

Challenges and Development in Stockholm

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Abstract: In 2000, Stockholm was on the front cover of Newsweek magazine. The City of Stockholm, the capital of Sweden, was given the title “The European Capital of the Internet”.

Stockholm is once again teeming with activity and the City is facing many new challenges, both internally and from a citizen’s perspective. In this paper we present one of the world’s leading technology clusters - Kista Science City, Stockholm. Today this triple helix construction (private companies, universities and public administration) has created new energy among the entrepreneurs and Kista has grown into a model example of an ICT Cluster.

Through Stokab, the City has created a unique infrastructure for broadband in the Stockholm Region based on optical fibre. The City can offer the market a solution where all players on the market can act on equal terms in one common infrastructure.

An important challenge is to provide e-services to the citizens. The objective is to increase accessibility for citizens, increase transparency and control, and also to reach a high level of self-service.

Apart from the development of e-services, there is also the development of a Contact Centre. The idea is to have one telephone number that citizens can call in order to get answers to their questions.

The City Council has also decided that the IT infrastructure shall be consolidated and standardized, and establish a Shared Service Centre. This is a great challenge in itself. The next big challenge for the City is to plan to outsource and not necessarily establish this in our own environment. This means that great demands will be put on suppliers, and also that the City must act professionally and business-like in order to guarantee good quality.

1. Introduction

In 2000, Stockholm was on the front cover of Newsweek magazine. The opinions about Stockholm were exuberant. Stockholm was tagged “Shining Stockholm”. The city was full of young IT entrepreneurs, the IT sector was on a roll and Stockholm, the capital of Sweden, was given the title “The European capital of the Internet”. How did Sweden and Stockholm get so young, hot and competitive? One important reason was that Sweden and Stockholm had already been branded “the hottest Net spot outside the US” and “The Silicon Valley of Europe” with an entrepreneurial climate, dot.com entrepreneurs, and a high educational level combined with a high level of Internet usage. The city was abundant in new start-ups. Paul Saffo from the Institute for the Future in California said that Sweden was turning out a very large number of graduates who understood the Internet at a deep technological level – and, by virtue of hanging out on the Net, also understood its culture. At that time, Sweden and Stockholm was the most wired and wireless nation in Europe.

Since then, a lot has happened that has not caught the media's attention, until now. Stockholm is once again teeming with activity and the City is facing many new challenges, both internally and from a citizen's perspective. This paper outlines some of these challenges.

2. Cluster Management

Many people are surprised, when they learn that one of the world's leading technology clusters is to be found 15 kilometres northwest of Stockholm. It is no less surprising, when one finds out that the whole area was an undeveloped military training ground less than thirty years ago. The creation of Kista Science City is the story of how Sweden became the home of one of the most successful clusters today.

The initial transformation in the mid seventies was spurred by a strong City of Stockholm incentive, and the plan was to turn the area in to a satellite city in its own rights. The thought was to situate workplaces, apartments and urban activities in the same area, and some major companies were soon attracted to the young city of Kista. Several electronic manufacturing firms needed to relocate from Stockholm. In 1975 Ericsson placed a factory in Kista, IBM followed the trend three years later, and in 1985 a considerable number of small and medium sized companies had established in the area.

In this early stage of the cluster's history a trend was quite clear: there was very little public management, besides the City of Stockholm's plans to develop the area. This changed in 1985 when The City of Stockholm took the initiative to set up the Foundation of Electrum with stakeholders comprising of private enterprises and universities. The purpose was to enhance knowledge transfer between universities, research and the industry. This triple helix construction created new energy among the entrepreneurs, and in the following years Kista grew into a model example of an ICT Cluster. Several research institutes within the field of ICT were established in the Kista Science City. And as the growing demand for engineers became urgent, it was only natural for the Royal Institute of Technology to build a whole new local branch in Kista and the University of Stockholm located their computer science education to Kista Science City.

In 2000 it became clear for the City of Stockholm that the ICT cluster needed management. Therefore the company Kista Science City AB was founded. Thereby the triple helix constellation was secured. After a year they came to the conclusion that an organisation that worked with start-ups and entrepreneurship was needed. The Stockholm Innovation and Growth (STING) was founded. At the same time Kista Science City had positioned itself firmly on the world cluster map. This was underlined in an article in Wired Magazine where all the top technology clusters and hubs around the world were rated in four categories: universities and research, established companies, start-ups and venture capital. Kista came in as an impressive second only topped by Silicon Valley.

