

Stockholm, Sweden

Triple Helix

Strengthening Stockholm's ICT Cluster, an ERDF project run by Kista Science City Ltd, is an interesting example of revitalising ICT industries with broad Triple Helix cooperation (public sector-academia-business), networking of small and medium-sized companies and cross-pollination between the ICT and audio-visual industries, in order to establish new products and markets.

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The way the telecommunication and later ICT sectors have developed since the 1970s in the Kista district of Stockholm has been a success story epitomised by the success of the Ericsson Company. Built on this success, Kista Science City (KSC), the smart growth powerhouse of Stockholm and of Sweden, has continued to grow. But according to a critical analysis made in preparation for the *Strengthening Stockholm's ICT cluster* project, KSC's development showed both untapped potential, and also shortcomings. The rapidly developing web, as well as the audiovisual and creative industries, remained too disconnected from ICT, and were poorly represented in the companies of KSC. The first waves of ICT, very much technology-driven, were showing symptoms of faltering and losing momentum. There were a thousand companies in KSC, but they did not communicate with each other enough. KSC had not invested enough in networking, cross-pollination and peer learning between companies.

Part of the solution was running three sets of networks, partly funded by the European Regional Development Fund. The networks addressed (1) company-to-company peer learning among the CEOs of small and medium-sized companies; (2) topics like marketing and human relations, by running a peer learning network for specialists; and (3) cross-pollination between the ICT and audiovisual industries, by running practical developmental projects. The strategy to develop the ICT cluster in Kista, with multimedia-based cooperation between ICT and audiovisual companies, was started successfully, and the idea of cross-pollination turned out to be seminal. KSC has been able to establish itself within the creative industries connected to ICT. This has also happened within ITS (intelligent transport systems). Within the cross-pollination several successful concrete projects have been run. Altogether 338 companies and around 500 people participated in the various project events.

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Over 1 000 years ago the Vikings settled in Kista, an area some 10 km northwest of Stockholm's centre, today one of the districts of the capital city. The Vikings communicated with runes. One rune-stone in Kista says: 'Ragnalv made this bridge...'. Since then, people have had to build many bridges to get their communication going.

One success story has been mobile technology, and the mobile phone in particular. And Kista is Sweden's mobile technology powerhouse. In fact, it is one of the world's leading powerhouses in this field, termed the 'Silicon Valley' of the North, or perhaps more aptly, 'Mobile Valley'.

It was not always so. Since Viking times the Kista area has seen farmers ploughing their fields, windmills grinding grain, soldiers tramping the ground on exercise. Eventually, as the capital city grew, Stockholm's decision-makers started to make plans for the better use of the land. First it was big plans for housing, then bringing in industries – not heavy and dirty, but light and clean, like electronics. The turning point came in the 1970s, when LM Ericsson, the telecommunication trail-blazer of Sweden, decided to move its headquarters and research to Kista. Soon IBM followed suit, and in its wake came Hewlett-Packard, Sun, Intel, Apple, Microsoft, Bosch, Philips, Nokia, Yokogawa, Huawei and others.

The area was dubbed Kista Science City (KSC). Success story followed success story. By 1993 Ericsson had conquered 41.5% of the world's mobile telecommunication market, and was the only company to supply all three main regions: Europe, USA and the Far East. Every fourth person in Kista – 5 000 people in all – worked at Ericsson. Ericsson's head start was based on Nordic cooperation, which led to the breakthrough of the NMT phone in 1981, on which the later GSM phone, launched in 1991 – and the subsequent 3G and 4G – were based.



The world was eager to buy. Kista and the companies in it grew, and today there are over 1 000 ICT companies employing 23 000 people in Kista Science City, and on top of that come 6 800 students in ICT-related studies in Campus Kista.

Meanwhile competition grew tougher. Innovations were made in garages and bigger institutes. Profit margins shrank. Companies and products had to shed their skins over and over again. At one point Ericsson was about to buy Nokia, the Finnish technology company, only to discover shortly afterwards that Nokia, with redesigned phones, had taken the lead in the

market. And today Nokia is struggling for its life. Broadband and the World Wide Web have changed the rules of the game once again.

Untapped potential

Now the mobile business is no longer about technologies – competition turns on using digital possibilities to the full: lifestyles, environmental solutions, health, crowdsourcing, entertainment... This is precisely where the *Strengthening Stockholm's ICT Cluster – Kista Science City* project, funded partly by the European Regional Development Fund, enters the scene.

