
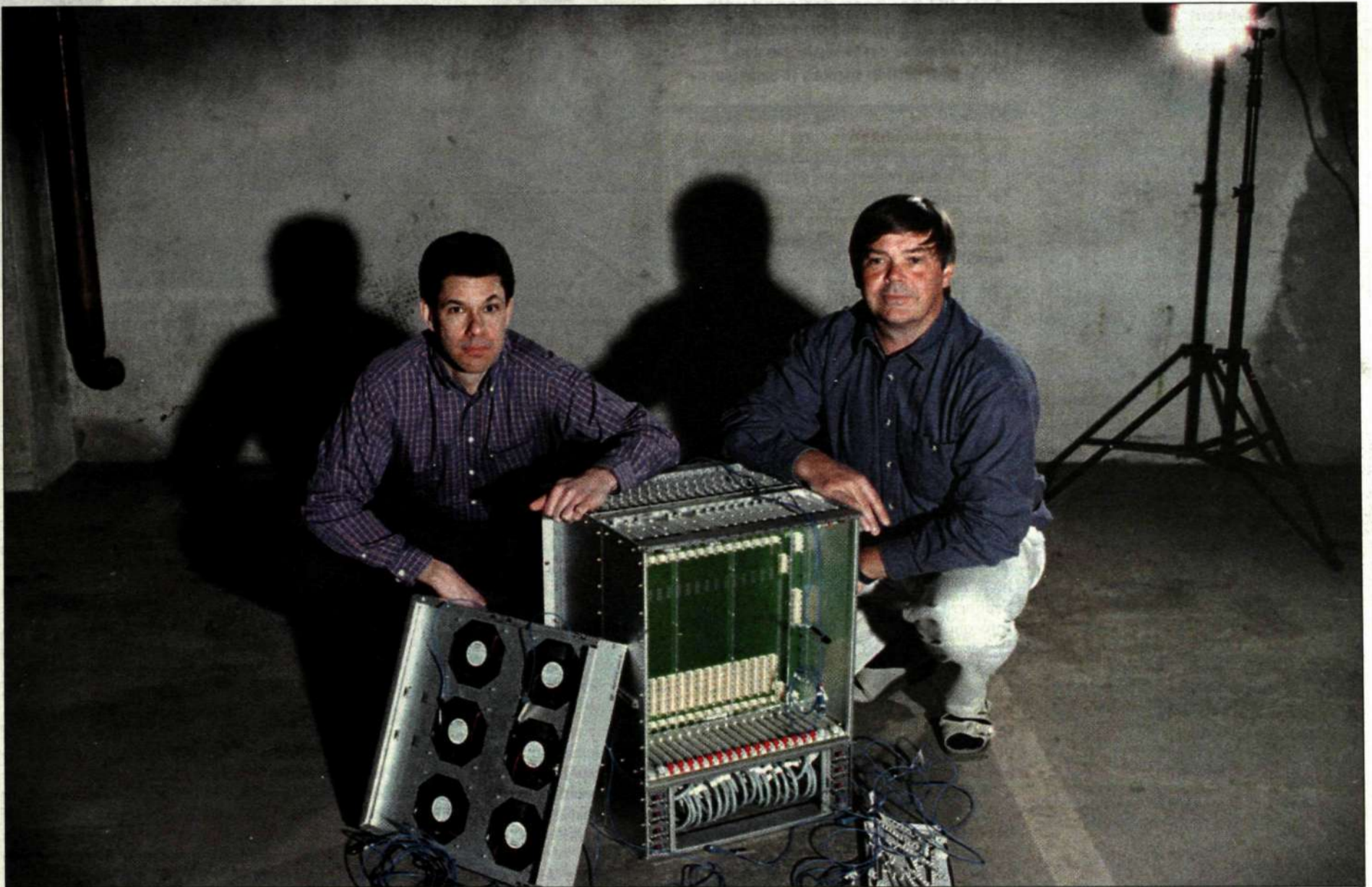


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ERICSSON  PUBLICATION FOR EMPLOYEES WORLDWIDE

No.3 • 19 MARCH 1998



Successful job. Bengt Kvist and Arne Nordlund, designers at Infocom Systems, are two of nearly 200 people who worked on developing the new switch.

Photo: GUNNAR ASK

Garage project is a success

Ericsson is now launching its new ATM switch. When the idea was initiated last summer, it was intended to be a "garage project": fast, minimal administration and with relatively limited resources. Less than one year later, the product is ready – Ericsson's ATM switch called AXD 301.

Pages 2-3

Popular pagers

Ericsson is now launching a new platform for paging systems. The project is Ericsson's largest investment ever in this area. Data services and Internet are now spurring the paging industry.

Page 5

Cannes show

Data transfer networks attracted a record number of participants to the annual GSM exhibition in Cannes. Ericsson displayed its new packet data technology, GPRS, with speeds of up to 115 kbit/s.

Pages 16-17

Give and take

Ericsson invests a great deal of money in sponsorship. But the company also wants a return on its investment. Sponsorship has a marketing objective and is becoming more important as a competitive factor.

Pages 22-23

Borås builds

The Borås plant is expecting a 50-percent production increase in 1998. Ericsson Microwave's radio link MINI-LINK is gaining popularity. To accommodate production, the plant must be expanded.

Page 15

VACANCIES SEE PAGES 27-31

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Infocom Systems launches ATM switch

Ericsson has now completed development of its own world-class ATM switch: the AXD 301. With this addition to its portfolio, Ericsson has increased its chances of becoming a supplier to be reckoned with in the datacom field. AXD 301 has been designed with the same emphasis on features that is made on telephone exchanges, which makes it unique.

Ericsson's ATM switching system can handle data communications on a level normally associated with telecom-class products.

The system never needs to be shut down, for example, but can be expanded and upgraded while in operation. The structure, including subsystems and interfaces, is designed so that it is easy to change and add functionality later on. In other words, it is ideal for operators who want to start an ATM network on a small scale and successively expand. With its 10 gbit/s and with scalability up to 160 gbit/s, the AXD 301 is one of the market's most compact, scalable ATM exchanges. Another advantage is that it can run integrated IP traffic. In other words, it can handle Internet network protocol (IP) and ATM broadband technology at the same time.

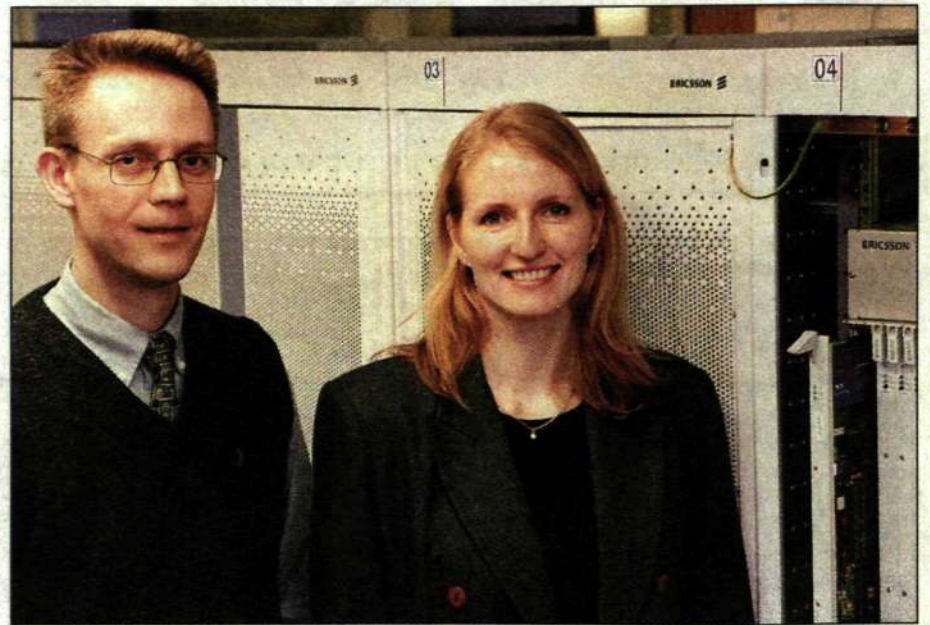
Functionality essential

"As far as I know, there are no other ATM switches on the market that have the same high degree of functionality" says Anna Sandberg who is the product manager at Infocom Systems' Datacom Network and IP Services business unit which developed the AXD 301.

The product is aimed at all types of network builders. This includes traditional telecom operators, Internet service providers and large companies that are building networks.

"Future networks will be able to handle enormous amounts of advanced data traffic. In order for operators to be able to manage and oversee a network in a reliable and cost-effective manner, great functionality will be required in the exchange system," says Martin Ljungberg, product manager.

The ATM market is not at all new. Nor is the technology new to Ericsson, which has



Compact and scalable. Anna Sandberg, product manager, and Jimmy Lindén, project manager, next to a 10 gbit/s AXD 301. Ericsson's new ATM exchange is scalable up to 160 gbit/s. This makes it one of the market's most scalable and compact units. AXD 301 can handle data communication with a level of quality that is usually associated with telecom-class products.

been active in research and development in the field as long as the ATM standard has existed. Thus, one could wonder why Ericsson is choosing to launch this particular product right now.

"Even though ATM has existed for some time, the market has just begun to get off the ground," says Anna Sandberg. "It is also apparent that requirements for ATM switches are completely different today than what they were when they first came out."

Ideal carriers for IP

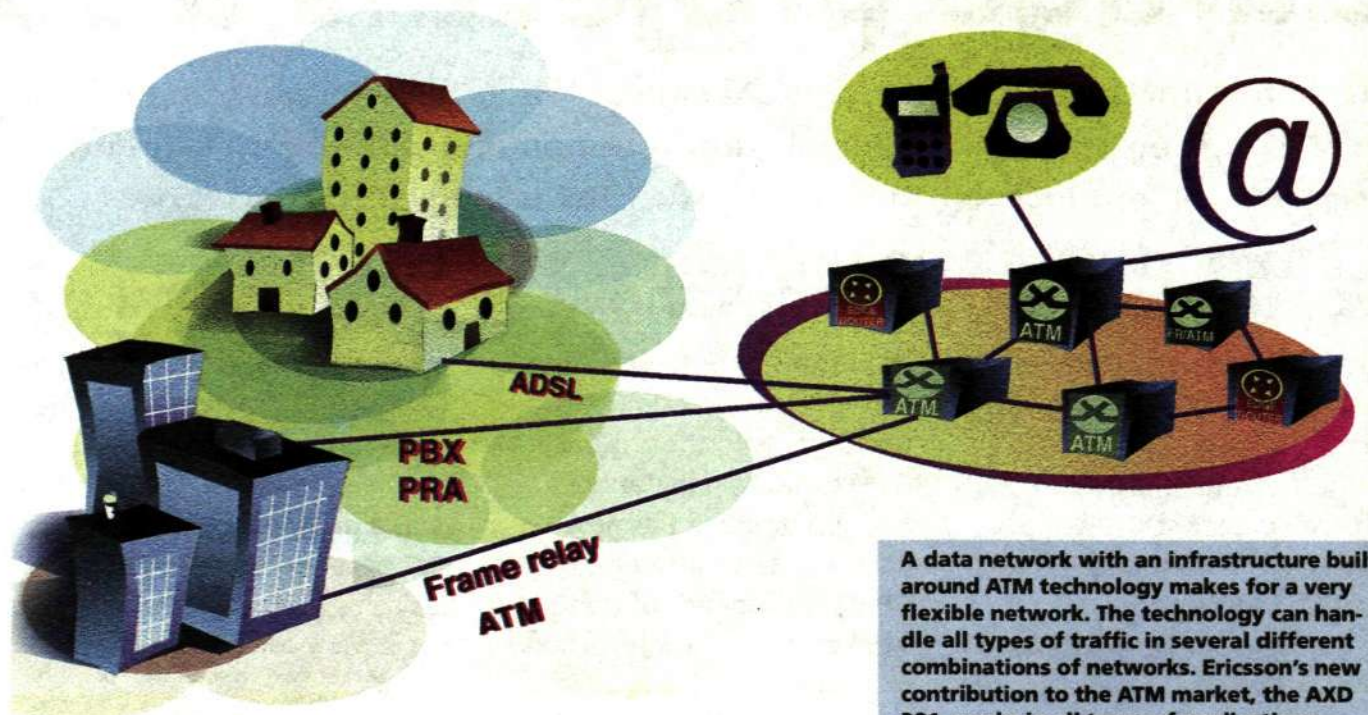
The ATM market has, so far, been characterized by smaller ATM switches for data communication on networks using frame relay transport technology. Now, the trend among operators is towards more advanced switches that can handle all kinds of traffic in several different combinations of networks.

"When we developed this product, we utilized Ericsson's skills and experience in switching technology, network construction and real-time services areas," says Martin Ljungberg.

Another driving force behind ATM is the Internet. The technology is ideally suited as a carrier for Internet protocol (IP). In combination with ATM technology, it is possible to utilize IP for multimedia and other real-time services over the Internet. A few years ago, it was thought that IP and routers alone could handle future Internet traffic.

"Most people in the industry today are in agreement that there is a long way to go before all of the problems associated with a pure IP network are solved," says Anna Sandberg. "There is a major shortcoming in IP technology in that it is not possible to guarantee transmission quality or to prevent delays. This results in poor quality of the information that is sent across the networks, such as poor image resolution on the TV screen, or delayed speech when making telephone calls. But it is also a matter of costs. Operation of an IP network requires large numbers of routers which must be connected to each other. With an ATM exchange, it is simpler, more reliable and less expensive to operate a datacom network."

Text and photo: LENA WIDEGREN



A data network with an infrastructure built around ATM technology makes for a very flexible network. The technology can handle all types of traffic in several different combinations of networks. Ericsson's new contribution to the ATM market, the AXD 301, works in all types of applications. High-speed home access and IP telephony are two examples. Illustration: HENRY JOHANNES

New work methods save time

Around 200 people have been working together under one roof on the AXD 301. That is an unusually small number for such a complicated project. The way in which they have worked is also unique.

The ATM project is headquartered in Älvsjö outside of Stockholm. It is a rather understated environment. The facilities are in the middle of an industrial area, in a whitish-gray building with small windows. There is a little bit of a garage atmosphere over it all. Work on the project is both dynamic and rapid.

"This is a very competent organization with great depth and skill," says Jimmy Lindén, project manager. "Everybody is

very involved in the assignment. That has been an important driving force."

The timetable has been a focus throughout the entire project. A project schedule was developed last spring. Everybody involved has done a very good job and the schedule has held. Everybody has been gathered under one roof.

Small teams of at most ten people have worked simultaneously on their respective areas of responsibility.

Another explanation for the good results is the strategy and work methods utilized by the project. Development, integration and testing of the product has been done in stages. That has helped when problems have arisen.

"The advantage of incremental develop-

ment is that the product and the work methods are re-analyzed several times in the early stages. This makes it possible to continually improve both the product and the work methods," says Jimmy Lindén.

The fact that everybody was together has also meant that the risks for mistakes have been minimized. It is easier to communicate with each other and to work in a non-bureaucratic environment.

"We have put our soul into this project. And it shows in the product. We are convinced that AXD 301 will be a very strong product in Ericsson's datacom offerings," says Jimmy Lindén.

LENA WIDEGREN

Breakthrough at British Telecom

Starting May 1st, British business customers were offered the "One Phone" service, developed in cooperation between Ericsson's Enterprise Networks business area in Nacka Strand, Ericsson's local company in the U.K. and the operator and distributor British Telecom.

The service is a package solution which gives companies new possibilities for creating virtual, private networks for telephony, allowing them to provide their employees with a single telephone where they can always be reached - Ericsson's telephone for combined GSM/DECT.

Greater volume

"Together, we have created a solution that is a direct response to the needs of the market and, at the same time, we have generated new business opportunities for both Ericsson and BT," says Christer Sylvén, business developer for Enterprise Networks' organization for cooperation with mega-distributors.

Both partners have managed to squeeze maximum value out of what they already had.

Ericsson's contribution to the deal consists principally of existing products and solutions which are now being marketed in greater volume with a minimum of sales effort. BT can, using Ericsson's technological solution, increase volume on its networks, both fixed and mobile.

Linked together

Companies that purchase this service receive a wireless DECT system and a Mobility Server linked to the office exchange.

Various DECT systems are then linked



The contract was signed at BT in London. Peter Richardson, manager for mobile applications at BT, displays the new dual-mode telephone for both GSM and DECT. Graham Constantine, middle, sales manager at Ericsson Ltd. is flanked by Jens Gregers Jensen, manager for mega-distributor sales.

together on BT's public fixed networks, where roaming between DECT environments is accomplished using the network's existing AXE exchanges. Outside of DECT environments, the BT-owned mobile telephone operator, Cellnet, handles traffic.

Reduced costs

Users are equipped with either DECT telephones or dual-mode terminals, depending on the degree of mobility required. Up until now, making an employee geographically independent has usually meant exorbitant costs for GSM use. Ericsson's two-system telephone or the dual-mode terminal, which unites GSM and DECT, can noticeably lower costs, since DECT provides mobile access through the fixed network.

Tariffs for fixed and mobile telephony have been combined into a single rate in the "One Phone" plan, which the customer pays regardless of which network is utilized.

Ericsson used new strategies to approach BT. All contacts were made through distributors' sales organizations, which know their customers and the market, as opposed to a technical unit.

Breakthrough contract

"This is a breakthrough contract. When we establish cooperation with new mega-partners, we need to find niches where we can offer the functionality that is not currently offered," says Christer Sylvén.

KARI MALMSTRÖM

news briefs

GSM network to Israel

Ericsson will be providing a GSM network worth USD 82 million, according to a letter of intent recently signed with the Israeli operator, Partner Communications. Ericsson will deliver a complete network to the operator, which has plans to begin operations this year. The network will be Israel's first GSM network.

Currently, 30 percent of the Israeli population has a mobile telephone, and the growth rate is high.

