:** Tieto, Telia Sonera, Logica, Sogeti, ÅF, Relacom, Atea, Eltel Networks, Prevas, Oracle, Telenor, Two

Compare, which stands for Competence Area, conducts business and competence development within the IT and telecom sectors. The partner companies cooperate in order to strengthen the competitiveness of the region on a global market. An example of what can be created by cooperation between the Compare companies, the University of Karlstad and the local authority is Compare Testlab, a high-tech centre for the independent testing of software.

## Dalarna

**Destination Dalarna**  
[www.destinationdalarna.se](http://www.destinationdalarna.se)

**No. of companies:** Five major players with approx. 1,000 companies in their network  
**Network organisation**  
**Sample companies:** Siljan Turism, Visit FalunBorlänge, Södra Dalarna Turism, Malung-Sälén Turism, Älvdalens turistråd

Destination Dalarna is developing an innovative growth environment for companies in the tourism sector by marketing Dalarna on Swedish and international markets. The organisation runs demand-driven joint development projects for Dalarna, which contributes towards developing the tourist industry and thus the competitive strength of the region.

**Triple Steelix**  
[www.triplesteelix.se](http://www.triplesteelix.se)

**No. of companies:** approx. 720  
**Network organisation**  
**No. of employees in region:** approx. 22,000  
**Sample companies:** SSAB, Outokumpu, Sandvik, Fagersta Stainless, Ovako, Erasteel, trade organisation Jernkontoret (principal)

Triple Steelix provides resources for re-

search and growth to the industrial region of Bergslagen and its strong cluster of steel-based companies, from the mills of SSAB and Sandvik to the hundreds of small and medium-sized businesses that use the steel in their own products or deliver specialised services to the large steel producers. The combined competence and resources of all these companies are provided in line with the motto "One for all, and all for one".

**DalaBIT**  
[www.dalabit.se](http://www.dalabit.se)

**No. of companies:** 70  
**Network organisation**  
**Sample companies:** NCC, PEAB, HMB Construction, Dala Floda Group, Siljan Wood, Gagnef Träindustrier, Leksandsdörren, Rättviks Trappfabrik, Västerdala Träkomponenter

DalaBIT is oriented towards increasing market shares, developing products and concepts, and securing the demand for skills in the timber and construction industries. With the companies' strong belief in the future and a high level of competence in services and products, DalaBIT constitutes a leading building construction cluster in Dalarna with unique cooperation between companies, players and educational centres.

**ITSdalarna**  
[www.itsdalarna.se](http://www.itsdalarna.se)

**No. of companies:** 39  
**Non-profit association**  
**No. of employees in region:** approx. 5,000  
**Sample companies:** Logica, Stora Enso, SSAB, Trafikverket, Tekis, VTI, Vectura, Svevia, Sweco Position, TeliaSonera, Transportstyrelsen, Triona, Dalatrafik, ESRI S-Group

ITSdalarna is a cluster cooperation between businesses, the public sector and universities aimed at enhancing, broadening and further developing the ITS industry in Region Dalarna. Its task is to promote the business operations of its members in the European and global markets, and to establish a clean test arena in order to strengthen the region's competitiveness in the ITS knowledge field.

## Gävleborg

**Fiber Optic Valley**  
[www.fiberopticvalley.com](http://www.fiberopticvalley.com)

**No. of companies:** approx. 50 (30 members, 20 co-financers)

**Non-profit association**  
**No. of employees in region:** approx. 3,200  
**Sample companies:** Ericsson AB/Cables & Interconnect, Acreo, Gävle Energi, ServaNet, Fiberson, OpenNet, Easit, Fiberstaden, JBEX Networks, Åkroken, municipalities of Gävle and Hudiksvall, Mid Sweden University, University of Gävle

Fiber Optic Valley's core business is to help global and local companies to grow. This is accomplished by means of support in the form of research, training, financing, contacts, business development and a testing environment for technical and behavioural science studies.

