

Case Study: Future Position X A GIS Cluster Success Story

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Challenge

FPX as we know it today is based on a long development process that started with the establishment of Lantmäteriets (The National Landsurvey) in Gävle during the 1970 's. Today Lantmäteriet holds a strategic position in the FPX cluster with about 850 employees in Gävle, a turnover of approximately SEK 1.5 billion and a significant R & D budget.

In 1996 the Gävle GIS group was formed by public and private actors to develop closer cooperation in R & D issues. Within the framework of this cooperation Gävle municipality's business department identified in 2000 the need to bring together all players in the region in a joint initiative to develop the region's GIS cluster. This initiative is now the core of the stakeholders who formed the non-profit association Future Position X [FPX].

Since 2004, FPX has developed a platform and performed a large number of strategic activities. A development lab -FPX Lab - was built, based on attractive equipment and unique access to GIS data that enables companies to develop new applications and services in the GIS field.

In its almost 5 years of existence FPX has participated in the formation of over 20 new companies, 300-odd new job vacancies, more than 1.4 M € in seed financing / venture capital, and the establishment of three foreign companies in the Gävle area within the GIT-field. FPX has also established businesses in Norway, Estonia and Finland, as well as representative offices in Berlin, Beijing, Zhuhai, Heijliongjang and Mississippi.

During the period 2004-2006 member companies in FPX (excluding the major private groups and public authorities) increased the number of employees by 222 persons, and increased turnover by 96%. Our view is that growth has been equally good in the following years, but the official statistics are not yet ready.

It is this platform that now enables FPX to take the next step in its development with the goal of realizing the long term vision - to create new services, new businesses, new jobs and an internationally competitive cluster in Geographical IT based in the Gävle region.

In the Gävle region there is a strong concentration of expertise in the application of Geographical Information Technology (GIT), which lays the foundation for the emergence of a European unique cluster. There are around 30 companies and organizations directly involved in GIT with about 1700 employees, including some 180 supporting companies. At the University of Gävle we find Sweden's only GIS research institute and other types of research in relation to key competence areas of the GIS business development. The market for GIS-related products and services are in strong growth and is expected to grow over the foreseeable future. GIS market has grown by about 15 percent annually the past decade. This trend is reflected also in the number of professional users of GIS-related systems in Sweden which is growing by about 30 percent annually and in 2005 calculated to approximately 68 000 people with an estimated market value of at least SEK 10 billion. GIS companies in the region exhibit similar growth rates and in many cases more than that.

It is to take advantage of this growth, and channel it to our region; the non-profit association Future Position X (FPX) is active. Through FPX activities the region's players are coordinated in skills areas and offered new methods and resources for its internationalization and collaboration in research. This allows the development of a wide range of new high-technology and many new jobs.

Future Position X (FPX) is the meeting-place for those companies and organizations that promote growth and development within the Geographic Information Technology field (GIT). FPX strives to develop the Gävle region into an international GIT-center.

FPX is an independent society that supports and develops the member companies' competitive abilities and presence in the market within the GIT-field. By being a development partner with an innovative and user-friendly perspective, FPX contributes to the formation of new companies and to the growth of these companies.

The companies, network and stakeholders who represent players pushing for further development of FPX to an internationally recognized cluster in Geographical IT in which the process and business development meets education and research excellence to interact with society to strengthen the cluster's international competitiveness.

The overall objective is for FPX to be the obvious independent operator to develop, inspire and support the cluster actors to identify and invite new strategic partners to the arena that constitutes FPX; to integrate and coordinate the existing players, resources and activities; initiate new strategic activities in accordance to the vision, mission and objectives, and finally visualize and portray the results we achieve in the cluster and the opportunities that are on the horizon.

FPX should not only support the existing players but also help to identify new markets, skills and capability in the Swedish GIS sector. So FPX takes on a (systemic) business development role for the whole cluster (not individual companies).