In addition, the average calling time per subscriber is much higher than in Europe.

Thailand buys SDH equipment

Twenty million people in north-eastern Thailand will now have access to telephones thanks to Thai operator TOT which is purchasing transport network equipment from Ericsson based on SDH (Synchronous Digital Hierarchy) technology.

"We are very happy about this order since it puts Ericsson in a good position now that the Thai government has plans to expand its telephone network, even to the more remote parts of Thailand," says Kjell Pålsson of Ericsson in Thailand.

Mobile Systems hires 64

Sixty-four employees at Infocom Systems' department for customer modification and installation of AXE - Site Installation - in Flemingsberg have been hired by the Mobile Systems business area.

In conjunction with cuts at Infocom Systems, the business area had been at risk for employee cutbacks.

The employees will continue to do the same job and most are still working in the old facilities.

"We have done jobs for Mobile Systems before. We are actually just switching hats," says unit manager Henrik Lindborg.

The unit has a total of 104 employees.

"We are now working on finding good solutions for those who will not be going over to Mobile Systems," says unit manager Henrik Lindborg.

Ericsson obtains big GSM order

Ericsson has received its first GSM order in Morocco from the operator Itisselat Al Maghirib, which is now expanding its GSM network.

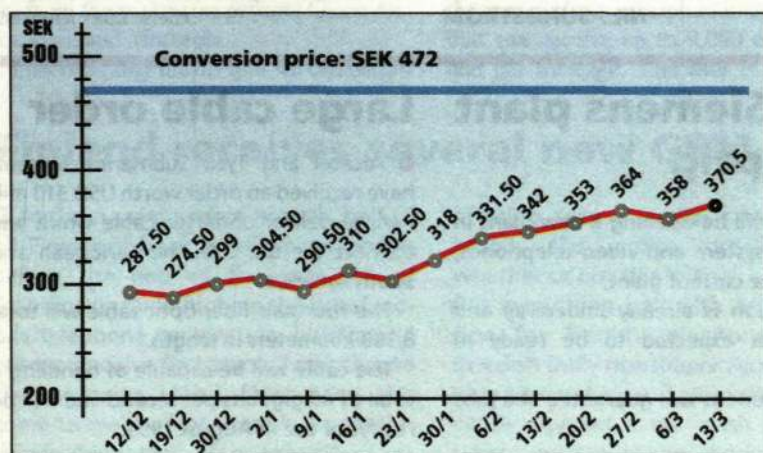
Ericsson's local company in Morocco, Ericsson Maroc SARL, will be responsible for a large portion of the installation.

It will be ready for operation at the end of 1998.

The agreement entails Ericsson's delivery of GSM macro and micro base stations.

With this contract, Ericsson will have 50 percent of the market for base stations in Morocco.

Share prices week by week in Contact



Ericsson's stock market valuation has indirect effects on all employees of the company. Now that nearly 50 percent of employees in Sweden and many worldwide have a chance to become shareholders in the company through the convertible issue, Contact believes interest in the price of Ericsson shares will increase.

On September 9, 1997, an extraordinary meeting of shareholders approved a proposal to issue convertible debentures to employees in Sweden. The conversion price was fixed later at SEK 472 per share (see diagram). Contact will show share price trends in future editions of the publication. The share price quoted will be the Friday closing sale price for Ericsson's B-shares at the Stockholm stock exchange.

The conversion period extends through June 30, 2003.

Internal bank to serve local Ericsson companies

Ericsson's internal bank, Ericsson Treasury Services, is opening new offices in Singapore and Dallas, Texas, in the U.S. The internal bank will thus be able to operate in the financial markets 24 hours a day and provide better service to Ericsson's local companies.

"I believe that the time is right to make a global investment in financial operations. The companies that we have been in contact with are very positive," says the president of the internal bank, Vidar Mohammar.

The internal bank is already profitable and a large portion of those profits come from managing the company's cash or liquid assets. The internal bank has access to approximately SEK 48 billion. About half of the money is invested externally, primarily in interest-bearing investments such as state or municipal bonds, or is invested in the currency markets. The other half is used for loans to Ericsson companies that are in need of liquid assets.

More profits to Ericsson

Up until now, interest on the part of Ericsson's companies outside Sweden has been weak. Considering normal Swedish business hours, it is not hard to understand why certain Ericsson companies in Asia and America would rather do business with a bank in their own region. In addition, it has

been difficult for the internal bank to develop a deeper understanding of local financial markets when Ericsson has been operating from an office in Sweden.

By having more local companies utilize the internal bank means that a greater portion of the profits will be returned to Ericsson. For example, the difference between interest on deposits and lending rates will go to Ericsson rather than to an external bank.

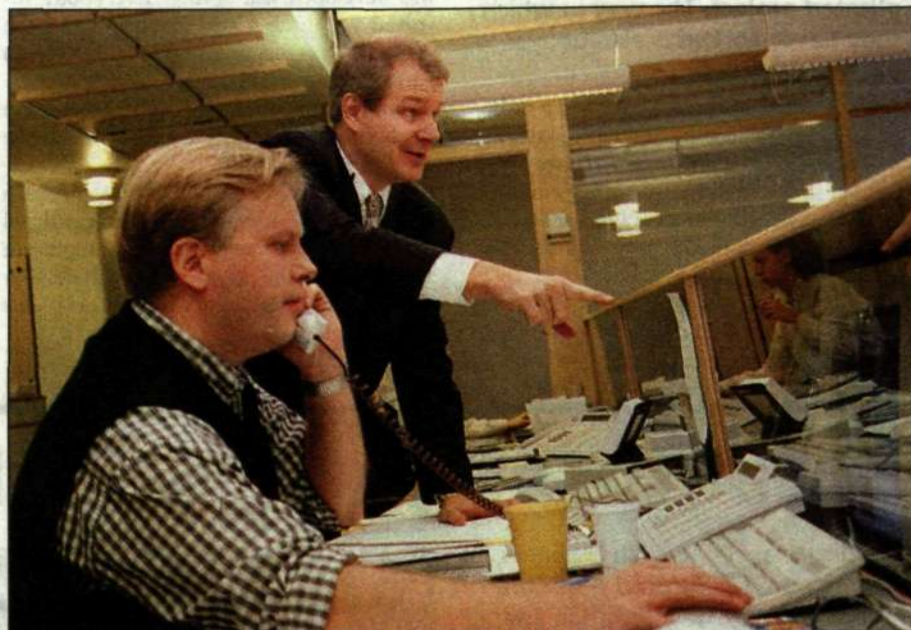
"But this means, of course, that we must be competitive, which we are today. Our ambition is to provide a slightly better interest rate than the external banks," says Vidar Mohammar.

A stronger presence in the region will also mean that the internal bank will be more able to protect Ericsson when there are disturbances in the financial markets.

Growth abroad

"When the Asian crisis hit, for example, the company unnecessarily lost some money, something which we hope to avoid in the future by assessing our liquidity needs and currency risks in advance to minimize our exposure," says Vidar Mohammar.

Opening an internal bank abroad is not unique to Ericsson. Other Swedish export companies such as Volvo, SKF, Sandvik and Elektrolux already have regional financial offices in these parts of the world. Ericsson has grown by 20 to 30 percent per year and that growth has largely been abroad. The



President Vidar Mohammar and Christer Franzén at the "front office" of Ericsson's internal bank where, among other things, all currency transactions take place. Christer will be moving to Dallas this summer, together with Ronan Slater from the internal bank office in Ireland, to start up operations in Ericsson's largest market.

Photo: MIA WIDELL ÖRNUNG

U.S. and China are now Ericsson's largest markets.

"Our goal is that the internal bank will increase the amount of internal loans from current levels of just under 70 percent, and reduce the amount of external dealings," says Vidar Mohammar.

MIA WIDELL ÖRNUNG

Ericsson Treasury Services, TSS, has operations in Stockholm and Dublin. It has 35 employees, including 10 buyers who oversee internal company loans, currency management and liquidity management.

Continued success predicted for NMT

Ericsson had its best sales performance ever in 1997 for its analog mobile telephone system NMT. A strong product program, a clear strategy for the future and the unique characteristics of the NMT system indicate continued success.

"We are offering new functionality and have noticed additional needs in the market. Now we are focusing on offering services such as speech coding to prevent unauthorized monitoring," explains Olle Ljungfeldt, who is responsible for the NMT and TACS systems in the Mobile Systems business area.

NMT 450 advances

Last year saw strong growth for NMT 900 in Thailand, but it is NMT 450 which is responsible for the success. Fifteen new operators emerged in Eastern Europe and Russia in 1997. And while that market is growing, Western European nations are implementing new strategies for their 450 networks.

"NMT 450 provides coverage over a large geographic area at a low cost, since the lower frequencies have longer ranges. That is why Norway has decided to continue developing the 450 network in Norway, for example," says Olle Ljungfeldt.

New technology

Currently, there are a total of five million NMT subscribers worldwide, 60 percent of which are connected to systems delivered by Ericsson.

Even other players, such as Nokia, have increased their activity in the market, which has helped increase interest in NMT.

Olle Ljungfeldt emphasizes that old technology is not involved, despite the fact that the first NMT system was put into operation back in 1981.

"The specifications have existed for a long time, but the actual technology continues to improve. With our new version of the NMT system, we have a level of functionality that corresponds to what is found in GSM today. Among other things, we can

offer SMS (Short Message Service) and we can handle data transmission at 14.4 kbps." How long can improvements in NMT continue?

"As long as our customers are earning money on their networks. For most of them, the investment and depreciation has already been completed. This means that the operators are prepared to develop their networks to ensure a continuous flow of income," says Olle Ljungfeldt.

An ongoing trend in Western Europe is that GSM is taking over NMT frequencies in the 900 band, to the benefit of the increasing number of GSM subscribers. But this also means business opportunities for Ericsson.

"We help operators reconfigure their networks with fewer frequencies. A majority of our customers have both GSM and NMT and we generate a lot of synergy by retaining both networks," explains Olle Ljungfeldt.

NILS SUNDSTRÖM



Advancements in analog mobile telephony. Olle Ljungfeldt is responsible for the NMT and TACS systems within the Mobile Systems business area.

Photo: KURT JOHANSSON

Industry news

Nortel sells long distance

The Texas-based telecom and Internet operator Thrifty Call has purchased exchange equipment from Nortel.

Thrifty Call will use it for long-distance traffic.

The order is worth USD 24 million.

One terabit over fiber optic line

Lucent Technologies has succeeded in sending one terabit per second (1,000 gigabits per second) across a distance of 400 kilometers of fiber optic cable. This was accomplished, technically, by sending 10 gigabits per second over 100 different wavelengths. The result was twice as fast as earlier attempts.

New Siemens plant in Leipzig

Siemens will be opening a new plant in Leipzig for system and video telephones, replacing the current plant.

Construction is already underway and the plant is expected to be ready in October.

The investment will guarantee 500 jobs in Leipzig.

Large cable order

Alcatel and Tyco Submarine Systems have received an order worth USD 310 million, to deliver undersea cable which will connect the U.S., the Caribbean and South America.

The four-pair fiber optic cable will total 8,300 kilometers in length.

The cable will be capable of handling a total of 40 gigabits per second and will be ready for use in August 1999.



Low user costs in conjunction with new data services make pagers attractive. France is the largest market in Europe today, according to Peter Gustavsson, marketing manager for pagers at Ericsson Mobile Communications, shown standing on the Promenade des Anglais in Nice.

Photo: NILS SUNDSTRÖM

New era for paging systems

Ericsson is now focusing heavily on data services for personal pager systems. With the new UMS 8000 (Universal Messaging Solution) platform, operators will be able to offer customized solutions based on open interfaces and a flexible architecture.

The personal paging industry is currently undergoing great changes. Advances made in the Internet world and the introduction of new data services create possibilities for new sources of income for paging operators.

At this year's EPPA congress (European Public Paging Association) in Nice in February, Ericsson unveiled its new pager platform. The UMS 8000 is Ericsson's largest undertaking in the field to date.

"With the introduction of this product, we are showing the market that we are serious. Today we have five percent of the world market for pagers – the goal is to reach 20 percent by the year 2002," explains Per Jakobsson, manager of the Wireless Messaging Systems business unit at Ericsson Radio Messaging.

Supports all standards

The UMS 8000 supports all of the major pager standards; the analog POCSAG and FLEX as well as ERMES for high-speed transmissions. The new platform's open interface means that Ericsson also can introduce products from other suppliers in order to offer comprehensive solutions. This makes UMS 8000 unique, compared to systems from the major competitors Glenayre, Tecnomen and Motorola.

"This flexibility means that we can better



The UMS 8000 is Ericsson's largest undertaking in the pager field to date. The system was recently unveiled in Nice by, among others, Bengt Didner, manager for product development at Ericsson Radio Messaging, and Per Jakobsson, manager of Wireless Messaging Systems business unit.

meet the needs of the market. We offer a total system with all the necessary subsystems, which is a cost-effective solution that will enable operators to expand," explains Bengt Didner, manager for product development at Ericsson Radio Messaging.

UMS 8000 has been developed by Ericsson in Stockholm, Sundsvall and Milton Keynes in the U.K. and will be introduced to the market this summer. The product line includes a new family of base stations with improved transmitters, as well as a completely new hardware platform from Sun Microsystems.

Advancements in pager technology means that pagers are no longer just simple receivers that signal when somebody is calling and display a telephone number. Today, there are advanced alphanumeric receivers that can receive up to 9,000 characters of text per message. The user is also offered

different services such as stock updates, sports news or the weather.

"The low user costs for pagers makes them attractive. In the western world, young people are a strong customer group, but the new information services attract a considerably wider customer base," says Per Jakobsson.

The U.S. is currently the largest single market – but in just a few years, China is expected to take over that position. There are a total of 150 million pagers worldwide. That number is expected to increase to 215 million by the year 2000.

"In order to succeed in competition against other wireless technologies, pager operators need to position themselves," emphasizes Bengt Didner.

This will lead to, among other things, cooperation with computer manufacturers. Pagers built into laptop computers could, for example, notify when there was incoming e-mail.

New terminals

Ericsson is a newcomer on the receiver side. Their first pagers were introduced one year ago. The first alphanumeric terminals for the ERMES standard and a numerical version for the FLEX standard came out at the beginning of 1998.

"New pager services will mean an increased demand for capacity. That is why we are focusing exclusively on high-speed terminals for ERMES and FLEX," says Peter Gustavsson, marketing manager for pagers at Ericsson Mobile Communications. "The goal is to become a significant player on the terminal side and a market leader within the ERMES standard."

NILS SUNDSTRÖM

Finland receives several new GSM services

■ At the current rate of growth, half of all Finns will have a mobile telephone before the end of the year. All of Scandinavia ranks high on the list of mobile telephone penetration, but Finland takes a decisive first place. According to the magazine Mobil, Finns have also come to realize that there is a negative side to this as well. Many subscribers are being overwhelmed with text messages

offering sexual services. According to Mobil, the police are evaluating whether or not this is legal. But everything isn't filth and degradation for Finnish telephone users. A Swedish Daily newspaper recently wrote about how the gas station chain Esso recently opened a car wash in Helsinki where customers can choose the wash program through their GSM telephones.

The car wash is billed directly on the telephone bill. Esso has plans to open additional GSM car washes in Helsinki. At Telecom Finland, 150 people are working to develop new services for GSM telephones. There are already vending machines at which it is possible to order a soda through a mobile telephone.

PATRIK LINDÉN

hello there

Gunilla, what are you doing in Slough?



The project office for Mobile Telephones and Terminals' major project, Time To Customer (TTC), is located just west of London in Slough.

Gunilla Langö has moved from Ericsson Mobile Communications in Linköping to Slough and is now working as a managing assistant within the TTC project.

• When did you move to England?

I came over here December 1st of last year and am planning to stay until December 1999, when the project is expected to be completed. It is very stimulating to be able to go abroad and work. This is the first time that I have been stationed abroad. Before I moved here, I was a secretary for the Linköping plant manager. That was a position which I had held since starting at Ericsson in 1991.

• What are your job duties?

In English, my position is called "management support". That means that I am primarily an assistant to Håkan Liedman and Kjell Gustavsson. Håkan is the project head for TTC and Kjell oversees project management. There is a lot of report writing and a lot of information that has to go out. I am also responsible for some human resource tasks, and I am the memo administrator here.

In the TTC project, Ericsson is working together with the international consulting firm Anderson Consulting, with whom we share office facilities at an office hotel in Slough. Quite simply, one could say that TTC is about making the path for our mobile telephones – from our suppliers to the plants, to resellers and finally to the customer – as simple and reliable as possible. An important goal is for all of the companies worldwide to work in the same way. Currently, a total of 250 people are involved in the project and right now we are about 80 people working on it here in Slough.

• How do you like living in England?

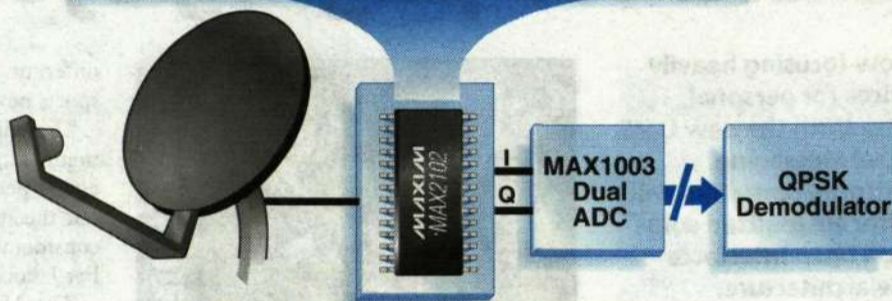
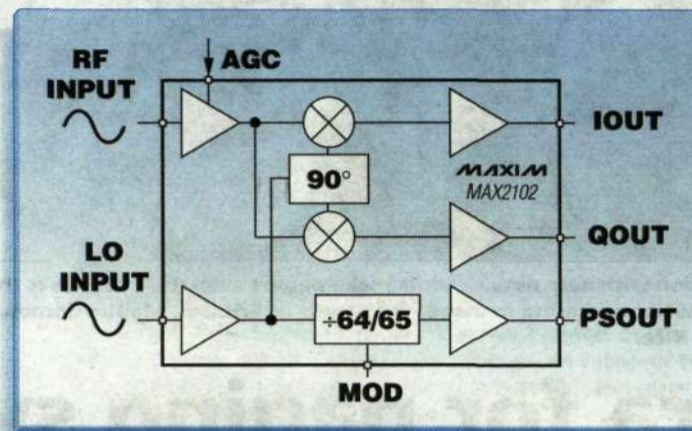
Very well. How could one not when all of the Easter lilies are blooming and there are Japanese cherry tree blossoms everywhere? I live in the upstairs of a typical Victorian house in Windsor and it takes ten minutes by train to get to work in Slough. Of course the workdays are long and things are very crowded and somewhat antiquated at the office, but there are so many positive things that compensate.