**Future Position X (FPX)**  
[www.fpx.se](http://www.fpx.se)

**No. of companies:** approx. 30 member companies (180 companies in the cluster)  
**Non-profit association**  
**No. of employees in region:** approx. 26,000  
**Sample companies:** Sandvik, Korsnäs, ESRI S-Group, Sweco, FiberData, Open Care, Donald Davies and Partners, Reflectus, Byggfakta

Future Position X is Europe's foremost cluster for research, innovation and the use of geographical IT. Driven by a common mission – "decision by position" – the cluster works intensively with the research and development of new products and services within various fields of application linked with geographical IT, including logistics, health care, environmental monitoring, city planning and consumer products, and services on the Internet, jointly labelled "the smart city of tomorrow".

**FindIT – Forum for Industrial IT Solutions**  
[www.findit.sandbackapark.se](http://www.findit.sandbackapark.se)

**No. of companies:** approx. 160  
**Network organisation**  
**No. of employees in region:** approx. 20,000  
**Sample companies:** Sandvik, SSAB, Outokumpu, Ovako, Fagersta Stainless, Erasteel, Industriautomation, DLA Elteknik, Midroc Electro, Stora Enso, KTH Royal Institute of Technology, Luleå University of Technology, University of Gävle.

FindIT is a dynamic investment in the continued development of a competence centre in industrial IT, with its base in Gävleborg and Dalarna. FindIT combines

the strengths of the traditional basic industries and IT, with the aim of increasing the competitiveness of the small and medium-sized companies in the region, supporting the growth of new companies, products and methods, and developing the business community in the region.

**Radio Center Gävle**  
[www.hig.se/radiocenter](http://www.hig.se/radiocenter)

**No. of companies:** 20  
**University research center**  
**No. of employees in region:** approx. 900  
**Sample companies:** Radarbolaget, Åkerströms Björbo, Ericsson

Radio Center Gävle, hosted by the University of Gävle, is oriented towards industrial collaboration and partnership in RF measurement technology. The laboratories are fundamental parts of the Center, providing a unique environment for educational programmes as well as the foundation for collaboration between partners. The long-term objective is to establish a world leader among research centres in RF measurement technology.

## Other cluster organisations

Three other clusters have been included in the 2010 assessments of cluster organisations in Northern Central Sweden, but have not taken part in the corporate questionnaire on the effects of the organisations that is presented in this report.

**High Voltage Valley**  
[www.highvoltagevalley.se](http://www.highvoltagevalley.se)  
(Dalarna)

High Voltage Valley is the arena in which different players and competences cooperate in order to develop tomorrow's technology and companies within the field of electrical power engineering. The purpose is to further strengthen the position of the region as a world leader in

