contact

ERICSSON PUBLICATION FOR EMPLOYEES WORLDWIDE

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Photo: LARS ÅSTRÖM

Greetings from Puerto Rico

The Caribbean is no longer swarming with pirates. Nowadays, it offers both visitors and the native population an abundance of safe harbors. Just as in the rest of the world, cellular phones are commonplace, as is Ericsson. The company's successful operations in this part of the world are steered from San Juan, Puerto Rico.

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Borderless discussion

Lars Ramqvist and two renowned Finnish profiles, Elisabeth Rehn and Matti Sundberg, shared their thoughts on world issues at a recent panel discussion when Ericsson celebrated its expanded office in Jorvas, Finland.

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News from Singapore

More than 400 exhibitors from 30 countries showed the latest innovations of the telecom industry at Asia Telecom the second week in June.

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Cordless at sea

Ericsson's cordless office phones are no longer merely office phones. There are many examples of how cordless DECT phones are used in a variety of corporate environments to increase both efficiency and customer service. The superferry Stena Germanica is one such example.

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News from Mobile systems pages 28–31

MMKS

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*according to Dataquest Samsung sold more DRAMs and SRAMs in the past three years than any other manufacturer

Thoughts about a world without borders

"Could a new Bosnia-type crisis flare up in the Nordic region?" The question was put by Elisabeth Rehn, well-known Finnish politician, during a discussion on the topic "Where are the borders?", arranged by Ericsson in Finland at the end of May. Taking part in the discussion were Elisabeth Rehn, Ericsson CEO Lars Ramqvist and Valmet CEO Matti Sundberg, who were guests at Ericsson in Jorvas on May 29.

Elisabeth Rehn, former Finnish defense minister and presidential candidate who now works for the United Nations, is one of Finland's major public figures. She shares Lars Ramqvist's view that telecommunications can play an important part in the development of a better world.

Photo: KALEVI KARHUSUO

The discussion turned out to be an interesting exchange of ideas between three public figures who otherwise seldom make public philosophical comments. All three were unanimous on one point: multinational companies have a key role to play in the building of a more just and equal world.

"Unfortunately, a Bosnia-type crisis in the Nordic region is something we cannot entirely rule out," warned Elisabeth Rehn. "There is a dark side to people that is difficult to control."

Lars Ramqvist expressed a more optimistic view: "I subscribe to the premise that the power of intellect can always control human behavior. By disseminating information among people, we erect obstacles to prevent a train of events such as occurred in former Yugoslavia."

Lars Ramqvist explained his conception of Ericsson's role in the world at large by pointing out that as a major player in the global telecom market, Ericsson is one of the stabilizing and peace-promoting factors in today's world.

Matti Sundberg nodded in agreement, but added a warning about other types of conflict: "Today, we face a clear risk from market bloc building on a global scale. We must not allow the EU to become an excessively powerful entity. Instead, we should move rapidly to develop dialogues with the U.S. and Asia. Bloc building is a serious threat to our business."

"Don't forget to include Africa in the dialogue," cautioned Elisabeth Rehn. "We must realize that we live in a world nowadays where nothing is far away any more. I believe that smaller, politically neutral countries can have a role to play in the development of the global dialogue."

Europe getting left behind

"One of the major risks with the formation of blocs is that, today, capital, know-how and technology recognize no borders," observed Lars Ramqvist. "In Europe, we continue to provide social services that no country can really afford. In the global market we are up against countries that can compete without such a 'handicap' for at least another generation. At meetings of the European Round Table of Industries, we have noted how Europe is getting left behind."

European industry

"A constant topic of discussion is how European industry can survive during the period when Asia is building up its welfare system – we are talking about a period extending perhaps 20–50 years into the future," continued Lars Ramqvist. "While it may be tempting to hide behind walls of trade barriers, that is obviously not a desirable solution."

"I share the view that such obstacles to trade would set us on the wrong course, since they would hinder globalization," agreed Matti Sundberg. "We should instead work to create more uniform working conditions in different parts of the world."

"For example, it is important to make more information available about the ethical and moral standards that apply in different places," added Matti Sundberg. "In this regard, the major companies are performing a service for society by introducing standardized business principles in the various countries in which they are active. It is a process which – for cultural reasons – cannot be fully implemented as yet, but which is slowly but surely steering developments in the right direction."

Companies lead the way

Elisabeth Rehn chimed in with Sundberg's train of thought:

"It is vital that governments ensure that there should be a framework for business activities worldwide that takes into account the ethical and moral principles that are now making such a strong impact at the grass-roots level. It is also worth noting that the politicians often lag behind the companies in regard to keeping track of developments in such areas as human rights in various parts of the world. In fact many large companies have withdrawn from countries with a poor record in this regard."

"At Ericsson, we have a thick business ethics 'Bible' that all employees are expected to follow," explained Lars Ramqvist. "We also have common values of professionalism, respect and perseverance that provide further guidance for our actions in the regions where we have operations."

"We really have no alternative," was Matti Sundberg's response. "You never gain in the long run by compromising your ethical and moral principles."

IT opens doors

The moderator of the debate Petteri Väänänen, from Finnish television, wondered whether there was not in any case a risk of the world splitting into a first and a second division, given that IT is now such an essential part of social development. Lars Ramqvist countered that developments in the IT area actually produced the opposite effect – toward a more equitable world:

"I fail to see how technology and IT can be harmful. I believe that everybody in the world will have a better standard of living in the long term. The trend benefits the third world in this regard, since modern technology is making advanced IT systems progressively cheaper. I see technology as a door-opener to a higher standard of living in all countries.

"I would go so far as to say that telecommunications are extremely important for peace. This is very clear from events in former Yugoslavia, where it was a breakdown in communications that paved the way for one-sided propaganda and misunderstandings between ethnic groups."

The discussion concluded with a return to the topic of Europe's lagging behind, focusing on the prospects for the Nordic region in the global, borderless society.

"The Nordic region is on the periphery of Europe," maintained Lars Ramqvist. "We enjoyed a period of prosperity during the period following World War II, but now we are in decline. There are too many factors that militate against us in the borderless world. This means we must be better than other countries in terms of people's prospects for building a future at home. There is no question that if our tax and other fiscal systems are more burdensome for individuals than is the case elsewhere, we shall lose our highly qualified people to other countries. We must ensure that we offer the best package in terms of taxes, education and so on."

"That's certainly true," agreed Matti Sundberg. "We must maintain a level no worse than the European average. I would like to see a commitment from the politicians to increase the competitiveness of the Nordic countries. Finland and Sweden share the problem of politicians who have plenty to say about this subject, but achieve little in practice."

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news briefs

Delivery to Telia in Denmark

■ LM Ericsson A/S in Denmark has received an order from Telia of Sweden, which is now making serious inroads into the Danish market. The contract for the first expansion phase of a GSM 1800 system is valued at SEK 380 million. Options on deliveries totaling SEK 1.2 billion are also included in the agreement. The order will strengthen Ericsson's position as Denmark's leading supplier of telecommunications products and systems. To protect its interests in serving the needs of TeleDenmark, the Danish company's largest customer, a separate organizational unit consisting of about 50 employees has been established to manage Telia's order and deliveries. The GSM 1800 system offers the same functions and services as conventional GSM, but operates on the 1800 MHz frequency band instead of 900 MHz.

Mobitex to Indonesia

■ Ericsson has received an order for a Mobitex system from PT Massinfo Nusantara, an Indonesian operator. Initially, the mobile data network will cover Jabotabek, which is the metropolitan area around Jakarta, the capital of Indonesia. The system's total capacity will serve 25,000 subscribers. The first phase of expansion will cover Surabaya and eastern Java. Indonesia has a strong need for wireless data communications. From the start, the new network will offer subscribers e-mail services, shorter data files and various telemetry applications. According to present plans, the network will be placed in commercial operations toward year-end 1997.

China to expand largest paging network

■ Guangdong Mobile Communication Company, GMCC, has placed an order to expand its personal paging network. The order, valued at SEK 31 million, was booked by Ericsson and will include 230 transmitters for China's nationwide paging network in Guangdong Province. GMCC started to expand the network in 1994, contracting Ericsson to supply equipment valued at SEK 188 million. As the largest paging system in China, GMCC's network offers several services, including automatic personal paging, voice mail and messages transmitted in Chinese symbols.

Wireless expansion in Sumatra

■ Ericsson has been contracted to expand the Wireless Local Loop delivered earlier to Pramindo, an Indonesian operator. The expansion calls for 50,000 new lines to be installed in the DRA 1900 system. Pramindo operates wired networks on Sumatra. Owned by a consortium of Indonesian interests and France Telecom, the company has licenses to install 516,000 lines on Sumatra. Ericsson has received orders for 200,000 lines from several different Indonesian operators. The orders are primarily attributable to Ericsson's decision to establish its own company in the country, P.T. Ericsson Indonesia, with Mats H. Olsson as President.

New terminal for fixed wireless

■ Ericsson now offers telecom operators the world's most sophisticated digital D-AMPS standard - IS 136 TDMA - for fixed, wireless telecom networks. The product is available following Ericsson's introduction of its so-called Single Line Terminal at Asia Telecom in Singapore recently. The new terminal, called SLT 8820, is a small wall-mounted unit, 24 cm high and 31 cm wide, with capacity for three separate subscriber equipment facilities, for example, telephone, telefax and modem.

Microbase station for macro-coverage

■ The new "Maxite" concept from Ericsson offer three times the coverage of traditional microbase stations for mobile telephone systems. The unit coordinates operations of the smallest GSM transceiver unit on the market today, an active antenna system and battery back-up for two hours of reserve power supplies. Operators that choose Maxite will reduce rental costs for their radio base stations, for installation, operations and maintenance by at least 55 percent over a five-year period.

New pagers for active people

■ Ericsson recently introduced two new personal pagers for the new FlexTM network in Asia. PNF 108 is a numeric pager, and the PTF 218 model features alphanumeric capacity.

AXE agreement in Ireland

■ Ericsson has been chosen as a switching supply partner by the Irish operator Telecom Eireann. The AXE agreement, running from 1998 to 2002, is valued at some SEK 780 million.The agreement encompasses all equipment, support and services supply requirements associated with the development of the Irish telecommunications network, including network expansion and modernization programs.

Asia Telecom, by far the largest telecom exhibition in Asia, is held every four years. This year's fair was the biggest ever. Ericsson and just about every other telecommunications company in the world were there. More than 400 companies from 30 countries showed approximately 40,000 visitors the latest products and equipment the telecommunications industry has to offer Asia's dynamic market.

Ericsson shows news at Asia Telecom

Singapore was an excellent choice as the site of this year's Asia Telecom. It was here the first Asia Telecom exhibition was held 25 years ago, and Singapore is an Asian center of telephony and telecommunications expansion today. During just a 10-month period in 1996, Singapore's telecommunications market doubled in size, according to a recent report by the International Telecommunications Union (ITU), also one of the host organizations for Asia Telecom.

Asia Telecom is directed exclusively toward telecom industry representatives, and the quality of average visitors was higher than other international exhibitions, such as CeBIT. Several government officials and telecom industry leaders were seen at Asia Telecom. Ericsson was also represented by the Presidents of its three business areas.

Preparations for Asia Telecom were started long ago in an effort to derive maximum benefit from the exhibition.

"We booked the area for our exhibition stand more than a year ago and serious discussions regarding the stand design were started about six months ago," explains Lars Bernring of Ericsson Events, which coordinated Ericsson's participation in Asia Telecom.

"The exhibition is focused mainly on Southeast Asia, and a lot of the preparations were handled by our local company in Singapore," Mr. Bernring continues.

June Chai (left) of Ericsson in Singapore and Sally Woo from Ericsson in Hong Kong showed the new Ericsson phones and invited visitors to the stand during Asia Telecom.

Broad range of solutions

Most of the people who worked the stand came from Singapore and neighboring countries, including Malaysia, Thailand and Indonesia. Ericsson also invited customers from countries in the region to see the broad range of solutions offered by the company.

In parallel with the exhibition, ITU conducted a program of seminars concentrated on the ongoing convergence of telecom and computer industries. The current trend was illustrated clearly when Bill Gates, founder of Microsoft, spoke via a video link during the opening ceremony.

Ericsson also conducted a series of its own presentations during a busy two-day seminar, with several Ericsson representatives describing the operations of their companies to guests and other visitors. The program was entitled Corporate Lectures and was a highly successful element of Ericsson's participation in Asia Telecom.

Text and Photo:PATRIK LINDÉN

Six hundred taxis in Singapore will carry Ericsson displays for one year. Some buses will also advertise Ericsson's 788 mobile phone. Ericsson dominates the mobile phone market in Singapore with a 60 percent market share.

Handheld computer generates interest

Ericsson had more than 100 persons at Asia Telecom to guide interested and curious visitors around its exhibition stand. The greatest interest, perhaps, was generated by Ericsson's new MC 12 (MC=Mobile Companion), a portable handheld computer.

The MC 12 is a practical new handheld computer designed for simple connection to mobile telephony. Once on-line connection has been established, the MC 12's Windows software allows users to surf the Internet, send fax messages, e-mail and SMS. On its own, MC 12 offers a wide range of applications with its Windows interface from Microsoft (Windows CE), which enables users to work with their normal files in Word and Excel, for example. Highly convenient, the new computer is easy to carry when you only a telephone is needed. The MC 12 will be introduced on the market in September, initially in the U.S. and Europe. The computer does not require a modem card; its built-in software modem is adapted to meet the requirements of Ericsson telephones, a feature that saves batteries and money.

Colorful model

A colorful new variation of Ericsson's smallest mobile phone was also on display. The 768 model can be used for both GSM and DCS standards. The telephone looks very much like the recently introduced 788, but it has a simpler menu system and different design features adapted for people who use the telephone in their leisure time.

In addition to its new consumer products, Ericsson also presented a number of other new solutions. Phone Doubler, for example, enables subscribers to remain connected to the Internet via modem and still receive incoming calls. The system is now being tested by Telia, and negotiations have also been started with other operators.

The business unit for American standards displayed a solution for the wireless office. In the office environment, mobile telephones function via the company's telephone exchange system, and calls cost much less than regular mobile calls. When the user leaves the office, the telephone becomes a conventional mobile phone, but subscribers can still be reached via the telephone exchange. The product offers greater accessibility and lower costs. There's also one less telephone to control. Development work has been completed, and the system is now being tested by an AT&T customer in Dallas.

PL

Handheld computers designed for compatibility with Ericsson telephones generated considerable interest at Asia Telecom.

hello there!

Per Bengtsson is moving...

From Sweden to Manhattan

Per Bengtsson, Information Manager of the Mobile Systems business area, is moving to the U.S. to assume his new job as Vice President of Ericsson's Investor Relations office in New York.

• When will you actually pack your bags and leave?

"It won't be enough to just pack my bags; we're moving an entire container in August. My wife and 14-year old son are coming with me. I'll succeed Lars Jonsteg, who will move back to Sweden after seven years as Vice President of investor relations in the U.S."

"Ericsson's office in New York is situated at 100 Park Avenue, next to Grand Central Station, not far from Wall Street. Locating the office in New York was a natural choice considering the very significant influence of the New York Stock Exchange on Stockholm's stock exchange. Approximately 39 percent of all Ericsson shares are owned by American interests, including several large pension funds."

"Ericsson's American press office is in the same building. Working with investor relations is nothing new to me – it's included as part of my present job. Many large American investors visit Sweden regularly, and it will be interesting to see how they operate on their home field. In June, a group of more than 120 foreign investors have visited Ericsson in Sweden, with Americans representing a strong percentage."

• Have you ever worked outside Sweden for Ericsson?

"No, I've traveled extensively as part of other assignments, but I've never been stationed abroad. Living in the U.S. will be a very interesting experience for me and my family. I will also travel a great deal, visiting various brokers throughout the country. In addition to daily contacts with Sweden, I'll also work in close cooperation with Ericsson's offices in Washington, Dallas and Lynchburg, Virginia."

• What are the most important aspects of working with American investor relations?

"Providing accurate and timely information is the key element. Many American investors have specialized knowledge in various areas, including telecommunications. Sweden is several thousand miles away from the U.S., and investors are not all that familiar with Ericsson and our operations. They don't want any surprises that might create sharp fluctuations in share prices. It's very important, therefore, for us to release news that affects shares and share prices in a professional manner and try to avoid the emergence of rumors and speculation. It's essential that we issue our press releases in accordance with established regulations and guidelines."

"After all my years working for Ericsson, I joined the company in 1957, I have built up a comprehensive network of contacts that will provide a solid foundation for my new job in the U.S. Hopefully, I will be able to maintain the excellent contacts I have in Sweden."

GUNILLA TAMM

You arrive at work one morning to find someone sitting at your desk, using your telephone and looking through your papers. Despite the fact that none of these things actually belong to you, you probably react very strongly. Territorial instinct has reared its ugly head.

Understand your territorial instinct

Someone has encroached on your territory and it's time to defend it. If you were an animal, you'd probably set your teeth in the jugular of the person sitting there. Now you give him an evil look, maybe say a few harsh words, and let it pass. However, just because we've climbed down from the trees and put on suits, doesn't mean that the importance of territory has decreased in our daily lives.

Illustration: MAGNUS BARD

Strongest drive

"The territorial instinct is biologically conditioned and one of our strongest, second only to the sexual instinct," says Leif Berggren, whose doctoral thesis was devoted to non-physical territories.

Leif now helps organizations and companies, including Ericsson, to solve territorial conflicts and increase awareness for our working behavior. This is an area for which his combination of specialties as a medical doctor and an economist are particularly well suited.

According to Leif, the territorial instinct is always present in the workplace. "Notice, for example, how everyone working in an open-plan office immediately begins to personalize their workplace with postcards, posters and other decorations. It's a way of staking out a territory and feeling secure," says Leif.

Open-plan offices create stress

Leif has noted a higher stress level among workers in open-plan offices. To feel good on the job without a room of your own, you need to control something. It's also important to be able to go to another room sometimes when you feel a need to get away.

All territories are not physical, with visible borders. Non-physical territories are equally important. Knowing your skills and what you can control is important for your physical well-being.

Non-physical territories may include certain methods or techniques, a given customer group or a special area of competence. The clearer and stronger our sense of territory, the better we feel. Controlling a territory, whether physical or non-physical, creates well-being, and people work better when they feel good.

Leif Berggren has studied the territorial instinct.

Non-physical territories quickly become apparent in a project group. Members are very conscious of their responsibilities and authority and become irritated when someone intrudes on their territory.

In addition to individual territories in a group, there is a common group territory. A team spirit is established, and it is not uncommon for groups to create their own T-shirts, hats and other symbols of group membership.

Technical jargon and terminology are other examples of how territories are defended. While technical language is expedient for communication among experts, it is also a way of showing that the user belongs to a group with a very clear distinction between "us" and "them." Technical jargon is often used as a defense when someone's territory is threatened.

Physical and nonphysical

There is an inverse relationship between physical and non-physical territories. If a person has unique skills and is the only one performing a certain task in an organization, he or she has a very well defined territory. An IT consultant, for example, may have such a role. This person is aware of her role, and everyone knows what she does.

"You could say that such a person carries the territory on her back, like a snail and does not need a large physical territory," explains Leif. "A person who does not have as clear a professional profile, however, is often more concerned about physical territory."

Relationships with colleagues also affect the territorial instinct. The poorer a relationship a person has with a colleague, the more importance he or she will attach to protecting the territory.

"With people we know and like, we seldom feel a need to stake out or defend a territory, but with people we dislike, it become important to draw the line. This means that we waste considerable energy defending a territory instead of doing something constructive."

Leif points out that the territorial instinct is not necessarily a problem in the workplace. On the contrary, it can be turned into a positive force.

"Everyone needs their own territory, and losing your territory is like mental amputation," notes Leif.

In the animal world, a weaker animal often wins over a stronger rival in its own territory, somewhat like a football team that wins at home.

"Used positively, territories encourage commitment and creativity," says Leif, noting that the key to success is clearly defining dependency relationships.

"A common problem in companies and organizations is that expectations and demands differ in two departments that are dependent on each other," explains Leif.

"First we let department A provide a written description of the work that they perform and what department B can expect of them. Then department B does the same thing. Often there are considerable differences. Areas that overlap, mean that the two departments are claiming the same territory, which may lead to problems," says Leif.

Using the instinct positively

In order to take advantage of the positive aspects of territorial instincts, it is important to remember certain things. All employees should have well defined territories, preferably tailored to the individual. It is also important that everyone is aware of the boundaries.

People need to have their own physical territory in the workplace. They do not necessarily need their own offices, but they have a need for a place that they can identify as their own.

Creating a common territory and a team spirit for the department or workgroup is also a way to utilize the positive effects of the territorial instinct.

Individual territories satisfy the need for privacy and personal integrity, while a group territory fulfills the need for social contact and community. Both are necessary for a sense of security, identity, status and control.

"The territorial instinct is intimately linked to participation, pride, credibility and mutual loyalty," concludes Leif Berggren.

PATRIK LINDÉN

Helena Hambraeus, works for Ericsson's premises company.

Photo: PATRIK LINDÉN

New workplace new ideas

Traditionally, many employees have had their own offices. Today the trend is toward more flexible arrangements in which business activities, rather than hierarchies and status thinking, dictate how offices are designed.

Helena Hambraeus works for Ericsson's premises company and is often involved in discussions of how premises should be configured when operational changes are made. She sees a clear trend towards letting operations dictate interior design. This means that everyone may not have their own rooms, but it does not imply a completely open-plan office.

"When we discuss various alternatives, the intention is to increase the flow of information, increase efficiency and create natural meeting places. We want to reduce the negative effects of territorial thinking and increase the team spirit and sense of togetherness. Previously, people were given offices in accordance with their status. Now we want to dimension workplaces in terms of the work to be performed, what the objectives are for the task and what requirements it entails," says Helena.

Natural meeting places

A more open design that creates more natural meeting places and puts people close to the people with whom they need to work requires a certain amount of new thinking.

"An open-plan office is not necessarily the solution. You need to think more freely. Many people tend to start with what they have and make small changes. We try to help people identify requirements, goals and visions and then base our thinking on these," explains Helena.

Making such workplaces functional requires that everyone has cordless DECT-telephones. Mobility is increased, and people are able to use different rooms temporarily. Portable computers are also an advantage.

"We start with operational requirements, not some special design, and we avoid talking about open-plan offices or open spaces, because such terms give the wrong associations. Many people tend to think of large rooms with rows of desks without any dividers between them, and that's not at all what we want to create," concludes Helena Hambreus.

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Mobile Data checks on packages

Sweden Post's business packages service is expanding dramatically. And the level of service will improve with the help of mobile data communication systems supplied by Ericsson. Customers can receive rapid information about the point in the distribution chain where their packages are located by using a push-button telephone and the Internet.

Quicker information about package routing. Leif Norell, who is responsible for The Kallhäll postal transport center's vehicles, regards security as one of the many advantages of the new technology. On the right is Håkan Lindhagen, Ericsson Mobile Communications, who is responsible for installation and training. Photo: NILS SUNDSTRÖM

Posten Logistik AB, one of the three largest goods distributors in Sweden, is now reorganizing to provide more rapid package networks. An order for 1,500 handheld computers with modems for vehicles is one phase of the new service. The Swedish Division of Ericsson Mobile Communication is the systems integrator.

Using a portable scanner, drivers will be able to read bar codes on business packages delivered to and collected from customers. Information about where and when packages are loaded and unloaded is dispatched to a mainframe computer via a Mobitex or GSM modem, and can be picked up via the Internet or a push-button telephone.

Strategic order for mobile data. Lennart Nilsson, Ericsson Mobile Communications sales/project management, and Gunilla Karlbom, Posten Logistik's Project Manager.

"Information about packages is not only a management tool in our production system, it is also a service to the customer. Mail-order companies, for example, can use this information in their processes," says Janerik Johansson, Acting President of Posten Logistik.

Posten Logistik collects 47 million packages a year, and is now offering a variety of services to give customers information about where a specific package is located.

"The new system provides complete control of the routing of a package – a track and trace chain for rapid customer-to-customer information," says Janerik Johansson.

Security – an advantage

The software used for the system is supplied by Oracle Svenska AB. In addition to an American handheld Symbol computer and an Ericsson modem, the system includes a receipt printer and a magnetic card reader which allows the customer to pay by credit card. This facilitates Cash-on-Delivery (COD) procedures for drivers, who currently receive payment in cash or by check.