GUNILLA TAMM

DIRECT-CONVERSION RECEIVER IC SLASHES SATELLITE TUNER COSTS

Eliminates IF LO, IF Mixer, and SAW Filter

- ◆ 950 to 2150MHz Tuned Directly to Baseband Analog I & Q Outputs
- ◆ Tuner Board Reference Design Assistance Available
- ◆ -19dBm to -69dBm Input Levels per Carrier
- ◆ >50dB AGC Control Range
- ◆ NF = 13.2dB
- ◆ IIP3 = +6.5dBm
- ◆ Automatic Baseband Offset Correction
- ◆ Single +5V Supply
- ◆ Dual-Modulus Prescaler (/64, /65)
- ◆ Evaluation Kit Available
- ◆ Companion Dual 6-Bit ADC Available (MAX1002/MAX1003)



The MAX2102[†] directly tunes L-band signals to baseband using a broadband I/Q downconverter, eliminating expensive dual downconverter tuners broadband systems.



FINALIST

Designed on Maxim's GST-2 high-frequency bipolar process (with $f_T = 27\text{GHz}$), the MAX2102 achieves $\pm 3^\circ$ quadrature phase accuracy and less than 0.5dB gain mismatch between the I and Q channels for the entire frequency range. An input IP3 of +6.5dBm allows a single, discrete preamplifier to serve as the interface to a 75 Ω cable. The front end accepts carrier levels of -69dBm to -19dBm and integrates a VGA with more than 50dB dynamic range. The large automatic gain-control (AGC) range is necessary to accommodate rainfall attenuation effects, differences in cable lengths, and less-than-perfect DBS parabolic-dish-antenna alignment. Channel selection in the baseband is performed by discrete, low-cost, lowpass LC filters. Digitizing of Baseband I/Q outputs is handled by the MAX1003, 6-bit ADC.

[†] Patents pending.



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portrait

It is rare to hear barking at work, but when Jana Tengman comes home there is a fair amount from her pointer dogs, Biggles and Keron. But then it is usually out of joy, like when Biggles and Jana flew along the trail in Finland last year, ending up as world champions in ski-joring. This system designer at the Ericsson company Erisoft in Skellefteå is among the elite again this year.

No barking at work

Jana has been at Erisoft in Skellefteå for just over a year. This 23 year-old woman is just as goal-oriented on the job as she is on the ski trail, something which has perhaps been inherited from her mother Inga-Lill. She started out on the production floor and today is manager for Trätek in Skellefteå.

"Yes, we are rather goal-oriented once we set our minds to something," admits Jana with a laugh.

Last year a joyous Jana, together with her pointer dog Biggles, crossed the finish line as world champions in ski-joring in Finland. She arrived like a bolt of lightning out of a clear blue sky. "Yes, outside of the ski-joring community, there were probably not many who had heard about me," says Jana.

But it didn't take them long at Erisoft in Skellefteå to honor their co-worker when she came home with the World Championship gold medal.

This idea of combining skiing with dogs into the sport of ski-joring came rather naturally, since Jana has always been interested in dogs.

"Yes, dogs have always been my great interest, I am unfortunately allergic to other furry animals," she says.

She has also inherited an interest in hunting from her mother, Inga-Lill, and so it was natural to put on the skis and take off with the pointers.

"There are more and more skiers who are moving over to the sport of ski-joring. But in my case, my only previous race experience was a few races in elementary school," says Jana.

Now things are going full speed with Biggles and the pup Keron. They go out on training runs several times a week. This season has included the European Championships in Germany, but that was a race that Jana was not too happy with.

"But I am satisfied with my fourth place finish in the distance that I competed in," says Jana. "Considering the almost scandalous conditions, very poor arrangements and little snow," she adds.

Takes vacation in winter

Jana has already triumphed in the World Cup. There are five races and she won the first one, which was held in Östersund.

"One of my goals has been to win here in Scandinavia," says Jana.

You see, it's that goal-oriented determi-

nation again. And next year will be time for the World Championships again...

"Of course I am planning to do everything I can to defend my World Championship gold from last year," she says.

Since there are quite a number of competitions and lots of travel, most of her vacation gets used up in the winter months.

"I am thankful that they are understanding at work," she says. "It's not a problem to take out vacation when it is not really a vacation period."

Gold meant more space

On the other hand, she has much less free time during the summer months.

"Of course I dream now and then about a sunny vacation for a change," admits Jana.

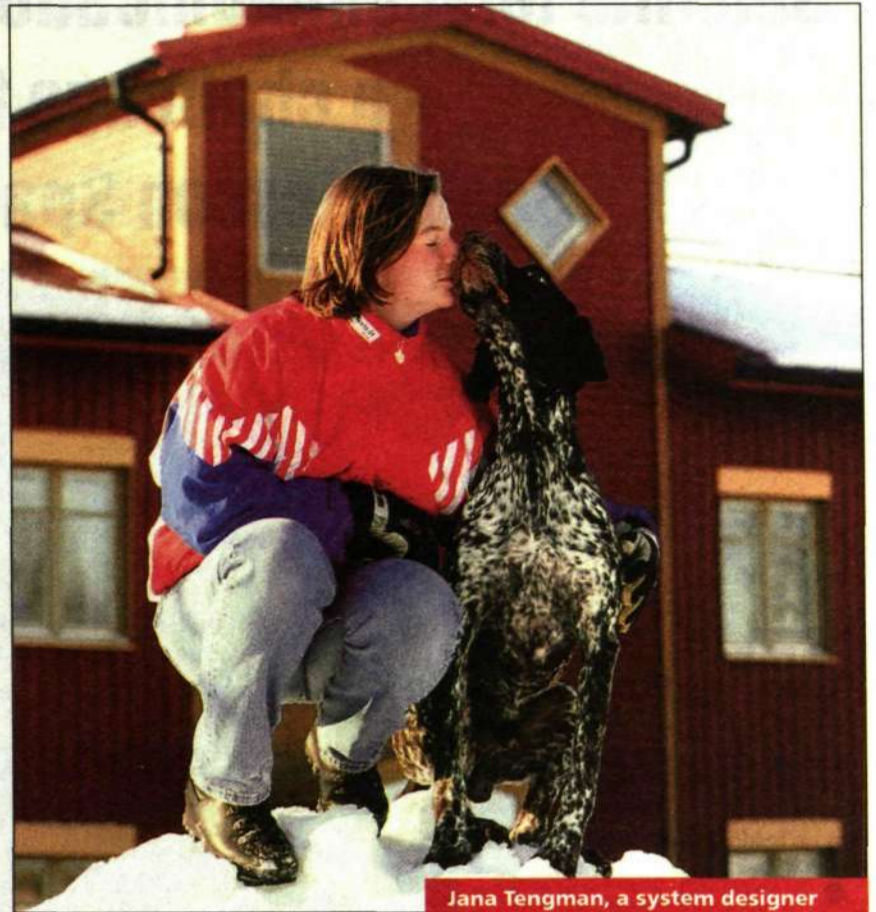
"But that will just have to wait," she adds.

At Erisoft, she works with the radio network test system and she is very satisfied with her job as a system designer.

"Yes, it is a rather exciting job," she says.

And when she isn't competing on the ski trail, she enjoys hunting small game, especially in the mountains.

"It is not so important what one gets, but rather, the most fun is when everything goes well with the dogs, to be able to see them working," says Jana, who made a



Jana Tengman, a system designer at Erisoft in Skellefteå, with her companion, Biggles. She became the world champion in ski-joring in Finland last year.

Foto: HANS-JØRGEN RAMSTEDT

promise to Biggles before the World Championships last year.

"Yes, if we took the gold, then we would get a bigger car so that he has more room," laughs Jana. And she did.

Jana is not only an active competitor, she also works on the sponsor side within the ski-joring section of the Skellefteå dog club.

"We also try to educate people as to what the sport of ski-joring is all about. We have even had demonstrations in downtown Skellefteå."

And who knows, perhaps Jana will show up at the Olympics at Salt Lake City in four years, if ski-joring becomes a new sport.

"I think that it would be a rather enjoyable sport for the public to watch," says Jana, "and besides, there are quite a few countries in the world that compete in this sport."

But until then, it is the Swedish Championships, the World Cup, the World Championships and all of the other competitions that await Jana and her racing companions, Biggles and Keron.

HENRY WIKSTRÖM

from the past

Ericsson grew in Verona

The year was 1925. Ericsson had just installed its first complete telecom facility in Italy in the historic town of Verona. For the first time, both the switchboard equipment and the telephone network were delivered in one package.

Verona, situated by the Adige River at the foot of the Alps had, at that time, about 90,000 inhabitants.

Up until that point, all of the buildings in the city had been limited to the area inside the medieval city walls.

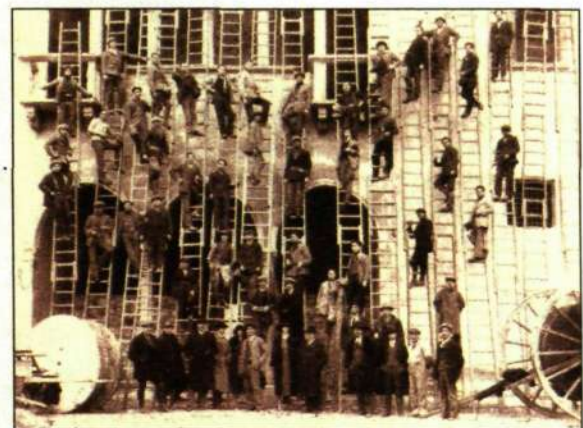
It had been forbidden to build outside of them up until then. As a result, almost all of the telephone grid that Ericsson installed lay inside the city walls. Only three small

distribution areas were built outside the walls.

The building that housed the automatic switchboard was situated behind the Roman amphitheater. The switchboard had a capacity of 3,000 lines. The telephone network was initially built for 1,500 subscribers. The cable was delivered by the Italian firm Pirelli, in dimensions up to 400 pair. The lines were run through underground cement pipes. The total length of the network exceeded 1,410 kilometers. The installation in Verona was a welcome addition to the telephone network in Italy. Most of the switchboards were still manual. Callers had to make requests to a telephone station to be connected to those one wished to talk to.

Ericsson grew quickly in Italy, a country which during several years was the company's largest market.

Many remember the legendary companies FATME which manufactured switchboards, and SIELTE which built telephone networks all over Italy. For a long time, FATME was Rome's largest manufacturing industry. SIELTE was responsible for a majority of the telephone networks in southern Italian cities, especially in Naples and on Sicily. In the 1990s, FATME



Ericsson's installers with ladders and other equipment in front of Castel Vecchio in Verona in 1925.

and SIELTE merged and formed the current Ericsson Telecomunicazioni S.P.A. A large portion of the network construction operations were sold last year to independent contractors.

THORD ANDERSSON

Satellite telecommunications – a challenge for Saab Ericsson Space

Ericsson in space



Saab Ericsson Space produces computers for the European Space Agency's Ariane rockets, which are launched from a base in French Guyana to install satellites in space.

Satellite-based telecommunication has brought about a revolution within the space industry. Large fleets of commercial telecommunications satellites have created a mass market for space technology, leading people to dub this era the third wave of space exploration. For Saab Ericsson Space, these changes have meant that an increasing number of transactions are with private entities. But the biggest challenge lies in production. With sharply increased volume, it is becoming increasingly important to manufacture quickly and at a low cost.

S

aab Ericsson Space, headquartered in Göteborg, was founded in 1992 when Ericsson and Saab merged their space operations. The company's 550 employees develop and manufacture products for the space industry, including computers, antennas and microwave electronics. An important part of their operations is development of so-called separation systems – the equipment that frees a satellite from its main rocket and positions it in orbit around earth.

Saab Ericsson Space's largest customer is the European Space Agency (ESA) which is a joint venture between 14 European nations, including Sweden. Among other things, the ESA has developed the Ariane rocket, which is launched from Guyana, for Arianespace. Almost 50 percent of Saab Ericsson Space's sales are to the ESA, with the company manufacturing, among other products, computer systems for the Ariane rocket and antennas for communication between the rocket and ground control.

Prestigious contract

Manufacturing of the computers for the Ariane rockets is one of Saab Ericsson Space's many prestigious contracts. The Ariane rocket is the world leader in sending satellites into space for TV broadcasts and for ground observation. Saab Ericsson Space's computers have been on board since the very first Ariane rocket launches in the 1970s.

Space exploration has traditionally been a government-led undertaking, ever since the pioneer days in the 1960s when the Soviet Union and the United States were competing for control of space. That period, which mostly involved scientific studies and development of new technology, is usually called the first wave of space exploration.

During the second wave, in the 1970s and 1980s, space exploration took on a greater practical importance. Governmental and quasi-governmental space agencies, such as the European Space Agency, sent up satellites for research, communication, navigation, ground observation and television transmission.

As large private conglomerates are now planning the placement of networks of satellites in space for telecommunications, we can talk about the third wave in space exploration. Motorola's Iridium, the first satellite-based mobile telephone system, will be put into operation at the end of 1998, while the first of a total of twelve satellites will be sent up into space in a project overseen by ICO Global Communications. Saab Ericsson Space is providing antennas and microwave technology to ICO, a contract which is very important according to project leader Fredrik Ehrensward.

Iridium will provide a mass market

"Our position as a subcontractor for ICO Global Communications, is an important breakthrough into the American market. We have previously sold separation systems to American customers, but with the ICO deal, we are selling satellite equipment for the first time. It is our hope that this will open the door to more business in the United States, including Teledesic's investment in broadband data communication via satellite," Fredrik Ehrensward relates.



Ulf Berg, vice president and Ivan Öfverholm, president of Saab Ericsson Space.

Photo: NICLAS HENNINGSSON

The hundreds of satellites for Iridium, ICO, Teledesic and the other planned satellite telecommunication systems will create a mass market for space technology. Changes in the space industry will be significant with companies expanding from producing their products in limited numbers to all of a sudden producing thousands of units. Saab Ericsson Space is delivering over 3,000 units to ICO satellites, and the significantly increased volume makes production a much more important factor.

"Emphasis on production has increased significantly," says vice president Ulf Berg. "Previously, the amount of time spent on manufacturing a product was insignificant. But now that volumes are increasing considerably, it is in production that we are suddenly making money; that is where we create competitive advantages."

New private interests

"But the third wave of space exploration has not only brought on new challenges for production. Just as important a change are the new, private interests that are showing up in the market," says president Ivan Öfverholm.

"Already, our sales to private customers have increased to approximately one-third of the total. The rest of sales are to state financed space projects. In just a few years, it will probably be fifty-fifty."

Both Öfverholm and Berg believe that the increased commercialization of space exploration will benefit Saab Ericsson Space. As early as the time of the merger in 1992, the company began working to reduce dependence on state-financed space projects. The well established and highly regarded operations of both parent companies are a strength in marketing to private operators of telecommunications satellites.

"We see a major advantage in our commercial background," explains Öfverholm. "The combined expertise of our parent companies within telecommunications and aviation technology gives us a competitive edge in our dealings with these new, private operators. In addition, we are a relatively small company which means that we can quickly adapt to the present needs of the market."

NICLAS HENNINGSSON

column

Gabriel Anderbjörk is the director of Business Intelligence, which has company-wide responsibility for monitoring outside developments. In a new, regular feature, he will illuminate our world, what is going on in it and how Ericsson fits into that world.

Ericsson must set the rules of the game

If it had not been for the outside world, then we would not have existed. And just as quickly, the outside world can see to it that we do not exist tomorrow. We often forget that very large, successful companies have gone from being the fatted calves of the stock market to standing at the edge of or passing the brink of ruin. IBM, Digital and Wang are all examples of companies from the 1980s that are in crisis or bankruptcy, while Apple can be cited as an example of a company that, during the 1990s, has seen all of its market disappear.

Just being big is not protection against being gobbled up by somebody else in the market. McDonnell Douglas was long the player who set the tone in the aviation industry. Following a defeat in a bidding war, management threw in the towel and let the company be bought up by market leader Boeing. In our own industry one need only mention WorldCom which recently bought up much larger MCI.

Just the opposite is true as well. Successful companies today can quickly go from almost nothing to having world dominance within a specific niche. The obvious examples are Microsoft, Intel and Cisco, but they are not the only ones. Oracle is on the way to achieving total domination within the database industry, WorldCom now has more than 50 percent of all Internet traffic in the United States, America Online has more evening viewership time than does CNN, and so on. The key to success is, obviously, to define a niche, or those niches, where one has very strong competence and marketing ability. Then one must quickly enter the playing field, change the rules and play so quickly that traditional players do not have time to keep up with the changes. In those industries where that is the recipe for success, a few small companies can easily bring global corporations to their knees in a short period of time. As was said, it has happened before and it can happen again...

Ericsson is a player which has built parts of its success on just such rule changes. The mobile telephone industry would probably not be where it is today if a few people within Ericsson had not decided, at an early stage, to play according to the rule that mobile radio was no longer just something for the military and government agencies, but rather a product for regular consumers (even though it was initially aimed at upper-income target groups).