In 2000 the cluster management was established. Today they work with the general objective to enhance the growth in Kista Science City. There are some main parts in this work that is of great importance. The cluster management is separated in different parts. These are;

- The Stockholm innovation and growth, incubator and support system for start-ups. A full equipped system with coaching program, four steps from "start-up" to "go global"
- Secure the cross fertilization and techtransfer between research and industry. Strategic working groups with decision makers from academia, research institutes and industry
- Marketing to attract new business to Kista Science City. Strategic working group with decision makers from research institutes, industry and the City of Stockholm.
- Create added values, so if you are established in- or if you move your company to Kista Science City you would gain more values than just the address.

- Cooperation, the cluster management secures that the cooperation between the property owners, the City of Stockholm and the business community works smoothly. The cluster management is represented in the board of the property owners association and the business association.

Kista Science City has now cemented its exclusive position on the global market, and the cluster has world leading companies along the entire length of the wireless systems value chain. About 31.000 people work in the city that has 1 400 different companies of all sizes operating in the centre alone. The last two years has seen an impressive growth, and 2007 marked an all time high of employees.

The cluster is currently moving into the environmental area, creating a clean tech centre that will benefit from the support of the main idea in Kista's triple helix construction: to support the innovation in the early stages. In Kista Science City, the "Stockholm Living Lab" is also born and at the same time the focus on the ICT industry remains stable. The next step for Kista lies in a continued focus on added value on all levels and in intensifying network building.

In this success story it is important to remember that there is not one particular organization, company or authority that is responsible for the developments in Kista. There has been no subsidy and the cluster management does not facilitate any premises, it is all run on commercial terms. The secret lies in having lots of players striving together towards the shared vision for Kista Science City.

3. Connected

Stokab has created a unique infrastructure with broadband in the Stockholm Region based on optical fibre which today is the world's biggest open competitive neutral fibre network

The Stokab Company was established by the City of Stockholm in 1993-1994 to build an infrastructure for data communication in the region. By establishing Stokab, the city could offer the market a solution where all players on the market can act on equal terms in one common infrastructure.

Since the start, Stokab have tied more than 90 operators and 450 end customers (banks, media, house-owners, public sector, companies) to the network. This has been possible by offering dark fibre at a cost that is below the operators prime cost. End customers are more and more buying their active equipment routers and switches connecting their different offices and managing the IP network from one place.

The network now consists of 1,200,000 kilometres optic fibre and 4,500 kilometres fibre optical cable and there are now plans for a continued growth. Stokab is connecting all apartments and offices in cooperation with the Stockholm housing companies in a FTTH (fibre to the home) project that will include 95.000 households over a period of three years (2007-2009).

Stokab connects each building to the city fibre network. The housing companies build and own the internal (property) network, which connects each apartment with fibre. The housing companies procure a communication operator that offers the tenants services from a number of suppliers at their own choice.

Parallel to this expansion of fibre, private house owners and tenant-owners are offered fibre connection to their houses.

The success for the Stockholm and Stokab model is based on coordination of civil works, minimizing the digging in the street for everyone who is living and working in the city. In this way, operators and other customers can lease fibre on equal and cost efficient terms. In the next phase of expansion, FTTH solutions promote competition and freedom of choice for the consumers that stimulates development of services.