"We have tested various systems to upgrade our services. This solution meets our requirements in terms of nationwide coverage, increased security and easy-to-use equipment. It has to be easy to punch in information on the handheld computers, even when drivers are wearing winter gloves," says Gunilla Karlbom, Posten Logistik's Traffic Manager, who is the Project Manager.

Major order

"This order is of strategic importance for Ericsson Mobile Communications Sverige AB," the Division Manager, Ola Elmeland, explains.

"This is our first major mobile data order involving both Mobitex and GSM. We regard this as a sign that things are beginning to take off now in the Swedish mobile data market. The transport industry is heavily dependent on IT. Our product portfolio also includes solutions for traffic management systems, and for monitoring people and goods. This technology increases business efficiency and has a positive impact on the environment," Ola Elmeland says.

First installations in the provinces

The number of GSM-based units in Posten Logistik's order will depend on the procurement process for transportation contractors which is currently in progress.

"We have just commenced our first local installations in postal service trucks, and we will be starting to train Sweden Post's instructors in the autumn," Lennart Nilsson explains. Lennart is responsible for sales/project management on behalf of Ericsson Mobile Communications.

Posten Logistik will be taking the new mobile data system into service in mid-1998. Other Sweden Post business units are also interested in this technology.

NILS SUNDSTRÖM

industry news

Siemens receives Australian order

■ Siemens has received its first Australian order for telecom exchanges from Spectrum Networks Systems Ltd., a private operator. Siemens will be responsible for planning, delivery and installation of the new EWSD exchanges ordered by the Australian operator. So far, EWSD has been delivered to 300 customers in 94 countries, and a total of 130 million lines have been ordered or installed.

Nortel sell more GSM to China

■ The Canadian company Nortel has succeeded in selling GSM in China. Nortel recently signed an additional order for two Chinese provinces, namely Tianjin and Hebei. In Tianjin, the GSM network is being extended to serve a total of 360,000 subscribers and in Hebei. The network will have a capacity of 160,000 subscribers.

New mobile generation

■ Lucent, Motorola, Nortel and Qualcomm, the leading suppliers of the IS-95 CDMA system, announced that they are to collaborate on the development of specifications for the next generation of mobile systems. This involves wideband CDMA, based on IS-95, the standard which these companies are currently employing for CDMA deliveries. The wideband solution they will be developing will be compatible with IS-95 – in contrast with the wideband CDMA solution which Ericsson is currently developing for NTT in Japan.

Lucent demonstrates CDMA

■ Lucent is developing a new version of IS-95 CDMA for the 1800 MHz frequency band in an effort to establish IS-95 solutions in several markets. Systems of this kind are already available for 850 MHz and 1900 MHz.

Dispute about CDMA patents

■ There is a rapid succession of CDMA patent disputes in the US. Now, Motorola has accused Qualcomm of patent infringement – in the design of several CDMA telephones, for example. Previously, Ericsson and Qualcomm have sued each other for patent infringements. One of these disputes has been settled in a San Diego court as a result of negotiations between the parties concerned.

We find Birger Magnusson in a rather spartan room at Ericsson Business Networks in Sundbyberg. He is globally responsible for operative support and construction production for Dedicated Network operations in the Business Networks unit within the Infocom Systems business area.

With a global point of view

When Birger joined Ericsson in 1982, he was already an experienced project leader after a number of years in the construction industry. He threw himself wholeheartedly into the operations relating to Ericsson's network construction project as a member of the home organization at Kungens Kurva in Stockholm. But Birger immediately jumps on the word "project."

"A project could refer to any activity that is defined in terms of work assignments and deadlines," he points out. "I prefer to speak about 'total contracts.' It is not simply a matter of supplying and installing products, but a matter of supplying the functions that the customer has ordered."

In Birger's view, Ericsson acquired its expertise in this area at an early stage compared with its competitors. During the 1980s, Network Engineering, as it was then called, experienced a genuine golden age, when Ericsson was building networks for various markets worldwide. Birger was working in areas such as production planning, scheduling and estimates for projects in Libya, Malaysia, Thailand and other countries.

While his home base was in Sweden, he traveled a great deal – one of the best features of the job. As he expresses it, he has a seaman's wanderlust in his blood, compelling him to travel, although for practical reasons his family preferred to maintain their home base in Sweden.

"Leading a project is like managing a small company"

Overseas assignment

Prior to the move to Ericsson, however, the Magnusson family had already spread their wings overseas when Birger worked for VBB in Saudi Arabia for a few years during the 1970s.

"I was approaching 30 when I took the opportunity to go abroad," relates Birger. "I had a sense of wanting to be a pioneer and experience something new. My family also thought it sounded interesting. We didn't know very much about what awaited us; we just thought it would be an exciting challenge."

Business acumen

Birger Magnusson is a forthright person, who gives clear and direct answers and has definite opinions. In his view, the primary requisite for running a project is business acumen. The construction industry is an excellent training ground when it comes to total contracts.

"You learn how to manage a small company. You don't need to know the telecom sector to lead a network construction project, although you need to be able to acquire a reasonably good grasp of the technology. Building local networks is largely construction work. The hardware involved includes as much gravel, concrete, steel and pipe as it does telecommunications equipment. The object of the exercise is to bring everything together."

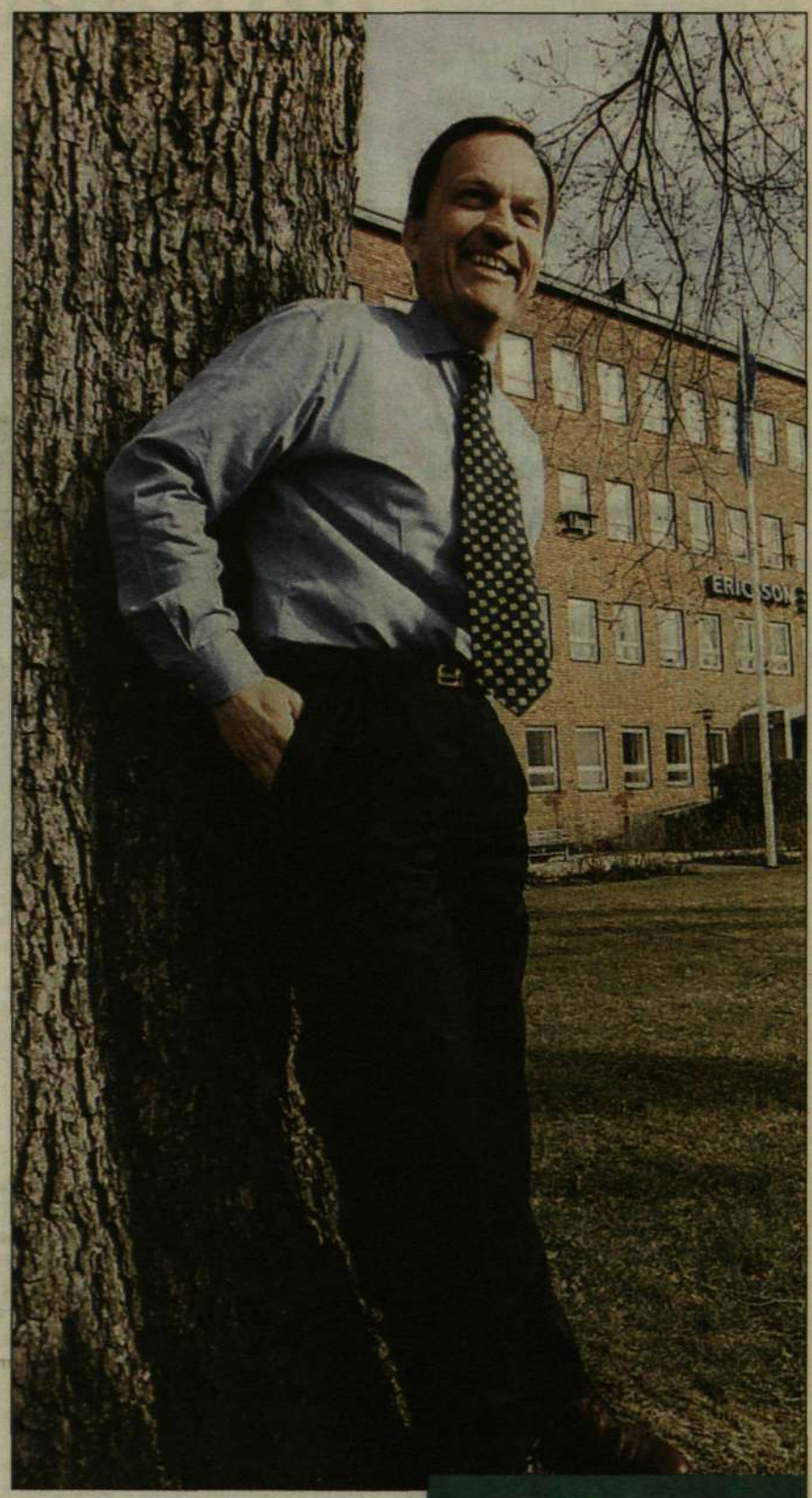
At the end of the 1980s, Birger exchanged all his many overseas contacts for the green pastures closer to home. He worked as production manager for Ericsson's construction operations in Sweden, serving customers such as the National Rail Administration, the Telecommunications Administration, the armed forces and various companies. The job literally took him from one end of Sweden to the other, from Ystad in the south to Haparanda in the north.

In 1992, he returned to Saudi Arabia, assuming control of a project that had started several years earlier. The assignment was to install a telecommunications and security system for a Saudi organization.

"It was an extremely complex solution, involving extensive design work," he recalls. "At its peak, the project involved 120 people. Products from just about every Ericsson unit were included – MD 110 exchanges, radio and transmission equipment, cables and data networks."

What Birger is describing is one of Ericsson's – and probably the world's – largest projects ever in terms of dedicated networks – tailor-made network solutions designed for a specific customer and purpose.

The Saudi project is still in progress, albeit in a slimmed-down form. Birger himself moved on – this time to the Philippines. Shortly before Christmas 1994, he was given implementation responsibility for the installation of a conventional public network. Previously, Ericsson had not sold a single AXE line in the Philippines, but now the time was ripe.



Birger Magnusson is globally responsible for operative support and construction production for Dedicated Network operations in the Business Networks unit within the Infocom Systems business area.
Photo: PETER GUNNARS

At the time of writing, Birger is involved in about 10 projects in various parts of the world. The Dedicated Networks division within Ericsson Business Networks is anticipating sales of about SEK 700 million in 1997. But more personnel are needed.

"There is no shortage of good project leaders at Ericsson, but they have to summon up the courage to take on the job. Fear of the financial responsibility often seems to be the stumbling block. And it's true that you need a good head for business to handle the job," observes Birger, who is himself highly qualified in this regard.

KARI MALMSTRÖM

Good patents are an art

The Patents and Trademark Department is by no means a dusty documentation archive. Patents are a business tool and a strategic weapon.

With its new manager's vision is that Ericsson's Patent Department will be an obvious destination for bright patent engineers. The aim is to adopt a cohesive approach to patents, trademarks and the protection of designs. The interaction between these tools is becoming increasingly important as the proportion of consumer products in Ericsson's product range expands.

"Inventions are like raw materials. The next stage is to draw up a good patent, together with the inventor, in the light of our know-how about strategies, markets and competitors. Patent operations are in art in themselves," says Hans Holmgren, the new Manager of the Corporate Patent and Trademark Department. Hans is convinced that Ericsson will be one of the most successful companies in the world in the patents field by the turn of the century.

Broad area

"People only tend to talk about patents, but the area is much broader than this. We have to look at the overall picture," says Hans Holmgren. "We must also spend more time on trademarks and design protection, because they are different sides of the same problem. Since we now have a higher proportion of consumer products, it is easy to see that design issues are becoming increasingly important. The overall implications of patents, trademarks and design are obvious."

The term Intellectual Property Rights (IPR) puts the situation in a nutshell.

"IPR is a business tool, and should be treated as such. We are not a documentation center," Hans Holmgren points out.

Patent which was never filed

In point of fact, Ericsson's entire operations are based on a patent which was never filed. For some reason, Alexander Graham Bell never applied for a patent in Sweden for the telephone. And that gave Lars Magnus Ericsson a chance to transform his company from a repairer of communications equipment to a designer of communications systems.

Nonetheless, Lars Magnus himself was not particularly interested in patents. According to his obituary in one of the Swedish newspapers in 1926, he was reported to have said that patents are only filed for safety pins and trouser buttons. Fortunately, attitudes are rather different at Ericsson today.

900 patents in 1996

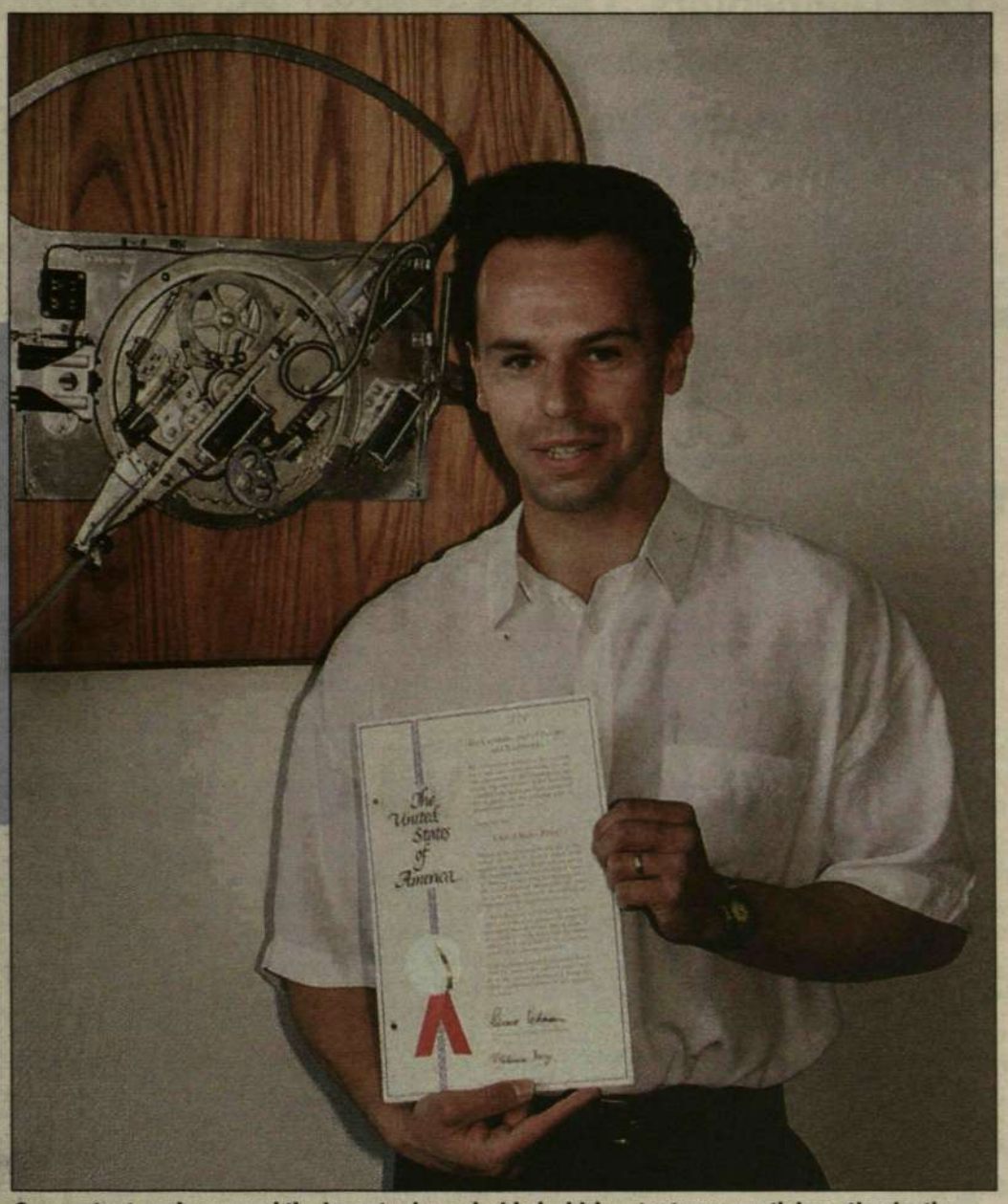
Ericsson submitted almost 900 patent applications in 1996 alone. This is a new record and, for the first time, the volume of patents was mentioned in the annual report.

"But this is not just a question of quantity. It is also a matter of deciding what patents Ericsson is going to spend its time and money on – in other words active management of the patent portfolio."

"We should only spend our money on strategic and profitable patents. This means there is a continual need to actively manage patents. If we have good patents, we can block our competitors, giving ourselves freedom of action. Patents must be employed as active instruments," Hans Holmgren says.

Patent is a French word

■ Patents mean open letters or decrees. The word entered the English language from the French "patente", a noun form of "lettre patente" (open letter).Originally, the word came from the Latin "patere", which means to be open.
Patent documents often have a seal on the first page instead of a seal to close the envelope. This symbolizes the openness of the patent procedure.



Once patent engineers and the inventor have decided which patents are worth investing in, the patent attorneys take over. That's when Joakim Wihlsson and his colleagues take care of the wording and the legal processing of the patent application. Photo: PATRIK LINDÉN

Patent operations are expanding rapidly. Hans Holmgren's department has doubled in size in the past two years and now has a staff of more than 50. A great many services are also purchased from external patent offices in various countries. It is hardly surprising that the department needs to expand even more. Ericsson currently has a portfolio of about 15,000 patents and patent applications to manage.

Necessary expense

Patent operations cost money, but this expenditure is necessary, according to Hans Holmgren.

"If you spend large sums on research and development, as Ericsson does, you also have to invest in patents. If we didn't do this, it would be like leaving the harvest out in the fields," he explains. "The cost of patents may also be regarded as the cost of being in the market."

Hans Holmgren is by no means dissatisfied with Ericsson's approach to patent issues.

"Ericsson is the right company to work for if you want to deal with this kind of area. It is a state-of-the-art company, with a management team which is interested in patent issues and prepared to invest in this field. We still have some way to go before we are in the world class, but that's where we'll be by the turn of the century," Hans Holmgren says.

Most of Ericsson's existing patents are utilized within the company, although Ericsson also sells licenses to other companies and, in turn, purchases the right to use their patents.

"When we enter into agreements with other companies, we can 'exchange' the right to use each other's patents," Hans Holmgren explains. "Then it's a question of having a strong patent portfolio and being a good negotiator, if we want to minimize our costs. The aim is to create revenues. But patents should not be regarded as an independent business operation, even if we sometimes make money on the sale of patents. It is important for us to enter the development stage as early as possible, to enable us to produce a tailor-made patent solution or some other kind of protection for a specific concept or product."

Hans Holmgren has been Manager of the Patent and Trademark Department at the Ericsson parent company since the autumn of 1996. He is convinced that Ericsson will be world class in its patent activities by the turn of the century.

PATRIK LINDÉN

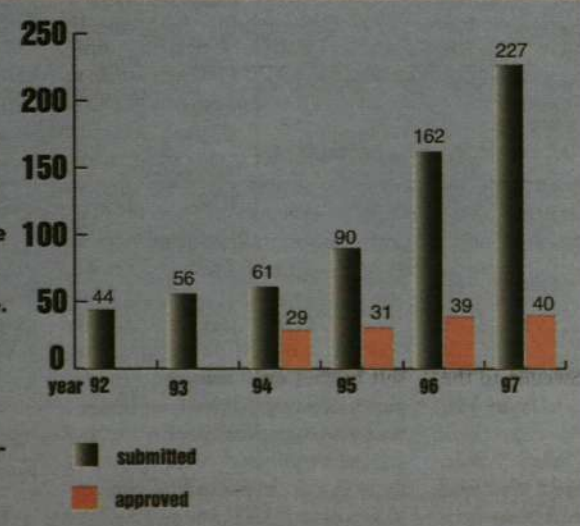
Footnote: If you want to read more about the Corporate Patent Department or get in touch with people working there, see the Intranet home page:http://www.lme.ericsson.se/LMEB/

Growing number of new patents

■ The statistics cover the first quarter and show "priority-based" patent applications. In essence, this means that there is only one application per invention. An application is made in one country, which then provides a basis for applications for the same invention in other countries at a later stage.

Following submission of a priority-based application, 20–50 additional applications may be made in other countries for the same invention.

The average processing time from submission of a patent application until approval is granted is about 25 months. In other words there is a time-lag of more than two years.

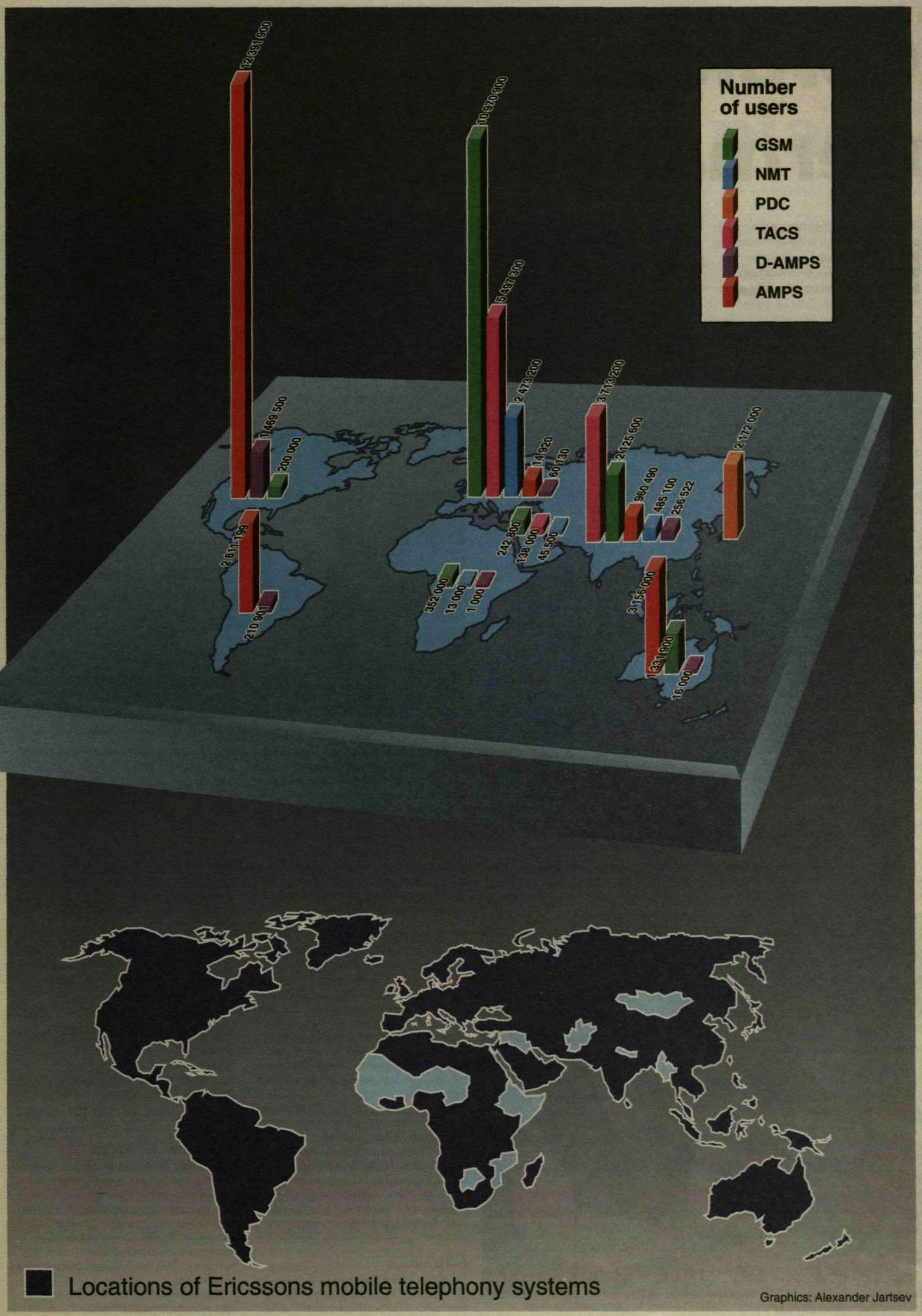


Ericsson dominates the world market for wireless systems solutions. With almost 40 percent of the world's subscribers connected to its networks, Ericsson is far ahead of its competitors. The list showing where Ericsson's systems are installed and the number of subscribers makes impressive reading. The figures in the table below were valid at the end of January. Since then, millions of new subscribers have been added, four out of ten of whom are still connected to Ericsson systems.