The general understanding right now is that the game is being driven forward by the IP (Internet protocol) industry with people like John Chambers of Cisco in the lead. Even Microsoft's Bill Gates is of course an influential director. Now it is imperative for all players, both old and new, to decide which game it is they want to play. One thing is clear: no single company, regardless of size, will be able to successfully play at all levels.

Starting with this issue of Contact, Ericsson's Business Intelligence Network (EBIN) will contribute short accounts of actual events taking place in the outside world. The goal of the corporation's BI operations is to make sure that we as a company take note of both strong and weak signals in the market and that we let those signals influence us in both our strategic and tactical decisions.

In the end, the purpose of all of this is to ensure that we continue to be a large, profitable and dominant player on the playing field that the communication industry of the future will offer us.

You can always reach the EBIN through our e-mail address: ebin@lme.ericsson.se.

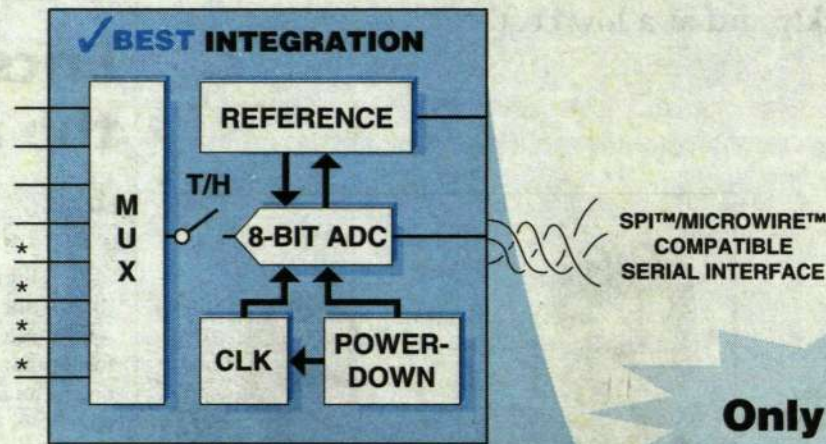
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WCDMA installed at NTT DoCoMo

At the end of last year, the support system for the WCDMA test system was shipped to Japan, and in January of this year two base stations, a radio control unit and a switching unit were shipped. The test system was installed at Ericsson's customer, NTT DoCoMo, in Japan, at the beginning of the year.

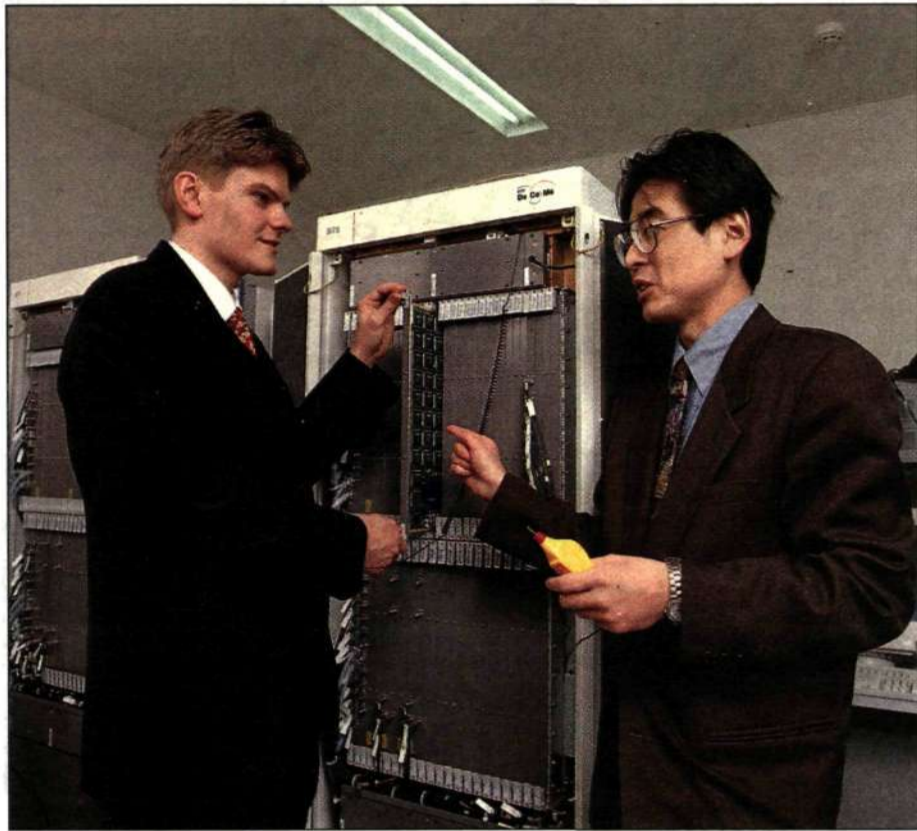
"Approximately twenty employees, both Swedish and Japanese worked intensively on the installation at NTT DoCoMo's test lab, which is situated at Yokosuka Research Park, fifty kilometers south of Tokyo," re-

counts Torbjörn Möller, who is Ericsson Radio Systems' project manager for the NTT DoCoMo project and stationed in Kista.

Following the installation, the first acceptance tests were conducted in Japan and further tests for approval were made in Kista during February.

Last summer, Ericsson received an order for another WCDMA test system, this time for Japan Telecom. The system will be delivered to the customer in September. Half of the people who are working on the NTT DoCoMo test system will be present for that installation as well.

GUNILLA TAMM



Mattias Thidé, left, together with Koichi Kojima at one of the two base stations for WCDMA, which was installed in the customer's test lab in Yokosuka, Japan.

Photo: MASATO SUDO

Ericsson Review focuses on the new ATM switch

In the latest issue of *Ericsson Review*, there are a number of articles on ATM transmission technology, many of them directly relating to Ericsson's new ATM exchange, the AXD 301. The exchange has impressive performance. Look for the articles on pages two and three in this issue of *Contact* as well.

For the past 75 years, Ericsson has written about its research and development in the journal *Ericsson Review*. The journal is published four times a year in English and Spanish. It is free and is also available on the Web. Recently, the 1/98 issue of *Ericsson Review* was published.

You can order the journal on memo at LME.LMEERCO or find it at the fol-

lowing Web address: <http://www.ericsson.se/Review/>.

In the latest issue, *Ericsson Review* concludes a series of articles about the company's environmental work. Earlier issues have addressed, among other things, life cycle analyses. This issue discusses how Ericsson can utilize the knowledge from these analyses in order to label its products as environmentally friendly according to environmental standards such as ISO 14000.

There is still no consistent method for the environmental labeling of telecom products.

Currently, different types of labeling are used in different markets.

PATRIK LINDÉN



diary



Mark Wightman is the project leader for the Internet World Show trade fair.

Mark the marketing manager gears up for Internet World

Mark Wightman is manager of marketing communications for The Enterprise Networks division of Ericsson in the U.S. In October, he was asked if he could be the project manager for Ericsson's first participation in an international trade fair for the Internet. The Internet World Show was held in Los Angeles on March 9 - 13.

Monday We're exactly two weeks away from our first Internet World show, which signals many alerts on my long checklist. Now is the time to begin finalizing staff schedules, pre-show training, service orders and, of course, the press meetings that will take place at the show. Today was spent juggling the checklists of two shows. I'll be managing the Computer Telephony Expo show next week in Los Angeles before taking on the spring Internet World. My memo box is full of e-mails with requests for information about the show and about our participation.

Tuesday Today began with fax approvals of the graphic presentations for each of the solution areas represented at the exhibit. Eckerud Exhibits of Stockholm is busy preparing the graphics and exhibit properties for shipment halfway around the world. In the afternoon, I was on a conference call with the New York office, the PR agency, and colleagues in Stockholm, Lynchburg and Richardson. We spent most of the hour and fifteen minute-long conference discussing the press strategy and preparations for staff training. My tasks are to have the staff schedule and pre-show training agenda distributed by week's end.

Wednesday My goal for today was to send a draft of the agenda to each of the staff training presenters for review, as well as to finalize the staff schedule. By the end of the day, I completed these tasks and as I scanned my checklist, I concluded that more items could be checked off as the day went on. I got a call at the end of the day from a guy

working at Ericsson in Spain. It was midnight in Spain and he was still at the office. He was just calling to find out how he could be added to the Ericsson registration list. I assured him that he'd be added to the list, but had to ask why he was still at the office at midnight! He told me he was locked out of his apartment, so he decided to go back to the office and get some more work done.

Thursday Thursday is the steering group conference-call day. I began the day preparing a new list for today's teleconference. We finalized the arrangements for publicity and communications, as well as the arrangements for our Partners' Pavilion area of the exhibit. My frustrations reached a high point today because of several last-minute changes to the list of partners participating in the exhibit.

I've learned, however, after many years of doing this, that last-minute changes are inevitable and I should just relax and do what I can to help make these changes as painless as possible. Our conference call lasted for an hour and twenty minutes, with several action items delegated to the participants. We were reaching our last week before the show.

Friday This was the day I'd been dreading. This is my last day in the office for two weeks and final plans needed to be made for the CT Expo show on March 3-5. I had to call-forward my phone to actually be productive this morning. It seems like I've done nothing but accept phone calls the past month. Today's objectives included confirmation of the arrival of the exhibit to L.A. from Stockholm. The exhibit consists of 37 shipping containers airfreighted to Los Angeles International Airport. The containers will need to be cleared through customs and then shipped to a storage facility before the show. Once the shipment was confirmed, the hard part was over. All that was left was to gather up my 18 or so file folders, my laptop and my patience and head home to pack.

See you in Los Angeles!

WAP makes it easier to surf

Following a year of intensive negotiations among rivals Ericsson, Nokia, Motorola and Unwired Planet, WAP – Wireless Application Protocol – is now being released

WAP combines mobile telephony with the Internet. It makes it possible to create advanced mobile telephone services and to read Internet pages from mobile telephones.

WAP is a license-free protocol (set of rules) for wireless communication that is not linked to any special mobile telephone standard, but can operate regardless of the carrier.

The companies that are behind WAP have approximately 75 percent of the world's mobile telephone market. This combined clout is expected to make WAP into the international standard for mobile telephone operators and Internet Service Providers (ISP) who want to get into the wireless market.

In order to strengthen its acceptance, the protocol is license-free. It is hoped that WAP will unleash the market's potential in the same way that the Internet did for the computer industry. With a widely used, free standard protocol, the usual fragmentation into different standards for Europe, Japan and USA, along with different systems for different manufacturers, can be avoided.

Play the odds with your phone

Up until now, the fragmentation of the mobile telephone industry has been a hindrance to the development of new applications for wireless communications. The problems for developers are many: Should applications be adapted to the American market? Or the Japanese or the European? For Ericsson's system? For Nokia's or Motorola's? The fragmentation has made development costs too high and sales potentials too low.

If the plan to establish WAP as the world standard succeeds, then a major hurdle will have been removed, and the development of applications can take off. Applications could include, for example, wireless technology to update electronic schedules via the company's intranet; the ability to send one's business card from one mobile telephone to another; the ability to read and administer one's e-mail via mobile telephone, and to read Web pages on the Internet.

Mobile access to the Internet, in turn, opens up even more possibilities. It could be to check an airline's Web pages to see if a flight is delayed, to check where a package is through the delivery service's homepage, conduct banking transactions, play the horses, check stock prices or access the home office's intranet to see if certain items are in stock.

A requirement for the quick spread of the Internet was TCP/IP, the protocol that al-

lows computers with different operating systems to communicate with each other over the Internet. Manufacturers of programs and computers were able to freely use TCP/IP which led to more computer users having access to the Internet, which in turn acquired greater market dispersion making it more attractive, to the point where it is now important to have a computer.

More in the works

Computer sales took off. If WAP provides for a similar expansion of wireless communications, then more applications will appear on the market which will lead to more areas of utilization. This will increase users' interest, causing operators to receive more subscribers with increased network time, which in turn will increase the demand for, among other things, Ericsson's mobile telephones and telecom networks.

Cooperation required

A handful of Ericsson employees at Mobile Communications in Lund and Ericsson Radio Systems in Stockholm took the initiative in the spring of 1997 to develop a new, free protocol for wireless communication. They realized that Ericsson's own transportation protocol would not acquire an acceptable degree of market penetration; Ericsson would most likely be alone with this protocol. Instead, cooperation was required across company lines. So they rang up Nokia. Then they contacted Unwired

Planet, a U.S. company that develops programs for wireless communication. Finally, even Motorola got involved in the negotiations. Together, these companies have 75 percent of the world market.

"The final result was WAP, a protocol that contains the best from three techniques:

Ericsson's ITTP, Nokia's TTML and Unwired Planet's HDML,"

says Joakim Nelson at Ericsson Mobile Communications.

But before that happened, there was almost a year's worth of negotiations with some problems.

Pressure from operators

Three of the four companies who settled on WAP had already invested large sums of money in the development of their own protocols for wireless communication – Ericsson, Nokia and Unwired Planet. Everyone wanted as much of their own protocol used as possible, and fought for that.



Joakim Nelson has been working on WAP, the protocol for wireless communications, which will hopefully mean a breakthrough in surfing the net with a mobile phone

"Negotiations got stuck a couple of times in the beginning," says Per Ocklind of Ericsson Radio Systems. The final decision was, however, to base WAP on Unwired Planet's HDML protocol.

"Then we picked out those pieces from the other languages that were missing in HDML, in order to create a protocol that encompasses both telephony-based and Internet-based functions," he said.

During negotiations, there was also pressure from the outside. GSM operators who operate in the D-AMPS dominated United States wanted the new protocol to only work with the GSM system, so that they would get a competitive advantage. That was not to be, however. WAP can be used with any system at all.

The WAP group reached their goal despite these stumbling blocks. The first version was released to the public in the beginning of February this year.

ROGER FALK



The new protocol for wireless communications called WAP makes it possible to read Web pages from a mobile telephone.

Illustration: LEIF ÅBJÖRNSSON



"If this takes off and WAP is accepted by the market, then it will have been great fun to have been a part of its development," says Per Ocklind of Ericsson Radio Systems.

■ WAP is a protocol, or a set of rules, for wireless communication that makes it possible to read Internet pages from a mobile telephone. One of the conditions is that the Web page contains an alternate version written in WML – Wireless Markup Language – alongside of the regular HTML code. WML is the programming language for home pages that participate in WAP. When the Web site publishers add WML code to their pages, they

This is the protocol

are determining, at the same time, which information will be readable from a mobile phone. The telephone's small display does not have room for any extra graphics or color.

Instead, the mobile telephone just receives the most important information,

such as timetables, stock quotes or exchange rates.

Those who use their telephones to surf the net can move around homepages with the help of menu selectors or arrow keys. WAP resides partially in the mobile telephone and partially in the operator's

server. Similar protocols have existed before, but have only worked with certain telephones, using certain servers and a certain standard for digital mobile telephony. WAP will be formally administered by WAP Forum Ltd. Other companies besides the WAP founders will be asked to participate in continued development in the future.

WAP can be found on the Web site: <http://www.wapforum.org>.



Few Ericsson buildings are situated as beautifully as the facility at Hisøy outside of Arendal in Sørlandet.

Photo: PATRIK LINDÉN

Happy days again in Sørlandet

A year ago, Ericsson was first-page news for a whole week in Norway and the rest of Scandinavia. Journalists laid siege to the little town of Arendal in Sørlandet, the southern part of Norway. Ericsson had decided to concentrate all its operations in Oslo over the next five years. Ericsson employees in Sørlandet, along with the rest of the community, marched in demonstration, protesting loudly against these plans. Today, one year later, Ericsson has reconsidered.

Operations will remain in Sørlandet and Ericsson has emerged from the crisis stronger than ever.

"Before, we had an organization that did not take geographical distance into consideration. Now we have reconsidered and Sørlandet has received a more independent position within Ericsson," says Steinar Tveit, president of Ericsson in Norway.

"It's a solution that I believe everyone is satisfied with. Nobody had really foreseen

how strong the desire was to be able to stay and work at Hisøy in idyllic Arendal."

Now, Ericsson is investing in both Oslo and Grimstad, near Arendal, where portions of the operation will soon be moved. Instead of concentrating everything in one place, Ericsson will capitalize on the opportunities that both locations provide.

Focus on development

Operations in Sørlandet focus on company-wide development and design work, and a

supply and distribution facility for northern Europe is being established. Operations aimed directly at Norway are based in Oslo.

Conscious decisions

"People who apply for jobs here in Sørlandet usually make a conscious decision to do so. They want a high quality of life and to work in pleasant, natural surroundings. That's why there were so many upset feelings when the relocation plans were first discussed a year ago," says Gunn Eriksen Bie, personnel manager in Sørlandet.

In Grimstad, where Ericsson's Sørlandet operations are moving, a new IT park is being constructed. Advanced technology companies will be located there, and there is already a college with a technical (IT) focus.

Approximately 470 people work for

Ericsson in southern Norway. Just over 200 are involved in development and the rest with a supply and support center for AXE and mobile telephone systems.

Ericsson's Oslo offices may also be moving to a new location. When air traffic switches over to the new Gardemoen airport, there are plans to build an IT center on the site of the current airport at Fornebu.

Plans to relocate

Several other telecommunications companies, including Telenor, have plans to relocate there. With the expiration of Ericsson's lease, the company is now considering moving its offices out to Fornebu, although nothing has yet been formally decided.

PATRIK LINDÉN

Young Ericsson company

■ Ericsson in Norway did not become an independent company until 1989, when it received major local company (MLC) status. Up until that time, Ericsson was represented by Elektrisk Bureå AS (EB). Ericsson eventually took over the telecommunications division. There also used to be a number of smaller Ericsson companies which were controlled by different business areas and units. In 1983, Ericsson lost Norway's first major digital conversion contract from Telenor to the French company Alcatel. This became the deciding factor in taking the step to launch independent operations. Today, Ericsson is the market leader in Norway.