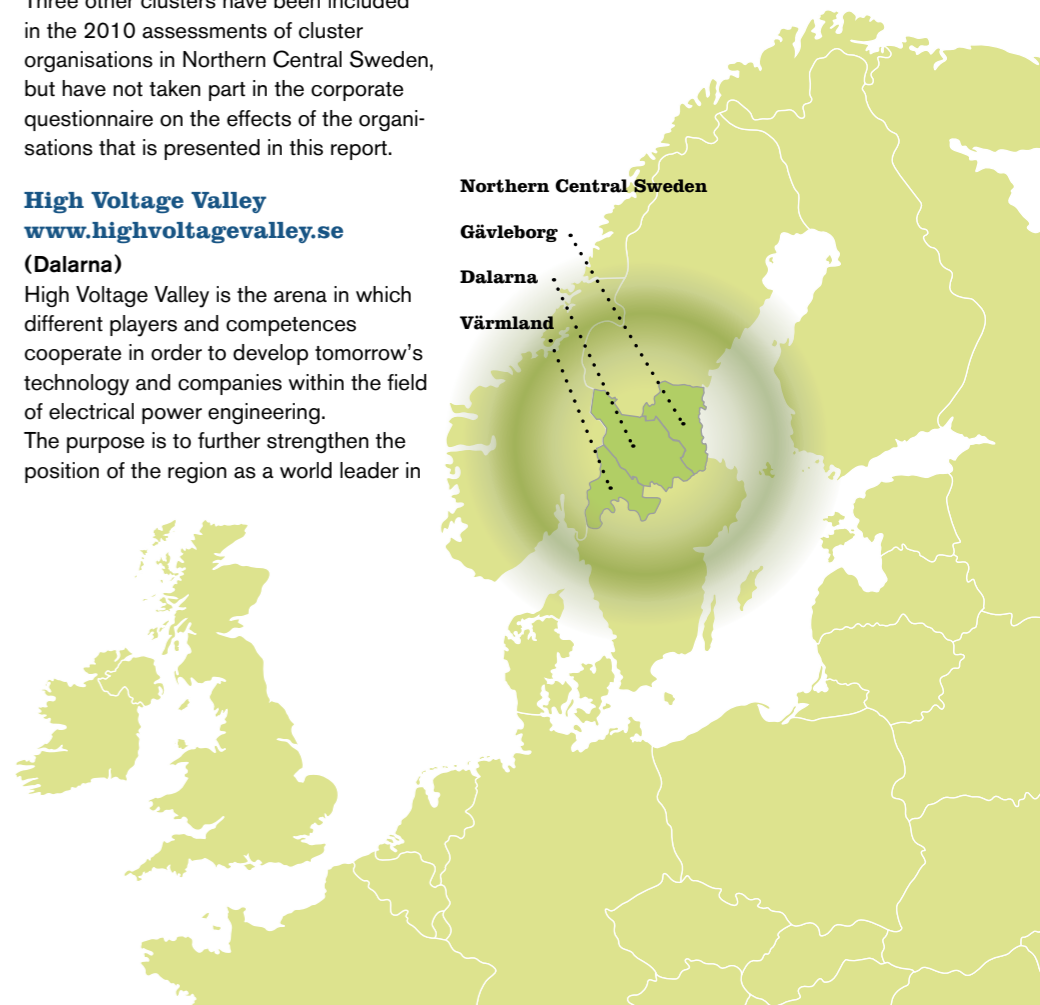
this area. The companies involved are ABB, STRI, a number of small and medium-sized companies, KTH Royal Institute of Technology, Uppsala University and various public sector players.

**Boom Town**  
[www.boomtoun.nu](http://www.boomtoun.nu)

(Dalarna)  
Boom Town is working to ensure that Dalarna and the town of Borlänge develop into a leading creative centre for popular music in Europe. The initiative supports newly established companies and encourages various players in the music sector to set up activities in the region.

**Interactive TV Arena**  
[www.itvarena.com](http://www.itvarena.com)

(Gävleborg)  
Interactive TV Arena is an independent player for the development of interactive TV services. The initiative has access to a technical test bed, and develops and tests services for all types of TV distribution. The initiative has developed the OSIA platform, which is a development and distribution instrument for interactive services for TV, PC and mobile platforms. With the aid of the platform, it has been possible, among other things, to develop a new system for digital signage.



“It is extremely gratifying for the university that so much has been gained from the cooperation so far, and that the prospects for the future are even greater.”

**Kerstin Norén, Principal, University of Karlstad**

“The increase in cooperation between companies, the public sector and the university has resulted in The Paper Province being identified as one of Europe’s 16 most innovative clusters.”

**Mats Williams, MD, The Paper Province**

“As a neutral competence centre, FindIT acts as an intermediary for cutting-edge competence from the academic world and the steel, paper and pulp industries to the small and medium-sized manufacturing firms. All the efforts stem from real needs, and at the same time generate regional benefits.”

**Ulrika Malmkvist, Process Manager, FindIT**

“Our company currently has a number of major customers who purchase fibre optic training, from design and installation to welding, measurement and fault detection. Our cooperation with Fiber Optic Valley has helped us to develop our range of courses and find new contacts on the European market.”

**Morgan Hallgren, MD, ICT Networks**

“Triple Steelix offers a common platform for collaboration to small and medium-sized companies within the steel and manufacturing industry and associated services. Now, when 13 local authorities, universities and institutes of higher education and 700 companies are working with a common vision and common goals, it makes a real difference.”

**Maria Engholm, Process Leader, Triple Steelix**

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*Investing in your future*