The entire world speaks via Ericsson systems

	year installed	customers	subscribers
Europe			
Andorra			
NMT	1990	1	200
Belarus			
NMT	1993	1	6,300
Bosnia-Herzegovina			
GSM	1996	1	1,000
Bulgaria			
NMT	1993	1	26,600
Croatia			
NMT	1990	1	50,500
Denmark			
GSM	1992	1	520,000
NMT	1981	1	292,000
Estonia			
GSM	1995	2	34,000
NMT	1992	1	23,000
Faeroe Islands			
NMT	1989	1	3,500
Finland			
GSM	1992	1	*
NMT	1981	1	188,500
France			
GSM	1992	2	709,100
Germany			
GSM	1992	1	1 192,500
Greece			
GSM	1993	2	491,000
Hungary			
GSM	1994	1	225,000
NMT	1990	1	72,000
Iceland			
GSM	1994	1	23,500
NMT	1986	1	22,900
Ireland			
GSM	1993	1	156,200
TACS	1985	1	110,000
Italy			
GSM	1992	1	1,910,000
TACS	1990	1	3,790,300
Lithuania			
GSM	1995	1	15,000
Macedonia			
GSM	1996	1	1,100
Malta			
TACS	1990	1	17,000
Moldova			
NMT	1996	1	900
Netherlands			
GSM	1994	2	450,000
NMT	1985	1	319,000
Norway			
GSM	1993	1	533,500
NMT	1981	1	444,600
Poland			
GSM	1996	1	25,000
Portugal			
GSM	1992	1	331,400
Romania			
GSM		1	**
NMT	1993	1	19,200
Russia			
GSM		1	**
NMT	1991	13	46,100
D-AMPS	1995	7	
AMPS	1994	9	
Slovakia			
GSM	1996	1	**
Slovenia			
GSM	1996	1	4,200
NMT	1990	1	37,000
Spain			
GSM	1995	2	1,364,000
NMT	1982	1	9,000
Sweden			
GSM	1992	1	824,000
NMT	1981	1	921 000
Switzerland			
GSM	1993	1	382,000
NMT	1987	1	279,000
Ukraine			
D-AMPS	1996	1	
United Kingdom			
GSM	1992	6	1,771,600
TACS	1985	1	1,580,000
Yugoslavia (Montenegro)			
GSM	1996	1	3,800
Yugoslavia (Serbia)			
GSM	1996	1	3,000
Asia			
Azerbaijan			
GSM		1	**
China			
GSM	1993	17	641,000
TACS	1987	15	2,531,500
D-AMPS	1995	4	
AMPS	1994	5	
Georgia			
GSM	1995	1	**
Hong Kong			
GSM	1993	2	320,000
D-AMPS	1992	1	
India			
GSM	1995	9	116,900
Indonesia			
GSM	1994	2	**
NMT	1986	1	22,100
Japan			
PDC	1994	6	2,172,000
Kyrgyzstan			
AMPS	1994	1	
Laos			
GSM	1994	1	2,700
Macao			
GSM	1995	1	24,000
TACS	1988	1	20,700
Malaysia			
GSM	1995	2	138,500
NMT	1985	1	73,000
TACS	1989	1	773,000
D-AMPS	1994	2	
AMPS	1994	2	
Myanmar (Burma)			
D-AMPS	1993	1	
AMPS	1992	1	
Pakistan			
AMPS	1990	2	
Philppines			
TACS	1994	1	308,000
Singapore			
GSM	1994	1	240,000
TACS	1991	1	80,000
Sri Lanka			
AMPS	1993		
Taiwan			
AMPS	1989	1	
Thailand			
GSM	1994	1	42,500
NMT	1986	2	390,000
Turkey			
GSM	1994	1	555,000
Uzbekistan			
D-AMPS		1	**
AMPS		1	**
Vietnam			
GSM	1994	1	45,000
D-AMPS	1995	1	
AMPS	1992	1	
Middle East			
Bahrain			
GSM	1995	1	20,500
Cyprus			
GSM	1995	1	51,300
NMT	1988	1	19,500
Iran			
GSM	1995	1	23,500
Kuwait			
TACS	1991	1	74,000
Lebanon			
GSM	1995	1	115,000
Oman			
NMT	1985	1	8,000
Saudi Arabia			
NMT	1981	1	18,000
United Arab Emirates			
GSM	1994	1	32,500
TACS	1989	1	64,000
Oceania			
Australia			
GSM	1993	2	1 328,000
AMPS	1986	1	
Fiji			
GSM	1994	1	3,900
New Zealand			
D-AMPS	1992	1	
AMPS	1987	1	
Western Samoa			
AMPS		1	
Africa			
Congo			
D-AMPS	1995	1	
Ghana			
GSM	1996	1	2,000
Libya			
GSM		1	**
Morocco			
NMT	1987	1	10,000
Nigeria			
TACS	1992	1	10,000
South Africa			
GSM	1994	1	350,000
Tunisia			
NMT	1985	1	3,000
North America			
Canada			
GSM	1996	1	
D-AMPS	1992	1	
AMPS	1985	1	
USA			
GSM	1995	5	
D-AMPS	1992	9	
AMPS	1984	21	
Latin America			
Argentina			
D-AMPS	1994	3	
AMPS	1993	3	
Bolivia			
D-AMPS	1996	1	
AMPS	1991	1	
Brazil			
D-AMPS		3	**
AMPS	1992	22	
Chile			
D-AMPS		1	**
AMPS	1989	1	
Colombia			
D-AMPS	1994	2	
AMPS	1994	2	
Costa Rica			
D-AMPS	1995	1	
AMPS	1995	1	
Cuba			
AMPS	1993	1	
Ecuador			
D-AMPS	1994	1	
AMPS	1994	1	
El Salvador			
AMPS	1993	1	
Mexico			
D-AMPS	1995	1	
AMPS	1989	1	
Netherland Antilles			
D-AMPS		1	**
AMPS	1989	1	
Panama			
D-AMPS	1996	1	
Puerto Rico			
D-AMPS	1995	1	
AMPS	1991	1	
Uruguay			
D-AMPS	1995	1	
AMPS	1994	1	
Venezuela			
D-AMPS	1996	1	
AMPS	1988	1	

* supplier of BSS only
** not in commercial use



Locations of Ericssons mobile telephony systems

Graphics: Alexander Jartsev

Cordless on Germany line

"Availability has increased by 500 percent since we received cordless DECT telephones," says Jarl Gustafsson, Chief Engineer on board the superferry Stena Germanica. We meet him and Electrical Engineer Ove Edvardsson a few hours after leaving Gothenburg en route to Germany.

A system featuring Ericsson's DECT DT360 telephones has been tested on board the huge vessel for a number of years, with excellent results.

It is a beautiful early-summer evening. Our route commences at the magnificent Älvsborg Bridge. The clearance between the bridge and the highest point on the 11-deck superstructure of the Stena Germanica is a mere two meters! Accompanied by flocks of screaming gulls, our passage takes us past the bare, exposed rocks leading up to the Vinga Lighthouse. Slowly, the sun sinks towards the western horizon. The 14-hour trip to the port of Kiel in northern Germany has started well.

Grat deal of pressure

While most of the more than 2,000 passengers can relax and enjoy the trip, the crew have a lot to do immediately following the vessel's departure. For example, the information desk generally comes under a great deal of pressure. The restaurants fill up quickly with hungry, expectant guests. The bridge is manned by the captain, the first mate and the officer of the watch. Deep below decks, the reassuring thump of the ferry's four diesel engines, with a combined propulsion of 40,000 hp, fills the engine room. All of the engines are in operation simultaneously to make the passage as vibration-free as possible. We soon reach the open sea.

It goes without saying that good communication is essential in a micro community such as this. Ericsson made sure

■ Stena Germanica is not just a run-of-the-mill ferry. It carries 2,400 passengers, has 900 cabins and space for 550 cars, all of which makes her one of the largest vessels of her kind. As one of two sister ships, she was delivered exactly ten years ago from the Gdynia shipyard in Poland, where she was built. Virtually all of the communications equipment was supplied by the then highly active Ericsson marine unit within the original Ericsson Network Engineering AB. The communications package includes a PBX exchange with 400 connections, a fire-alarm system, with more than 2,000 fire detectors, and monitoring equipment for 400 fire doors, a 7,500 Watt PA system, with 2,500 loudspeakers, which cover all the various recesses on board. All of the equipment still works perfectly today.

Turnkey delivery from Ericsson

this was the case ten years ago, when the vessel was first launched in Poland (see sidebar).

From personal paging to DECT

When the slightly outmoded paging system needed to be supplemented, the immediate question was: by what? The preferred requirement was a system that would enable direct speech communications, not only internally but also via the public telecommunications network.

Discussions resulted in a pilot installation of the DECT-based Ericsson system with cordless telephones, which is now in place. Telia has sold the system, with Ericsson responsible for installation and start-up operations. The Stena shipping line has itself been responsible for cable-laying and training.

Restaurant manager Jagvi Lauri uses his DECT phone to make a status check.

Immediately following departure from Gothenburg, the ferry passes under the magnificent Älvsborg Bridge.

"Rapid access to key personnel and the opportunity to give and receive orders are the most important features of the system," states Chief Gustafsson. "With only a paging system, we had to find a telephone before giving or receiving information. No-one knew where a person might be located in the ship. Today, we use our cordless phones, instead, which allows us to speak directly about the subject in question and initiate the appropriate measures immediately."

DECT for the crew

It is the "Chief," as Chief Engineers are traditionally known at sea, who is responsible for all the technology used on board. His staff consists of a first engineer, two watch engineers, an electrical engineer, an electrical fitter, an electrical apprentice, an interior fittings engineer, a fittings repair engineer, machine and engine repair engineers, to name but a few. All of them are equipped with DECT telephones.

Currently, the vessel has 24 telephones of this type on board. Other crew members with telephones include the catering officer, the managers of the restaurants, kiosks, stores, kitchens and residential areas. The vessel's conference, entertainment and housekeeping managers are also equipped with phones, as are the assistant housekeeper, the carpenter and greaser.

Full coverage

From the Chief Engineer's office on the 10th deck of the vessel's superstructure, the entire 175-meter-long vessel is fully covered, even down to the engine room. Not even the elevators pose a problem. This comprehensive coverage has been achieved with the help of 22 strategically located base stations, of which two cover the exterior deck areas and part of the harbor area.

Most of the base stations are invisible to the naked eye, having been fitted with metal sheet roofing with only the antennas showing. Accordingly, there are no problems from people who can't leave things alone.

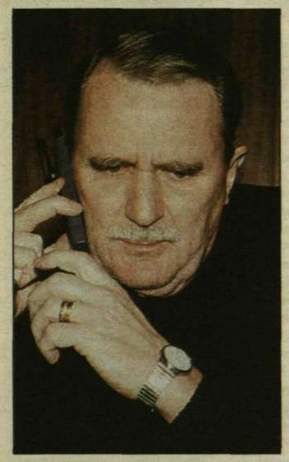
The only area in which some slight coverage problem exists is the car deck, where radio waves tend to rebound off the steel plate walls. However, this problem is being resolved.

The DECT telephones are connected to the public network via the on-board business exchange. Six lines in the system are connected to the network when the vessel is moored in the harbor area. At sea, the ferry is connected to the NMT 450 network, which provides cover along the entire route between Gothenburg and Kiel.

No problems with DECT

Recently a Swedish national newspaper reported that the National Administration of Shipping and Navigation in Sweden was urging that caution should be used when using digital mobile telephones on ferries. It was suspected that incidents had occurred which were believed to have been caused by mobile telephones.

Among other effects, this had supposedly resulted in faults developing in sensitive electronic steering systems. In other words, similar problems to those arising in aircraft and hospital environments. In this respect, DECT is an excellent solution, since it does not create any interference in electronics systems. The DECT system originally installed on the ferry as a test operation, has now been made permanent.



Chief Gustafsson, with 30 years at sea, is always available thanks to the DECT system.

TEXT AND PHOTOS: THORD ANDERSSON

Right component in the right place

Just ten people control annual revenues of SEK 300 million. The business concept behind Ericsson Supply Services is to offer Ericsson companies the right components at the right location, at the agreed time and at a satisfactory price. In brief: a complete logistics solution.

Each day, thousands of small and large components flow in to Ericsson. Many are produced within Ericsson, but to keep track of deliveries from mainly external suppliers an advanced logistics system is needed.

Advanced logistics used to control components flow

Ericsson Supply Services, part of Ericsson Electronic Distribution, offers qualified logistics services to other Ericsson companies, an operation which reduces lead times, purchasing prices and inventory handling. It also improves operating economy in several ways, enabling production costs to be trimmed at the same time as capital tied up in inventories is decreased.

"Two years ago, in May 1995, the Ericsson Components board, led by Bert Jepsson, decided to form a new unit to sell logistics services. It got off to a slow start, but during 1996 operations began to accelerate," explains Stefan Börjesson, Manager of Ericsson Supply Services.

Releases capital

The Ericsson companies commissioning Ericsson Supply Services for their work in the logistics area can push inventory handling to the end of the chain, releasing capital for other purposes. Logistics are needed in order to create shorter lead times, while simultaneously maintaining a smooth flow of components for production.

Stefan Börjesson and his colleagues maintain contact with more than 100 different suppliers throughout the world. At the other end, there are the various Ericsson companies and Ericsson subsuppliers in Sweden and abroad.

"Most of our customers are in the Infocom Systems business area, where we are expanding rapidly, and are also in touch with external companies, such as Essex in Sundsvall, Sweden.

High inventory turnover

"Essex is a subsupplier to Ericsson and we sell components in accordance with the specifications agreed between Essex and Ericsson. This provides a number of benefits; product quality and delivery reliability are assured, while we can offer competitive prices because of the increased volume."

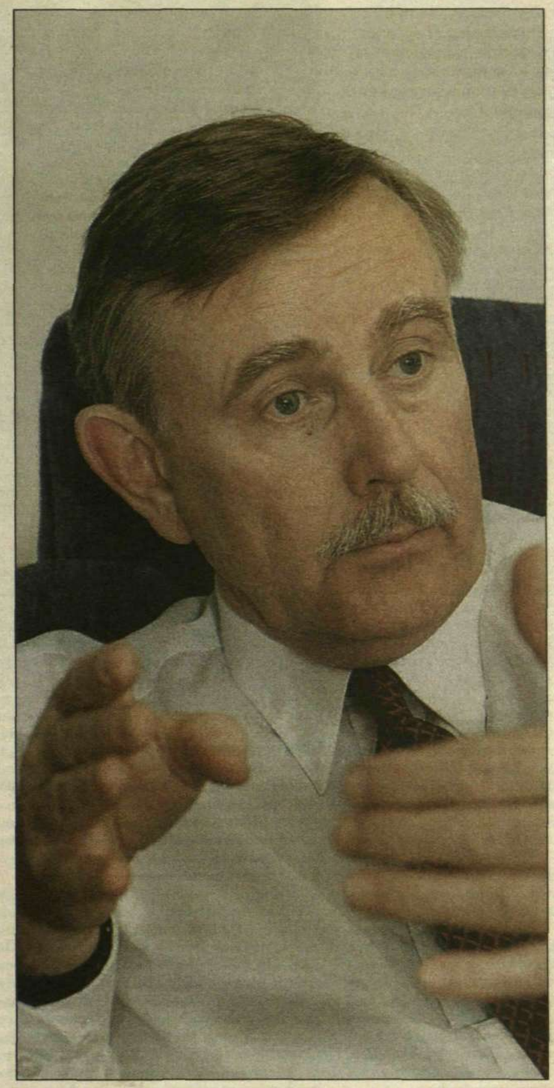
The range consists of approximately 4,000 different articles, and stocks are turned over more than 20 times each year. In a normal inventory situation, the corresponding annual inventory turnover rate is about six times. The high turnover rate is financially advantageous for all parties.

"Our external suppliers are located in different parts of the world. For example, electronic components are produced mainly within the American market."

"Electromechanical articles are supplied primarily by European firms, while mechanical parts are purchased in Sweden. Some of the suppliers are companies which were formerly part of the Ericsson organization," Börjesson points out.

Ericsson Supply Services has annual revenues of about SEK 300 million, with a current staff of ten persons. The company purchases its personnel, warehousing, data and financial services from other units within Ericsson Electronic Distribution AB

LARS BÄCK



It is gratifying to be in a position to offer customers a service which is really needed and in demand," says Stefan Börjesson, Manager of Ericsson Supply Services. The company has the potential to become a major success. How many other operations can offer economic gains to all the parties in a distribution chain?
Foto: ANDERS ANJOU

Opto – a technology with vast future potential

Broadband technology has been identified by many observers and analysts as the next area of dynamic growth in telecommunications, a technology with highly promising market potential.

"The key to optimal broadband communications lies in development of low-cost fiber optics that will make it possible to draw fiber into private households," say Hans Eklund and Gunnar Edwall, two researchers working at Ericsson's Fiber Optics Research Center (FORC) in Kista. "Optical systems are the cash cow of the future, an area with tremendous commercial potential," the two men agree.

The Fiber Optics Research Center in Kista conducts research operations focused on low-cost fiber optic techniques that will hasten the development of optoelectronic components for broadband communications.

"According to general attitudes in the industry during recent years, the broadband and "opto explosion" is still a remote concept of the distant future, but there are clear indications that the time is now," say Hans Eklund and Gunnar Edwal.

"High capacity requirements of the Internet comprise a clear indication. We use Asymmetrical Digital Subscriber Lines (ADSL) today, a technique to increase the capacity of conventional copper cable, to develop broadband on copper, but we shall soon discover that ADSL is inadequate," Hans Eklund continues.

"Growing demand for fiber is another sign that fiber optics will assume much greater prominence in the near future. There is a shortage of fiber in the world today, another sign that something is about to happen. Increased demand will make fiber less expensive and, even now, it's no longer difficult to prove that costs for fiber optics are much lower than ADSL costs – if we factor in entire life cycles of the products.

Hans Eklund, Head of Ericsson's Fiber Optics Research Center, and Assistant Professor at the Chalmers Institute of Technology, is seen here with Gunnar Edwall (r), Senior Expert on fiber optic technology and Adjunct Professor of Fiber Optics at The Royal Institute of Technology in Stockholm. The two men are seen here in the FORC laboratory at Ericsson Components in Kista.

Photo: ANDERS ANJOU

• How do you define optimal communications?

"Optimal communications is achieved when high-resolution pictures can be transmitted in real time, without any delay in either direction," explains Hans Eklund. "The result is image communication that creates a sense of presence," he continues.

"We shall not reach the true depths of communications until we have achieved unrestricted communications of voice, data, image and video, with interactivity in image transmissions at any time, and preferably in mobile telephony, with no wires or cords.

"The basic technologies needed to achieve optimal broadband communications are microelectronics, fiber optics, radio and software, which supplement each other but cannot replace each other."

Fiber for high capacity

Microelectronics is needed for systems and signal processing. Fiber optics are needed to transport the signals over long and short distances, with high capacity and minimal losses, and to direct information to the correct address.

"I dare say that fiber optics represent the only economically feasible solution for the function," Hans Eklund states unequivocally.

"The world of communications is characterized today by parallel development efforts in telecommunications networks, the Internet and radio. Considerable value is attached to installed network base stations, and telecommunication networks, accordingly, will always be part of the overall mix, and will continue to be developed and upgraded to allow operators to expand their range of services," explains Gunnar Edwall.

"Outside the conventional domains of network operators, development is continuing on modern-age mass communications via the Internet. Voice is a new feature that can now be added with relative ease, but not without some difficulty because of real time demands. A very large transmission capacity is needed, and it has to be inexpensive. Fiber optics, or Opto, is a fundamental technology in this context. Conventional telephony also needs expanded capacity, but the same scope of mass volumes are not required, nor are far-reaching network requirements as imposing as demands in Internet and other forms of multi-media communications.

Built-in capacity

"Radio offers certain unique advantages since it can be linked to mobile connections. Naturally, information based on images can also be transmitted via radio, and development continues in the area of broadband radio. The basic nature of mobile telephony imposes a restriction, however, since broadband facilities are limited and speech transmissions have to be compressed. The capacity can never be the same as the potential offered by fiber optic broadband communications," Gunnar Edwall continues.

Speech is encoded to include as many as cellular subscribers as possible on a limited surface, thereby allowing a large radio base station to transmit several hundred calls simultaneously. About 10 coded television channels can be crammed into a 5 MHz frequency band. A detailed picture that has not been coded, however, requires several thousand times more capacity than a single telephone call. TV satellites, accordingly, can accommodate simultaneous transmissions of only a few programs per transmitter.

In person-to-person communications, however, every connection requires its own personal channel, which severely limits the capacities of satellite transmissions and mobile telephony. One optical fiber the size of a single strand of human hair has the potential to transmit more than 10,000 high-density image channels simultaneously!

Form one system

The world market for transmitter and receiver modules will reach 15 billion in four years. The market for fiber is about the same size and, combined, fiber and optocomponents form one system.

The Japanese market for access products from now until the year 2010 has been estimated at approximately SEK 3,000 billion, all of which is based on fiber optic products. Japan is making significant progress in its pursuit of optimal communications.

"Business potential for fiber optics is abundant in the areas of transport networks, access networks and radio networks. The more radio we include the network, the more fiber we need. Development toward smaller cells also means that information must reach a larger number of points. Radio will be responsible for the final link," says Hans Eklund.

Telecom suppliers today need mobile networks, transport and access networks. No revolutionary changes will take place before copper cable is replaced by fiber, extending into private homes.

INGER BJÖRKLIND BENGTSSON

Progress in Japan

■ Is Europe falling behind Japan again in technological development? Broadband has been targeted for several years as the next dynamic growth area in telecommunications and information technology. But the definitive breakthrough of broadband has still not occurred, mainly because its full implementation will require the construction of new networks based on fiber optics.

Deregulated telecom operators in small and medium-sized countries are not willing to make the comprehensive investments that are required without some form of government subsidies. In Japan, a strategy has already been formulated.

Through its monopoly operator, the Japanese Government plans to invest in a fiber optic network that will extend into private homes by the year 2010. Nippon Telegraph and Telephone Corporation (NTT) plans to reduce costs for a fiber optic network installation to the same level of costs required for copper cable. NTT has developed a fiber optic cable containing 3,000 fibers, the world's highest density level. The average number of fibers per cable used in Japan is today is between 200 and 1,000. The corresponding average in Swedish optical fiber cables does not begin to approach the density of Japanese cable.

In the wake of Japanese progress, the components industry is working on development of parts and components needed to enable other countries to match the progress achieved in Japan.

Added pressure from the Internet has generated new growth in the world's other large transport channel. Underground (black) fiber optic lines are being installed today in all parts of the world. Subscribers are frustrated over long waiting times and are starting to demand connections with higher capacity. New players are planning revolutionary moves on the market. Stokab, a Swedish operator, is installing underground fiber optic cable in Stockholm, and Tele2 is working on new installations of optic cable suspended along power lines.

Entrepreneurs, register now

The infrastructure for future home communication and digital TV could be the latest addition to the Ericsson product portfolio. Steadily increasing competition demands both creative and commercial thinking. Within Ericsson's unit for public switches, the process has already begun – two so-called innovation cells are beign formed and several more are planned.

The Innovation Management Group is responsible for the innovation initiative, and coordinates and supports innovation activities in order to take new ideas to commercial products. Here, from left, top: Bo Malmberg, Björn Nilsson, Magnus Braxell. Bottom: Staffan Hjort, Andreas Jönsson and Torbjörn Johnson.

Photo: KURT JOHANSSON

"We have opened the doors for innovation," says Magnus Braxell, manager of the innovation operations. "Our aim is to give employees the opportunity to create something. It is among the plethora of ideas that the true gems can be found."