Prior to this, Ericsson had a rather splintered operation, a carryover from Elektrisk Bureå days. Now, operations are concentrated in a few areas. In addition to being a sales company in the local market, Ericsson Norway also has significant export operations, mostly to other Ericsson companies. Datacom is responsible for most of the exports, including quite a bit of software development.

Ericsson Norway has ambitions of becoming a competence center for multimedia over the Internet. This summer, for example, Norway will be the host for the international "Voice on the Net" conference (Eurovon).

History

- 1923 – Ericsson delivers its first exchange to Norway.
 - 1965 – The first contract between the Norwegian telephone company and Elektrisk Bureå (Ericsson's agent in Norway up until 1989) is signed.
 - 1981 – Ericsson receives the first mobile telephone network contract (NMT).
 - 1989 – Ericsson takes over operations from Elektrisk Bureå AS and forms an independent company.
 - 1990 – Ericsson is chosen by the Norwegian telephone company to digitalize the telephone network and supply a GSM mobile phone network.
- The Norwegian military purchases a

new radio system from Ericsson.

- 1993 – Ericsson begins regular delivery of a new mobile radar system to the military.
- 1995 – Ericsson and Telenor Mobil sign a three year contract to expand the GSM network.
- 1996 – Ericsson Norway delivers its one millionth line to Telenor (the Norwegian telephone company). Deliveries to new operators in Norway and abroad are started.
- 1997 – Ericsson and Telenor Mobil join in partnership to expand the GSM 1800 network.

Daily news from CEBIT in Contact

This year, Contact will provide daily reports from the CEBIT trade fair regarding Ericsson's presence and that of our competitors.

Those who would like daily updates can visit Contact's Web site, which you will find at Inside Ericsson at: <http://inside.ericsson.se>.

We will, of course, also report from

CEBIT in the newspaper. The German telecom and IT trade fair CEBIT has become an international event.

The most important companies in the industry gather here.

New records

This is the thirteenth time that CEBIT has been arranged as its own trade fair.

New records are constantly being broken, both in terms of the number of exhibitors and visitors.

Corporate lectures

Ericsson will, of course, be in attendance, presenting its products.

Ericsson will also be giving a series of corporate lectures, which will illuminate the future of telecom and data communications.

Guru quotation

"My fantasy is simple: I want my laptop to be connected to the Internet no matter where I travel. I want to be able to take out my laptop in a cafe, on a bus, on an airplane, or in a doctor's office and check my mail, send out messages to friends, or surf the Web. I want to be totally wired without wires."

—Simson Garfinkel, in Hotwired

This week's guru quotation on Ericsson Business Information Center's Web site.

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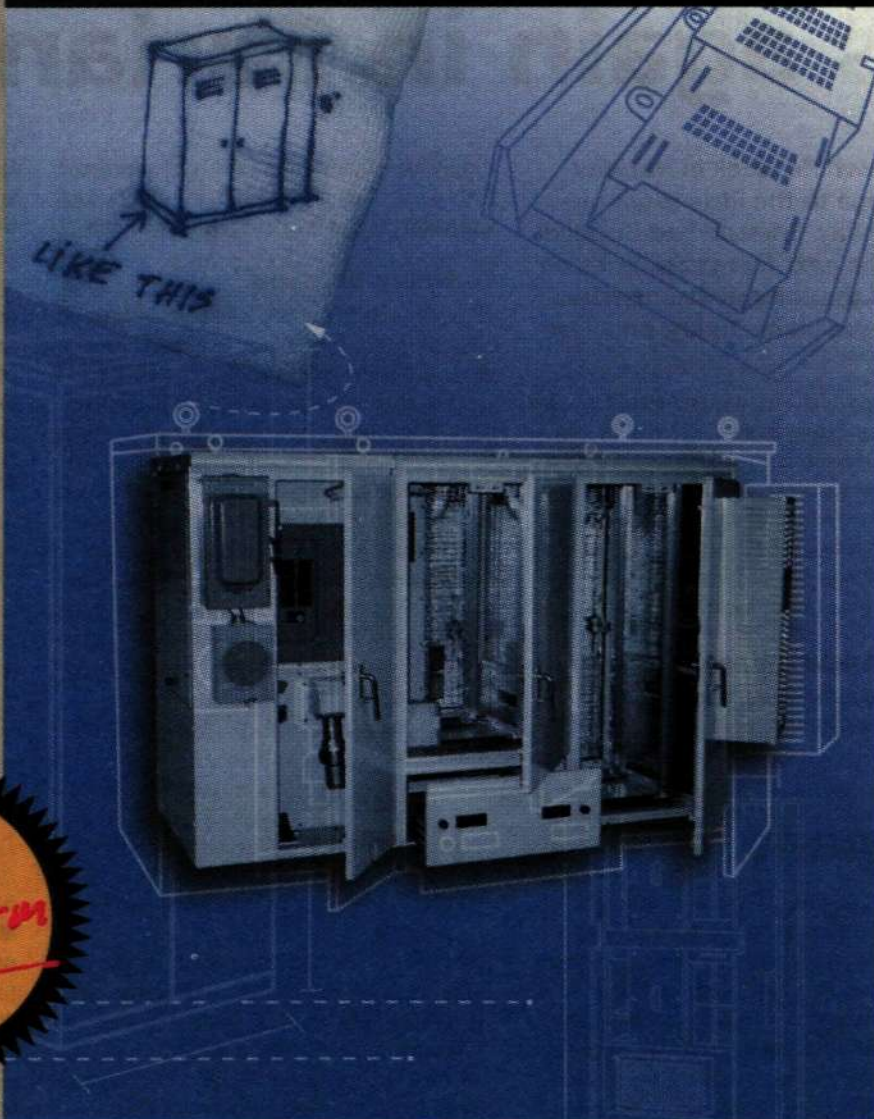
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Ulf Johannesson, project manager, talks to Maria Persson who was recently hired and is currently attending the internal school at the Borås plant. "It takes time to learn the new technology, that is why it is important to give new employees this time," says Ulf Johannesson.

Photo: ANNA REHNBERG

Heavy expansion in Borås

The Ericsson Microwave Systems plant in Borås is currently a world leader in the production of radio links. Production last year of MINI-LINK exceeded 30,000 units, and a 50 percent increase in production is expected for 1998.

Ericsson's MINI-LINK continues to capture world market share as mobile telephones become more prevalent. Today, there are radio links in some 100 nations, which means that Ericsson Microwave Systems now has 30 percent of the world market for Radiolinks. Increased demand has primarily come from countries in Asia, South America and in Europe. There has been a continuous growth in production since the end of the 1970s, when the Borås plant began manufacturing radio links. The real breakthrough, however, came in the 1990s when demand suddenly skyrocketed, exceeding 40 percent per year since then.

Big changes

Today, approximately 85 percent of production at the Borås plant involves the manufacturing of MINI-LINK. The remaining 15 percent involves production of military radio links.

"For 1998, we are planning an increase in production capacity which, on an annual basis, will correspond to approximately 60,000 radio links," says Leif Elmquist, plant manager in Borås.

For the employees at Ericsson Microwave's plant in Borås, where all of Ericsson's radio links are manufactured, this explosive growth has led to big changes. Not only has the plant been remodeled and expanded a couple of times, the number of employees has doubled in the past four years to the 1,100 people that work there today. On average, one new person was hired every day during 1997.

Along with these personnel increases, there have been great efforts to establish smooth-running operational methods. Goal oriented groups, mentoring systems,



"By focusing on our core operation, we can increase profitability," says Leif Elmquist, plant manager of the Borås plant.

and team development are the methods which have been prioritized. In addition, all new employees receive training in the plant's own school.

It is the opinion of Leif Elmquist that, "In the long run, it pays off to invest in the personnel." Most of the new employees have high school engineering degrees, but the number who have college technical degrees is increasing.

Multimillion dollar investments

Close to SEK 150 million is being invested this year in buildings and machinery. The plant's surface assembly production lines have been expanded and, two years ago, the first automated assembly line (PMJ) for the assembly of circuit boards was brought on line.

In order to meet future production increas-

es, even more equipment for assembly has been installed, and two additional PMJ lines, for the assembly of circuit boards, have been ordered.

Many challenges

"By automating as much of the circuit board manufacturing as possible, we can achieve a good degree of volume flexibility which, in turn, means that in a short period of time, and with only a small change in personnel, we can change the level of production," says Ulf Johannesson, unit manager of the circuit board workshop in Borås.

According to Leif Elmquist, these years of fast growth have involved many, difficult challenges.

"But above all, it has been stimulating to follow the development of MINI-LINK, both the product itself and the continually

increasing volume of production."

The greatest challenge in the history of the plant, so far, came last autumn. Orders were cascading in and to maintain delivery times, the rate of production of MINI-LINK had to increase from 100 to 200 units per day.

"The solution was to borrow personnel from operations in Mölndal for a couple of months. Some 60 assemblers volunteered and made the commute to Borås. Together with our personnel, they did a fantastic job and the result was that we were able to handle the increased production levels through the end of the year," said Elmquist.

Focusing on the core operation

Another explanation for the success of the Borås plant is the good level of cooperation between production, marketing and construction in Mölndal.

"We have short chains-of-command, and straightforward lines of communication between us. Responsibility for the process and for the continued development of production rests with us in Borås. We are also actively working to continually lower our total costs through increased efficiency both in production and in the product."

In order to maintain continued growth in Borås, there is now an intensive effort underway to outsource and contract out certain aspects of production.

"We simply cannot sustain unlimited growth here in Borås, and besides, we can achieve greater profitability by focusing on our core operation."

There are no dark clouds threatening Leif Elmquist and his co-workers in Borås in the near future. The MINI-LINK family is growing and developing according to plan.

CATHRINE ANDERSSON

■ The MINI-LINK family consists of: MINI-LINK C, MINI-LINK C Micro - 15, 23, 26, 38 Ghz, and MINI-LINK E - 7, 15, 18, 23, 26, 38 Ghz.



This year's GSM World Congress in Cannes attracted a record 3,300 participants from both operators and suppliers. The conference, the most important one in the GSM world, was held at the Palais des Festivals, where the renowned Cannes film festival takes place.

Data transmission via GSM was the focus of this year's GSM World Congress in Cannes, which attracted a record number of participants. New products in the Ericsson display drew great interest.

Future solutions on display in Cannes

aster transmission times and more efficient Internet services are creating new business opportunities for mobile telephone companies.

Ericsson presented a number of new mobile datacom products at the 12th GSM World Congress, which was held in Cannes in the middle of February.

Ericsson's display in the exhibitors hall provided the show's only demonstration of General Packet Radio Service (GPRS) technology. GPRS enables transmission speeds of up to 115 kbps and

will be introduced on the market during 1999.

Richard Bremberg, business developer for GSM Datacom, was one of the persons demonstrating GPRS using a wireless Internet connection via a laptop computer.

"We have been forced to set up an appointment schedule for all of the people interested in receiving a demonstration of this technology and what it can do," says Richard Bremberg ecstatically.

GPRS is the first step towards a third generation mobile telephone system – the Universal Mobile Telephony System (UMTS). Many operators, of course, had questions about its future development.

Ericsson's display pointed out future solutions, and had the only hardware ready for the third generation mobile telephone system, in the form of the test system for WCDMA.

A wake-up call

"It is high time for operators to begin planning for new datacom services. For some, this served as a wake-up call to see that we already have the product and the services for it," concluded Björn Norhammar, who presented the wide band technology.

Data transmission via the GSM network is expected to increase dramatically in the coming years. Ragnar Larsson, manager of GSM computer applications, was one of Ericsson's speakers at the congress, and he gave an overview of new data services within mobile telephony.

Electronic commerce, applications for the mobile office and telemetry for directing traffic and security systems are some of the services that will give telephone companies completely new business possibilities.

Cooperation is important

"Telephone companies that have traditionally focused on voice-oriented services and that have only had data access as a carrier service, must now reach higher to position themselves and find new sources of revenue. In order to provide mobile Internet services, they must either become or work with so-called Wireless Internet Service Providers," explained Ragnar Larsson.

He also emphasized the importance of the entire industry working together so as not to splinter the market into different standards and solutions. That is why Ericsson is part of the Mobile Data Initiative, which is striving for industry-wide cooperation, and which has already set the groundwork for the system through rules known as the Wireless Application Protocol (WAP). The proto-

col can be used freely by any provider in order to assemble different Internet applications.

Custom-made solutions

Ericsson's new product and service program known as Wireless Internet Solutions from Ericsson (WISE), which was introduced at Cannes, is a good example of mobile Internet applications. By providing customized total solutions for operators, they can, in turn, offer their customers new computer services, increasing usage of the mobile telephone network at the same time.

"We offer operators consulting services to assist them with business analysis and development of their datacom strategies. These services are then coordinated with our products both on the system side and the terminal side," says Fadi Pharaon, who is the marketing manager for systems and applications within GSM Datacom.

"In order to offer a diverse product portfolio, we have established close working relationships with a number of suppliers in the datacom industry, including Digital and Unwired Planet. Since we cannot develop everything ourselves, this is a good way to bring in expertise, while enabling us to deliver complete mobile data solutions."

For the operators, it is important to not just stare blindly at the amount of time that customers spend on their mobile telephone networks. There are other ways to make money," emphasizes Fadi Pharaon.

If operators link their mobile telephone networks directly to the Internet, then they can charge access fees, in addition to charging for their own various information services on the Internet. Once electronic commerce takes off, they can charge per transaction, just like credit card companies such as VISA and American Express.

"To quote Charles Darwin, 'those species which survive are not the strongest or the most intelligent, but rather the ones which are most adaptable'. This is also true of mobile telephone companies," says Fadi Pharaon.

Several products

In addition to GSM data products and services, a host of other products were also displayed at the Ericsson booth, including Maxite, MiniLink, TEMS Indoor Portfolio and Hot Spot Finder, which indicates traffic jams within the cells of mobile telephone networks.

Prepaid telephony for mobile telephone users is also a service which is now being introduced on a larger scale. Product manager Lars Olofsson pointed out the advantages for GSM operators at Cannes.

"In countries where there are no credit-rating agencies, Prepaid is practically the only way for companies to be able to offer mobile telephony to everybody. In other countries that have saturated markets, it is another way to reach out to additional customers, such as infrequent users or mobile phone rental companies," says Lars Olofsson.



Mobile data is like rollerblades – fast and efficient. Ericsson sponsored industry cooperation through the Mobile Data Initiative at this year's GSM World Congress in Cannes. In this way, congress participants were able to learn about the possibilities offered through mobile data.



Crowds at the Ericsson display. Claes Meltzer had a large audience at a demonstration of GPRS technology.

GSM soon for home use

Ericsson unveiled the Cordless Telephony System (CTS) in Cannes. This technology makes it possible for GSM users to make and receive telephone calls through the regular telephone network, for the same price as a regular telephone call.

"The idea is that you should be able to use your GSM telephone both away from home and for all telecommunications within the home. Instead of buying a cordless telephone and bringing in yet another kind of telephone into the house, you can use your regular GSM telephone everywhere," says Patrik Willén, product manager for CTS network functions within Ericsson Radio Systems.

The CTS includes a home base station and new software in the mobile telephone that automatically registers the telephone with the base station indoors. This way, the operator can let users make calls on their mobile telephones at regular network rates. This technology provides a completely new way to compete for the home telephony market.

"The operator can offer new types of rates and subscriptions for personal numbers that can work both at home and on the GSM net-

work. CTS also offers the possibility of service differentiation, with special services for home environments," says Patrik Willén.

Aren't we competing with ourselves when there are DECT applications for the home?

"CTS will become an alternative product, priced about the same as home DECT. We see it as a complimentary service, where CTS can take advantage of the benefits of the GSM system," explains Patrik Willén.

Development of CTS has been underway for several years within the Mobile Telephones and Terminals business area. This year, a number of field tests will be conducted by key customers, in order to test various aspects of the service.

"The actual home base station is so small that it can easily be hidden behind a curtain or placed on a hallway table. The range is approximately 150-200 meters, which covers a normal residence and yard," says Joakim Oscarson, product manager in Lund for the CTS terminals and home base units.

Already in the first version, several users will be able to connect their telephones to the home base, which can co-exist with the GSM network without interfering or being interfered by it. Before the CTS can be launched,



Inexpensive mobile telephony for the home. Fredrik Lindberg (top), Joakim Oscarson and Patrik Willén demonstrated the new CTS concept at Cannes.

its radio interface between the home base station and the mobile phone must be approved by ETSI.

"If a first phase of this standard becomes ready by autumn, we will be able to deliver the product during the first half of 1999. By that time, the new programming will also be in our new mobile telephones," says Joakim Oscarson.

The bar-code reader, hooked up to a GSM telephone, transfers information on the package number, consignment number, etc. rapidly and reliably.

Photo: ANDERS ANJOU



Controlling every package



■ The Envisor system is supplied by Encompass, which is wholly owned by the Dutch PTT Telecom. Encompass works as a service agency, that is to say Ericsson does not own any computers and has no operative staff. Information is fed into the system by Ericsson ordering systems (order and packing information) in the following subsidiaries: Ericsson Business Communication,

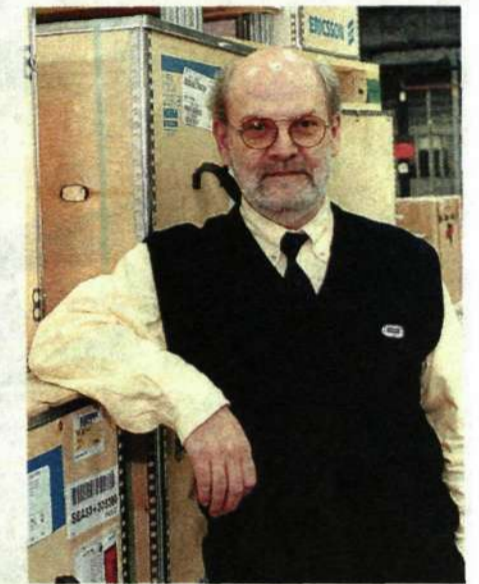
This is the Envisor system

Ericsson Telecom, Ericsson Radio Systems and Ericsson in the US. The system also uses unique consignment information from the Space shipping system which includes 80 airlines and which will shortly be joined by the DHL and TNT courier services. Anyone who wants information can use their own user identities, purchasing number, Golf-system, Sysmac, R2 number, consignment number, article number, package number, AWB number and the flight number.