Stakeholders involved

There are 34 owners of the cluster organization and over 200 companies in the cluster network. The major stakeholders are three different types following the triple helix model:

- leading **industry** players like, ESRI, Korsnäs, SANDVIK, Fiber Data, Open Care, SWECO
- the **public sector** with Gävle Municipality, The National Land Survey, Region Gävleborg
- **Academia** with the University of Gävle, Gävle GIS Research Institute, World Internet Institute, the Institute for Humane Technology.

Industry is the driving force that sets the agenda for the region's profile and, together with the public sector, defines the research needs.

The public sector facilitates industry's needs and is also a demanding customer for new and innovative solutions.

Academia is both an important player for education, long term competence flow and also the research partner for the jointly committed research agenda in the cluster.

Process

The business idea for FPX is, in interaction with their stakeholders and their networks, to offer services to all operators using Geographical Information to develop user-friendly products and services to make safe decisions. FPX is thus strengthening the competitiveness of the companies that are related to the Swedish GI cluster and generating (economic) growth - regionally, nationally and globally by:

- Committing to a single market focus and provide process support and business development for new products and services.
- Geographically and demographically broaden their natural home market and thereby allow for internationalization.
- Provide methods and services for the development of cluster members.

The Goals of FPX 2010 are to:

- Contribute to make a greater interaction with and between stakeholders in the areas of competence, in the region and beyond, to strengthen and develop the market processes that make it possible to produce user-friendly products and services based on Geographic IT.
- Contribute to the development of the region into an established and internationally recognized Center for Geographic IT in an innovative environment, that makes it possible to develop and commercialize user-friendly GIT based products and services.
- Through our activities create added value for our members and the regional cluster environment, thus contributing to increased growth regionally and nationally.
- Promote to the public the importance of GIT in the private and public sector.

The 'star of value' and the idea of 'innovative value' constellations that drive competitiveness is based on a network logic that takes the basis of user needs and the value process and highlighting the social and economic relationships that are the basis for economic development and growth. Instead of delivering what the customer may find in a long refining process, we assemble a new constellation of actors and skills on defined needs - and create an entirely new value-chain. The uniqueness of this way of thinking, is that it is becoming obvious (even essential) to business and all other players to go beyond themselves and their own internal agenda (own interests, goals, strategies and vision) to create common values. This will suddenly make external actors and businesses, even competitors, potential collaborators. The foundation is the star of value logic and thus a relationship-oriented value system - which in itself is a cluster development (clustering) of high degree. It is this approach that FPX embraced.

In practice the star of value moves the focus from production to the end-users' final use of the product. This means that it is the end of the traditional value chain which is in focus, rather than the beginning of it. In this way the cluster star of value is a description of a value system for user-driven product and service that replaces the traditional value chain, and highlighting companies from being suppliers of a classic value chain to become integrated systems suppliers in a dynamic structure for development and advanced services.

The approach opens up the creative, cross-border meetings aimed at promoting and developing the skills that already exist in the region, while new skills are added through strategic networking, both nationally and internationally, through partners and nodes.

FPX must have the ability to attract skills and companies that complement those that already exist in the region.

The logic is that new approaches and perspectives on the customer needs and user behavior create new ideas that could ultimately generate both innovation and business opportunities in the interfaces between the diverse expertise that can not normally associate together in the traditional value chain. In this way, broken, or cross-fertilized, the traditional value chain, which - hopefully - leads to entirely new products and services.

FPX work with the star of value is realized by FPX four business areas: FPX Network, FPX Lab, FPX Research and FPX Markets, which are all based on the idea to generate new value of existing and new players of different skills.

FPX Network



FPX have created a competitive advantage by building up a strategic network of actors, partners, and nodes, in Sweden and internationally, where we constitute a strategically positioned hub with a central position in the network. This network is our way to realize the systemic business model - star of value - and is also the basis for our three other business areas: FPX Lab, FPX Research and FPX Markets.

The added value of FPX is created by the knowledge that re-connects to FPX in various strategic network activities. This knowledge is then available to members to use for further developing their own activities and new services, or to process new customers and markets.