Innovation cells are not laboratories where "mad scientists" grind away at an invention for several years. They are more akin to creative and market-oriented small companies characterized by an unconventional way of thinking and the acceptance of possible failure. The pace is fast and short feasibility studies are therefore crucial. The Innovation Management Group expects to have created as many as eight cells by the end of this year.

"There is an endless number of ideas, so it's vital that we don't lock all of our resources on just the major projects," says Göran Olsson, manager of the Switching unit.

Bernt Ericson, director of research at Ericsson, adds, "Ericsson should be perceived as being an extremely innovative company, otherwise we'll have difficulty recruiting the best talent. I'm very optimistic about this program."

New world

Ericsson will need to find new markets in the future. Mobile telephones and AXE are not enough to sustain future growth. The media, computer and telecom industries are converging, which forces Ericsson to compete in entirely new spheres that are more deregulated and competitive, and the distance between ideas and reality is short.

The competition comes mainly from companies such as Microsoft and Netscape, both very successful and fast in terms of R&D, and with a more consumer-oriented approach than Ericsson. Consequently, the search for additional areas of business is necessary for Ericsson's continued expansion, especially considering the goals for 2005.

Innate powers

The innovation program is a step in the right direction. The goal is naturally to find new products for Switching, but the innovation cells may very well evolve into their own product unit or end up elsewhere in Ericsson.

A sales increase of 20 percent is necessary for Switching, a large portion of which is expected from the innovation program.

"New products are essential if we are to increase our market shares," according to Göran Olsson.

Bernt Ericson strongly believes in the local companies' innate powers, stemming from their close ties to the customers. "It's a matter of channeling their ideas and insuring that innovation work doesn't fall through due to a lack of funds at the local company in question."

Rewards

The management group in the innovation program designated to stimulate employees and recognize and evaluate their good ideas is called the Venture Board. The group also decides how much time and how many resources should be allocated to develop an idea. The challenge is to make the idea commercially attractive as soon as possible.

The Venture Board's task is to find entrepreneurs within Ericsson who are able to take responsibility for running a development project – and who dare take the risk of failure.

"One can be much too apprehensive of a possible failure," says Magnus Braxell. "Why not regard the experience as training? Ericsson should encourage risk-taking and reward those who are resourceful entrepreneurs."

Bernt Ericson agrees that a rewards system should go beyond the traditional methods of encouragement. "The individual must become visible in this company. Perhaps one could take a leave of absence with full salary just to think. It must also be permitted to earn a lot of money if one presents a new and feasible idea."

Flexible remote control

Thorbjörn Johnson, responsible for HomeCom, one of the new innovation cells, is the type of entrepreneur Ericsson would like to see more of. He is on a hunt for ideas and products for advanced home communication. Creating a "private cyberspace," that is, products for an interactive and multimedial home, includes the "flexible" remote control, new types of monitors, mobile phones with new areas of usage and devices that communicate with one another – the infrastructure of communications. Ericsson need not always develop the end-user product, rather, offer total solutions, which probably means future alliances with other companies.

Videophone

Digital TV is another industry of the future that Ericsson is assessing. Bo Malmberg manages the innovation cell currently studying the commercial and technical feasibility of digital TV. Broadband transmissions of information will be possible through wireless, fixed and satellite networks, which will bring forth a metamorphosis of television's usage areas, making it an entirely new tool in our daily lives.

"Digitization allows for an incredible capacity in the networks," says Bo Malmberg.

The ability to watch films when we feel like it and have time, or receiving product presentations in the form of high-quality imagery are only two examples of new frontiers in television. TV as a videophone is another interesting function. Ericsson, with its extensive experience in broadband technology, has a head start over its competitors and can serve as an expert in this area.

ANNE LEHES LÖWENBERG

Footnote: An intranet home page is currently under development for present and future inventive entrepreneurs who want to participate in the development of innovation cells or participate in a discussion group. If you are interested, call Magnus Braxell at +46-8-719 28 5 , or check the web page http://pn.ericsson.se/x_s/img/ for more information.

Innovation cells are not laboratories where "mad scientists" grind away

In Puerto Rico, in the heart of the Caribbean, Ericsson's operations are sailing along with a tailwind. This is Ericsson's hub in a region that offers good business opportunities. Peder Asplund, manager of Ericsson's office in San Juan – capital of this American enclave – and his 30 co-workers have brought the company into a leading position within cellular telephony in this tourist paradise.

San Juan is the capital of Puerto Rico, and also an important port city in the Caribbean.

Full sail ahead in the Caribbean

This summer, the inhabitants of Puerto Rico will be celebrating the centennial of the U.S. occupation of the country. This island nation became an American territory during the Spanish-American War in 1898.

Some Puerto Ricans will celebrate the centennial, while others will recall it as being a tragic day in the fight for a national identity. However, no one can deny that Puerto Rico's ties to the United States have given the island a standard of living that far superior to those of its neighbors.

A good life

Since the island became an American commonwealth in 1952, Puerto Rico's 3.7 million inhabitants are legally American citizens. Thanks to generous tax breaks, federal subsidies and the lack of visa requirements between the U.S. and Puerto Rico, the island's highways are filled with late-model Toyotas, Buicks and Fords. Almost all families have a TV and a VCR.

This high standard of living is also reflected in the island's telecommunications. Puerto Rico currently has 37 phone lines per 100 inhabitants. This is lower than the U.S. average of 54, but much higher than any other Latin American country. Furthermore, nearly 400,000 of Puerto Rico's inhabitants have mobile phones. This means that the mobile phone density is already more than 10 percent, or nearly four times as high as the most developed countries in south America – Argentina, Brazil, Chile and Venezuela.

The state-owned Puerto Rico Telephone Co. (PRTC) started operation of its cellular network in 1985 and chose NEC as its supplier. In 1991, PRTC switched to Ericsson when placing an order for expansion worth USD 90 million. That year, PRTC had 30,000 subscribers on the network, but the numbers have since increased sixfold to 180,000.

Peder Asplund, manager of Ericsson's company in Puerto Rico.

Entire Caribbean

The largest competitor is Cellular One, which has approximately as many subscribers in its own network today.

Peder Asplund is the manager of Ericsson's company in Puerto Rico. His area of responsibility covers the entire Caribbean.

"Considering the fast pace of development, especially within mobile telephony and PCS, close cooperation with the customer is the only way for us to reach Ericsson's goal of surpassing the customers' expectations," says Peder. This is the ultimate goal for Peder and his 30 employees at Ericsson's headquarters in Hato Rey, the heart of San Juan's bank district.

Many competitors

In addition to the two existing cellular phone networks, there are additional operators in place. AT&T Wireless Systems is operating a PCS-1900 network, also delivered by Ericsson. Lambda Communications Corp. is another PCS operator already in place, while PSC2000 has plans to establish itself as the fifth operator. PSC2000, which is a consortium of local investors and American capital, has not yet chosen a supplier.

Roberto Gonzáles, manager of Celulares Telefónica, welcomes competition on Puerto Rico's mobile network. Seen here with Maritza Fillol from Ericsson.
Photo: LARS ÅSTRÖM

In April 1996, PRTC signed a contract with Ericsson for D-AMPS equipment worth USD 10 million. "We welcome the competition," says Roberto Gonzáles Torres, who is the manager of PRTC's cellular operations.

"When our competitors begin operating, they can't offer the market something that isn't already there. The fight for subscribers will be entirely based on pricing and how the different services are packaged," he continues.

Nelson Traverso, manager of mobile services, adds, "We have done our homework and evaluated our planned offers, plus, we are emphasizing a flexible organization that can match our competitors' strategies."

Expansion

In May, PRTC and Ericsson signed another important contract for a turn-key project worth USD 19 million. It consists of 28 new radio base stations and a further expansion of the digital network.

"This contract is an additional step towards the expansion of the present system in order to confront the extreme expansion of the cellular market the past few years," explains Peder Asplund.

Ericsson has also received a contract for intelligent networks worth USD 1.5 million and an MXE order for USD 500,000. MXE is a system for messaging services on a mobile network. Negotiations are under way regarding further expansion of PRTC's mobile network with new RBS-884 radio base stations. The plan is to further digitalize the network, from 10 percent to 85 percent.

Privatization in progress

PRTC has more than 1.6 million lines in service, which makes it the fifteenth largest operator in the U.S. In 1974 the company was purchased from ITT by the Puerto Rican government for USD 165 million. In 1989, the subsidiary Telefónica Larga Distanca (TLD) was established in order to compete for a portion of the lucrative long distance market between Puerto Rico and the American continent.

Today, the tides have changed. Puerto Rico's governor, Pedro Roselló, has decided that PRTC should be privatized before the end of this year. International operators, such as Telefónica of Spain, GTE Corp., Bell South and Bell Atlantic-Nynex are among the leading bidders. PRTC's mobile operations within Telefónica Cellular are included in the pending sale, which according to industry analysts, can bring in a total of USD 2.3–3.4 billion.

Privatization welcome

While labor unions and politicians are debating the pros and cons of privatization, Peder Asplund maintains that the decision to sell PRTC to private investors is good for consumers.

"In the long run, we welcome a decision to privatize, since it will give our customers a more competitive structure," he says.

Cellular phone density is more than 10 percent – four times as high as the most developed countries in South America

"Previously, there was far too much bureaucracy and red tape. If PRTC is to survive in the future, a drastic change is necessary. We view current developments as a step in the right direction. If our customers become more competitive, we can sell more!"

Since the opening of the first office in November 1995, Ericsson has signed contracts for more than USD 35 million with PRTC alone. However, the San Juan office does not only do business in Puerto Rico.

"Setel, the national telephone company in Curacao, has purchased mobile systems for USD 7–8 million and cellular phones for an additional USD 4 million. Ericsson has also done business in the Cayman Islands and the Virgin Islands, two well-known tax shelters in the Caribbean," says Peder.

"Since the market we cover is so large, we try to work as much as possible through operators, for everything from telephone sales to marketing and service," he continues. "We don't emphasize our position as a supplier of products, rather, a supplier of complete solutions.

More aggressive approach

Ericsson has a total of ten projects in progress in the Caribbean. The company is offering cellular systems in all of the major markets, including Barbados, Guyana, Jamaica, the Dominican Republic and Trinidad. However, none of these deals have been completed yet, emphasizes Peder Asplund.

"Ericsson never used to have a serious presence here in the Caribbean. There has always been a potential for doing business, but we have previously neglected this part of the world. Today, we are much more aggressive. With the new cellular solutions we can now offer, the market potential as increased further. No customer is too small for us!"

LARRY LUXNER

diary

No error reports yet

Mathias Larson is a project manager for a release of the maintenance system for the GSM network in Germany, which will provide control over the entire network. Mathias' job is to assemble an application system in cooperation with the main project group in Sweden and the customer, Mannesmann Mobilfunk GmbH.

Mathias Larson is a project manager.

Thursday: Today was a busy day. First, a quality meeting with another project group from Linköping and Kista. We determined whether our product for maintenance of the cellular phone network in Germany has sufficiently high quality for us to notify the customer that we are ready for an acceptance test. After that, a meeting with Mannesmann Mobilfunk to present the results of our quality meeting. We were given the go-ahead for an acceptance test. What a relief! After the meeting, we needed to update the Prim quality system and "release" it. I went home late, watched some TV, called Mom and went to bed.

Friday: The final preparations for next week were under way. Everything must be ready when Mannesmann Mobilfunk arrives. Wrote a final report on the status of the preparations over the past few months. Friday lunch as usual at Saitta, a quaint Italian grocery store that also serves lunch. I ordered a Tris di Pasta with a glass of red wine and an espresso. This was followed by a meeting with all of the project group members to ensure that nothing was forgotten. At about 5:00 I went home to clean my apartment, since three friends are coming from Sweden to spend the weekend.

Monday: Got up early considering it was Monday. My friends returned to Sweden and I headed to the office to welcome people from Mannesmann Mobilfunk, who were coming to begin the process of approving our maintenance system. We have been working with the preparations for three months and today was the big day. We will be performing tests for 20 days together with Mannesmann Mobilfunk before we are allowed to make the first customer installation. The day began with a kick-off meeting, followed by the first tests. Mannesmann Mobilfunk had two testers and a quality coordinator present. At 4:00, we stopped testing and Mannesmann Mobilfunk went home. The day continued for some, who stayed to prepare for the next test day.

Tuesday: Began the day by ensuring that all tests start as planned, that all necessary support is available, etc. Afterward, we could deal with everything we've fallen behind on lately. I realized that, as a project manager, I don't have very much to do anymore. All of the preparations are finished and it's the testers' jobs to complete the tests. Therefore, I focused on writing the final reports and prepared for the next installation in Berlin next month. We will then install the system at Mannesmann Mobilfunk and test it against an actual mobile network. Went home around 7:00 and jogged along the Rhine. Later in the evening, I met with a few colleagues at a biergarten and enjoyed the beautiful weather and a cool Altbier.

Wednesday: Went to the dentist in the morning to replace a crown. I felt a bit nervous lying in the dentist's chair when the dentist, with a gigantic drill in each hand, says "Jetzt geht es los, Herr Larson!" (Let's get started, Mr. Larson!)

The system tests were proceeding as planned with no error reports so far, which must be a record! Thus, we could go home on time. We made plans to meet at the home of a German colleague to play Trivial Pursuit in German, which needless to say, didn't go very well for me.

Anders Igel and Bo Wall look on with interest as Anders Genberg, right, demonstrates the Public Intranet. Anders Igel was also one of the lunchtime speakers at Telecom Days.

Hectic telecom week

Stockholm IT Week and Telecom Days 97 took place from Monday, May 26 until Friday, May 30.

During the first few days, the activities centered on the Stockholm Trade Fair's facility in Älvsjö, where Ericsson had its own stand.

During the latter part of the week, Telecom Days 97 was in progress at the Berns Congress conference center, with Ericsson and Telia as the main sponsors. Ericsson Telecom Sweden was in charge of the display stands.

stockholm

"We began holding seminars and presentations on the telecom area in 1988," relates Valentino Berti of STF Informationsteknologi, who is in charge of the arrangements. "Since then, Telecom Days has grown steadily and is now a meeting place for the entire telecom sector."

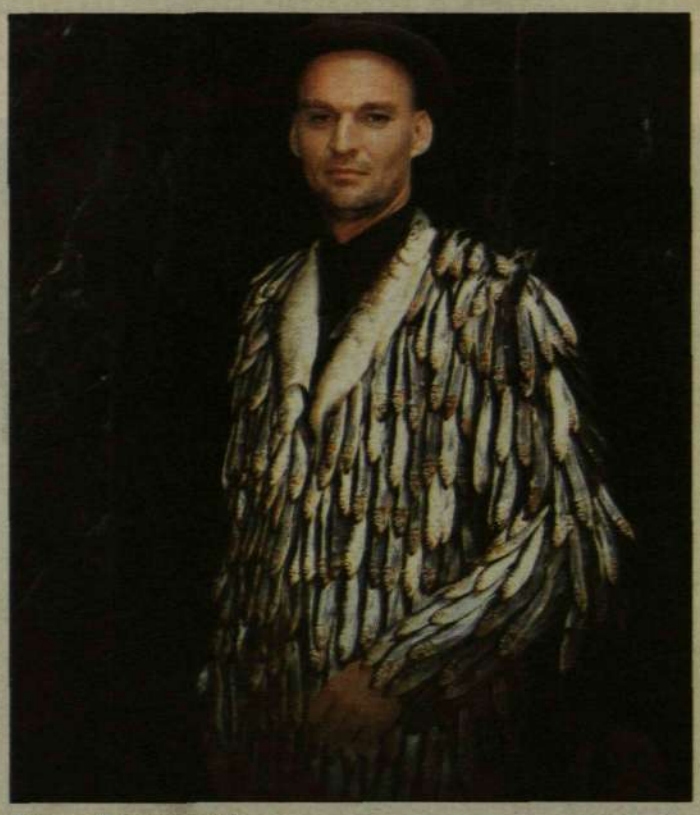
"During the three days of seminars, we estimated the number of visitors at around 1,200," adds Valentino.

This year's seminars focused on the theme of future developments, and had titles such as "Telephony in the Future," "The Media Industry Meets the Internet," "The Company of the Future," "GSM Forum" and "Management and Organization."

TEXT AND PHOTO: KARIN BERGMAN

Style-conscious telephone

The advertisements for the new Ericsson 628 mobile telephone, which is now being launched in Europe, the Middle East and Africa, portray people whose desire to stand out from the crowd is expressed in their eccentric – not to say bizarre – clothing. It's not every day you see someone wearing a jacket made from hundreds of Baltic herring or a dress with grass sprouting from it! The image is designed to be youthful and provocative.



Sartorially piscatorial!

"Given the target group the campaign is aimed at, we have to stand out in an entirely different way," explains Lars Åberg, market communications manager for Western Europe. According to Lars, this target group is represented in Sweden, but is not so prominent in other markets. They could be termed "brand-name freaks," who still want to buy products at a reasonable price.

The telephone has all the most essential functions and is simple to use. The new feature is that the front panel can easily be exchanged for any of 15 different patterns and colors.

"Two telephones meeting on the street should not be identical in appearance," says product manger Björn Ahlberg.

Due to the telephone's simple design, it is also an excellent buy for cost-conscious purchasers. Since it is equipped with a large battery, there is no need to buy extra batteries.

The launch will involve outdoor advertising and advertisements in the press. In addition, a large part of the marketing will occur at the retail level, since the front panels will be sold in conjunction with sales of the telephones.

GISELA ZEIME

Radio Messaging moves in at Hallonbergen

Sunshine and gentle summer breezes – perfect weather for inaugurating a new building. And that's exactly how it was on June 2 when Kurt Hellström, Executive Vice President of the Mobile Systems business area, clipped the blue-and-yellow tape to inaugurate Ericsson Radio Messaging's new facility at Hallonbergen in Sundbyberg.

The new facility enables the business area's operations to be concentrated to a single address in Stockholm instead of being scattered around as before at various locations in the capital. The company has a wholly owned subsidiary in the UK, Ericsson Componedex Ltd, with some 30 employees. Ingemar Blomqvist, president of Ericsson Radio Messaging, notes that Radio Messaging has about 200 employees, 160 of whom are now based at Hallonbergen. A development unit with some 40 employees is located in Sundsvall. Ericsson Radio Messaging operates in two areas – Wide Area Paging and Mobile Data. Europe and Asia are the main markets for complete paging systems. The principal growth area for the Mobitex mobile data communication system is applications in areas such as credit card verification and transport fleet management.

hallonbergen

GUNILLA TAMM

Kurt Hellström, Executive Vice President of the Mobile Systems business area, clips the tape at the inauguration of Ericsson Radio Messaging's new facility at Hallonbergen, while Marie Vallée steadies the tape. Photo: ANDERS ANJOU

New Lund locus makes for comprehensive focus

A spectacular star-shaped building with steeply sloping gables, glass staircases, light and space. In early June, Ericsson Mobile Communications inaugurated its new location in Lund – a building which will eventually house 900 employees.

lund

What began, slightly more than ten years ago, as a ten-person office in the Ideon research park has now developed into the engine in Ericsson's GSM operations. Nearly two thirds of the currently 800 Lund-based employees are involved in R&D related to mobile telephony. The university town is also the mobile-telephones marketing and sales center for Europe, the Middle East and Africa.

"Our history of success in mobile telephony is well reflected in Lund. To continue to be successful, we must focus strongly on research and development. I am confident that we will work wonders here," said CEO Lars Ramqvist in his inaugural speech.

Long-awaited premises. The new building in Lund provides office space for 660 Ericsson Mobile Communications employees.

Growing quickly

Plans for the new office in the Brunnshög industrial area have been under way for a long time. 660 people are slated to move in in late june from their current workplaces on the other side of the highway. An extension is already on the way, to make room for all employees.

"We are growing faster than we thought we would. So far this year, we have recruited 180 people. Two hundred and fifty more offices are to be completed by April 1998," says Bengt Widén – who is very pleased about his own facilities.

The star-shaped building was designed by the internationally renowned architect Gert Wingård, who is also one of the minds behind the winning proposal for an arena in Stockholm for the 2004 Olympics. There is a reception and communications center located in the middle of the Lund building. Offices and labs are located in the aisles, which form three letter Ls. The color scheme is based on brick red and white. Glass, in the walls and the floor, lends the central stairwell a unique character.

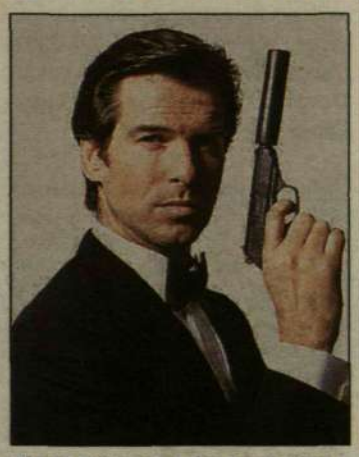
The ground floor includes the Hilda restaurant, named after the wife of the founder, Lars Magnus Ericsson, and a display room with a presentation of the history of mobile telephony.

NILS SUNDSTRÖM

Star in new Bond film

■ Ericsson technology will help British agent James Bond, 007, save the world in upcoming movie adventure Tomorrow Never Dies, which is set to premiere in December 1997.
Through a product supplier agreement with MGM/United Artists, cast members - including Agent 007 - will use a wide range of Ericsson phones throughout the film. Given the global impact of a new Bond feature, the agreement is seen as a great way of creating worldwide recognition of the company's product portfolio.

hollywood



Pierce Brosnan, who now plays the role of the heroic agent James Bond, has switched to Ericsson where mobile telephones are concerned. Photo: PRESSENS BILD

'Off the wall' advertising

■ The advertising campaign for Ericsson's new GH688 mobile phone was completely "off the wall." Part of the campaign involved a contest in which radio listeners in Stockholm were challenged to look for wall climbers. The "climbers" were actually mannequins, dressed in business suits, that were attached to the outside walls of buildings in the center of the city for a four-day period. The radio advertising challenged the residents of Sweden's capital city to guess how many mannequins had been displayed. A listener who was quick to respond, who guessed the right number of mannequins and who knew where they were located won a GH688 telephone.

stockholm

The "climbers" were tied in with Ericsson's campaign to promote the new telephone. The theme of the campaign was "Enjoy – Good for business, good for life" It featured Ericsson's key concept of pleasure in work, illustrated by business-suited mannequins in various unusual situations – including clinging to the side of buildings.

The advertising campaign for Ericsson's new GH688.

Targeting the Korean mobile market

Korea will be the third largest market for cellular operators in Asia following the turn of the century, according to many observers. At the Expocomm '97 trade show in Seoul, May 15 through 18, Ericsson displayed a large number products that will play a role in this expansion.

Mobile telephony meets traditional Korean culture. Ericsson launched its AF 738 mobile phone in Korea in the form of an "imperial" drama at the Expocomm '97 trade show.
Photo: MARCEL ZUBERBÜHLER

The small AF 738 mobile telephone for the AMPS system in the Korean market was launched with a notable "imperial" drama. Korea currently has an AMPS network but is otherwise strongly oriented toward CDMA technology, with two IS95 (narrowband) CDMA networks.

seoul

Three more

Three more CDMA-based PCS networks will be placed in service during the latter part of the year. Apart from its program in the AMPS market, one of Ericsson's messages at the show was designed to show the strength of GSM as a widely used technology with the largest number of digital subscribers in the world as well as such finesses as international roaming. A large numerical display on the Ericsson stand "ticked off" the number of new GSM subscribers throughout the world – and Ericsson's high percentage of the increase.

"Korea has become an increasingly isolated area of Asia that does not have GSM," says Hans Severin, manager of the Mobile Systems and Mobile Phones and Terminals business areas at Ericsson Korea Limited. "We are now seeing signs that operators will not be able to hold out against TDMA systems, and a GSM network in particular.

"Among other developments, we are negotiating with a Korean partner with respect to a GSM network for the overseas market."

NILS SUNDSTRÖM

"Where's the boat?" wonders Lars Jonsteg, Vice President of Investor Relations in the U.S. An unscheduled wait for the boat transport to Nacka Strand was the only noteworthy hitch during the investor meeting.
Photo: GUNNAR ASK

Analysts cruise to meeting

One hundred and forty of the world's leading share analysts and investors in the telecom area accepted Ericsson's invitation to an information seminar in Stockholm. During the two-day meeting, they were given an update on operations and plans in Ericsson's three business areas.

stockholm

One of the highlights of the meeting was a question-and-answer session with Anders Igel, who addressed the meeting via a televised video link from Asia Telecom in Singapore.