Envisor currently has about 170 users in Sweden, the US, China, India, Australia, Argentina, Brazil, Chile, Greece and Japan. Mexico, Canada, Singapore, Malaysia and South Africa also plan to participate.



"Improving the delivery time to the customer - the TTC - is not merely a project. It involves continuous development of operations," says Harald Johansen, who is responsible for TTC at Ericsson.



"The computerization of transportation has basically revolutionized our way of working," says Hans-Gunnar Bergquist, quality and security manager at the SAS freight terminal at the Stockholm Arlanda airport.

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C

omplete control over the transport process is becoming increasingly important, particularly when deliveries have to be timed to the minute. As a result, a group at Ericsson representing several business areas is working on a global standardized information-gathering system known as Envisor, which monitors every stage in the delivery process, using bar code readers, for example.

"This is essential, if we are going to live up to our customers' requirements," says Jan Larsson, who is in charge of the project.

"If we manage to trace a few cartons in China and a systems delivery to South America, Envisor will have paid for itself," Jan Larsson says, to demonstrate how much money is tied up in customs duties and transport routines which work smoothly.

Jan demonstrates on a computer screen how Envisor makes it possible to follow the progress of a shipment on the map - for example a consignment which has got lost in Australia or, even more likely, in South America where it soon becomes clear that the major problem is the local customs authority.

Three aims

The Envisor system, which processes information from internal and external systems, has three objectives as far as Ericsson is concerned. It must be possible to see what has been going on and what is about to happen, and there must be access to specific information - for example lead times, time-to-customer (TTC) and the degree of delivery precision. The Envisor project is primarily concerned with the transport phase, but potentially it can cover the entire process, including flows before and after the actual transportation phase.

It is important to stress that the system is more than just an internal tool for Ericsson - it is also useful for customers, truck-drivers and everyone else involved. Customers can monitor their orders, checking every carton against a data base to see what it contains, what type of container is used and what the flight number is. The same applies to drivers,

who know exactly what items they have to pick up and drop off.

"So far, this is an information-gathering and monitoring system, but when it is fully developed it will also be a management system," says Harald Johansen who is responsible for TTC at Ericsson - that is to say in charge of Supply and Distribution.

"We have to improve our operations and give our customers better value - not just information for its own sake. But a monitoring system which can signal discrete events, such as the take-off of an aircraft, and compare the results with scheduled targets is an essential prerequisite for controlling and improving the process. And this means that it is important to have a good reporting system with a high degree of reliability."

Bar codes

A mobile computerized tracing system supporting bar-code readings on the shipment at every key point in the delivery chain is an important tool in the Envisor system. Readings are required when the consignment is loaded onto a truck at the plant, when it is transferred to the aircraft, when it is unloaded from the plane, when it is loaded onto a truck again, and when it is signed for by the customer.



Bar-code readers will be used, for example, to refine the EDEN system (Ericsson Distribution European Network), based on a forwarding depot in Aachen, Germany which Ericsson currently uses for its deliveries in Europe. There is still a considerable manual element in this process - drivers have to telephone to confirm deliveries, for example. But full application of a bar-code system will achieve total traceability for a consignment - the track and trace concept. There will be no more "black holes" in the system, and this will be particularly useful in areas which are currently subject to poor transport reliability. It will also permit freight and airline companies to plan their operations better.

Based on existing products

Anders Lerjestaam, who works with freight terminals and Kaspar Gustavsson who is on the distribution side both stress that the actual bar-code reading process is based on existing products.

"Posten Logistik in Sweden recently purchased hand-held computers, GSM modems and software from us to improve the quality and the reliability of their deliveries. As a result, all the equipment required is already in place, for example the hand-held unit from Symbol linked to a GSM telephone which enables you to read bar codes and confirm deliveries. The same thing applies to the mobile data interface with the database, which is Oracle Mobile Agents."

"The Envisor system itself is already available in some parts of the world, for example in the US armed forces," says Jan Larsson. "But we are unique in hooking it up to systems on such a large scale. This means that we now have 80 external partners, for example all the major airlines (SAS is currently testing the system), the DHL courier service and several other companies on line. We are putting the system into practice, step by step, and now cover more than half our own organization. But by the end of the first quarter of 1998, we will encompass the whole world."

LARS CEDERQUIST

"This is revolutionizing the transport business," says Jan Larsson, who is responsible for the new information-gathering system.



Beau's fish a winner

This year's six most important areas of focus were presented during the conventions that the Enterprise Networks business unit held with its employees. They are: Cost control, DECT development, Volume growth, Key solutions, Computer-supported telephony and Wireless Internet. Each of these areas has a catchy symbol.

A contest was held in Stockholm and in Annecy in France. The goal was to communicate these messages, in a catchy way, in the form of a work of art. About one hundred teams developed as many creations, one more artistic than the next.

Four countries were behind the winning entry in Annecy: Belgium, France, the Netherlands and Sweden.

"The most dangerous thing is to end up somewhere in between good and bad: to not excel at anything (a slow, upward curve) nor be simply awful at something (a slow, downward curve)," said President of the business area Bo Dimert. Together, these two curves form a fish, or in French and English "Beau's fish".

It was the fish that the winning group settled on when it came time to create a symbol. In the beautifully painted fish, the gills symbolize volume growth and the tail fin symbolizes key solutions. And that is how victory was won.

THORD ANDERSSON



European teamwork. The winning design rests on the head of Frenchman Jean Audran. He is flanked, from left, by Jan Jansson and Eric de Wilda from the Netherlands, Göran Possander, Sweden, Gilles Pichon, France and Frederik Boone, Belgium.

Ericsson Data starts own company in China

Ericsson Data (EDT), is starting its own company in China. The company will be headquartered in Shanghai. The demand for Ericsson Data's services has increased exponentially since operations began there in 1996. In just two years, it has tripled the capacity of Ericsson China's internal network. Within a few years, it is projected that employees will increase from the current eleven, to at least a couple hundred. Soon Ericsson China will also get its own memo server so that it will not have to route messages via Älvsjö in Stockholm.

"We will be an 'Infocom Service Provider', completely in accordance with Ericsson's new profile as an Internet company," says Mats Grenman, Account Manager at Ericsson Data.

He is impressed with the personnel. "They do not sit and wait for decisions, rather, they tackle things that need to be done."



Halmstad BK plays for Ericsson. Ericsson in Vietnam sponsored the Swedish champion team, Halmstad BK, in Vietnam's Independence Cup '98, in January. The competition is one of the largest soccer tournaments in the country. Halmstad BK, which played in Ericsson's blue and white shirts, won all of their matches as well as the tournament.

New telecom book increases knowledge

It's finally here – part two of Understanding Telecommunications has just been published and is now available in Swedish. The English version will also soon be available.

Part two discusses telecommunications and data-communications, which in everyday Ericsson speech is referred to as infocom.

The book covers expanding service markets including speech, data and video.

It also discusses competing networks such as Internet, narrow and broadband ISDN (Integrated Services Digital Network), PSTN (Public Switched Telephony Network), PLMN (Public Land Mobile Network), Frame Relay and much more.

The book also describes the mergers of telecom and datacom as well as fixed and mobile communications.

You can order the book via Internet at <http://freja.ericsson.se/itm/> or send an office order to mv/etx/pn/cstc.

Orders can also be made via memo to etx.etxbooks.

The cost of the book for Ericsson employees is SEK 530 for an order of between 1-10 copies.

For an order of between 11-50 copies, the price is SEK 440 SEK. each. For more information contact Training Services, telephone +46 8 719 9222.



Ingemar Nilsson, manager of the Public Networks business unit, with part two of the newly released book on telecom, Understanding Telecommunications.

Environmental certification to Gävle plant

On February 12, Ericsson's new production facility in Gävle received certification according to the international ISO 14001 environmental standard. The plant, which manufactures radio base stations for mobile telephones, was audited in December 1997 by auditors from the British Standardization Institute (BSI).

The inspection revealed no cause for any criticism, so it was recommended that the unit be approved.

Ericsson's comprehensive environmental goal is that all of its operations that may have an environmental impact implement an environmental management system no later than the year 2000. The Gävle unit is the ninth unit globally, and the second one in Sweden, to have been approved according to ISO 14001 standards. Implementation of the environmental management system is one way of meeting growing environmental demands from customers and society.

But an environmentally sound operation also goes hand in hand with an economically profitable operation that uses its resources carefully.

Noticeable results include lower energy usage and, in Gävle's case, lower costs for the purchasing of materials and the destruction of solvent waste. Work on implementing environmental management systems at the Gävle plant, which took about a year, has also strongly motivated personnel. This has resulted in an efficient source-sorting program with 75 percent of waste being recycled.

 **CeBIT 98**
HANNOVER

19. — 25. 03. 1998

<http://inside.ericsson.se/cebit>



Modernized AXE promoted worldwide

During 1998 there will be a worldwide campaign to launch AXE. It will focus on two types of media: the business press and the trade press.

The launch campaign will include advertisements in business magazines and leading newspapers through the middle of 1998. A brochure has been produced for those who see the advertisements and wish to obtain more information.

A supplement will be printed and distributed in leading international and regional telecom newspapers during the first half of 1998. Throughout the entire year, trade press advertisements aimed at decision makers within the telecom industry will appear in trade press publications around the world.

In recent years, AXE has undergone extensive modernization, both in terms of equipment and software. The architecture has been opened up to allow for the combination of speech, images and multimedia such as the Internet.

The type of customer has also changed from large, state-run telephone companies eager for technology, to customers that want Ericsson to help improve their business. Many of Ericsson's future cus-



Public Networks at Infocom Systems is re-introducing the AXE switch. AXE is not what it used to be. Today it is smaller and has many more features. The advertising campaign includes this brochure. More information can be found on the web at: <http://www.ericsson.se/switching>.

tomers will probably not even be telecom companies.

Surface assemblers certified

All operators at the Nynäshamn plant, south of Stockholm, except **nynäshamn** for the most recently hired employees, have received a certificate as proof that they are qualified to work as surface assembly operators.

This is a basic requirement for everybody working with surface assembly at Mobile Systems.

The surface assembly process is one of the most difficult manufacturing processes, with very stringent requirements placed on those who work there.

Training, which took place during 1997,

involved both theoretical and practical tests. In order to be able to complete the training, a certain amount of experience with surface assembly is required.

The actual certification process involves a week-long course where most areas of surface assembly are covered in detail, culminating in tests.

Following successfully completed tests, there is a practical test in surface assembly. If one passes the practical test as well, then one receives a certificate that serves as a "driver's license" to be able to work within surface assembly.

Even new employees were included in the training sessions. They will be certified in the spring of 1998.



The surface assembly process in Nynäshamn has approximately 30 employees. Most of them are certified.

Ericsson celebrates Chinese New Year

Ericsson employees and customers celebrated the Chinese New Year **China** with a show at the Century Theater in Beijing. The program provided traditional Chinese stand-up comedy, the children's tiger dance and pop music.

"With this event, we at Ericsson China wish all of you good luck in the new year, the Year of the Tiger," said John Gilbertsson, president of Ericsson in China, as an introduction to the almost three hour-long performance.

The performance was part of a three day-long program that Ericsson in China had arranged for its customers in conjunction with the New Year.

In addition to the party at the Century theater, Ericsson had arranged seminars on the privatization of state-run companies in China, which is probably the hottest topic regarding China's conversion to a more open economy.

The Chinese championships in table tennis were also held during the week, an event that



Children dressed up as tigers danced in the New Year, the Year of the Tiger, at Ericsson China's New Year's party on February 13.

Ericsson sponsors. The matches were broadcast on TV and Ericsson received good publicity with its logo. Prior to the match, four Ericsson employees had the opportunity to meet the world champion in table tennis, Deng Yaping.

She was not one of those competing, but she did play a few tough shots against the Ericsson players.

Deng Yaping, the world champion in table tennis, wrote quite a few autographs for Ericsson employees and their children, when she attended the Ericsson-sponsored Chinese championships in table tennis in February.



The hottest books in the company

■ In order to advise Ericsson workers about which books are hot within the company, Contact has engaged the assistance of Christina Falcon at Library Services at Ericsson in Marievik. Here is a selection of what is most current right now.

The Dilbert Principle. A Cubicle's Eye View of Bosses, Meetings, Management Fads & Other Workplace Afflictions. By Scott Adams.

Being Digital. By Nicholas Negroponte.

The Capability Maturity Model: Guidelines for Improving the Software Process. By Mark C. Paulk, Charles V. Weber and Bill Curtis.

Implementing SAP R/3. How to Introduce a Large System into a Large Organization. 2nd edition. By Nancy H. Bancroft, Henning Seip and Andrea Sprengel.

On-Line Profits: A Manager's Guide to Electronic Commerce. By Peter G. Keen and Craig Ballance.

If you want to know more about these books or order books, you can check out Library Services' Web site. You will also find assistance with links to different databases including Amazon.com, a Web site listing books about business and other subjects. The Web address is: <http://freja.ericsson.se/library>

Ericsson at Internet World

■ The Internet convention - Internet World - in Los Angeles took place from March 9 to 13. Ericsson was there to display the company's Internet skills.

For those who could not attend themselves, a natural substitute is, of course, the Internet. Ericsson in the U.S. has some information on its Web site and links to the convention's own site. Contact will follow up on the convention in the next issue.

Go to <http://www-eus.ericsson.se/corp/news/special/springinternet/>

Sponsorship – not just a gimmick

Every year, companies spend millions on everything from golf tournaments to opera concerts. But sponsorship is not just about throwing money around. As the main sponsor, Ericsson should always play a prominent roll in all the activities. This is not just about some form of charity. The company should get something back.

"We make investments in activities that we believe in and can stand behind. They should reflect our values and our brand name," says Lynne Howell Wiklander, who is the one responsible for sponsorship at the corporate level.

It is at the corporate level that Ericsson's global policy regarding sponsorship is made. Then it is up to every local company to make their own variations according to interests and cultural traditions.

Marketing objective

An important part of sponsorship is to be able to utilize the activities from a marketing perspective.

It is not just about writing out a check. The investment must be coupled with a number of marketing activities. This takes a significant amount of effort by the company, both in the form of economic and personal resources.

The goal is to work on well thought out projects that build on long-term cooperation.

"If we are going in to take ownership of an activity, it should be an Ericsson event."

"We would prefer to select just a few larger projects rather than spreading out our good will on a number of smaller ones," says Lynne Howell Wiklander.

Sponsorship originated in the U.S. and is not an especially old tradition within Ericsson.

"Five years ago, there was a very limited amount of sponsorship done by the company. One did not discuss the direct link to the marketing value of such endeavors," says Lynne Howell Wiklander.

Support of the Stockholm Folk Opera is a notable exception. Ericsson has been a sponsor for ten years, but there were few who knew it. The real turnaround came with the Stockholm Water Festival. Suddenly, companies saw that they could put their names on diving towers, tents, etc.

Appear as leaders

The Mobile Telephones and Terminals business area has two principles regarding sponsorship.

First of all, Ericsson should always be the main sponsor.

"If we go in and take ownership of an ac-

tivity, then it should be an Ericsson event. We must appear as the leader that we are," says Bo Albertsson who is the public relations manager for Mobile Telephones and Terminals.

The other principle is to always sponsor a whole event, rather than individuals. There are a few exceptions, however, such as golfer Annika Sörenstam.

Difficult to measure effect

It is not easy to measure what effect sponsorship has, but one way is to see how the event is portrayed in the media. Since sporting events often receive a lot of attention on television, that makes it possible to see how much coverage Ericsson receives. The Bond campaign is also an example of sponsorship that can be measured.

Corporate citizenship is another form of sponsorship that is becoming more common. The U.S. and U.K. are pioneers in this area, which is still relatively new at Ericsson. What it involves is being a good citizen in the community, such as having employees perform volunteer work on company time.

Corporate citizenship can involve anything from arranging flea markets to cooperating with UN organizations.

"Here, money is not the issue, but rather how we as a company can perform a service for the community," says Lynne Howell Wiklander.

Long-term community investment

The commercial focus is not as strong as in traditional sponsorship either, even if it is important for Ericsson to get value for its money.

"Instead, it is about increasing quality in the community over the long term, investing in the company's future in the process," says Fredrik Jonsteg, who works with Ericsson's program for corporate citizenship at the corporate level.

For a knowledge-based company like Ericsson, it is in its own interest to invest in education. In the long run, it benefits the company by increasing the level of education in society.

Unlike traditional sponsorship, these are not activities that one draws attention to through marketing campaigns.

Must be careful

"One must be careful with this kind of sponsorship, so that it is well received," says Fredrik Jonsteg.

In the near future, a worldwide program regarding corporate citizenship will be developed.