The first waves of ICT development in Kista were a success story. Yet according to a critical analysis made in preparation for the project, there was untapped potential – and also shortcomings – in KSC's development. The rapidly developing web, as well as the audiovisual and creative industries, remained too disconnected from ICT, and were poorly represented in the companies in KSC. The technology-driven development of ICT was showing symptoms of faltering and losing momentum. There were a thousand companies in KSC, but they did not communicate with each other enough. KSC had not invested enough in networking, cross-pollination and peer learning between companies. 'We did not have the money and strength at the time,' says the CEO of Electrum and Kista Science City Ltd., Anette Scheibe, 'and ICT was losing its appeal among the younger generation, too.'

The *Strengthening Stockholm's ICT Cluster* project set out to remedy these shortcomings. A networking project, partly funded by the ERDF via Tillväxtverket, the Swedish Agency for Economic and Regional Growth, was established, and ran from 2009 till the end of 2011. The project set out to build bridges between the ICT industries and the rapidly growing audiovisual industries, in order to shed the skins once more, enter the markets with new products, and change the rules of the markets themselves. A new level of cooperation among these actors and sectors was deemed to have considerable growth potential, as the greater Stockholm area dominates the audiovisual branch in Sweden.

Companies learn from each other

The most important factor in promoting ICT enterprise development was identified as company-to-company communication. Companies learn from each other, in multiple ways. Peer learning is powerful. KSC provides a good environment of proximity for peer learning contacts, and it was realised that there is considerable untapped potential in this. Even in this digital age, face-to-face communication is vital.

Earlier experiences in KSC had shown that in order to create an open atmosphere in enterprise networks, they need to be relatively small, and the companies must not be direct competitors. It was considered important to build the networks according to the companies' needs, size, growth phase etc. For this purpose, a selection and preparation process was established. The focus was on SME companies that wanted to grow and become international.

The primary target groups for the project were small and medium-sized ICT companies within the KSC region and audiovisual companies in the Stockholm region. The project's main goals were to:

- provide resources to strengthen contacts between companies in KSC and thus create a common ICT cluster identity
- identify and clarify common interest areas, which will increase competitiveness and growth possibilities within KSC

- strengthen the growth and profitability of enterprises within KSC and other ICT companies in the Stockholm region
- facilitate cooperation between ICT and audiovisual companies in order to create successful multimedia companies
- create cooperation between academia, research institutes and ICT companies, especially in connection with new media.

The project created three networks.

‘Tell me your story’: peer-learning network for executives

Executives of small and medium-sized companies can learn a lot from each other. They are often in similar situations, or someone has successfully negotiated a problematic situation, and others could benefit from it.

Willing companies in need of exchange were identified through preliminary studies and interviews. The peer-learning network for company CEOs was a forum where CEOs support CEOs, and was driven by dialogue, the exchange of experiences, problem-solving and building of skills. For CEOs it can be fruitful to discuss problem-solving with others outside one’s own company. SMEs within the ICT sector are often confronted with new questions, and the solutions discussed could have implications for the whole Stockholm ICT cluster.

Plans were made to have 50 SMEs participating, and special attention was paid to women’s and immigrants’ participation. The network operated according to a process model: selection – connecting – problem definition – redefinitions and deeper understanding – problem solving. The process was coordinated by an experienced full-time process leader, who was the main resource provided for the network by the project. The process was further backed up by special expert input and coaching, and participation in selected events in Kista. The first step was for the companies and the process-leader to decide common subjects of interest. These included marketing to big customers, software for company accounting, prognosis, goal-setting, mergers and acquisitions, how to get early commitment from customers, dealing with administrative challenges in growth, leadership, personnel, export markets and international growth. Between the network meetings the project leader followed up on the questions and answers, and also specialists of certain topics could make an input in the meetings. Each year 4-5 meetings were held, on top of which came problem solving, coaching and participation in events.

The network was well received by the CEOs, and got good feedback, but also had to compete for the scarce time of small company CEOs, who often have to prioritise important business meetings. Nevertheless, the network experience pointed to considerable potential in reaching companies on a personal basis.

‘Do you have a solution to this?’: expert network

The idea of this network was that experts in different functions in companies could profit from contacts with colleagues from other companies, and preliminary studies identified a group of companies that were interested in this kind of network. Examples of potential peer learning areas are personnel and human relations questions, finances, funding, marketing and technical questions such as ICT. The core of the network was a series of workshops (4-5 per year) attended by special state-of-the-art ‘subject gurus’. It is important to note, however, that each particular expert network had a variety of activities on top of the basic core of meetings

provided by the project: events, site visits and also participation in transnational events, as deemed fruitful.

The expert network was driven by different themes, and all of them were supported by a process leader, with real knowledge and experience of the subject. A similar process model as in the executive network was used, i.e. selection – connecting – problem definition – redefinitions and deeper understanding – problem solving. The resources provided by the project were the overall coordinator, process leader/moderators with special knowledge of the subject, and a web forum.