Karin Almqvist Liwendahl, head of investor relations at Ericsson, expressed her pleasure with the analysts' meeting at its conclusion on Tuesday, June 10.

"Virtually all the leading analysts in our sector attended, despite the fact that the meeting overlapped with the Asia Telecom exhibition," relates Karin. "The two days turned out to be extremely interesting, with the participants from Ericsson's business areas answering a series of highly technical questions. And the general impression gained by both the hosts and the participants we spoke to was that Ericsson succeeded in getting its message across."

Numerous questions

Many questions focused on the future of the new Infocom Systems business area. Anders Igel, the business area manager, was able to answer in person, despite being in Singapore. The live link was provided by video and television technology, giving a foretaste of precisely the area which will form the main focus for the new business area – multimedia communications.

Representatives of the Mobile Telephones and Terminals business area reported on their brand-consolidation efforts and the fantastic pace of development in mobile telephony.

The second day concluded with a report from Mobile Systems, focusing on future developments in GSM and D-AMPS, as well as the third-generation mobile system – Wideband CDMA.

Once again, the spotlight was on the contest between the competing TDMA and IS95 CDMA systems. And once again, all the evidence favored Ericsson and the TDMA technology.

The well-informed audience was clearly aware of the problems besetting efforts during the past few months to bring the IS95 systems into operation.

LARS-GÖRAN HEDIN

New assignment from Miniruf

Ericsson Germany has been awarded a contract by the Miniruf company of Hannover for further development of its paging network. Since 1994, when Miniruf obtained a license to supply paging networks, the company has enjoyed substantial success in this market.

hannover

Miniruf markets its paging service under the Quix brand name, with Ericsson as the main supplier right from the start.

Manfred Buchmayer, manager of Ericsson GmbH, comments:

"We are pleased that Miniruf has requested our help to continue development of its paging network. We take it as a sign that new suppliers can be successful in the liberalized German market."

Miniruf's paging network currently provides coverage for 80 percent of the German population.

Microwave supports research at Chalmers

■ The campaign to "Build a better future with Chalmers" has so far netted the technical university some SEK 200 million from Swedish industry.

The aim of the campaign is to acquire the extra resources needed to enable Chalmers to confirm its position as one of the foremost technical universities in Europe. The target is to build up a fund of SEK 300 million for use in a number of capital-intensive areas, such as research and training, equipment, offices and study environments. Ericsson Microwave Systems is one of the companies that have supported the university thus far, with a donation of SEK 25 million for electrotechnical research.

gothenburg

CATHRINE ANDERSSON

Scale illustrates plant deliveries

Inventory Turn Over (ITO) is the designation for the turnover of the articles carried in inventory. The ITO objective of the Nynäshamn factory is to increase its turnover of these articles to 10 times this year and 20 times next year.

To enable all employees to see how well the plant is meeting this objective, the company has set up a large scale showing how the inventory "silver" in one pan becomes "gold" in the other pan, week by week, in the scale that symbolizes the value of the plant's deliveries.

Maria Kämbrant (left) attempts to lighten her scale pan showing inventory figures by transferring its "figure contents" to Reneé Seidemark's pan, which represents shipments from the Nynäshamn plant.

Developing cooperation

At a seminar for the "Develop supplier cooperation" project, Maria Kämbrant, Reneé Seidemark, Silja Melin and Jonas Maijgren were assigned to develop suggestions for dramatizing the ITO objective.

ITO is one of the principal objectives of the "Factory 2000" project that began in March and which is designed to ensure that the Nynäshamn plant becomes the obvious choice of our customers.

"Reneé hit upon the idea that, by means of a scale, we could show, week by week, how the 'ten-times' ITO objective is being met," says Maria, who is involved in developing cooperation with suppliers.

The current ITO figure is being reported once a week up until the end of December, when the scale should register "10," showing that an ITO rate of 10 times per year has been achieved. The pans will then balance and the scale will be adjusted to show the 1998 objective, a turnover of 20 times by the end of next year.

Positive trend of ITO

At the beginning of December last year the ITO figure was 3.49 and, as of June 4, it had increased to 5.84. While this is quite a bit below the "10" objective, it is well above the forecast curve that started last December and which will end on December 31 this year.

Text and photo: BERT BJÖRKLING

Linear Technology selects Ericsson unit

Effective June 1, Ericsson Component Distribution, a unit within Ericsson Electronic Distribution AB, became the new distributor for Linear Technology's products in Sweden, Norway and Denmark. Linear Technology specializes in linear (analog) integrated circuits.

nordic region

"Ericsson has been one of our most important customers since we started in 1981," says Jan Fredriksson in Linear Technology's Nordic office. "We are handling sales to Ericsson directly from our Nordic Office here in Stockholm. We have now appointed Ericsson Component Distribution as the exclusive distributor for other markets in Sweden, Norway and Denmark."

Linear Technology has a plant in the Silicon Valley area in California. The company currently has annual sales amounting to SEK 40 million through distribution channels in Sweden, Norway and Denmark, and global sales of USD 400 million.

King Carl XVI Gustaf presents the special prize to Professor Hiroshi Inose. On the king's left: Kurt Hellström, Senior Vice President and manager of the Mobile Systems business area.

Swedish king presented Ericsson Prize in Japan

Nippon Ericsson K.K. has established a new two-part university prize to promote studies as well as research and development in the field of telecommunications. Announcement of the prize was made during the visit of King Carl XVI Gustaf of Sweden to Japan in May.

japan

The award, which consists of two prizes – the Ericsson Telecommunications Award and the Ericsson Young Scientist Award – was established to support the company's long-term program in the growing Japanese market. Ericsson has made major investments in this market and plans to start research and development operations within Japan.

The Ericsson Telecommunications Award will be given each year to a researcher or faculty in one of the universities in Japan for outstanding contributions in the telecommunications field. Between one and four Ericsson Young Scientist Awards, based on the same criteria, will be made to doctoral candidates.

Concurrently with the announcement of these prizes, Ericsson awarded a special prize. The presentation was made by the king to Professor Hiroshi Inose of the University of Tokyo for his great contribution to the development of information technology in Japan and throughout the world.

'Phone Doubler' awards made

The originators of the new hit product, the Phone Doubler, are being rewarded with cash payments of SEK 25,000 each.

"We are honoring their innovative thinking and entrepreneurship that has resulted in a new product that is strengthening Ericsson's position," says Staffan Lindholm, manager of the Internet program in Public Networks.

mölndal

The Ericsson Phone Doubler can revolutionize the use of the Internet throughout the world by making it possible to both "surf" and place calls simultaneously.

The men behind the product are now being rewarded with SEK 25,000 each:

Ingmar Tönnby and Allan Hansson, who sparked the idea, as well as Jan Berglund, Theo Kanter and Johan Svedberg, who developed a Phone Doubler prototype.

The men behind the Ericsson Phone Doubler each received awards of SEK 25,000 on Thursday, May 22. The awards are part of Ericsson's program to recognize innovative thinking and entrepreneurship. Photo: ANDERS ANJOU

"Being rewarded is challenging," says Johan Svedberg, who is the chief designer for the Phone Doubler. "We are convinced that other products based on the same gateway technology as the Phone Doubler can be developed in the future."

TORBJÖRN CARLBOM

Support for dolphin research

■ Ericsson Mobile Communications is supporting a project at the Kolmården Dolphinarium that is designed to provide more knowledge on how dolphins communicate with each other. A detailed report on this project will appear in Contact during the autumn.

kolmården

In appreciation for Ericsson's support of this research, company employees in Sweden will receive discounts on tickets to the Kolmården Animal and Nature Park during 1997. Bring this coupon!

- Regular price for adults through August 31: SEK 250.
  Discount: SEK 38.
  You pay: SEK 212.
- Regular price for adults, September 1 through November 2: SEK 165.
  Discount: SEK 25.
  You pay: SEK 140.
- A discount coupon for Ericsson employees offers a discount of 15% with the purchase of a MAXITICKET (SEK 38 through August 31 and SEK 25 from August 31 to November 2, 1997). Code 446.
- A Maxiticket covers admission to the Animal Park, the Dolphinarium and the Safari Park.
- Children up to 12 free entrance when acompanied by an adult.
- Discount is not valid together with other discounts.

Representatives of the Cellular Systems – American Standards business unit of the Mobile Systems business area and their BSI associates display the unique certificates. From left: Jan Wäreby, David O'Mara (BSI), Sven-Christer Nilsson, and Mats Blumenberg.
Photo: ANDERS ANJOU

Process work gave BSI-certifikat

British Standards Institute awards certificates for a process program

"This is a very special occasion since it marks the first time that the British Standards Institute (BSI) has the world distributed certificates for process work carried out for all parts of an operation. Moreover, the certificates cover work performed not only in Sweden but in Canada and the United States as well."

Jack Atamian of BSI offered these remarks when he distributed certificates in Sweden several weeks ago. The recipients were members of the Cellular Systems – American Standards business unit of the Mobile Systems business area.

Happy moment

"There was blood, sweat and tears while the work was under way, so this is truly a happy moment," said Sven-Christer Nilsson, manager of the American Standards business unit, when the certificates were distributed.

With increasingly severe competition, there are demands for shorter lead times, increased productivity and improved quality. To achieve these objectives the business unit introduced a flow-oriented method of working for which it has now received ISO certification.

Real progress in 1994

The structuring of operations in flow-oriented processes began at the end of 1993 and accelerated in 1994 when the unit, in association with BSI, developed models showing how the processes should be built up.

Operations in the business unit have been divided into three main processes: business development, product development and customer-order flow. There are a number of subgroups within each main process.

The program has comprised the business unit's sectors within Ericsson Radio Systems in Kista, Ericsson Research Canada, and parts of the operations at Ericsson Inc. in Richardson, Texas, in the U.S.

Beyond the borders

"Traditionally, BSI certifies the functional organization," explains Hans Wigren, responsible for operations development in the business unit.

"In this case, for the first time, the Institute has certified flows that extend beyond the borders of the legal units. Together with BSI, we have developed the forms for the process program and we have also had the support of BSI during the entire operation."

"Much of the work has taken place in the form of seminars," Hans Wigren says, adding that it was more difficult to think in terms of flows – rather than functions – than anyone had thought it would be. Things had to be viewed in two dimensions.

Unique occurrence

"I have worked with Ericsson for many years but this is the first time that BSI has certified an operation based on flow processes," says David O'Mara, who managed the program for BSI.

"It is actually a unique occurrence since it is the first time that BSI or anyone else in the world has awarded a certificate pertaining to processes, much less processes in which three companies in three different countries are involved."

Third main process

The process for which BSI distributed certificates several weeks ago was the third main process, product development. The two others were both certified last year.

"We have a major job behind us and the best thing is that we have now created a platform for efficient cooperation with a global approach to our operations," says Eva Malmberg, who coordinated the work on the third main process.

"The work in this process area took a year more than was required for the other two main processes because product development comprises many flows throughout Ericsson as a whole that had to be coordinated, and because there were a number of 'cultural' differences between the operations in Sweden, the U.S. and Canada."

Basis for improvement

"The fact that our process program has now been certified does not mean that we can rest on our laurels," Sven-Christer Nilsson emphasizes.

"Now that we have created a platform, a base from which to move forward, the real work is beginning. BSI will return to follow up and make sure that we are working in the manner that has been certified. The recurring audits will thus become a natural part of our continuing program of improvement."

GUNILLA TAMM

For further infomation, please contact Göran Garsbo, tel: +46-8-404 46 22, memo: ERA.ERAGOGA

Ill: ERA/EDT

Ester handles exemptions

All production within Ericsson is based on various quality requirements. In connection with the phasing-in or phasing-out of a product, for example, a requirement may have to be suspended temporarily. Earlier, it has been difficult to keep track of requests for such exemptions. But with Ester this will be a simple matter.

July 1 will be the start-up date for Ester, Ericsson's Tool for Exemption Request. This computer-based tool for handling exemption matters has been eagerly awaited by many within Ericsson.

"All our products have to meet internal and external quality requirements – ISO 9001 as well as EQM (Ericsson's Quality Manual) and Ericsson Standard 170 04-101 – in order to be certified; an exemption is granted if there is a reason for one," says Lars Lundgren at Ericsson Radio Systems. Lars and Eva-Lena Frank at LM Ericsson Data supervised the group that developed Ester.

"The number of exemptions granted is limited," Lars notes. "They may be related to a fixed number of products, to certain time periods or to special order numbers."

The reasons for requesting an exemption vary. Due to a shortage of components, for example, a unit may have to assemble a product containing a component from an "unapproved" supplier. It may also be a matter of beginning limited deliveries of a product that has not yet been 100% verified. If the customer is willing to accept the risk involved, the exemption is granted and stored in Ester, as well as being registered in Prim as a document.

"Anyone who has a memo ID and Netscape facilities, plus access to Ericsson's Intranet, can apply for an exemption by filling in an application via his or her personal computer or work station," Eva-Lena Frank points out.

"The system is also designed so that only authorized persons can access Ester and view exemption requests that are being considered and those that have been granted," Lars says.

Those who want to try out the new tool will be able to do so by using Ester in a test environment between July 1 and August 31. The address is:
http.//ester.ericsson.se

LARS BÄCK

vacancies AT ERICSSON

■ This is a selection of vacancies within the Ericsson corporation. They are published in the electronic News system, which is being updated once a week.

For further information about advertising here, send a memo to LME.LMEJOB.

Contact no. 10 1997 **Updated June 16**

Ericsson Telecom AB

Dedicated Networks is a unit within Enterprise Networks, with theglobal responsibility to provide advanced Telecommunication solutions for specialised, nonpublic applications. The unit hasongoing world-wide activities. The main unit in Sweden is locatedin Sundbyberg, in the outskirts of Stockholm. Regional offices arelocated in Gothenburg and Malmoe.

SOLUTION MANAGER – DEDICATED NETWORKS

The unit responsible for Solution and Bid Management is currentlylooking for a Solution Manager with focus on radio systems fornetworked telecom projects.

● Are you interested of broadening your system knowledge ? Gettingan overall understanding of Telecommunications ? Are youchallenged by new customer segments ? Would you be interested tofollow a project from the initial pre-sales contacts to fullcustomer acceptance ? Then.....

The unit responsible for Solutionand Bid Management is currently looking for a Solution Managerwith focus on radio based systems.

This position offers the rightapplicants the opportunity to work closely with creativesolutions, based on the very latest technologies, in a challengingenvironment.

The work involves development of communication solutions whereradio based systems are an integral part. The involved systems areprimarily from the Ericsson Product portfolio. Some of the mainactivities would be: Support the marketing unit with expertise onconcept models. Perform customer presentations. Support the salesunit with customer adapted telecommunications solutions during thetender process. Participate in contract negotiations.

The work involves frequent contacts with external and internalsuppliers and customers. In addition some travelling would also beinvolved.

We believe that the right applicant would have a backgroundsimilar to an M.Sc., B.Sc. or equivalent. In addition he wouldhave gained relevant generalist experience from at least from oneradio system, such as MW Radio Links, Trunked Radio, Point-to-Multipoint Radio, Packet Radio Data Systems, or similar.

We will offer our Solution Managers a training package adapted toindividual requirements.

Contact: Uolevi Partanen, phone +46 8 764 3231, memo: EBC.EBCUAPP,e-mail: uolevi.partanen(at)ebc.ericsson.se. Human Resources: PerSvahn, phone +46 8 764 0420, memo: EBC.EBCPSVA.

Ericsson Radio Systems AB, Kista

ASSISTANT – OPERATIONAL DEVELOPMENT

Cellular Systems - American Standards is one of the fastest growing business units within Ericsson Radio Systems AB. We are expanding rapidly and many challenges awaits us.

The department Operational Development, within Sales & Market Operations, need to fill a vacant position.

● We are looking for a person who will work with several computer tools to manage the update of our workflow descriptions.

You will also assist with preparation and spreading of information related to the introduction internally and worldwide of our processes. Administration of training courses is another task included.

Since the work require a lot of interaction with different type of computer programs, you should have good knowledge of using computer programs. It is also natural for you to work in a structured way and like to communicate with others both internally and with our companies worldwide.

The ideal candidate should have been working in the Sales & Market Operations field and experience from process management administration.

Fluency in English is required, Spanish is a plus. The person we are looking for is self-motivated, ambitious, outgoing and mature and enjoy having fun while working.

Contact: Göran Sköldberg phone. +46-8-404 7340 memoid ERA.ERAGSG Application: Ericsson Radio System AB, AH Göte Hedblom, 164 80 STOCKHOLM

Ericsson Telecom AB, Public Networks, Switching

PRODUCT MARKETING

● Working in Product marketing implies technical support for the latin America, Africa, middle East, Asia och East Europe Switching market.

You will work together with the marketing units and Local Companies with today's product portfolio as well as the evolutionary.

Your task will include analyzing technical issues, commercial aspects, perform technical presentations and discussions with the customer. It also implies to pick up and understand the customer needs which will form an input to the product development process.

This will give you an opportunity to work for Ericssons established markets and customers as well as new markets and operators.

We are looking for persons with some years experience with AXE 10, with good communication skills and like to work in an international environment. A part from English, knowledge in Spanish is a plus.

Contact: Björn Canefors, memo ETX.ETXBC, phone +46 8 719 4900.

Ericsson Telecom AB MARKETING UNIT MIDDLE EAST & SOUTH ASIA

We have the overall marketing and result responsibility within Ericsson Infocom - Public Networks for the countries ranging from the Suez channel to Bangladesh. We work closely with the Product Line Units and the Implementation & Supply Units (Operations) to successfully meet our customers expectations on Ericsson. We are a multi national team of 60 people in Sweden plus representatives in the offices abroad.

BID & CONTRACT MANAGER

● We are seeking a number of individuals with ambitions, initiative and drive that will support Marketing and Sales in tender preparation, negotiations with customers and follow-up of our implementation projects.

You will be responsible for project teams producing tenders, where commercial co-ordination and calculations are important ingredients for the work. You will also be responsible for the transfer of the project to the Supply and Implementation units (Operations) and for monitoring and follow-up of the projects during implementation. We work with the full range of Ericsson's product portfolio, offering our customers telecommunication solutions tailored to their needs.

The work includes frequent contacts with other Ericsson units as well as with external suppliers and customers. Applicants must be prepared to travel. The successful candidate has an academic degree and minimum five years telecommunication experience.

You are service minded, well structured and have a drive to get things done. Good command in English both verbally and in writing is required. Further languages as well as previous experience from tender projects and/or international experience is a merit.

Contact: HF/ETX/PN/MEB Göran Falkmer , tph. +46-8-719 0788 or HF/ETX/PN/APH Ann Jingklev, tph. +46-8-719 3404

Ericsson Business Networks AB

Radio Access is a fast growing and dynamic unit within Public Networks. We are responsible for Ericssons radio access products including but not limited to CTM, SuperCordless and the WLL-products DRA 1900 and RAS 1000, AIRLINE. The market demand for our products and services in experiencing tremendous growth throughout the world. This of course provides for new, exciting and challenging opportunities in the emerging wireless access arena.

MARKETING MANAGER CTM

● CTM - Cordless Terminal Mobility - gives the public operators possibility to introduce local mobility into their service offering. The interest from the market is huge and a substantial growth of sales is expected. Are you interested in taking on the challenge of introducing CTM into the market place? To start with, we are looking for two energetic and skilled persons that can take on the commercial aspects around CTM.

§our main responsibilities will be: Definition of market plan, positioning and market strategy of CTM. Planning and introduction of CTM in the market. Participation in the planning and organisation of the CTM marketing and sales organisation. Ensure that the market demand will have impact on future product development of the service offering. Preparation of commercial proposals and participation in negotiations. Planning of marcom activities in cooperation with market communication department.

We beleive that you meet the following requirements: Good business sense. Minimum 3-5 years Ericsson experience. Experience of working with commercial aspects in system sales within the telecommunications area. University degree.

Looking for new challenges in China?

That is what we can promise you.

"We" are Guangdong Ericsson Telecom. Engineering Co. Ltd (GUC) in China, and we are very busy.

We are responsible for support for all the southern part of China, such as the tropical island of Hainan, "the Hawaii of China". The very exciting region of Tibet in the breathtaking Himalayan Mountains, which just got its first GSM-system, of course , from GUC. Not to forget the big province of Sichuan, where you get the most wonderful food you can imagine.

China is for the time being the most expanding market in the world for telecommunication, and right now we are looking for more employees with experience in AXE 10 support area.

Take a look at the following:

SYSTEM EXPERT

As system expert you´ll have many different interfaces such as customers, ESO, all staff in the support department etc. Your main tasks are to provide AXE 10 system expertise to the customer in areas of technical advise support and problem solving.

You will also act as a primary knowledge source in technical questions and transfer of knowledge within the division. The system experts reports direct to the director of Network Services.

Minimum of 5 years relevant experience, with at least 3 years in Ericsson, with high-level trouble shooting competence, good knowledge of switching, traffic concepts, telecommunication networks, inter-exchange signalling and product functional descends.

For further information, please contact Peter Karlsson. Memo-id:etc.gucpeka Tel:+86 20 85538868

SENIOR SUPPORT ENGINEERS (GSM/TACS/PSTN)

As a Senior support Engineer you will provide the core services to our customers, help desk, emergency service and software updates.

You should have genuine experience in GSM, TACS or PSTN and also have wide knowledge of the Ericsson organization of support and supply. Trouble shooting skills required but also human skills are important. We are working in an expanding market with many different customers, so it is essential to be customer focused and to be able to maintain good relations with customers. Another important area is the transfer of knowledge to local staff.

The potential for personal development is good and you can also expect to participate in interesting projects outside the normal support activites.

We are looking for four engineers in the following areas: MSC, BSC, TACS, and PSTN. One of them will be a team leader, who will have responsibility to co-ordinate GSM activites and report to support management.
You should have at least 3 years experience working in an Ericsson Support organization.

For further information, please contact Mikael Abrahamsson regarding TACS/GSM (memo-id:etc.etcmikz Tel:+86 20 85538868) or Henry Yu regarding PSTN (memo-id:etc.etcheng Tel:+86 20 85538868)

For all the vacancies, you can also contact Laura Pok in our HR department.
Memo-id:etc.guclapo
Tel:+86 20 85538868
Fax:+86 20 85536191

For all the above positions, please send your application to:
Guandong Ericsson Telecom. Engineering Company Ltd. Att. Laura Pok
50 Jianzhong Road, Tianhe High-tech Industrial Development Zone, Guangzhou 510665 P.R China

ERICSSON

Excellent interpersonal and communication skills in project and customer relations. Positive, energetic and flexible character. Fluent in English. Knowledge of Spanish is a plus.

BUSINESS INTELLIGENCE – MARKET RESEARCH

● We are looking for a person to start working as responsible for market related business intelligence and market research.

Your main responsibilities will be: Commercial analyses of direct competition and fixed, complementary solutions. Communication on findings of interest to the radio access organisation. Surveillance of general activities related to radio access. Contribution to BNs work with respect to issues related to competitors marketing mix. Initiation and organisation of market research compilation of reports covering, i.e. trends, market development.

We beleive that you meet the following requirements: Minimum 2 years Ericsson experience. Relevant experience from telecommunications in general and access technologies in particular. University degree. Good presentation ability. Excellent interpersonal and communication skills in project and customer relations. Positive, energetic and flexible character. Fluent in English.

PRICING COORDINATOR

● We are looking for a person to start working as pricing coordinator for the radio access product portfolio. The position is a challenge for the person that wants to participate in the creation of a new function.

As pricing coordinator you will be overall responsible for the international pricing strategy of the service and product offering of Radio Access, today including DRA 1900, AIRLINE, RAS 1000, SuperCordless and CTM. You will support the marketing and sales organisation with pricing information and recommended price levels. The work also includes pricing of new products, deployment of pricing strategies, business cases and price comparisons.

We beleive that you meet the following requirements: Excellent analytical skills. Good business sense. Minimum 3 years Ericsson experience. University degree. Service minded. Positive, energetic and flexible character. Fluent in English.