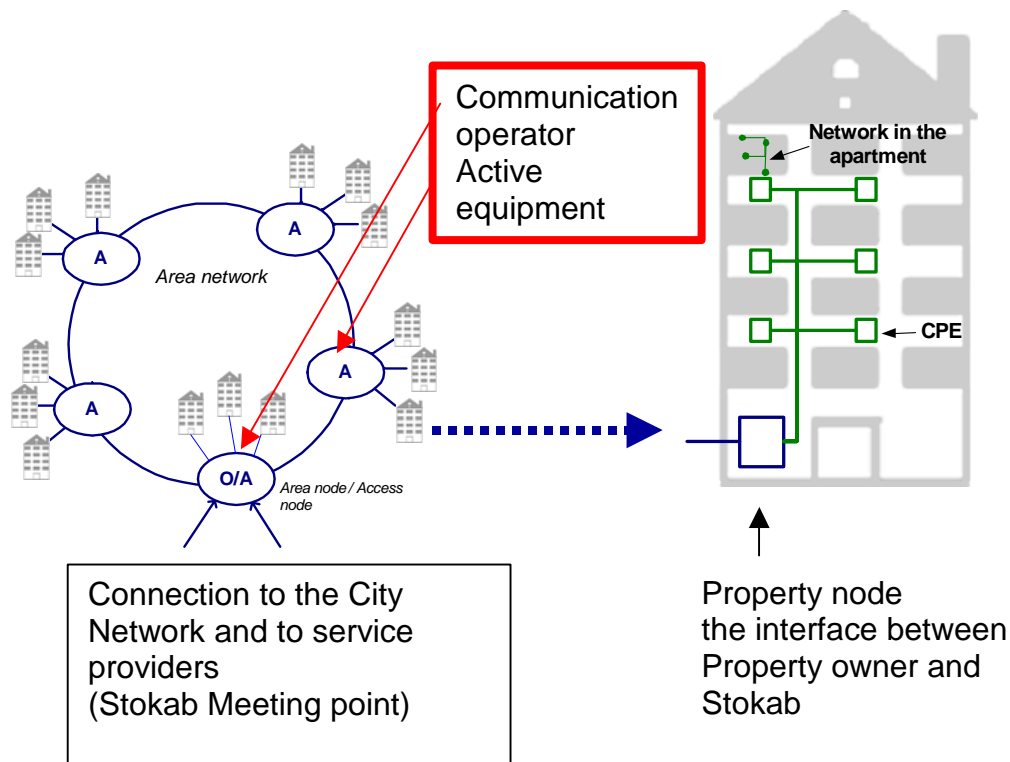


Figure 1: The Stokab Model

Stokab has now started planning for connecting 90 % of the households in Stockholm to the city fibre network. The Mayor of Stockholm decided April 3rd 2008 to give Stokab the task to roll out fibre to an additional 300,000 households in Stockholm. This mission should be completed in 2012.

4. The City of Stockholm Offers E-services and a New Contact Centre

4.1 Providing e-services

An important starting point for the City of Stockholm's commitment to providing e-services is that the City should be accessible to its citizens. The City intends to both develop e-services to increase the service for the citizens, while, at the same time, make the internal work more effective. The objective is to increase accessibility for citizens, increase transparency and control, and also to reach a high level of self-service.

The City of Stockholm has established an e-service programme for the coordination of the City's e-service projects, where the actual realization of these services will take place. The work is being done in close collaboration between relevant administrations within the City.

The work is being done in projects following the City's own project management model. The overarching e-service programme is responsible for gaining approval and information, for support to the projects and for prioritization and follow up. Via an application process, the City's administrations may apply for funding for the development of e-service projects. The e-service development is being coordinated so that the solutions can be recycled and disseminated. The citizen's perspective and the general benefit of a solution are central to the development of the services.

Within the City's Executive Office, we are responsible for the development of general solutions for, for example e-ID and other general functions that can be used throughout the different projects. There are also guidelines for design and interactivity in place.

The greatest challenges are related to changing the way of working within the administrations and their automatized work processes. There are also high initial costs involved for technical development and integration.

The City of Stockholm is staking 650 million SEK for the development of IT activities and e-services. On top of that, there is extra financing for the technical platform, which is being developed simultaneously.

4.2 A New Website has been Launched

In May 2008 the City's new website was launched. It has been totally restructured and renewed. All e-services of the City will be presented on the City's website www.stockholm.se. The website will also be personalized in order for you to be able to follow matters which you yourself have initiated.

The City of Stockholm will also publish a service guide on the web, making it possible for the citizens to compare services in various areas, regardless of whether it is the City or a private company that is providing the service. The most important function will be to compare different units with one another. The information will also appear on maps, which will make it easier for citizens to choose freely between various service providers in, for example, pre-schools, schools, elderly care and other types of social services. This function will also be connected to the e-services.

During the summer of 2008, there will be approximately 20 e-projects within the City's e-services' venture. Among these are projects to make the Stockholm City Museum accessible around the clock, absence management in upper secondary schools, building permit application procedures, pre-school application procedures and parking permit application procedures.