Internationally, FPX has signed cooperation agreements with actors in Norway, Finland, Germany, USA, China and the Baltics. These are already confirmed nodes to fpx. Additional nodes and partners have been identified in Poland, Italy and Austria. FPX has also initiated discussions with them for a closer cooperation.

FPX Markets

FPX services in this area of activity will help our stakeholders better understand the market development and various social changes and the demands placed on them and their products in order to be successful and have a growth effect. We also develop services to help our stakeholders with internationalization, product and service development.

An integral part of information gathering is done by our national and international FPX network. It aims to develop and assemble unique knowledge about customer needs, technology and service development and market for Sweden.

FPX can through its international network facilitate the implementation of foreign direct investment in Sweden (FDI) and support our member companies' internationalization. We also offer financing services for development projects as well as for businesses, start-ups or growing companies. This work is done in close collaboration with the regional network of "business angels", X-invest, the regional incubator, MOVEXUM and venture capital firms at national / international level. Another important resource in this area is the competence and experiences our member companies have from working internationally. Through various activities, we work to build networks between these companies and their foreign offices and the companies just beginning to seek their way out to an international market.

FPX Lab

FPX Lab is responsible for supplying its members and other stakeholders with a technological base for test, development and demonstration of GIT-related applications. The idea behind the lab is to operate both as an environment where new ideas and thoughts in the application of Geo-IT to be tested and developed, and as a hub for technological development projects run by members. FPX Lab consists of a physical environment at our office in Gävle, where companies and others can make reservations to work on the development of new services and applications with a technical environment consisting of hardware, software and geographic data. In the office environment there is access to both technical support and business development support

FPX Research

The purpose of FPX Research is, in cooperation with the University of Gävle, industry and research actors in Europe to establish an organization to take advantage of the growth conditions that exist and the opportunities within the EU for a range of research and development programs.

FPX Research will work to further develop a network-based organization composed of researchers from the University of Gävle and neighboring universities in three different themes. Within each of these themes there are opportunities for the region's businesses to place industrial PhD students to create a clear bridge between the academia and the benefits in business.

The new knowledge developed within FPX Research shall be used to support regional growth in the form of new businesses, more efficient public administration and increased service to citizens.

Financial framework

Annual turnover in the cluster organization: 2.5 million Euros

Core financiers: Gävle Municipality, The Companies, The Agency, EU structural funds, The National Land Survey.

Annual turnover in the cluster core companies: 38 billion Euros

Outcome

FPX has over the last 5 years had an annual output of:

- approx 6 new companies
- approx of 20 new products and services launched to market
- approx 100 new jobs

The following factors, we expect that FPX activities will have positive impacts on:

- The number of jobs for higher educated labour.
- The proportion of high school students who go on to higher education with a technical focus.
- Strong increase in service business, especially with high knowledge content.
- Business overall internationalization and establishment in foreign markets.
- Business insight in working with the environment, equality and integration for competitiveness, innovation and internationalization.

In the cluster organization we have developed an advanced tool to assess and evaluate ideas, to manage and govern innovation projects as well as a balance scorecard for monitoring and evaluating the cluster efficiency.

Critical Success Factors

FPX is working with six strategic guidelines for renewal and growth:

- Being an open, neutral and independent forum for the Geographical IT field in the product and service development both nationally and internationally and focus on promoting the conditions for companies in the GI / GIT / GIS and related activities.
- Working partly geographical (in the Gävle region) but also nationally by actively bring in new members and players - wherever they are located - which are excellent in Geographical IT or supporting the development of our star of value and who has an interest in participating in cluster development and strengthening of cluster environment.
- to focus on strategic projects to promote members' development and strengthens the field of the regional environment.
- to increase diversity in the skills area to widen the potential market for future products and services.
- to build a brand with international luminosity corresponding a "state-of-the-art" cluster of Geographical IT.
- to work with measurable operational objectives and clear indicators that FPX operations and activities can be monitored, improved and quality assured

Apart from being a high quality research center for all firms in the region FPX has turned into a meeting point for joint ventures and starting point for internationalization strategies. FPX therefore provides services and carries out R & D projects individually but generates competitiveness to the whole cluster.