There were several different kinds of expert networks. One of them concentrated on *Intelligent Transport Systems* (ITS), since Stockholm has a great interest in environmental issues, and wants to become a world leader in smart and sustainable transport. The network brought together SMEs, bigger companies, research institutes and public authorities, including the City of Stockholm and the Swedish Transport Administration, from the very beginning of the project. The network was able to reach a new level of cooperation between these very diverse actors in promoting ITS and business development in the field.

Another network was a women's network in ITS, called *KITS* ('woman' is *kvinn*a in Swedish). Reaching women became one of the project's equality goals. A network of women with the same goals as in the ITS expert network, led by an informed and experienced leader, was set up, attracted a lot of interest, started expanding, and continues today. Marketing and communication are always a challenge for companies. A network on this topic was set up, and contributes to KSC as a cluster, in order to create information about the right marketing investments, to attract the right companies and actors to Kista, and to strengthen the cluster. *Young Professionals* in ICT were addressed by a special network, promoting cooperation between and with the younger generations, with a focus on know-how and leadership.



Could we make something new? Cross-pollination network

The development of ICT and multimedia has been more and more influenced by soft factors. During the proposal period for the project, a need was identified where graphics, design, sound, music, video, film and the rapid development of the web have become more and more important in order to create new products. Knowledge about these subjects has become more and more interwoven with the traditional ICT areas. Likewise, the development of the multimedia sector has become dependent on ICT-based tools. The conclusion was to set up cross-pollination between the ICT and audiovisual sectors in order to create growth and business development. The strategy was to focus on companies with ICT-based tools, distribution techniques and service development. In order to get this established, concrete cooperation projects between ICT and multimedia were established within Kista.

One example of this is the development of a *Digital Art Center (DAC)*¹ in Kista, which has started to develop into a public interactive venue for companies, educational institutions and research organisations. It is a digital centre for young people, entrepreneurs, students, researchers and all creative people. It has developed into a meeting place of companies, the ICT sector and competence-building. In 2014 DAC will be established as a new public enterprise. The development has attracted very strong interest so far, and seems to point to considerable dynamic possibilities in bringing actors and ideas in ICT and multimedia together.



Another example of a project which is creating new relations between research and people is *Ocean Research*.² It is run by the Interactive Institute³ with partners such as Polar Region Research, Imego, Swedish ICT and the Good Guys.⁴ Ocean research is a project which brings together story-telling, social media, creative visualisation and advanced sensor techniques to detect climate changes and the condition of the ocean. The goal is to establish a fleet of sensor-equipped recreational boats, which become information points for stories about what is happening to the oceans. Through taking part in this crowdsourcing people become active participants in research. Individual people will become strong agents in setting the future questions on the environment. Climate data is visualised on different platforms, and made accessible for researchers, the public and entrepreneurs. 'Journeyman' is the first sailing boat in the project, and is now travelling around the world as a test-run and a marketing activity.

Kista Mobile & Multimedia Network (KMMN) is run as a non-profit venture by Kista Science City AB in order to boost concrete business benefits in the mobile and broadband industries, and has supported business development in the project. KMMN is a commercial network and an independent meeting place for people and business in mobile services and broadband applications. It has arranged seminars, workshops and major events. All of these have had business benefit as a concrete goal, resulting in new contacts and business deals.

Results

Kista Science City, even with its impressive history as a powerhouse of communication technologies, had arrived at a period of new



¹ <http://www.digitalartcenter.se/>

² <http://www.oceansearch.org/>

³ <http://www.tii.se/>

⁴ <http://www.thegoodguys.se/>

challenges. It wanted to revitalise the basic Triple Helix innovation model which underpinned the ICT cluster and is based on the cooperation of three communities: the public authorities (Stockholm city and region), academia and research (in Kista and beyond), and business (companies within Kista and beyond).

The ERDF-funded project *Strengthening Stockholm's ICT cluster – Kista Science City* was seminal in providing a contact and learning framework, facilitating peer learning and cross-pollination, and connecting ideas and resources.

The strategy to develop the ICT cluster in Kista, with multimedia-based cooperation between ICT and audiovisual companies, was started successfully, and the idea of cross-pollination and peer-learning between companies has turned out to be seminal.

KSC has now been able to establish itself within the creative industries connected to ICT, and has made considerable progress in ITS (intelligent transport systems). Within the cross-pollination network several concrete projects have been run, including Ocean Search and the Digital Art Center. Business development has happened in the cross-pollination networks of DAC, KMMN, and the Kista ITS expert network. Altogether 338 individual companies have participated in the project, with around 500 participants.

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