Contact: Susan Törne Henningson, phone: +46 (0)8 764 0382 alt. mobile phone +46 (0)70 6522 140, memoid EBC.EBCSUTH. Applicaiton: Ericsson Business Networks AB RAH Anna Sandström, 172 87 SUNDBYBERG

Ericsson Telecom AB, Public Networks, Switching

LINE MANAGERS AT SWITCHING – SYSTEMS ROLL-OUT

System roll-out is a newly defined unit within AXE switching. Our mission is; "We integrate products into profitable and innovative system deliveries for Public Network Operators. We create whatever structures and co-operation necessary to make this happen"

PERFORMANCE IMPROVEMENT

Performance Improvement is a unit within Systems Roll-Out which has the following functions; To put requirements on the quality of products to be integrated by Systems Roll-Out. To develop and deploy methods to reach the time to market goals. To put requirements on and supervise the CMM program. To measure the goal fulfilment of the switching organisation.

We are for the moment two teams, one is working with quality management and one is working with major lead-time and quality improvements and managing change. In total we are 18 persons. Our customers are major development projects, local designcenters and Switching management. We are located in Stockholm but our working environment is world-wide.

● We are now looking for a manager who has a passion about change, improvement and quality and have a strategic and open mind.

As we have been doing a lot of team building, personal development and learning about managing change during the last year - we want you to be an open person with positive attitude and good selfknowledge.

You will be part of Systems Roll-out's line management team and responsible for achieving stabile, repeatable, predictable lead-time and quality improvements across the switching organisation achieved as rapidly as possible.

Contact: Kalman Rozsa, memo ETXT.ETXROZS, phone +46 8 719 1562.

PRODUCT LINE MANAGEMENT

PLM is a unit within Systems Roll-Out which has the overall responsibility to make sure that the AXE product lines are developed and maintained according to the product strategies defined by the business management function. PLM is also responsible for the order office and the Provisioning Order Control System tools.

PLM initiates new projects, acts in project steering committees and is active in change management after system release.

Today we are 14 persons. Our main interfaces are Business Management, the MLC project/development units and the Product Units. We are located in Stockholm but our work environment is world wide.

● We are now looking for an open minded manager interested in people and their personal development. Your characteristics shall include team leadership (coaching), always motivate decisions, have time and interest in the staff, i e not become too involved in operative issues, can delegate responsibility and authority, have a wide contact network and a good general AXE knowledge.

Contact: Kalman Rozsa, memo ETXT.ETXROZS, phone +46 8 719 1562. Ericsson Components AB, Energy Systems Division, Kungens Kurva

Ericsson Telecom AB, Public Network, Switching, Broadband Telephony Services

MARKETING AND SALES RESPONSIBLE

● Are You interested in a challenge well above the usual? We are looking for You who are willing to take on the challenge to start up the marketing and sales of BU Public Networks new Voice ATM product line.

We expect you to be well connected in the Ericsson marketing networks, to have good technical platform since we are combining datacom and telephony products to total solutions for our customers and that you of course are used to making business and know what it takes to bring the first product of a new line to the market.

At BTS we are a small highly skilled team that works with development of Voice ATM solutions for Public Networks within Infocom systems markets. At BTS we are responsible for specification and development of these systems. Interested!

Contact: Göran Lindmark + 46-8-719 6998 or Jan Höller + 46-8-719 5204

Ericsson Radio Systems, Product Unit "Digital Switching Systems and Applications" (DSA), GSM development in Älvsjö

As a result of the continued success for Ericsson's GSM systems, the Business Unit for GSM, NMT and TACS (RMOG) has started a new Design Centre for the development of AXE10 products for Mobile Switching and Service Control. The organisation is based in Älvsjö. In this new Design Centre the following position is open:

UNIT MANAGER (LK/NL)

● We are looking for a qualified person to lead the unit responsible for system development in the Service Control area (section level). The unit works mostly with system development for the Home Location Register (HLR).

As unit manager you will be a member of the LDC Älvsjö management team. You will be responsible for competence management, resource planning, and proc esses within software development for the Service Control area. You will also take part in the projects and perform technical tasks.

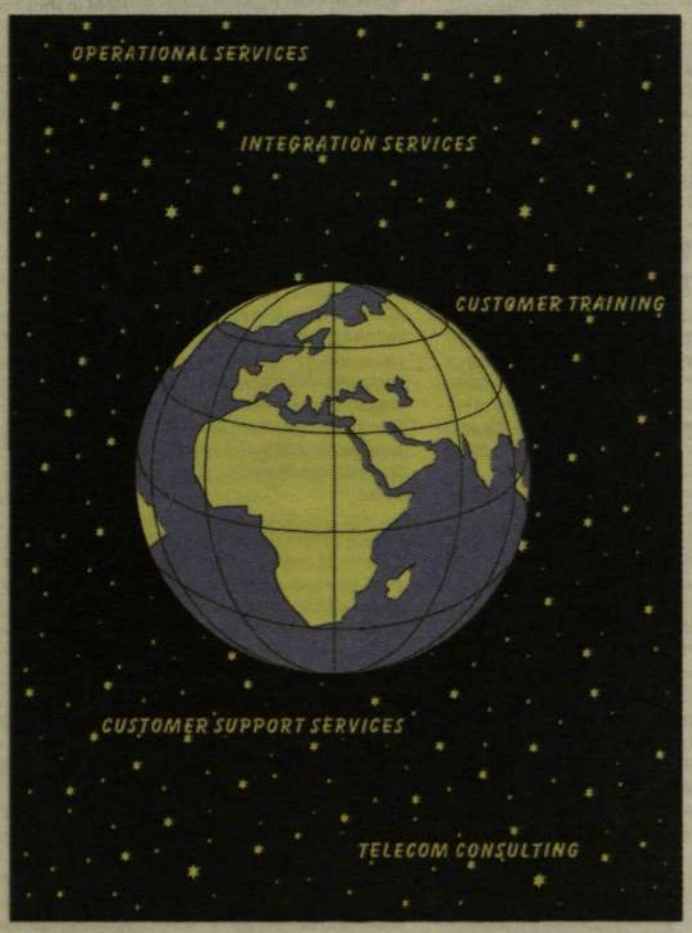
You should have leadership (line or project) experience and a strong intere st in personnel development. You should also be very familiar with AXE 10 software development. GSM experience is not required, but it is a merit.

Contact: Jan Zaar, phone +46 8 719 9845 memoid ERAC.ERAJZA Application: Ericsson Radio Systems AB KI/ERA/LK/H 164 80 Stockholm

Ericsson Radio Systems AB, kista

MANAGING EDITOR, MARKETING COMMUNICATIONS

● We are seeking an energetic managing editor for Ericsson's customer newsletter Ericsson Wireless NOW!



Customer Services are striving for the market leader position as a service provider.

Continued deregulation of the telecommunications market, is leading to the appearance of new operators and to changed working methods for the already established operators. This will rapidly increase the demand for services on all levels, from network planning, integration, to a total responsibility of a customer network.

Ericsson´s co-operation with telecom operators in more than 100 countries, has given us experience and competence that will form the base in our effort to become the leading service supplier globally.

CUSTOMER SERVICES

GLOBAL HARDWARE SERVICES MANAGEMENT

Within the department Global customer support services we are offering you the opportunity to work in the fast growing area of services, close together with our MLC/LC and customers in an international environment. Our business as product management is focused on developing new hardware services products and initiating supply of services, with both service logistics and commercial focus.

The unit is in a build-up phase which gives you opportunities to further develop and influence the operation. You will work independently in a global environment and therefore you must have an outgoing personality, good communication and cooperation skills. You have experiences within services logistics, procurement or product management. We think you have a Master degree, preferably in logistics, or equivalent experience. To meet the challenges you will also need the confidence to accept and initiate changes and be prepared to work within in a wide field of tasks.

You will work with the following type of tasks:

- Development of new hardware services, including processes, methods and tools
- Manage and implement the global hardware strategy
- Plan, initiate and support the implementation of Multivendor HW support and sparepart management services
- 3rd party vendor contracts
- Development of support arrangements for specific customers

TAKE THIS CHALLENGE AND CALL US!

Michael Humer, tel.: +46 (0)8 719 3904, memoid: ETXT.ETXHUME, Manager, Provisioning and Supply HW Services
or
Jan Giese, Human Resources, tel. +46 (0)8 719 9357, memoid: ETXT.ETXJG

Applications to:
Jan Giese, TB/ETX/PN/CS, SE-126 25 STOCKHOLM

This is a quarterly 12-page newsletter in English with a circulation of 38,000 copies worldwide that includes customer success stories, new products and developments, market trends, etc. The newsletter is targetting network operators, investor/the financial community, airtime providers, retailers of mobile phones, telecom analysts, consultans, the media, etc.

The key responsibilities include editorial planning together with the editorial board, the management of everyday production of articles including relations with freelancers and photographers, the carrying out of key interviews/reporting, editing as well as involvement in the layout process.

The successful applicant will have concrete experience of both journalistic/editorial work and PR, and be a resourceful and creative person with a thorough understanding of custumer magazines.

He/she will have English as working language. Prior experience of mobile telephony would be an advantage.

No doubt, the right candidate for job will surely feel very positiv about the challenge and chance to learn much more about mobile telephone technology.

Contact: Sture Sjöström, phone +46 8 764 10 88 Application: Ericsson Radio Systems AB, ERA/F/HS Cecilia Tiefensee, 164 80 STOCKHOLM

Ericsson Radio Systems AB, Kista

TECHNICAL SALES SUPPORT – BASIC SYSTEM

Cellular Systems - American Standards is one of the fastest growing business units within Ericsson Radio Systems. We are expanding rapidly and many challenges await us.

The Technical Sales Support unit provides customers with optimal technical sales support for our products.

Within this department, the group responsible for Basic System support is now looking for enthusiastic, hard working persons who are willing to take on new challenges with us as product managers for AXE platforms.

● Your tasks will be to have technical discussions with the customers, do product presentations, provide hardware dimensioning and configurations and produce technical documentation for our marketing manual.

The job involves some traveling within Asia Pacific, North and South America and Eastern Europe.

The ideal candidate has a M.Sc. or B.Sc. in CS or EE and experience with switching technology, especially in the field of cellular communication. He or she should be familiar with AXE products. Fluency in English is required, Spanish or Portuguese is a plus. The person we are looking for is self-motivated, ambitious, out-going and mature.

Contact: Tomas Dahlberg, phone +46 8 757 25 46, memoid: ERA.ERATODG Application: Ericsson Radio Systems AB, AH Göte Hedblom, 164 80 Stockholm

Ericsson Radio Systems AB, Kista

PROJECT MANAGEMENT, PRODUCT DEPLOYMENT

● You are looking for a project management position where you will be able to use your telecom market knowledge? WE NEED YOU! WE HAVE THINGS TO OFFER YOU!

As a project manager, your responsibility will be to improve, implement and monitor the product deployment operations taking place in RMOA worldwide.

We are offering you the opportunity to combine operations and project management in an international environment.

Qualifications: Experience with telecommunications. Good spoken and written English. Good communication skills. Natural abilities for team work. B.Sc. or equivalent.

Assets: Knowledge of Ericsson S/W upgrade methods. Project management experience. Knowledge of Spanish. International work experience.

Contact: Marie-Josée Leblond, phone +46 8 757 21 63 Application: Ericsson Radio System AB, AH Marianne Molin, 164 80 STOCKHOLM

international

Ericsson Business Mobile Networks, the Netherlands

If you are looking for a new challenge, new responsibilities, in agood work environment, read carefully the following:

SOFTWARE DESIGN ENGINEER

Ericsson Business Mobile Networks in The Netherlands is seekingfor Software Design Engineers. The Business Cordless Telephonygroup at EMN is within the Ericsson group responsible for theproduct provisioning of cordless mobile networks for the businessand industrial environment. A total solution that bridges with thetechnology and specific expertise of other Ericsson companies.With the DECT cordless telephone, EMN as a market leader givescordless telecommunication a complete new impulse.

● Responsibilities and Activities Software Design Engineers areresponsible for design, implementation, integration and test of asoftware subsystem, e.g.. OAMP, DECT protocol stack, DCA, etc.They function as design responsible engineer for a softwaresubsystem; that is be the expert for that part, as seen in designreviews, pre-studies etc. They performs planning of the assignedwork, including contingency plans, and completion of the taskswithin that planning.

The responsibility can include the work results of others whoparticipate in the design , as such the Software Design Engineeris responsible for the planning of those (junior) SoftwareEngineers and responsible for the correct use of methods, designrules and processes applied.

Job Requirements: Excellent knowledge of software life-cycle andthe implementation in a Software Quality Manual. Excellentknowledge of the implied standards, such as the C coding standard.Good knowledge of structured design methods Yourdon (Ward &Mellor)and SDL. Good knowledge of test techniques and the verificationprocesses. Basic knowledge of datacommunication, Real-time OS,kernels and device drivers. Capable of guiding and mentoring lessexperienced software design engineers.

Contact: Albert Meester , Manager BCT Development, tel: + 31 534505228, memo id EMN.EMNALME or Sabine de Vries, Human ResourceOfficer, tel: +31 53 4505287, memo id EMN.EMNSADV Application:Ericsson Mobile Networks BV att: Sabine De Vries Box 645 7500 APENSCHEDE The Netherlands

The Research and Development Centre Nuremberg, RadioCommunication

DEPARTMENT MANAGER, PRODUCT DEVELOPMENT TRANSCODER

● The general responsibility of the department manager is to plan,lead and s upervise the operations of the department productdevelopment transcoder in EED/N. She/h e has to guarantee that therequired goals are fulfilled, the needs of the company a resatisfied, the department is efficient and competitive. Thisposition reports direcly to Jürgen Schmidt, EED/NC.

The main authorities and tasks are: Build up the competence in thearea of Transcoder.

Leadership: Perform appraisals, participate in recruitment andintroduce new personnel. Build up the required staff.
Competencedevelopment of the staff. Be an interface between BR/TR and EED/N.

Responsibility: Plan, realise and control department s activities.Technical responsibility. Quality assurance.

As a suitable candidate, You are Ericsson employee and should haveworked a t least for five years in design, project or linemanagement. You should also have a minimum of two years experienceas a manager with personal responsibility. It is desirable thatYou have a good general knowledge in telecommunication andspecially in software design. The position requires organisationcapability, talent to improvise, orientation on results, theability to make decisions, also good communication and peopleorientation skills. The position offers You good opportunities towork with different cultures and build up a department from thebeginning. The unit and Human Resources will give support for Yourindividual development and training.

If you have questions and/or are interested, please refer to yourcolleagues.

Contact: R & D Centre Nuemberg, Radio Communication, JürgenSchmidt, Mikael Hofverberg, Norbert Lechner Vice PresidentDepartment Manager Human Resources Product Development TranscoderDial: 0911/5217-101 Dial: 0911/5217-122 Dial: 0911/5217-111 Memo:EED.EEDJUS Memo: EED.EEDMHO Memo: EED.E EDNLE

Ericsson China Ltd

GSM SENIOR SUPPORT ENGINEERS: SA-FSC, CHINA

● We are looking for two new Senior Support Engineers who can jointhe new established SA-FSC in Beijing, China. We are currentlytaking care of supply and limited support work for China mainland,but with the new structure as a SA-FSC we will have fullSupport/supply responsibility for China, HK and Macau.

The two vacancies are within the BR-unit in a department calledSystem Management (SM) who together with FSC makes up the SA-FSC.

Job description: To transfer current ESO reponsibilities fromKI-ESO to SA-FSC in Beijing. The transfer includes review, developand improve existing procedures in SM. It also includes to assistin builing up the expertise and transfer knowledge within thedepartment.

Requirements: At least 5 years with ASM experiance (CN-A, AS-R,AC-A) and of these at least 3 with ASM work for CME20 system. Havea sound knowledge of the CME20 switching system trouble shootingand trouble report handling. Good spoken and written English.Knowledge in Mircosoft programs (Word, Excel, MS-project) to beable to docuement the new SA-FSC procedures. Knowledge of ISO9000. You should like to take initiative and enjoy the challengeto guide and controll development. Earlier experience with Chinamarket functions is a benefit.

Job description: To work as a senior support engineer with ASM forGSM. The work will require trouble shooting abilities in both MSCand BSC. It also includes to assist in builing up the expertiseand transfer knowledge within the department.

Requirements: At least 3 years with ASM experiance for GSM or... 3years working with customer support which have includedmodifications of AS's for GSM. Have a sound knowledge of the CME20switching system trouble shooting and trouble report handling.Trouble shooting skills for both MSC & BSC is required. Goodspoken and written English. Knowledge of ISO 9000. You should liketo take initiative and enjoy the challenge to guide and controldevelopment. Earlier experience with China market functions is abenefit.

Contact/Application: BJ/ETC/XA Mikael Ekholm, Memo Id: ETC.ETCMIEMor BJ/ETC/XA Magne Kvastad, Memo Id: ETC.ETCBMKD

Ericsson Business Mobile Networks, the Netherlands

SYSTEM ENGINEER

Ericsson Business Mobile Networks in The Netherlands is seekingfor System Engineers. The Business Cordless Telephony group at EMNis within the Ericsson group responsible for the productprovisioning of cordless mobile networks for the business andindustrial environment. A total solution that bridges with thetechnology and specific expertise of other Ericsson companies. With the DECT cordless telephone, EMN as a market leader givescordless telecommunication a complete new impulse.

● Responsibilities and Activities: System Engineers draftspecifications in the early phases of product develop projects, inclose co-operation with Product Management. System Engineerstranslate requirement from Product Management into technicalfunctional and performance requirements, map these requirements onthe system architecture, indicate development- and product costsand indicate technical risks.

Job Requirements: Experience in system and product specification(aspects: functionality, capacity, performance, reliability,standards, life cycle) or have experience in system and productarchitecture design.

Experience in architecture breakdown andestimation of feasibility in terms of effort, costs and risks.Knowledge of (radio) telecommunication systems, both switchingsystems and radio systems.

Experience with working incross-functional project teams.

Experience in using structureddesign methodologies.

Candidates shall have a university or equivalent background in thearea of telecommunications and shall have preferably two yearexperience in telecommunications development.

Contact: Albert Meester , Manager BCT Development, Tel: + 31 534505228, memo id EMN.EMNALME or Sabine de Vries, Human

ResourceOfficer, Tel: +31 53 4505287, memo id EMN.EMNSADV Application:Ericsson Mobile Networks BV att: Sabine De Vries Box 645 7500 APENSCHEDE The Netherlands

Ericsson Corporatia AO, Moscow, Russia

FIELD SUPPORT MANAGER, CELLULAR RADIO DIVISION

The FSC Manager position at BR (AMPS,DAMPS,NMT,GSM) Field SupportOffice in Moscow will become vacant at the end of June 1997 and weare now looking for a successor.

We are currently supporting 13(D)AMPS and 4 NMT-450 in service inthe Russian cellular network. The number of AXE is expected togrow significantly during the coming years especially on the GSMnetwork and also on NMT which is currently implementing 10 MTX.Our largest (D)AMPS customer in Moscow is also expending it'snetwork.

We are in the process of transfering support to Russia ofNMT customers which used to be directly supported by ESO prior tothe venue of the FSC in Russia. Second line support for (D)AMPS isin Ireland(LMI),NMT in Sweden(EPK) and GSM in Sweden(EPK)andFinland(LMF)for R7.

● A major challenge for the support office during 97 will be tohandle the support of GSM, increasing number of NMT switches andthe upgrades of AMPS customer from AS26 to AS100.

We expect the new FSC Manager to posess several years of cellulartelephony experience and we expect the following qualifications:

Good knowledge of RMOA-RMOG routines and procedures. Previousposition as FSC manager desirable. Leadership ability. Widecontact network within the Ericsson group. Experience in one thecellular standard. Excellent written and oral English skills.Russian speaking desirable but not an absolut requirement.

Responsibilities: Perform required management and functions of theunit. Ensure the efficient running of the system supportactivities in the region. Maintain staff levels according to theresource budget and the actual/forecasted workload. Develop andmaintain the required staff competence levels. Achieve the unit'sobjectives. Achieve and maintain customer satisfaction withexternal and internal customers. Establish and maintain goodcustomer relations.

Start of the assignment is ASAP and will enable YOU to spend thesummer in the city that is celebrating it's 850th aniversary thisyear.

Contact: Ezzedin Shamsedin ECR.ECREDIN or Thomas HolmberyECR.ECRTHHO Telephone +7 095 247 6211 Fax. +7 258 0623http://www-ecr.ericsson.se/

Ericsson Ltd, Burgess Hill, UK UK Switching and Speech SolutionSector. Programme Management Department

PROJECT MANAGERS

● Does the responsibilty of "Bid to Implementation" challenge yourproject management skills ?? Do you want to be customer facing aswell as internally facing ?? Can you work with senior managementacross Ericsson divisions as well as external customers ??

We are looking for three highly motivated and energetic ProjectManagers to join our dynamic team here in the South of England,where beautiful South Downs and seaside resort of Brighton areonly minutes away.

You must be able to demonstrate that you have worked on customerfocussed projects with excellent commercial and financialperformance.

You need to be a team player and be able to influenceothers who are under extreme business pressure. Excellentcommunication skills and problem solving are critical for successin this role. You must be able to plan, drive and deliver results.

This role will give you valuable experience at the REAL sharp endof our business where customer satisfaction and timing iscritical.

Experience: 3 years management in a multidisciplined environment.Proven project management competance. HND/BSc or MBA in a relevantsubject.

Contact: KERRY MORGAN, Project Management Manager. ECN 832 4680 orMemo ETXT.ETXKYMN

Kuwait Ericsson Telephone Equipment & Services, Safat

ENGINEER

● As an O&M Engineer you will undertake to provide emergency Support(on call), Operation and Maintenance Support, trouble shooting, software implementation and transfer of knowledge in allactivities concerning the operation of the PLMN switches to theBuyer's staff.

The assistance is primarily aimed to take place onswitch sites.

You should preferbly be Electerical or Telecommunications engineerwith at 5 year expereience in AXE, specifically CMS 88 and IOG11.

It is important that you are proactive and take initiative withoutsupervision".

Contact: Einar Ordell ERAC.ERAORD

Ericsson Eurolab Deutschland Gmbh, Research & Development Centre, AXE Mobile Core, Herzogenrath, near Aachen

LOCAL SYSTEM ADMINISTRATOR

● Your main responsibility is system administration and user supportwithin our UNIX based network for the department EED/L/U. Theposition offered is located in the EED/L/U/Q group. Your maintasks are:

Preparation or installation of user accounts. User Support.Installation of Hardware & Software, incl. installation &maintenance of PCs. Administration of the network. Collection ofthe needs towards the system.

You should have an adequate background, relevant experience andgood knowledge of UNIX/PC installation, trouble shooting and HW.You should be as well familiar with the Ericsson informationsystems and security policies and directives.

As a suitable candidate, you are open minded, team-oriented andhave good communication and cooperation skills. Furthermore, youshould take the initiative and be able to stand pressure. Thegroup EED/L/U/Q and Human Resources will give support for yourimplementation and start in our AXE Mobile Core Developmentdepartment.

Contact not later than 970630: Human Resources, Doerte Kaulard,Memo-id:EED.EEDDKA, Tel:+49-2407-575-163 Information Technology,Gregor Lohmann, Memo-id:EED.EEDGAL, Tel:+49-2407-575-119 or AXEMobile Core Andreas Bleeke, Memo-id:EED.EEDANB,Tel:+49-2407-575-394

Our System & Product Management department has the followingvacancies

CME20/CMS40 PRODUCT AREA SWITCHING

● If you enjoy demanding work and can respond well to significantchallenges and responsibilities, why not become a member of ourteam? Here at EED we have the overall Product Area Switchingco-ordination responsibility for CME20 & CMS40 and we are lookingfor people to work in system management & product management.Please refer to the EED/X/D home page in the EED home page on thewww for further information about the department's activities.

We are working with the following mobile applications & studyareas: GSM systems. DCS1800 systems. PCS1900 systems. Newsatellite network applications. Studies about future MSCevolution.

Suitable candidates possess a relevant engineering degree (e.g.telecommunications, electrical, or software engineering) with aminimum of 3-5 years of AXE development or testing experience andpreferably at least 1-2 years of experience in system-leveltechnical development or testing. Experience with GSM or othermobile telephony development is advantageous, but not absolutelynecessary. Good analytical skills are essential. Ability to meetLPMs and customers from time to time is advantageous.