Difficulties encountered

The cluster's long-term activities must be secured by building up an "own" network and its own structural trust funds that are not tied to individuals. It is important that the organization also works when driven individuals disappear. This is to avoid stops in activities when key personnel within the project organization will be long-term sick or that the commitment of the Board or members decreases. If FPX credibility as a neutral and independent party is challenged this may also threaten the business in the long term.

Members must actively work for the cluster development (eg, actively working to meet the cluster's mission and vision). It is also important that members are working together towards common goals in order to avoid competition or jealousy between cluster firms and members, or that the members see themselves as competitors rather than partners. Linked to this is that the cluster must be actively working to provide members with new values.

Other identified threats

- Members and others may perceive the cluster organization as a competitor.
- Our delivery capability at increasing demand for cooperation.
- Competition from other countries.
- Skills in the industry in terms of GIS expertise.
- Attitudes of the industry - different views on whether there are new services or companies that will create jobs or that they must take place in existing companies.
- General fear of the necessary restructuring of Swedish and international business.
- The exit strategy is not working.

Impact

National concentration of excellence

Gävle has a unique, national concentration of specialized skills within GIT. Lantmäteriets presence with 850 employees and an extensive R & D budget provides a unique condition for the approximately 30 companies located in the region's clusters. Other examples of unique skills are the GIS training and the Swedish GIS Research Institute at the University of Gävle; entrepreneurs who develop new products and services in the GIT-region; GIT-lab for testing technology and e-service development.

Unique test bed for new products and services

Through close cooperation with the National Land Survey FPX offers through its development lab a unique opportunity to test, develop and evaluate systems / data in a realistic multi-user environment. There is also a proximity to GIT-skills and other skills and access to a test population where companies (and researchers) can verify products in "reality" without the need to arrange access and rights to the input. The Gävle

environment is the only one in the world that can offer this complete range of development necessary to develop new GIS products and services to market.

FPX Initiative in Gävle has grown organically - there is a basis to build on the vision GIS cluster of Gävle has developed gradually since the mid-70s when Lantmäteriet moved to Gävle. In 1996 the Gävle GIS group was formed for closer cooperation in research and development projects. In 2000, Gävle municipality's business department initiatives to develop the then-called Gävle GIS clusters further, with the core stakeholders, which today constitutes Future Position X.

Sweden's long tradition and knowledge in information and database management, and the extensive data, for example in real estate, personal, address is a unique resource that has a large potential market, especially internationally. One way to further strengthen Sweden's position is to initiate new programs that strengthen Swedish GIS-business and create an even more integral role for FPX.

The demand for GIS products is growing. Opportunities to create new services for example through increased commercialization of the very large public data sets so-called Public Sector Information PSI. By broadening the base of the cluster by actively search incubators, research projects, additional new products, services and customers are found. Similarly, the EU's active work with GIS - by example Galileo (the new European satellite system for navigation) and the new Inspire directive - opens new opportunities for Swedish companies GIS.

Other identified strengths

- Flexible, fast and innovative organization
- Good networking, nationally and internationally
- Delivers results to funders and partners
- Perceived high value for the cluster members
- Strong brand
- Wide skill mix through its own staff and external collaborators, good team spirit.
- Successful in funding the construction of the cluster
- Strong academic publishing in a national perspective
- Strong research networks at international and national level
- An exit strategy is to change the mix of public funding and self-funding in the long term
- Regional efforts to develop educations in our area
- Our brand and delivery capability creates opportunities to develop cooperation with additional innovative environments
- The increased interest for the environment, provide input to the new GIS solutions
- Today's perceived great member benefit can give more members and more member involvement in cluster development
- The ability to implement agreements, royalties, etc. create a basis for funding

(Text by Future Position X, Photos by Martin Snygg)



Co-Financed by
European Regional
Development Fund