Most of the e-services are about simplifying work procedures. One example is that parents and students will be able to follow and get access to journals on, for example, vaccination certificates and vaccination schedules, personal disease control and growth curve when the City's journal management system for students' health will be made digitally available. Businesses applying for serving permits for alcohol will also be able to do so via e-services. At the end of the year, couples wanting to get married in the City Hall can easily book a time online and the internal bureaucracy for this procedure will have been made much simpler.

In addition to the ongoing projects, there are another 30 ideas for new projects. They are about everything from applying for elderly care homes and digital schedules for elderly that family members can follow by the approval from the person in care, to a navigating service for people with impaired vision, as well as services to make literature and culture readily available online.

4.3 Development of a Contact Centre

Apart from the development of e-services, there is also the development of a Contact Centre. The idea is to have one telephone number that citizens and businesses can call in order to get answers to their questions. For questions that cannot be handled directly by the Contact Centre, the staff will come back to the questioner later with an answer, or transfer the matter to responsible officer within the City administrations. We believe that the officers within the administrations will get more time for more demanding tasks when the Contact Centre and e-services are in place. The objective is that 70 percent of all questions will be dealt with directly by the Contact Centre. The pioneer city when it comes to this is New York and their 311 services. However, the City of Stockholm is responsible for a much wider range of activities and services and, therefore, we must introduce the Contact Centre gradually. During the summer of 2008, a Contact Centre for questions related to

elderly care services “Elderly Direct” was introduced. A similar service has been available in the City since 2005.

Through the Contact Centre it will also be possible to follow-up on your e-services. The City of Stockholm’s website will be developed further when enough experience regarding the Contact Centre has been gathered to do so. When we have the knowledge about the kinds of questions the citizens ask, then we can quickly provide the answers to the most common concerns online.

The greatest challenge at this point is to develop all of this simultaneously: e-services, Contact Centre and the technical aspects needed to support this as regards connection to the City’s website, personal identification, decision making procedures and the integration with our internal systems.

5. Towards a Shared Services Centre

The City Council has decided that the City of Stockholm’s IT infrastructure shall be consolidated and standardized, and that we should prepare for the introduction of a Shared Service Centre. The aim with a Shared Service solution for the infrastructural IT support is to realize the City’s objectives of cost effective activities and services, focus on core duties and lower costs for internal administration. The aim is also to reduce vulnerability in various processes and to create an organisation with strong service mindedness and a devoted focus on the customers of municipal services.

The City Council decision embraces the whole City, and activities started up during the summer 2008. This means that 14 city districts, 20 administrations and 17 companies, in total around 50 000 employees, are affected by this decision. Also the IT activities in the schools with around 110 000 users (students and teachers) are affected by this change. Those directly affected, i.e. IT technicians, local IT support etc, are an estimated 400 employees. This is the biggest change in internal IT structures in the City’s history. It is actually a greater change than the one in 1994, when the City decided to outsource its IT operations and IT systems’ administration.

IT in the City of Stockholm has been built up separately in different administrations and departments. And in many cases, comprehensive control and standardization has been lacking. Today, there is some joint IT infrastructure in place. However, much of the IT structures we see within the City are based on “home made” solutions and IT support from many different suppliers. Within the City, there is one standard for an office software suite, Microsoft Office, but not a standardized e-mail client. Both Novell GroupWise and Microsoft Outlook are in use. From now on, we will better organise IT within the City. The most important reasons for a new solution are:

- Cost reduction
- Improved steering and control
- Better quality
- Synergies
- Increased focus on value added activities

The strategy for implementing a Shared Service solution is to adopt changes in several steps. There are also a number of guiding principles that can be used as a starting point:

- Vision and aims description
- Improved, standardized and harmonized processes
- Service agreements for clearer roles and responsibilities
- Shared Service organised with a clear customer focus
- A clear business model
- An application structure that supports processes and enables consolidation

The City will do the following:

- Introduce a uniform system for e-mail and calendar
- Improve opportunities for electronic communication and cooperation
- Have a common standard for the office software suite
- Standardization of online directory for user authorization
- Standardization of Net and client operating systems
- Introduction of Single Point of Contact (SPOC), i.e. one single support for users

This is a great challenge in itself. The next big challenge is that we plan to outsource and not necessarily establish this in our own environment. This means that great demands will be put on suppliers, and also that the City must act professionally and business-like in order to guarantee good quality.