SYSTEM MANAGEMENT

● System Management focuses on a range of system level tasks whichare necessary to ensure progressive and continuous development ofEricsson's CME20 & CMS4 0 switching nodes in an orderly andevolutionary manner. This work involves a broad range ofactivities including RS writing and system investigations.

We are particularly interested to talk to people who can providesignificant competence in one or more of the following areas: Datacommunications, ISDN development, IN development, ApplicationModularity development. Other assets would include good knowledgeof the ETSI GSM/INAP or ITU-T ISDN specifications/recommendationsor any other competence area which you think may be relevant forCME20 and CMS40 system management work within product areaswitching.

Contact: System & Product Management, EED/X/DF Andreas Thuelig,Memo-id:EED.EEDANT, Tel:+49-2407-575-246 or Human Resources DoerteKaulard, Memo-id:EED.EEDDKA, Tel:+49-2407-575-163

EARLY DESIGN PHASE PROJECT LEADER, CME20/CMS40

The System and Product Management Department at EED has theresponsibility to organise and run PAX (RMOG DSA Product AreaSwitching) projects before TG1. This includes the developmentphases Pre-prestudy and Prestudy. We are currently looking for aproject leader for these Early Design Phases (EDP).

● The suitable candidate will be someone who has good experience asa project leader and, if possible, experience in EDP development(especially requirement definition phase).

The nature of Pre-Prestudy and to a lesser degree Prestudy is thatthe project content is changing regularly. In addition someaspects of the methodology during these early phases are not yetas well developed and clear as in later phases.

We require a project leader who can gain a reasonably good graspof the technical content and who understands the technical issues.Finally, we in PAX have strong requirements to reduce EDPlead-times, which will require efficient and reliable projectmanagement skills.

All these factors make for a very challenging position.

Contact: System & Product Management, EED/X/DE Leo Garon,Memo-id:EED.EEDLEO, Tel:+49-2407-575-242 or Human Resources DoerteKaulard, Memo-id:EED.EEDDKA, Tel:+49-2407-575-163

PROJECT MANAGEMENT

● Product Management has the following responsibilities and maintasks and in the area of product area switching: technical supportto LPMs and SP M world-wide, and participation in ETSI G SMstandardisation.

We are looking for people who have significant telecommunicationsexperience in either development, testing, standardisation orproduct management. Experience rinse in GSM, another mobiletelephony area or ISDN is highly valued but not indispensable.

Contact: System & Product Management, EED/X/DX Frank Adelhardt,Memo-id:EED.EEDFAD, Tel:+49-2407-575-287 or Human Resources DoerteKaulard, Memo-id: EED.EEDDKA, Tel:+49-2407-575-163

DIMENSIONING & PLATFORM MANAGEMENT

● Dimensioning & Platform management has responsibility for systemdimensioning and characteristics of CME20 & CMS40 MSC nodes, andfor placing of platform requirements towards UAB for product areaswitching. This includes developing models for estimation ofsystem capability and guidelines for dimensioning. It alsoincludes defining performance strategies (together with SPM) forproduct area switching and coordinating activities to reach thesegoals.

As a suitable candidate you should have experience in one or moreof the following areas: Capacity estimations / modelling.Dimensioning work. AXE-10 Platform development. management ortesting.

However people with good technical experience in other AXE-10areas will also be considered.

Contact not later than 970630: System & Product Management,EED/X/DD Pieter van Rijnsoever, Memo-id:EED.EEDPVR,Tel:+49-2407-575-172 or Human Resources Doerte Kaulard,Memo-id:EED.EEDDKA, Tel:+49-2407-575-163

Ericsson (China) Company Ltd., Region Central & East

PROJECT MANAGER – MOBILE TELEPHONE SYSTEM

We are rapidly expanding our market shares in Region Central & East in GSM and DCS 1800. We are therefore in an urgent need of an experienced Project Manager. The job opportunity is located in one of our provincial offices in the region. The employment contract is for one year.

● REQUIREMENTS: Bachelor of Science degree in electrical engineering with specialization in telecommunications, or equivalent. Four years work experience in the technical aspects of telecommunications. Three years proven experience in management of customer projects. Good knowledge of PROPS, project planning, budgeting and management methods. Good technical knowledge of mobile telephone systems. Good knowledge of Ericsson's business practices, supply organization and standards.

Result orientation, flexibility and patience are important personal qualities. Traveling is a natural part of the job. Previous experience from Asian business culture is an advantage.

MAIN TASKS: Lead a large mobile telephone system project with full responsibility for fulfillment of Ericsson's commitments to our customer. In your team, you will have experienced sub-project managers in the areas of logistics, switch, radio and system integration. You have financial responsibility for the project within the scope of the project budget. Our project method is a PROPS based application tailored for our needs in China.

Take active part in negotiations for new contracts in close co-operation with our marketing and technical sales department Train and coach new staff in assistant project management positions to become skilled and professional project managers.

Contact: Project Management and Logistics, Manager: Peter Holmertz (ETC.ETCPETZ), Project Management Mobile Systems, Manager: Enneth Frohman (ETC.ETCENFR) or Human Resources, Manager: Huang Yanyan (ETC.ETCSHYY). Telephone: +86-21-6375 3399, Fax: +86-21-6350 9140 Application not later than 970630: ERA/LDH Hans Falk (fax +46 8 404 5311),

Ericsson Ltd, Guildford

SNR PRODUCT MANAGER – CUSTOMER NETWORKS

● We require experienced BSS (BSC and BTS) engineers to work in a challenging environment facing our DCS 1800 customer one zone. Additionally you will provide support towards the cable and wireless global account and other international customers.

The Product Management team plays a critical role in maintaining and enhancing the division's business success through the strategic management and development of Ericsson's products. The Product Manager is responsible for contributing to the definition of the product programme (current development activities) for a specific product area and on behalf of Product Management. The engineer actively seeks advice and support in order to resolve technical issues and develop his/her own competence.

QUALIFICATIONS AND EXPERIENCE: 3 - 5 years' experience of one or more product lines within Ericsson. Qualified to degree level in engineering Thorough knowledge of the network environment and the application of the relevant products to that environment

KEY RESPONSIBILITIES: Contribute to the preparation of product programmes for current development activities on behalf of customers. Maintain knowledge of developments in the telecommunications industry and marketplace (particularly UK).

Maintain up-to-date knowledge base for assigned products. Participate where required in standard product planning.

Maintain close contact with and influence the strategic product management function to consider UK requirements for standard development.

Represent the UK market and its requirements for standard development. Represent the UK market and its requirements to Ericsson's development organisations worldwide.

Maintain product requirement specifications in accordance with customer requirements and Ericsson's product evolution strategies.

Provide technical support to the market and operations organisations in their business activities relating to a specific customer.

Maintain customer product plans and customer product programmes as required. Present technical information to customers as required. Analyse contracts.

Follow development of market adaptations through to completion and ensure it fulfils requirements. Order required development work. Advise and report progress and status of all activities being undertaken. Maintain quality standards.

Contact: RICHARD CARTER

MANAGER, PROJECT MANAGEMENT – CUSTOMER NETWORKS

● As a member of the Sector Management team, the Manager, Project Management is responsible for making a direct contribution to the business development and profitability of the sector. The manager works with his/her colleagues to develop and implement business strategy, objectives and improvement processes for the sector.

The manager is responsible for the effective project management of the delivery of each customer solution to meet specification, time, cost and quality targets. This involves the co-ordination of interdependencies across product line and organisational boundaries.

The manager liaises closely with the Marketing and Product Management Managers to identify and prepare for future projects. The manager is responsible for the management of risks and development and management of commercially viable and achievable delivery time plans.

The Project Management team is also responsible for processing internal and external orders and for project change control.

QUALIFICATIONS AND EXPERIENCE: ESSENTIAL: Educated to degree level in a technical/business discipline 2/3 years' experience at department manager level within a project management environment Exposure to and awareness of commercial issues

DESIRABLE: Knowledge of Ericsson culture Knowledge of Ericsson project management methodology CUSTOMER INTERFACE: all department of Mercury Personal Communications and Mercury Communications SCOPE OF PEOPLE MANAGEMENT RESPONSIBILITIES: 15 - 20 staff

Contact: RICHARD CARTER

Ericsson Telecomunicazioni - Roma - Italy

ACCOUNT MANAGER

We are looking for Account Managers for our Export Business Unit, within Business Area Infocom System. The Export Business Unit is responsible for marketing and sales, project management and order handling in export markets all over the world, with the mission to consolidate our presence through a growing attention on customer needs mainly in the emerging telecommunications fields.

● The Account Manager is responsible for marketing and sales on consolidated markets, with a focus on profitability, business development and customer satisfaction, being the internal and external interface.

Qualifications: a professional experience of international marketing and sales within the telecommunications fields. Knowledge of Ericsson portfolio, belonging to Infocom Systems is required. Fluency in English is essential. This position requires result-oriented, managerial skills and independent attitude in a matrix organisation.

Location: TEI Rome, Italy

PROJECT MANAGER EXPORT MARKETS

We are looking for Project Managers for our Export Business Unit, within Area Infocom System. The Export Business Unit is responsible for marketing and sales, project management and order handling in export markets all over the world, with the mission to consolidate our presence trhough a growing attention on customer needs, mainly in the emerging telecommunication fields.

● He/she will be responsible for the realization of one or more telecommunication projects, coordinating and supervising all activities related with its implementation.

He/she will monitor the development of the project, in order to guarantee the implementation in accordance with the contractual time schedule and the budgetted costs.

He/she will guarantee the necessary technical and logistic support, being the interface with the different departments involved and the link with the site manager for the field activities.

The candidates should have the following qualifications: Good knowledge of the Ericsson products. Good knowledge of Project Management technique. Experience of working in an international environment. Fluency in English. The knowledge of a second foreign language will be appreciated.

Location: TEI Rome, Italy

Contact: Human Resources and Organization MEMOID: EITA.TEIDONI

Ericsson Data UK Ltd,

IT/DEPARTMENT MANAGER FOR NETWORK DEVELOPMENT

Ericsson Data UK Limited was formed in 1993 to proved IS/IT support to Ericsson Telecom UK. Ericsson Data UK Ltd is part of the Ericsson Data group within the Ericsson group.

The company is responsible for providing strategic direction, development and support for IT services within its customer. This service encompasses a UK wide voice and data network, all LAN facilities, UNIX workstations, and PC based systems and software and Business Applications.

The company is based at three main sites, Burgess Hill, Guildford and Scunthorpe. There are other subsidiary sites at Horsham, Haslemere and Warrington.

● To continue to improve the levels of service provided to this customer, our client is seeking a proactive IT/Department Manager for Network Development reporting to MD.

Based south of London the role involves understanding the strategic plans, the business plans and direction of the client and, through effective team management, ensure that the IT infrastructure supports and enhances these initiatives.

Through the development of a close working relationship with Senior Management within the client, you will also move the organisation toward providing business solutions trough IT services. Key to success, is the ability to provide measurable results.

As a department manager you have the Business and profit loss responsibility for the Network Development department. The department is responsible for the development strategy of the IT environment and acts as designauthority for : Network (Local site cabling, inter-site links, for both Voice & Data), Servers (Servers providing Office Software, File Storage and Print Services.), Desktop (Workstations and standard software), A robust platform for applications, Software Distribution and Technology Inventory Management and Processes and tools to support the operations, based on technology changes, customer demands, productivity and quality demands.

The responsibility also covers the programme management of company wide IT development projects such as setting up new customer sites or major strategic moves to new technology.

You must have broad experience in the IT (Telecom) area and long experience in designing and implementing network solutions (HW, SW, processes) in large multi-site LAN, at least 10 years experience in the industry..

You must also have a strong business understanding, ideally of the telecommunications industry combined with the ability to translate these requirements into IS/IT solutions. You need to have strong strategic capabilities and be able to convert customers strategic plans to network solutions.

You must also have people management skills gained with within a wide ranging IT/IS management role, be resultoriented and have excellent communication skills both internally and externally. You must also be a teamplayer and have the ability to create effective and effecient teamwork.

This highly visible role offers the opportunity to take real responsibility and influence the development of a forward looking and dynamic organisation and to develop your commercial and business skills within an environment which demansd professionalism and speed of response.

Contact/Application: MD Ulf Larsson e-mail: edl.edluffe@memo.ericsson.se or to HR manager Lise-Lotte Bergenholm e-mail: edl.edlllbe@mesmtpse.ericsson.se. Ericsson Data UK Limited, Woodlands Court, Albert Drive, Burgess Hill, West Sussex RH15 9TP

Nippon Ericsson K.K

MANAGER OF CUSTOMER SUPPORT

● REPORTING TO General Manager for Infocom Systems at Nippon Ericsson K.K

OBJECTIVES OF THE JOB To establish a customer support organisation for Infocom Systems, Japan. To manage and develop said support organisation. To recruit train and maintain staff for the need of the unit.

RESPONSIBILITIES To monitor and implement procedures and processes necessary to fulfil customer service agreements. To participate in the technical specification and implementation of future Customer Service agreements. To act as the interface in support matters between NRJ and other Ericsson entities. To act as the interface in support matters between NRJ and local third party vendors. To ensure the efficient service of supported object. To establish and document necessary procedures to perform the tasks at hand by following guidance and procedures existing within Ericsson.

To prepare and to follow up the budget for the unit. To develop and implement Human Resources programs to cover needs and aspects particular to the unit. To maintain staff levels according to resource budget and actual workload To perform monthly reporting according to document NRJ/X-96:743. To manage ERJ employed staff assigned to Infocom System. To ensure the quality of all activities within customer support. To keep staff updated on developments within NRJ/ERJ.

To plan required competence development programs To delegate to , agree , the division of responsibilities with the subordinates. To build own competence in the telecommunications field , the Japanese market leadership and management. To represent System Support in internal and external meetings To transfer knowledge to assistant support manager. To motivate staff , build a team spirit and encourage the ERICSSON values.

AUTHORITY Separately described for the management level.

REQUIREMENTS FOR THE JOB A team manager with the following skills: Technically competent on Ericsson products Stress tolerant Co-operative and communicative Professional

Contact: Kjell Persson + 81 3 3221 8203, NRJ.NR-JKPN or Peter Dicksson, EUS.EUSDCKN. Application: Helena Sandberg, ETXT.ETXHESA, Ericsson Telecom AB, Customer Services, 126 25 Stockholm, Sweden

Nippon Ericsson K.K.

ENGINEER OF CUSTOM SUPPORT OFFICE

● Support engineer, Customer Support Office.

REPORTING TO Manager for Customer Support Office Infocom Systems at Nippon Ericsson K.K.

OBJECTIVES OF THE JOB To achieve customer satisfaction within directives given. To transfer knowledge to colleagues.

The responsibilities of the engineer are: To be fully knowledgeable with the purpose, procedures and processes of the group. To know and understand the purpose and interfaces of the unit. To be able to use all within the department available tools in an optimal way. To promote good O&M routines. To act as a teacher to less experienced colleagues.

Depending on specialisation and experience one or several of the following:

To be able to write a correction package impleme ntation instruction. To know the handling of each type of Software package in his/her system.

To Implement updates of products delivered by Ericsson. To analyse and correct troubles reported by end user.

To be familiar with correction numbering conventions. To be able to read and understand the program language used for assigned products. To be able to handle a Trouble Report from reception to conclusion. To be able to transfer and desk check corrections.

To be able to write technically accurate descriptions in the English language to the designer. To be able to write well phrased Trouble report answers to the customer. To be familiar with emergency service routines and escalation procedures. To be able to carry out on sit trouble investigations. To be able to correct exchange data.

To be able to locate and replace faulty hardware on board level for Ericsson products. To be able to locate and order replacement of faulty third party hardware.

To be able to initiate routine tests on subscriber and trunk circuits.

To be able to guide and direct the customer to use by Ericsson recommended O&M routines and procedures.

To be able to introduce changes in exchange data. To be able to initiate routine tests on subscriber and trunk circuits. To be able to take proper action on ALARMS. To be sufficient knowledge about Ericsson and customer routines to at all times be a good example to the customer. AUTHORITY

Within limitations set by manager of Customer Support to carry out responsibilities outlined under paragraph 4.

REQUIREMENTS FOR THE JOB Minimum a Bachelor of Science certificate in Electronic Engineering/ Telecommunications or equivalent. A for his principal tasks adequate training on Ericsson products. Level 6 in English (in a scale of 1 - 10)

Contact: Kjell Persson + 81 33221 8203, NRJ.NR-JKPN or Peter Dicksson, EUS.EUSDCKN. Application: Helena Sandberg, ETXT.ETXHESA,Ericsson Telecom AB, Customer Services, 126 25 Stockholm, Sweden

Compañía Anónima Ericsson, Caracas, Venezuela

AMPS/D – AMPS EXPERT TROUBLE-SHOOTER

● We need to reinforce our FSC with an AMPS/D-AMPS expert troubleshooter on a 12-24 months long term assignment.

Apart from the conventional FSC activities the duties include also 24 hours helpdesk/emergency service. Spanish knowledge is an advantage but not a requirement.

Contact/Application: Curriculum Vitae by fax +58-2-238 51 62, memo Martin Nebe, CEV.CEVLMNE or Rafael Bueno, CEV.CEVBUE.

Ericsson Radio Systems AB, Kista

ACCOUNT /AREA SALES MANAGERS – STATIONED ABROAD

Our markets in Asia and Far East are growing rapidly and we need to expand our sales and marketing departments at several LC/MLC with a number of experienced Area Managers and Account Managers who see the challenge and advantage of working with sales and marketing abroad for a few years.

● Your tasks is to be responsible for sales and marketing of cellular systems based on D-AMPS/AMPS towards a specific customer or market.

The job involves every aspect of marketing and sales like; identifying customer needs and business opportunities, frequent customer visits, preparing proposals and arranging seminars, contract negotiations etc.

You have an M.Sc. degree and a minimum of three years working experience from international sales and marketing of cellular systems.

The positions require excellent sales skills, negotiation skills and inter personal skills as well as flexibility and an ability to function under stress. Your English need to be excellent.

After a period in Stockholm you will be stationed in Singapore or Manila

Contact: Rolf Olsson, +46 8 757 2189 memoid: ERA.ERAROLL Application: Ericsson Radio Systems AB, AH Birgitta Stavenow, 164 80 Stockholm

Ericsson Inc, Richardson, Texas

INTELLIGENT NETWORK ENGINEER

● The UNIX Design Group of the Network Systems Division, located in Richardson, Texas, is looking for someone to work on a two year contract to develop, integrate and test products for the Intelligent Network.

Duties of the position will include participation in functional specification, design, implementation and testing of UNIX based IN products.

Must have a good knowledge of IN concepts, CS1 protocol and protocol extensions.

Requires the ability to apply IN knowledge to products based on general purpose computers and a BS level degree in computer science, electrical, or computer engineering.

Contact: Barna Youngs, phone 972-583-5670, memoid: EUS.EUS8AYO, fax 972-669-6861

Ericsson Telecom AB, Telefonplan

CUSTOMER SERVICES

Project Manager, HW Services Implementation

Global Customer Support Services is a unit within Ericsson Telecom-Public Networks, globally responsible for the development and supply of software and hardware services.

The telecom market is changing rapidly, customer service expectations will continue to rise and the expectation of quick response and low cost service operations will force suppliers, like Ericsson, to leaner and speedier operations. As a result, we are due to implement a global service infrastructure to best fulfil our customers future service requirement.

We are seeking YOU, who as the project manager will have full responsibility for the implementation of new Hardware Service supply methods across the Public Networks global business. The project is very challenging and requires substantial travel to assist local companies through their implementation programmes.

The skills and competence we believe you possess are:

- Educational level: University or equivalent
- Good knowledge of the English language, both written and spoken
- Experience of working within Ericsson at a technical level, with an emphasis on the development of operations
- Familiar with hardware services repair centre or field operations
- International experience is an advantage
- A good team player and self starter

TAKE ON THIS CHALLENGE - CALL US NOW!

Michael Humer, ETXT.ETXHUME, +46 8 719 3904 or +46 70 519 3904 Manager, Provisioning and Supply Hardware Services
or
Jan Giese, ETXT.ETXJG, +46 8 719 9357 Human Resources

Applications to
Jan Giese, TB/ETX/PN/CS, SE-126 25 STOCKHOLM

NEW CDMA/AMPS FILTER IC

GEC Plessey Semiconductors (GPS) is launching its first standard product for digital cellular telephone applications such as CDMA, GSM or even AMPS standards. This new IC - Neptune - is an I and Q channel monolithic active filter for the receive path in mobile telephones.

Neptune is a continuous time filter for use in a traditional I and Q receiver. It has excellent channel matching, good filter performance and very good temperature stability - satisfying all those requirements demanded by the mobile telephone standards. Neptune is fabricated on GPS's advanced WP bipolar process - a process with the benefit of high value, small physical size capacitor structures. These are used to create the on-chip filter which is constructed as a LC ladder filter known as a gyrator or transconductance C. This filter technology has been well proven in GPS's direct conversion paging receivers with over 12 million units shipped to date.

Neptune is targeted at CDMA dual mode phones and so includes a signal path for the AMPS signal as well as the on-chip CDMA filter. It is packaged in small surface mount SSOP28.

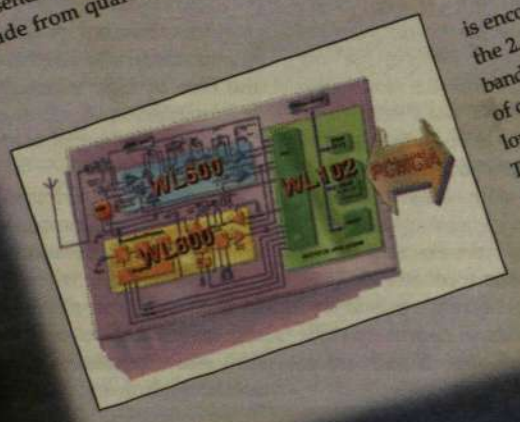
GEC PLESSEY
SEMICONDUCTORS

GPS SAW FILTERS FOR GSM CELLULAR PHONES

GEC Plessey Semiconductors have supplied Surface Acoustic Wave (SAW) filters to the digital cellular industry for many years. For instance, the DW9287 is used in a popular GSM digital cellular phone in use in large numbers across Europe.

SAW filters are passive signal processing devices which block un-wanted radio signals in the receive and transmit paths, so ensuring superior signal to noise performance. The filter works by sending an acoustic (sound) wave along the surface of a crystal made from quartz or similar material. Utilising manufacturing techniques similar to those used for ICs, SAW filters allow signal filtering to be realised in a significantly smaller space, so saving PCB area - a critical factor in satisfying the demand for smaller, lighter mobile phones.

GPS has a world class capability in SAW filters for the Intermediate Frequencies (IF) of radio systems, and offers a wide range of products suitable for cordless and cellular systems such as DECT, TACS, GSM, DCS and CDMA. GPS provides excellent support for customers' development engineers in the design of PCB layout and matching components for both cellular telephone and base station applications.



NEW LOW COST WIRELESS LAN CHIPSET

Increasing interest in low cost, broadband radios for data transmission is encouraging the development of component solutions for use in the 2.4GHz radio band. Immunity against interference in this crowded band has led to robust frequency hopping becoming the radio architecture of choice. GPS has responded by developing the DE6038 chipset - the lowest cost Wireless Local Area Network (WLAN) solution available. The three chips in the set allow the construction of systems that comply with the relevant standards such as ETS 300.328, FCC part 15 and RCR 033. Initial system performance is 1 Million bits per second over a range of 50 metres, with additional performance enhancements planned.

GPS's advanced HG silicon bipolar technology replaces the gallium arsenide process traditionally used for the radio components - resulting in a much lower cost product. A single chip CMOS controller, including an embedded microprocessor to reduce cost, completes the total solution from GPS.

GPS offers comprehensive support to customers during the development phase of their product - including sample source code of building blocks in the control software. GPS also provides a complete radio and subsystem reference design, suitable for the small size of the PCMCIA standard, to allow customers' products to connect easily to notebook and other computers.

This is the fourth and last in a series of features aiming to give all Ericsson staff an overview of GEC Plessey Semiconductors' capabilities so that we can better work together. Visit our WWW site for more information on the products and services we offer and for details of your nearest GPS contact.

www.gpsemi.com

column

We have to develop with our customers

Half of 1997 is gone, and it's time for a brief review of operations. Earnings during the first quarter show continued favorable development for the Mobile Systems business area. Although the increase was not as strong as previous years, bear in mind that we are now expanding from a larger base.