GISELA ZEIME

Global perspective in annual report

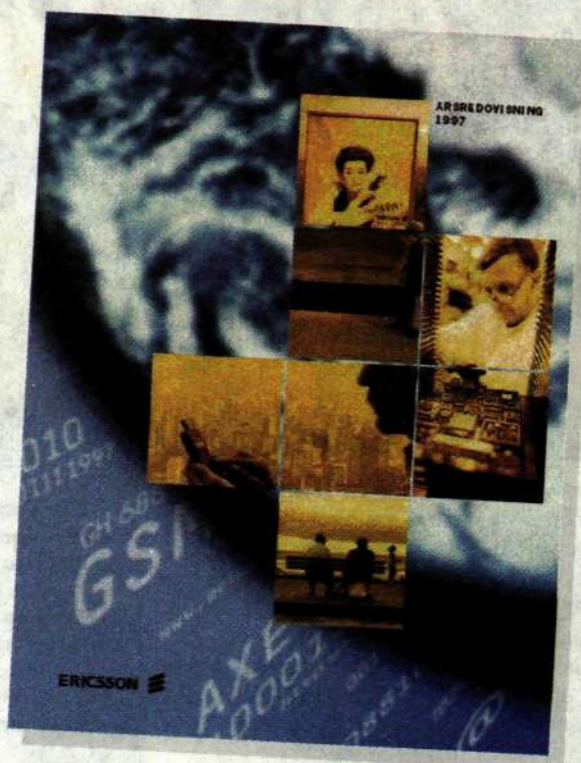
Ericsson's 1997 annual report has just been published. The record large printing is due to a dramatic increase in the number of shareholders worldwide. 105,000 Swedish copies and 60,000 English copies were printed in Sweden, and another 230,000 copies are being printed in the United States, just for the American market. In other words, a total of 395,000 copies.

The thematic articles in this year's edition reflect Ericsson as a global company.

It uses examples from some of the company's international operations to show how Ericsson is taking concrete steps to attain the goals in Wanted Position Year 2000.

A new, livelier design was also introduced, in order to further strengthen the impression of Ericsson as a company undergoing change and entering new markets.

Also new for this year is that internal orders for the annual report should be placed with an outside company via e-mail to: forlagsdata@swipnet.se. Don't forget to indicate whether you would like the Swedish or English version.



Money to be had for the ambitious

It is now time to apply for study and travel stipends. The Marcus Wallenberg foundation for scientific research and education has a deadline of May 29, and the Björn Lundvall travel stipend for Ericsson employees has a deadline of April 30.

The Wallenberg stipend provides economic support for studies abroad for at least a year. Those who apply must be employed by Ericsson. The Björn Lundvall stipend is designed to finance travel for Ericsson employees to visit other Ericsson facilities abroad. The stipend is aimed primarily at those employees who would otherwise not travel in their work.

More information about the stipends and how to apply, as well as the application forms, can be found on the Web at the following addresses: <http://www.lme.ericsson.se/lmep/stipend5.htm>
<http://www.lme.ericsson.se/lmep/granteng.cfm>

New manager at Ericsson in Montreal

Göran Fröling will be assuming the position of president of Ericsson Research Canada in Montreal in May.

He will be succeeding Sven Borgström.

Göran Fröling joins the Canadian company from Ericsson in the United States, where he cur-

rently is manager of the AMPS/D-AMPS business unit.

Sven Borgström, who has been with Ericsson in Canada from its start in 1985, is leaving Ericsson. Sven has held various positions within Ericsson for 20 years.

Scholarships in Norway

Ericsson in Norway has established five scholarships for students in computing/IT and telecommunications.

The scholarships are worth NOK 10,000 and involve the possibility of a summer job at Ericsson.

Students also have the opportunity to conduct their thesis work at Ericsson in Norway.



Ericsson has sponsored the Stockholm Folk Opera for a long time. This year, Ericsson is sponsoring the Folk Opera's European tour of the newly written opera Marie Antoinette.

Foto: JACOB FORSELL

Sports, culture and entertainment popular

Sponsorship involves putting the right amount of money into the right events. It should be something that appeals to the correct target audience and gives the best return.

Global campaigns are often difficult, since there is no single sport that everyone likes.

"Table tennis in China is perhaps last on the list in Brazil," says Art McCabe who is responsible for sponsorship within the

Mobile Telephones and Terminals business area.

Mobile Telephones and Terminals is the one business area that spends a lot of money on sponsorship. The Bond campaign was a major global effort with local variations, including more than 50 different countries.

Sports is still the area where the most investments are made, even if cultural and social efforts are increasing. There is great interest in golf in Asia and Australia. Latin America prioritizes tennis with its Copa Ericsson. Norway is investing heavily in the national snowboarding team while Canada is concentrating on freestyle skiing.

Responsible for NFL stadium

Last year, Ericsson took over responsibility for Carolina Stadium in North Carolina which holds 72,000 people.

It now has the name Ericsson Stadium and is the home of a

team in the NFL American football league. The Swedish company is currently making a big investment in the sport of auto racing. They are co-sponsors, with Volvo, of the BTCC track race which runs in the U.K.

Successful events

This spring, a community investment together with the anti-violence organization Non Violence, is planned. The plan involves a telephone fund drive in which organizations such as parent watch-groups can apply to receive mobile telephones to simplify their work. A similar project is underway in Atlanta, Georgia, in the U.S., where telephones are available for security guards in an effort to reduce crime.

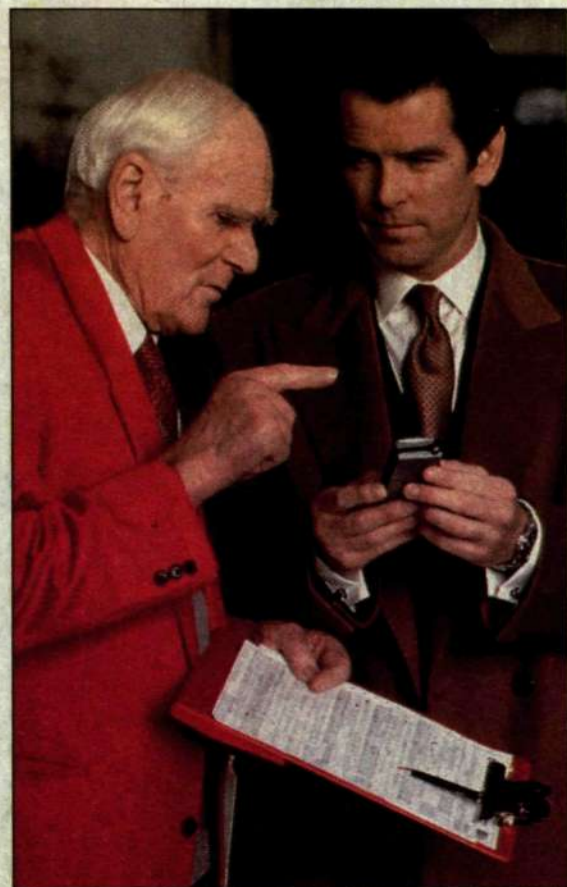
Culture, education and entertainment are areas which are overseen at the corporate level. An educational project is currently underway together with the Wall Street Journal and it

involves providing free subscriptions of the newspaper to well-deserving students.

The Stockholm Folk Opera's European tour of Marie Antoinette is an example of a successful cultural event. Entertainment, for example concerts with world-renowned artists, are generally easier to market worldwide, according to Art McCabe, than are sports.

"Abba was just as popular in Europe as they were in America and Asia," he says.

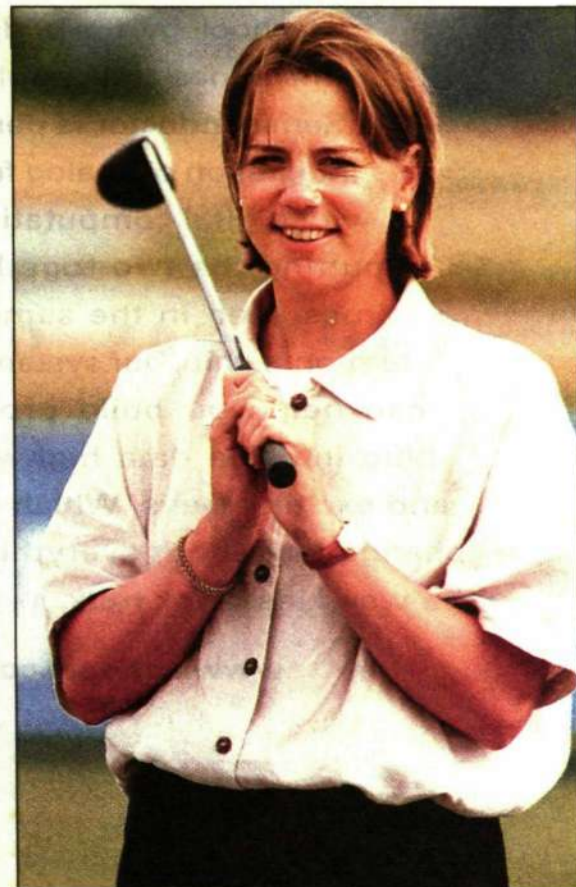
GISELA ZEIME



The Bond campaign by the Mobile Telephones and Terminals business area is an example of sponsorship.



Ericsson invests primarily in sports. Ericsson in Canada was the main sponsor for the World Championships in freestyle skiing in January.



Since last summer, Ericsson has sponsored the Swedish golfer, Annika Sörenstam. Many countries are interested in golf.

YOUR
FRIDGE
JUST
ORDERED
MILK.

Think this is taking the phrase, "information appliance" too literally? Think again. Sensors and scanners inside your fridge could communicate through a high speed data link to the database at your supermarket. Where they'd be alerted to the fact that you need milk and would include it in your weekly order. What's going to make information appliances like this a household item? Analog technology, the bridge between machines and people. National Semiconductor is perfecting the integration of analog functionality with digital computation. And by putting the two together, sometimes even in the same tiny system-on-a-chip, our system architects can help you build products that plug into the data highway in new and exciting ways. Which is going to change just about everything. Except the way kids drink milk.

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Ericsson Data takes shape in Norrköping

The Motala River in Norrköping runs through the old textile district where there once were many factories. Just over 100 years ago, industrialism created the city's image. Today, IT companies have taken over.

The IT-oriented university is situated in a former wool factory next to the river. Ericsson Data has its offices directly over the water in the building that once housed the Tuppen textile company which manufactured sheets. The developmental history of Norrköping is evidenced in just a couple of square kilometers. The Museum of Labor, located on an island in the river, exists to preserve this history.

Ericsson's decision to scale back its production in Norrköping generated a great deal of debate and many outraged emotions. At the same time, Ericsson Data announced that it would open a company in the city. Back then, many people laughed at this and suggested that it was just a way to dampen criticism over the cutbacks. Now, almost a year later, Ericsson Data has begun operations and found some peace. Things are going well.

Today there are 130 employees and the goal is to employ 300 within three years. This is no compensation for the cutbacks

that Ericsson is making in Norrköping, but then that was never the intention.

There were several reasons for the company to locate in Norrköping. One reason was the newly created university, Campus Norrköping, which is a good place for recruitment. Another reason was to take advantage of the computer skills that existed among those units in Norrköping that Ericsson decided to shut down.

"It was a business decision," says Matthias Trygg, president of Ericsson Data's company in Norrköping. "If Campus Norrköping did not exist, we would not have ended up here. Ericsson Data looked into many different locations before deciding on Norrköping."

Brought in 35 people

When Ericsson Data started up in Norrköping, they brought in 35 people from Ericsson Telecom to oversee comput-



Matthias Trygg is president of Ericsson Data's newly established company in Norrköping.

er operations. When actual recruitment began, over 420 people from Ericsson Telecom expressed an interest. Of those, 330 sent in applications, 160 were called in for interviews and 80 were hired. Those 115 people are the core of today's Ericsson Data Norrköping.

"We are going to oversee the operation of computer networks for companies in the region. Currently, we are mostly focusing on Ericsson and Ericsson's outsourcing partners, but we are also aiming for completely external companies," says Matthias Trygg.

Will be possible to change tasks

Most of those who have been employed will now have a chance to utilize their experiences and skills regarding Ericsson's operations, but in a more flexible organization. It will also be possible to change work tasks without needing to change companies.

Henrik Johansson used to work with computer service and electronics on production equipment at Ericsson Telecom in Norrköping. Today, he is one of the 115 persons recruited to Ericsson Data when production was cut back in Norrköping.

"It is more fun to work here where everybody is working on the same thing. At Ericsson Telecom my job was a bit unusual. Here there is more variety and I appreciate

being able to work in a more project-oriented manner. Right now, I am working on a new Web site for Ericsson Telecom's new organization in Norrköping."

"We have not only recruited young computer talent. We wanted to mix young and old, men and women. Mentoring, by those who have been involved for some time is important, while at the same time, the young people provide drive and energy," explains Matthias Trygg.

The University of Norrköping has three civil engineering programs that are relevant to Ericsson, including media technology. In addition to having the university as a recruitment ground and a cooperative partner, the university has set up a program for those already employed.

Currently, 40 people who were recruited from Ericsson Telecom are taking a part-time course in Internet programming from the media technology program.



Henrik Johansson used to work at Ericsson Telecom in Norrköping.

PATRIK LINDÉN

Quick construction

■ A new building is being constructed in record time for Ericsson Data in Norrköping. The building has been completely designed according to Ericsson's needs. The 7,000 square meters of new space next to the temporary facilities being used today will accommodate approximately 300 people. Groundbreaking took place in the middle of January and it will be ready for occupancy in 1999. Things have gone so quickly thanks to good cooperation between all of the parties involved. The municipality has been very positive towards the project, and all of the formalities of building and construction permits and so forth, have gone smoothly. The building will be located in the middle of the IT industrial park being planned in Norrköping. Pronova is already a tenant in the IT company hotel where Ericsson currently rents space. It is situated adjacent to the university and student housing.

PL

Photo: PATRIK LINDÉN



This is what Ericsson's new building in Norrköping will look like when it stands ready in 1999. Today it is just a parking lot on a demolition site next door to the facilities where Ericsson Data is currently located. The new building will have no internal pillars, so it will be easy to utilize the facilities in different ways. Project groups will be able to quickly move around and sit together. Flexibility has been the key word in the design of the new Ericsson building.

Sketch: ÅSBERG & WÄNGSTEDT ARKITEKTER AB

■ A mobile telephone that can also handle regular telephone calls through a switchboard. No cables are needed and its easy to change workplaces.

This is now a reality for workers at Ericsson Data in Norrköping. The company's switchboard is directly linked to the mobile telephone operator, Telia Mobitel. All calls within Ericsson go for a fixed rate, and as soon as you leave the building, the telephone becomes a regular mobile telephone.

"We are Telia's first customer to have this option," says Kenth Fredriksson at Ericsson Data in Norrköping. "There have been a few bugs to begin with, but on the whole, it has worked well. As far as costs go, there is no big difference between this and a traditional solution. But we save a lot in that it is easier to reach people,

One man - one phone

there are fewer investments, and we don't have to install telephone lines everywhere."

It works like a combined mobile telephone and a wireless office telephone with a common number. Since the switchboard is connected to a mobile telephone network, you can punch in messages about meetings, lunches and so forth on your telephone. From a technical standpoint, Telia has decided to connect Ericsson's telephones to a 1800 MHz base station in the area, so that it can tell if a telephone is within the office, which simplifies billing. This solution could also work with regular GSM telephones, but in order to insure access Telia

has decided to use this dual-band technology. Ericsson's dual-band telephones will be coming out this spring, at which point Ericsson Data employees will trade in the competitor telephones that they are currently using.

PL

Kenth Fredriksson has negotiated a unique telephone solution for Ericsson Data in Norrköping. All of the workers have only mobile telephones which also take calls through the office switchboard. Ericsson is Telia's first customer to utilize this system.



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. 3 1998

Updated March 9

Ericsson Radio Systems AB, Kista

RMOG HW Services is responsible for provisioning of spare parts and repair services for all RMOG products. This includes product management as well as supply. In order to be an excellent supplier of HW services it is very important to prepare new and existing hardware for repair and service. We are now looking for a manager for this function

MANAGER - HW SERVICES PREPARATION

● Responsibilities: Ensure repair capability of all new products and administration of old according to the process for HW Service preparation. Prepare spare parts, repair and demands on logistics for hardware products. Ensure product information needed for supply of HW Services. Assist in the establishment of new Repair Centres. Give technical support to the Repair Centres. Follow-up of repair statistics. Ensure service ability on third party products.

The unit will consist of around 12 persons. Requirements: Masters degree or equal. Experience from technical work. Working experience from service is preferable. Experience from leadership is also to prefer.

Contact: Göran Kördel, tel. +46 8 757 5708, memo-id ERAC.ERAGK or Charlotta Rydgren, tel. +46 8 404 2807, memo-id ERAC.ERACHAS Application: Ericsson Radio Systems AB, LY/H Charlotta Rydgren, 164 80 STOCKHOLM ERA/LY/DC Göran Kördel 1997-10-17

Ericsson Telecom AB, Stockholm Customer Support Services

IMPLEMENTATION MANAGEMENT, NEW AND GLOBAL OPERATORS

Continued deregulation of the telecommunication network, 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 and for all products.

Global Operators operates a global network with sites in different countries. To be able to support their NETWORK, not only single sites, the support structure needs to be different from local operators. It also needs to be different from case to case.

● You will be working in close co-operation with Account Manager and Customer Project Manager to establish the best customer support set up for each specific customer. You will first be involved during tender phase and will next be consulted when the contract has been signed.

We believe you are fluent in English, have strong communication skills, customer oriented and are able to work independent. Previous experience from project management is advantageous.

Contact: Eva Svensson, phone +46 8 719 1145, MEMOid ETXT.ETXEVJA

Ericsson Radio Systems AB, Kista

MANAGER - NETWORK MANAGEMENT CONSULTING

Who are we? Network Management Consulting is a part of RTMS - Telecom Management Solutions - the new business unit within the ERA organization. RTMS is specialized in providing mobile operators with outstanding solutions for Network Management services, Network Management systems and Business Operations Support on the global mobile market.

Network Management Consulting is a new unit that will offer consulting services to our customers.

Now we need someone to head this unit of approximately 20 specialists. RTMS is a highly international unit; around 15 different nationalities are represented and hence we also welcome international applicants.

What do we do? We develop and deliver services for operation and maintenance activities of cellular networks. These services are aimed at Network Operators that want to improve effectiveness and competitiveness by reducing costs and improving network performance. Our services cover a wide range, from consulting to complete outsourcing of all Operation and Maintenance functions of the operator to Ericsson.