One of the most important events of the spring was selection of Ericsson by NTT DoCoMo of Japan to serve as one of its partner in development of a test system to prepare for the next generation of mobile telephone systems. Although we have worked for many years with future development projects, we now have a very concrete assignment.

A few months ago, work was completed on Mobile Systems ESP, Ericsson's Strategic Planning for 1997. I would like to cite a few key words from the plan.

- Continued growth in all markets, with particular emphasis on Asia. In parallel, competition in the marketplace is becoming tougher, both from "old" competition and new companies entering the market. Ericsson is the market leader today in mobile communications, and our goal is to defend and strengthen our position, even in the face of increased competition.
- Investments in future products. Our test system in cooperation with NTT DoCoMo is a good example.
- Important improvement efforts must be continued, particularly further development of business operations and improved skills for all employees.
- New operators are entering the market for mobile communications, thereby creating new customers for Ericsson. In parallel with business transactions with new players, it's also strategically important to grow and develop together with our present customers.

The Mobile Systems business area has 35,000 employees today, more than half of whom work outside Sweden. Foreign markets also account for the greatest growth in Ericsson employees. Research and development is an important element in our operations. In addition to Sweden, we have previously conducted R&D activities in other European countries and the U.S. The importance of Asia as an Ericsson market is underlined by our establishment of research and development activities in Singapore and Japan. We are also in the process of establishing a development unit in India.

So far, the year 1997 has been filled with many activities and hard work for all of us, regardless of where or what we work with. It is gratifying to note that our efforts have yielded good results. Without the skill and enthusiasm of our employees in all parts of the world, we cannot reach our ambitious goals. As usual, the autumn months will be arduous, but also filled with many interesting assignments.

KURT HELLSTRÖM
Executive Vice President
Mobile Systems

Welcome to News from Mobile Systems

All employees who work with Mobile Systems in Sweden receive a supplement to the Swedish Contact. Some of the articles in this supplement are also valueable information for people working outside Sweden. To ensure that this information is spread internationally we will occaisionally include special pages in Contact, marked News from Mobile Systems. This new section replaces "Radio News", the internal newsletter for people working with mobile telephony worldwide.

GUNILLA TAMM
Editor, Business Area Mobile Systems
E-mail: gunilla.tamm@era.ericsson.se

The meeting in England featured presentations, discussions and workshops focused on solutions to practical assignments. Pictured here are (l-r) Johan Eklund from Kista, Yolleke Potting from the Netherlands, Peter Ekeroth from Kista and Leif Öhman from Infocom Systems.

In the beginning of June, Haslemere in southern England hosted the second meeting of local product managers working in the field of customer training for the GSM, NMT and TACS mobile telephone systems.

Building global networks

The product managers of local companies work in close cooperation with customers and provide valuable feedback. By meeting a few times every year, we are able to exchange experiences and information, working together to capitalize on the skills and expertise of Ericsson's local companies," says Charlotte Dam, product manager of the business unit's customer training.

Ericsson's local companies in various parts of the world have 26 training centers characterized by highly functional programs of cooperation.

Good cooperation

"The first local product managers were appointed a few years ago. Today, almost all training centers that provide customer training services for our business unit have local product managers (LPMs), comprising about 20 persons in all parts of the world," continues Charlotte Dam. In addition to Mobile Systems, local product managers also work in cooperation with other Ericsson units, she adds.

Ericsson's local companies have close customer contacts, and provide valuable feedback to Sweden concerning various types of training products. Local product managers also have important skills that should be nurtured and shared with other units.

"Those of us working in Strategic Product Management (SPM) can also convey our visions and strategies through the network of LPMs, distributing our products to the various training centers," says Charlotte.

"Regularly scheduled meetings of local product managers a few times every year offer excellent opportunities to develop the network" she continues. The first meeting was held in Düsseldorf in February, followed by this second meeting in England. Another meeting will be held in November.

Customers invited

A customer is invited to every meeting to present his/her opinions and wishes concerning Ericsson's customer training program. A representative of Mannesmann attended the meeting in Germany, and One by One was represented at the meeting in England.

Also working in cooperation were (l-r) Illka Koisti from Finland, Hemant Pant from India and Vilhelm Nicolaysen from Norway.

Forum is needed

Karen Lyons of Ericsson in Ireland appreciates the creation of Ericsson's LPM network. In her opinion, it provides local organizations an opportunity to increase their influence. Jolanda Radt from Ericsson in the Netherlands agrees, citing the value of opportunities to exchange information and experiences, which also creates greater understanding for the problems of colleagues in other countries.

"We need a forum like this, and I hope we continue to meet on a regular basis. The continuity is important," says Vilhelm Nicolaysen, from Ericsson in Norway.

Hemant Pant, who works for Ericsson in India, agrees and says he appreciates the open and informal atmosphere of the meetings. Hernant Pant also cited the value of meeting colleagues from different parts of the world to discuss problems and opportunities.

An extra air of ceremony characterized the meeting in Haslemere since it coincided with the formal inauguration of the new training center managed there by Ericsson Ltd.

GUNILLA TAMM

Job exchange for better understanding

"We have established valuable contacts, increased knowledge about how our jobs function in relation to each other, and greater understanding for customer demands." Claudia Trejo and Cecilia Tiney are extremely enthusiastic in describing their experiences from "trading places" with each other for six weeks. Per Fredén of Ericsson Radio Systems S.A. in Mexico and Björn Berndtsson of Ericsson Radio Systems in Kista, the two women's respective bosses, took the initiative in this form of "job rotation."

Claudia Trejo and Cecilia Tiney (r) discuss their experience from trading jobs for a few weeks.

It's not unusual for Ericsson engineers to work abroad for long or short periods of time, but foreign assignments for secretaries and administrative personnel are not part of the normal job-rotation scheme.

"Foreign assignments offer excellent opportunities to increase skills. Practical work for long or brief periods of time at an Ericsson company outside your home country provides a wide variety of useful experience," says Per Fredén, President of Ericsson Radio Systems S.A. in Mexico.

"When Per Fredén suggested that our secretaries trade places for a few weeks, I thought it was a good idea and discussed it with Cecilia as a career development opportunity," explains Björn Berndtsson, Manager of Customer Accounts for the American standard mobile telephone systems business unit.

Working abroad rapidly increases personal skills

"Latin America is a very large and important market, and Ericsson in Mexico, accordingly, seemed like a highly suitable place for a job exchange test. Naturally, knowledge of the Spanish language is extremely important in our contacts with customers in Latin America," he adds.

Didn't believe it

"I didn't believe him at first, when Per Fredén told me I might go to Sweden and work in Kista for six weeks," says Claudia Trejo with a laugh. She got the news in December of last year, and began preparations for the exchange by taking Swedish lessons, but English was her working language in Kista.

Claudia Trejo joined Ericsson in Mexico more than three years ago after completing her education. A friend working for Ericsson recommended the company as a good employer.

Language skills

Cecilia Tiney started working for Ericsson two years ago. When it was decided she would trade jobs with Claudia Trejo for a few weeks, she started studying Spanish, since her skills in the language were limited.

"She made a lot of progress in the Spanish language. She's now able to handle most job routines, such as answering the telephone, arranging meetings, booking hotel rooms and greeting visitors," says Per Fredén. "But it was tough in the beginning," he adds.

"Naturally, it was frustrating at the start. But as I began to notice I was making progress, I wanted to learn more. The fact that Per Fredén is Swedish made things a little easier," explains Cecilia Tiney.

Rewarding experience

Cecilia and Claudia feel the job exchange was a highly interesting and rewarding experience, both in terms of professional and personal development.

They established valuable contacts and greater understanding for the cultures of their respective countries, including business cultures. Both women feel they will be able to provide better service in their own jobs after the exchange program.

"I worked much closer to customers, which was extremely educational and helpful," says Claudia Tiney. "Working at a local Ericsson company also taught me more about how Ericsson's organization functions in the field and provided me with increased knowledge about the company I work for," she says.

In their spare time, Claudia Trejo and Cecilia Tiney went on sightseeing trips, visited museums and toured the surrounding areas of Stockholm and Mexico City, respectively. Claudia also took a trip to Värmland. She was fascinated by the long hours of daylight during the Swedish spring and developed a new favorite food in Swedish meatballs.

Cecilia Tiney is very fond of Mexican food, which will probably become a regular staple at her home in Sweden. She was also particularly appreciative of the opportunity to learn more about Mexican culture, which is steeped in history.

The two women are now back in their home countries, but they intend to continue their language studies in Swedish and Spanish.

"We hope more people will be offered the opportunity to trade places. The job exchange system is beneficial to Ericsson and the individuals involved," the two women say.

GUNILLA TAMM
Photo: GUNNAR ASK

Design office established in India

■ Ericsson is setting up a design office for OSS in Bangalore in India. The Ericsson Application Center in Linköping, which is currently working on this product, will be responsible for operations.

Bangalore has a reputation as India's "Silicon Valley", with more than 140 companies working on software development. Although Ericsson's new office will be formally inaugurated in the autumn, there is already a staff of about ten.

Some of these employees will receive training in Linköping in the summer – and the Linköping personnel who are going to India will attend courses in Indian culture to make cooperation as smooth as possible right from the start.

The new office will be working on a performance management application which is part of the operation and maintenance structure for GSM and the Japanese PDC system.

"The group will have 25 people by the end of the year," says Shahi Kavi, design manager of the new design center. "Starting up this center is a great opportunity, since there are a great many software designers with the right qualifications, who also have a good command of English."

For the unit currently working on this product in Linköping, the move to Bangalore will provide scope to develop new applications.

"We are very pleased about this. Indians have a good reputation as software developers, and companies like Motorola and Lucent already have their own design offices in Bangalore," Stefan Werna, the manager of the Linköping operation, says.

Ericsson also has OSS development offices in Mölndal (Sweden) and Aachen (Germany). In all, Ericsson has 18,000 employees working on research and development in 23 countries around the globe. **NS**

An integrated approach to the Intranet

Mobile Systems' new home pages on the Intranet – with a new structure and layout – will give a comprehensive picture of the business area's operations. A new recruit in India and an "old hand" in Sweden should have an equal opportunity to find what they want in a wealth of information.

The Intranet in-house computer network is expanding at an explosive rate. Ericsson now has more than 1,200 servers, in addition to numerous magazines and other information channels.

"We have a continuously growing flow of information, and we have to find a system in which the recipient can select the information he or she needs right now," says Per Bengtsson, who is Mobile Systems' director of information. "This type of electronic solution is a very good way of enabling us to personalize information, both to get a quick overview and to go much deeper."

Linking units

The new home pages for the business area link up the various business units, distribute overall information and make it easy to find all types of information – ranging from operational handbooks and internal forms to telephone numbers.

The first version of the new home pages was set up in January, but the pages are changing all the time. That's what makes the Web so dynamic.

"We welcome feedback because it enables us to continuously develop and improve the contents," Per Bengtsson says. "Once again, the technology offers new possibilities of getting quick feedback in a simple manner, in the form of E-Mail."

A selection of news items is presented in the news market on the first Web page.

"The aim is to put out something new every day, just like a news flash," Barbro Albrektsson explains. Barbro is project manager for the new home pages.

The "BR Web" can link up all departments and units within the business area, but each of them is individually responsible for the information they provide.

"It is important to ensure that all documents have a clearly specified sender, who "owns" the information and is responsible for making sure that the contents are correct and updated," says Barbro Albrektsson.

Updates and Site map

The latest Web updates can be found under the "Updates" icon. It is also possible to pinpoint for words and phrases using the "BR Search" engine. The "Site map" is another useful tool, indicating the Web's structure in diagrammatic form and also showing the user how to navigate in the desired direction.

The "BR Web", a new framework for Mobile Systems' Intranet, can link up all subsidiaries and units in the business area. **Illustration: Leif Sundberg**

Mobile Systems' Internet pages will also be updated. Ericsson's Internet pages attract 10,000 visitors a day, including a great many investors and analysts.

"Home pages give the rest of the world a crucial picture of what Ericsson stands for today," says Agneta Hårte Jacobsson, the press officer responsible for updating.

"We also regard Extranet as a way of communicating with specific target groups, for example journalists." (The Extranet is a computer network for specially selected groups.)

The address to the BR Intranet site is: http://www-br.ericsson.se

NILS SUNDSTRÖM

Patents becoming increasingly important

Ericsson's competitiveness is increasing sharply, as reflected by the number of in-house innovations protected by patents. In 1996, nearly 900 applications for patents were submitted, of which the former Radio Communications business area accounted for nearly two-thirds.

"This was the result of an increased awareness of the importance of patents, which we have built up determinedly throughout the 1990s. Each business unit has been assigned support resources for our designers and inventors," says Göran Nordlundh, responsible for intellectual rights within Mobile Systems.

Treasure chest

Patents have become an increasingly important competitive tool. The number of court cases involving patent-related disputes is increasing steadily, as is the amount of damages awarded. A company's patent portfolio has become a treasure chest and an important trading product in negotiations for license agreements with other manufacturers. Since 1988, the number of patent applications submitted by Ericsson has increased twenty-fold and mobile telephony has accounted for a major share throughout this period.

Photo. PETER NORDAHL

Work involving patents requires an understanding of future technologies and of the areas where it is worth staking claims. Ericsson's patents database is an invaluable tool in this respect. Lena Hagström, from Ericsson Radio Systems, arranges courses throughout the company to show how the database works.

"The results in 1996 mean that we are approaching the level that Ericsson considers appropriate in view of current market conditions," explains Göran Nordlundh. "This gives us the freedom of action we need with respect to the choice of technologies, products and market presence."

The Mobile Systems business area has a total of 60 employees in various parts of the world, who engage in patent-related duties on a full-time basis. Most of these are patent project leaders who help inventors to apply for patents and describe their inventions.

Patent trainer

Lena Hagström, from Ericsson Radio Systems in Kista, is Ericsson's only full-time trainer in patent-related matters. Lena travels to different countries to teach Ericsson employees about patents and to encourage more people to dare to apply for patents.

Her tasks include instruction to Mobile Systems' engineers and patents engineers in the types of things that can be patented, how to read a patent document and how to apply for patents in different countries. She also instructs all Ericsson employees in the use of the company's patents database (web site: http://patent.ericsson.se).

"Since August last year, all employees can access information on patents via the Intranet," Lena Hagström explains. "The database, which is updated on a weekly basis, contains English-language summaries of all patents and official patent applications in the telecommunication field since 1974."

Why is training in patents so important?

"It is needed to ensure that we keep abreast of developments in our own fields of technology. This type of knowledge must exist at the grassroots level for all projects," says Lena Hagström. "I can provide the tools to enable employees to understand what it is possible to patent and what products are already patented. There's no point in reinventing the wheel and we must avoid infringing on existing patents."

NILS SUNDSTRÖM

日本における使命*

A complete experimental system ready for testing in December of this year – that's the objective of engineers now working on the important development project for NTT DoCoMo of Japan. This is particularly the case for Jörgen Lantto and his colleagues at Nippon Ericsson in Tokyo.

"Today, about 15 technicians are working on the experimental system for NTT DoCoMo, and the number will increase to about 20 by year-end," says Jörgen Lantto, who moved to Japan about a year

* Assignment in Japan

ago. Nearly half of his technical staff comes from RCUR, a technical engineering unit of Ericsson Radio Systems in Kista. Most of the technicians to be recruited this autumn will be Japanese. The department now being formed will be the nucleus of Ericsson's R&D center in Japan. Efforts to establish research and development activities in Japan have confirmed Ericsson's intentions to remain in the country as an active force in telecommunications.

The new mobile communication system being developed by NTT DoCoMo will be in full-scale commercial operation in Japan just after the turn of the new century. By then, the country expects to have a total of 45 million cellular phone subscribers.
Foto: BO DAHLIN

Standardization work

"Our assignment here is to serve as a 'bridge' or interface between Ericsson in Sweden and NTT and the telecommunications ministry in Japan. In parallel with our development work, determined efforts are being concentrated on standardization work, and one of our objectives is to follow its progress and try to exert some influence," explains Jörgen Lantto. Most of the development work will be conducted in Sweden.

"We will tell our colleagues in Sweden exactly what the Japanese want to achieve and vice versa," he says, also stressing the importance of being on-site in Japan to understand how the Japanese reason.

The experimental system NTT DoCoMo ordered from Ericsson in the spring calls for a complete system, from test bed and prototype to delivery in December of this year. The system will be tested first in NTT's demo lab and is scheduled to be tested in the city of Tokyo during the autumn of 1998.

"It's imperative that we meet all deadlines and deliver on agreed dates. We also have to fulfill the extremely stringent quality demands placed on suppliers by Japanese customers. NTT holds Ericsson in high esteem, and it's essential that we continue to live up to our reputation. Just like MDE was a key for Ericsson in the Japanese market, the experimental system we are now developing could very well decide the continued success of Ericsson in terms of third-generation mobile telephone systems," says Jörgen Lantto. By serving as one of NTT's partners, the groundwork has been laid for long-term operations in Japan.

MDE is a part of the base station for NTT's digital system and an important product in Japan. NTT has the largest digital mobile system in the country.

Test system in Kista

A fully developed test system will be completed in Kista next year. It will help Ericsson demonstrate the new technology for international visitors. NTT is developing all software for the experimental system in Japan, but Ericsson Radio Systems will develop its own software for the test system in Kista.

Ericsson's factories in Katrineholm and Gävle have been assigned important missions to produce the exchanges and base stations, respectively, for the Japanese experimental system.

The third-generation system now under development will not become a Japanese standard similar to the establishment of PDC in Japan. The Japanese prefer to remain active and exert influence over development of third generation systems. Japan's choice of standard will affect several countries in Asia, including Korea, for example. Three standards are used in Asia today: GSM, D-AMPS and the narrowband IS95 CDMA system.

"Japan's choice will not only affect Asia. It will also have spin-off effects in all parts of the world," says Jörgen Lantto, citing other cooperation work now being conducted in Europe with Universal Mobile Telecommunication System (UMTS).

"We have entered a very exciting period for the next generation of mobile systems," Jörgen Lantto concludes.

GUNILLA TAMM

Part of the NMT team working on the experimental system for NTT DoCoMo in Tokyo is seen here. L-R: Masaomi Sumita, Håkan Ohlsén, Yoshio Honda, Jörgen Lantto, Mikael Halén, Yukiko Hirayama, Thomas Rex and Johan Rune.

Multimedia radio network

■ Develop a new radio network that enables the provision of a variety of high-speed multimedia services. This was the assignment given to the Wideband-era development project, which is to deliver the experimental system to NTT DoCoMo.

The increased need for state-of-the-art wireless data services is imposing increasing demands on bandwidth, which new technology is helping to satisfy. The Wideband-era development project is based on a radio interface standard developed by Ericsson in accordance with the new Wideband Code Division Multiple Access (W-CDMA) technology.

This technology differs fundamentally from the IS 95 narrowband CDMA standard. The new system uses 5Mhz broadband CDMA technology, which enables transmission speeds of up to 2 Mbps. In Phase 1, the system will operate at data transfer rates of 384 kbps, which will enable the provision of a range of wireless multimedia services, including full motion video, Internet access and video conference capabilities.

Broadband CDMA technology provides flexible bandwidth, thus giving operators completely new potential to use their transport networks effectively. An ATM (Asynchronous Transfer Mode) transport network between the base stations and the switch is a prerequisite for being able to use the variable bandwidth.

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Asia Telecom, the large telecommunications expo in Southeast Asia, was concluded recently in Singapore. Ericsson was well represented (see separate report inside). Singapore is an excellent venue for a telecommunications extravaganza of this type. In terms of scale, Singapore is Lilliputian, but when it comes to telecom and data, this tiny republic ranks among the largest in the world.

Singapore shows the way

take for example Singapore One, which was formally inaugurated during the Exhibition period. This is the world's first nationwide broadband network. By the end of next year, virtually all companies, schools and private individuals in Singapore will have been connected to a broadband network offering very high data- and tele-traffic capacity. In terms of PC density, Singapore is already second in the world. In the republic's own IT vision, Singapore describes itself the most intelligent island in the world, a not entirely groundless claim.

It is not only the networks that are expanding with such amazing speed. During 1996, the number of mobile telephone subscribers in Singapore rose by a full 84 percent. Asia accounts for the greatest growth in the sector, with Singapore leading the way.

During the six-day expo period, the Ericsson stand served as a base for the 100 people who in some way worked for Ericsson at Asia Telecom. These included press contacts, stand hostesses, product information, sales persons and other participants. "It took ten days to construct the stand. We will dismantle it in three," says Peter Eckerud from Eckerud Exhibits, who is responsible for stand design and construction.

Photo: PATRIK LINDÈN

A certain maturity

During the exhibition, Ericsson showed that the market for mobile phones is beginning to reach a certain maturity. Today, different solutions exist for achieving the same goal. One model is no longer sufficient. To a greater extent than previously, users can now find something that is exactly right for their special needs. It is also becoming increasingly difficult to gain an accurate overview of all the telephone models that exist. Another clear indication that maturity is imminent was described by business area president Johan Siberg, who estimates that by the end of the century the number of new subscribers in the global mobile phone market will match the number of subscribers changing telephones.

Julian Lim from the Singapore office made a major contribution to Ericsson's participation in Asia Telecom 97.

Ericsson's new version of the mini-phone is called the 768. It comes in a new design, new colors and with a simplified menu system.

Satellite telephony

Ericsson's concept telephone for satellite telephony was also displayed in the booth. During 1999, the Asia Cellular Satellite will be in operation and Ericsson's satellite-based mobile telephone will work with this system. An order for 250,000 phones has already been secured. The phones will function throughout Asia and will use a so-called Dual Mode, which means that if there is normal coverage within, for example, a GSM network, the phone will primarily select that mode. When there is no normal covereage, the phone will switch to satellite mode.

PATRIK LINDÈN

end line

Swedish press have targeted

At the moment, the Swedish press seems to have targeted Sweden's most successful company by writing critical articles. During the past few months the papers has published a string of negative stories about Ericsson. We discussed the latest attack at our morning meeting the other day. It was written by a reporter who had tried to telephone Ericsson, but had had trouble getting through. First he related how poor the telephone culture is at Ericsson, then turned his attention to the startling news that people no longer wish to work at Ericsson.

Naturally the headline writer could not resist seizing upon the telephone problem – an obvious choice for an experienced editor. It is clear that Ericsson should set a good example in telecommunications-related matters, and that it should be simple to get through to the person you are trying to call. After all, we are well equipped to handle this requirement – a highly sophisticated telephone switchboard, incredibly competent telephonists, mobile telephones that we carry around with us when not sitting at our desks, and so on. But this is not enough – we must also improve our telephone culture and learn to make better use of the available tools. Personally, I must admit that the cordless DECT-phone has still not become a friend. For that to happen, I would need to go on a short but intensive course on how to use it. The manual is a disaster, and the handset leaves much to be desired ergonomically, so help is certainly needed.

What should actually have been the main topic in the article is a recent survey shows that 75 percent of the engineers working at Ericsson are thinking of looking for a new job, and 93 percent of Ericsson employees are dissatisfied with their pay.

Really? It must be good news for personnel managers that three out of four engineers want to switch jobs. Ericsson has an enormous need that we employees transfer in pace with the variations in personnel needs in the different operations. The fact is that we could not achieve the necessary flexibility without continued intensive rotation between jobs and projects within the Ericsson companies! And if 93 percent are dissatisfied with their pay, that represents a major leap forward, since I've never heard of a company before where at least 99 percent of employees were not wanting more money in their pay packets!

Never mind – I'm sure we can put up with the press hounding us for a good few years to come. It's par for the course for anyone who becomes too successful. Swedish envy always demands its tribute sooner or later. But we should be wary of regarding the press as our enemy. We should always maintain an open attitude to the media, which have after all always displayed abundant goodwill to Ericsson when reporting on our successes.

On that note, I wish all our readers a really enjoyable summer! Here in Sweden we will be spending the comings weeks in what is more or less a shutdown country while we enjoy what we all believe is a well-earned patch of sunshine and vacation.

LARS-GÖRAN HEDIN