● Who are you? You are creative and result oriented person with a flexible mind and a background in telecom consulting. Also, you have experience of your own from running a similar organization.

Your mission will be to build, coach and inspire a competent team of professionals. An important task will be organizing continuous competence development of the personnel. Is this you?

Contact: Endre Fabo +46 8 764 1007 endre.fabo@era.ericsson.se or Zorica Bodiroza +46 8 757 0191 Zorica.bodiroza@era.ericsson.se Application: Ericsson Radio Systems AB Towa Raak, NHS S-164 80 STOCKHOLM Sweden

Ericsson Radio Systems AB, Kista

Business unit Cellular Systems - American Standards (RMOA) develops and markets complete wireless communication solutions based on the D-AMPS/AMPS standard. Presently, nearly 50% of the world's wireless subscribers are connected to D-AMPS/AMPS systems.

PROJECT MANAGER - BUSINESS SUPPORT SYSTEM

RMOA is one of the fastest growing Business Units within Ericsson. One of our major challenges is to streamline the processes and the business support systems. Our department's mission is to provide business applications to facilitate world-class IS support for the global RMOA TTC (Time To Customer) process.

● You will be working with the process teams and the users in identifying the most critical information management needs and run projects aimed at implementing new and improved systems. We work with internal and external IS/IT units in the development projects and for maintenance of our systems.

The candidates should have: MSc, MBA or equivalent. Experience from project management, business analysis or system development. Ability to drive projects under tight time schedules and maintain excellent relationships with project members. Good written and spoken English.

Contact: Marie-Josée Leblond, phone: +46 8 75 72163. marie-josée.leblond@era.ericsson.se Application: Ericsson Radio Systems AB AH/H Henrik Bergqvist, 164 80 Stockholm

Ericsson de Bolivia Telecomunicaciones S.A., EBB

OPERATIONS MANAGER

An opportunity for you that want challenges and work in a flexible and dynamic environment. Ericsson de Bolivia is supplying telecommunication equipment and services from all Ericsson's Business Areas to the Bolivian market.

● We are looking for an Operations Manager that will lead a department currently consisting of 25 persons. The department is responsible for Project Management, Logistics Management, Engineering, Test and Installation and Local Support of the radio communications activities in Bolivia. The main responsibilities are to lead the department, frequently visit the customer, and to coordinate the operations activities internally as well as with subcontractors and the customers.

Furthermore you should be dynamic and customer oriented, have experience from working within an international, multicultural environment, have good leadership capabilities, and have good interpersonal skills.

You are expected to fulfill these formal requirements: Solid experience in telecommunication. 3 to 5 years of experience from support of mobile telephone systems and/or project management. Good knowledge of the Spanish and English languages.

In return we can offer you a stimulating job opportunity in a young and dynamic organization. The person we are looking for should be able to start ASAP.

Contact: Magnus Anseklev +591 2 312233; E-mail EBB.EBBKLEV@memousa.ericsson.se or Ulf Malmerberg +46 8 757 2949 Application: Ericsson Radio Systems AB ERA/AH/H Tom Larsson, 164 80 STOCKHOLM

Nanjing Ericsson Comm. Co.Ltd (ENC)

INSTALLATION ENGINEER

● ENC now needs an Installation Engineer expert for a long term contract, since the business is developing very fast in the region.

The installation engineering department is responsible for A-, B-pack material ordering, and C-module production for GSM and DCS 1800 mobile system. The department also handles some PSTN work.

A suitable candidate shall have deep Installation Engineering and PLEASE system administration knowledge including the ability to transfer this knowledge to local employees.

This position is a one year contract in Nanjing China.

Contact: ENC/O/PC Jan-Owe Johansson, Phone no. +86 25 210 1188 ext. 3011, Memo-ID: ETC.ENCJOJO or Anny Liang Dongwei, Phone no. +86 25 210 1188 ext. 2153, Memo-ID ETC.EN-CANNY. Application: Jan-Owe Johansson, Memo-ID: ETC.ENCJOJO, fax: + 86-25-210 11 99

Research and Development centre Nuremberg/Germany, Radio Communication

SOFTWARE DESIGNER

● You will design, specify, implement, verify and integrate software for Mobile Terminals.

As a suitable candidate you have a Bsc equivalent formal education in electrical engineering or computer science and experience in the design of real-time software, ideally in the area of Mobile Phones. Knowledge of Mobile Communication standards like GSM or DECT is a clear advantage.

ENGINEER FOR SOFTWARE VERIFICATION

● To verify the software of Mobile Terminals you specify and implement test procedures, work out concepts for testing and participate in the test execution.

As a suitable candidate you have a Bsc equivalent formal education in electrical engineering or computer science and experience in software development. Knowledge of Mobile Communication standards like GSM or DECT, experience in testing communication protocols or in the design of telecommunication terminals are a clear advantage.

You will work on varied tasks in an international team. For both positions the ability to communicate in English, both spoken and written is essential.

Contact: R & D Centre Nuremberg Radio Communication Norbert Lechner Manager Human Resources Dial: 0911/5217-111 Memo: EED.EEDNLE or R & D Centre Nuremberg Software Gerd Feldmann Group Manager Dial: 0911/5217-250 Memo: EED.EEDGFE

Ericsson Research Canada, Montreal

WEB INFOMASTER

● The Information Systems Support team is looking for a Web Infomaster who will help build and maintain the LMC Intranet/Internet infrastruc-

ture in order to fulfill LMC and RMOA needs, and align with the organization standards. The Web Infomaster will also communicate rules and guidelines to the users, gather their requirements and provide them with guidance.

We are looking for a candidate with good analytical skills, who is very structured and has good working methods. You should have at least two years experience in managing information on an Intranet Web of a large size and have thorough knowledge of HTML. You are a team player with solid communication skills in English and a minimum average French.

Contact: Hélène Schwelb (LMCHESC) in Human Resources or Christian Lague (LMCCHLA).

LOCAL SUPPORT ADMINISTRATOR FOR PLEX DEVELOPMENT

● As a Local Support Administrator for PLEX Development your main tasks include: Installation and administration of all software components of the APS tools and JDI platform (Clearcase, etc.). Support users with usage questions and concerns related to the platform. Participate in the UNIX, PC administration, as well as networking discussion that can have an impact on the platform.

As a suitable candidate you will have the following qualifications: A bachelor's degree in either the computer field or electrical engineering. At least one year of experience as a UNIX administrator (Sun Solaris) as well as at least 6 months of experience as Window NT administrator. Solid knowledge of script programming. You must have good analytical capabilities, good working methods and good inter-personal skills.

Contact: Hélène Schwelb (LMCHESC) in Human Resources or Christian Lague (LMCCHLA).

Ericsson Radio Systems AB, Kista

MANAGER HARDWARE SERVICES, RSO

We will start two Regional Service Offices (RSO), one in Kuala Lumpur and one in Dallas.

The purpose for this is that we want to ensure that the Hardware activities in the region meets the customer demands and to contribute to the optimisation of operation, system availability and profitability of RMOG customers.

We also want to assure that the (M)LCs will be able to offer, sell and deliver Hardware Services in an effective and profitable way.

● Your main task as Manager Hardware Services-RSO is to secure the supply chain for Hardware Services by designing, implementing, monitoring and improving processes and procedures for this. This includes the whole supply chain from customer to Repair Centre (RC), including Regional Logistic Centre (RLC) and in some cases the (M)LC.

It is also your responsible to implement measurements and follow up the Hardware supply against contractual agreements and to make sure that the stock levels are right at RLC.

You will also have a function as Marketing and Sales support and give support to (M)LC in establishing new customer agreements and help them with presentation of Hardware Support supply process. You will report to LY/DC who is the SAU manager and to the RSO manager who is consolidates the activities in the region.

We want you to have a Bachelor of Science, or equivalent, and a minimum of 3 years relevant operative experience, sound business competence and a good knowledge of the market situation, i.e. Ericsson customers and competitors.

You need to have good communication- and logistics skills.

Contact: Göran Kördel phone +46 8 757 5708, memoid ERAC.ERAGK, Rickard Slettnyr phone +46 8 757 0766, memoid ERAC.ERARISL or Charlotta Rydgren, Human Resources, phone +46 8 404 2807, memoid ERAC.ERACHAS Application: Ericsson Radio Systems AB LY/H Charlotta Rydgren, 164 80 STOCKHOLM

The Software Supply Centre, SSC, in Norway

The Software Supply Centre, SSC, in Norway has been given the Regional responsibility of software verification and support of fixed networks within the Nordic region. This implies activities such as AS-Verification, AS-Maintenance and AS-Replacement for our customers, the local Ericsson companies, within that region.

We are situated in Arendal, a small town along the South-coast of Norway, 250 km South-West of Oslo. We are looking for:

EXPERIENCED TROUBLE SHOOTERS AND TESTERS

● ON LONG TERM CONTRACTS TO SSC, NORWAY. You are an Ericsson employee, open mind-

ed, highly motivated individual with focus on sharing competence to others and AXE test experience for at least 3 years. This expertise would preferably be from a fixed network (AXE Local 3 and Local 4) background.

Job description: As a tester you will be included in the team responsible for the Test-process. This includes activities such as test design and test execution. The trouble shooters will support the test- and maintenance team and solve problems connected to those activities.

Contact: Finn Helgesen (memoid: ETO.ETOFH, email: etofh@eto.ericsson.se) or Ann Elisabeth Ludvigsen (memoid: ETO.ETOAEL, email: etoael@eto.ericsson.se) telephone: +47 37051000

Ericsson Telecom AB, Public Networks Customer Services

IOG SPECIALISTS, DALLAS, MELBOURNE, RIJEN

The Global Response Center, operating in Melbourne, Dallas and Rijen is seeking to strengthen its current competence teams delivering support knowledge to our customers.

● You will be experienced and capable in handling serious, or highly technical issues associated with IOG and its related products such as FTAM, X25, etc. IOG-20 knowledge would be an advantage, as would the attitude in growing your own knowledge within our competence groups.

We will provide you with a supportive environment to develop yourself by exposure to IN Service problems, New Projects, and handling new products such as the Adjunct Processor with other like minded technical specialists.

Grow your competence!

Contact: Thomas Wahlman (ETXT.ETXTWAH) +46 8 719 9077 Dave Eales (ETM.ETMDES) +31 161 249362 Peter Dicksson (EUS.EUSDCKN) +1 972 583 1356 Andreas Luiga (EPA.EPAADL) +61 3 9301 1814

Ericsson Telecom AB Public Networks Customer Services

APZ SPECIALISTS, DALLAS, MELBOURNE, RIJEN

The Global Response Center, operating in Melbourne, Dallas and Rijen is seeking to strengthen its current competence teams delivering support knowledge to our customers

● You will be experienced and capable in handling serious, or highly technical issues of an APZ nature, and should have experience in handling APZ problems of AZP 211, 212, including P2 products. Experience in APZ 212-20 or AS upgrades would be an advantage.

We will provide you with a supportive environment to develop yourself by exposure to IN Service problems, New Projects, and other like minded technical specialists.

Grow your competence!

Contact: Thomas Wahlman (ETXT.ETXTWAH) +46 8 719 9077 Dave Eales (ETM.ETMDES) +31 161 249362 Peter Dicksson (EUS.EUSDCKN) +1 972 583 1356 Andreas Luiga (EPA.EPAADL) +61 3 9301 1814

Ericsson Telecomunicazioni S.P.A., R&D Division, Rome

SYSTEM TEST LEADER

● Job activities : Test Analysis, BAT Analysis, ST Planning, Competence required : AXE knowledge on system level , TLC network and system background. At least 4 years of experience in AXE projects. English knowledge is mandatory. Successful candidate will be employed as team leader in System Verification of ERICSSON standard projects.

SYSTEM TESTERS

● Job activities : Test Description, Test Execution, BAT, Trouble report production. Competence required : AXE knowledge on system level , TLC network and systems background. At least 2/3 years of experience in AXE projects. English knowledge is mandatory. Successful candidates will be employed in the teams currently working in System Verification of ERICSSON standard projects.

TC, SPECIALIST

● Job activities : CNG Packaging and assembling. Competence required : Axe Products knowledge, data transcript and SW production experience. At least 2/3 years of experience in AXE projects in the TCM area. English knowledge is mandatory. Successful candidate will be employed in the System Verification team acting as CNG packaging responsible.

Contact: Sergio Caldarelli EITA.TEICALD Application: TEI Via Anagnina,203 00040 Rome Italy, fax +39/6/72583127 tel.+39/6/72583007

Ericsson Software Technology AB, Håssleholm

One of our design organisations, responsible for CMS45/89, is now in the position of starting up a new product line, a Combined Gateway for NMT/GSM and TACS/GSM, based on AMC platform. The following positions are available.

SYSTEM DESIGNER

● As system designer your main tasks include participation in prestudy, feasibility- and quick studies and writing technical reports. As a suitable candidate you are an Ericsson employee with at least three years of design experience in the area of switching systems.

Further more you should be familiar with AMC and good knowledge of mobile telephone systems. Knowledge of ISUP signalling, CMS45/89 and CMS8810 is of a clear advantage. Being initiative, self-driven and showing good analytic abilities as well as good communication skills are important personal qualities.

Contact: EPK/DZC Klas Nyström Memo: EPK.EPKNY, Tel +46 455 395389 or EPK/DZ Johan Agnéus Memo: EPK.EPKJA, Tel +46 455 395812

PROJECT MANAGER

● The first job as project manager you will act as the main project manager for Combined Gateway, ph 2, based on AMC ph6.

As a suitable candidate you should have experience of project management from at least one previous AXE development project. Experience from main project management and AMC knowledge is considered as of a clear advantage. Being initiative, self-driven and excellent communication skills are important personal qualities.

Contact: EPK/DZC Klas Nyström Memo: EPK.EPKNY, Tel +46 455 395389 or EPK/DZ Johan Agnéus Memo: EPK.EPKJA, Tel +46 455 395812

TESTER/TROUBLE SHOOTER

● As a tester/trouble shooter your main tasks include participate in development projects and support to the maintenance team. Your first job will be to join the testteam building up knowledge of the target environment for the Combined Gateway project. This environment consists of 10 different nodes (CGW, GSM, TACS/NMT, HLR's, VMS and BGW).

As a suitable candidate you are an Ericsson employee with at least three years of test experience in the area of switching systems.

Further more you should be familiar with AMC and good knowledge of mobile telephone systems. Knowledge of ISUP signalling, CMS45/89, CMS8810 and TCCN is of a clear advantage. Being initiative, self-driven and good communication skills are important personal qualities.

Contact: EPK/DZC Klas Nyström Memo: EPK.EPKNY, Tel +46 455 395389 or EPK/DZ Johan Agnéus Memo: EPK.EPKJA, Tel +46 455 395812

Ericsson Inc, US

Local Product Management for CMS40 BSS in Dallas/ Richardson is looking for a Product Manager for the BSC node.

PRODUCT MANAGEMENT

● Some examples of work functions are: Proactively manage all product issues on CMS40 BSC such as functionality in system releases. Produce requirements on new functionality in BSS area. Manage ordering information and information flow to regions. Produce planning letters and presentations for new functionality in BSS area.

Since this requires strong experience persons applying should have a minimum of 2 years of CMS40/ CME20 BSC experience. The work also includes plenty of customer contacts. A Masters degree in EE or similar is a requirement. Fluency in English is also a must.

Contact: Nikki King, Phone +1 972 583-7190 or Mats Wallen +1 972 583-0043

Ericsson South Africa (Pty) Ltd

SS AND BSS SYSTEM SUPPORT EXPERT

The Southern African markets are developing rapidly. Ericsson has been very successful in the region. The new networks will be live shortly and will be supported from South Africa.

● To strengthen our support organisation we are looking for one SS and one BSS System Support

Expert for a long term contract in South Africa.

OBJECTIVES: To provide technical expert support to Ericsson's customers and Field Support Centre within the coverage of the field support area. To be accountable and responsible for the efficient running of the System Expert function within FSC in order to reach a higher level of customer satisfaction.

RESPONSIBILITIES: To assist in building up the expertise and to transfer knowledge within the department. To make judgement of the most efficient way, technical and economical, to solve a problem. Full reporting shall be done.

MAIN TASKS: To review, develop and improve the procedures in Field Support. To ensure that all activities within the department meet the Ericsson Quality standards. To identify, investigate and report or solve problems of a complex nature in the both hardware and software. To be able to explain highly technical issues to different levels within the organisation. To be part of the 24 h emergency service if appointed.

REQUIREMENTS: Degree in Electronic Engineering/Telecommunications or equivalent. A minimum of five (5) years relevant experience working in the telecommunications/computing industry where at least three (3) years has been working for Ericsson within testing or customer support of CME20.

System skills (respectively SS and BSS) as good knowledge of e. g. switching, traffic concepts, telecommunications networks, inter-exchange signalling, GSM900/1800 Radio environment (Cell Planning and Fault finding), AXE 10 Operations and emergency recovery procedures and product functional demands.

Have a sound knowledge of the CME20 Switching System, trouble shooting and trouble report handling, CN-A and CN-I handling and correction implementation.

System Expert needs to be familiar with the product structure at a level equivalent to the components of a function block (hardware and software functions).

Knowledge of MIN (Mobile IN) applications and complimentary products as VMS and SMS-C applications is an advantage.

Personal skills as a thorough and methodical approach to work, be able to work as a team member, perseverance in tracing and proving the existence of faults, be flexible and responsive to changing work patterns and demands. There will be a need to travel in Southern Africa at short notice.

Very good knowledge of English is a must.

Contact/Application: Riku Vastela, Memoid ESA.ESARIKU, phone ESA +27 11 283 2000.

Ericsson Caribbean, San Juan

TOTAL PROJECT MANAGER - CUSTOMER PROJECTS

● We are looking for two (2) candidates for Project Manager, one to be responsible for customer projects in Curacao and another for Puerto Rico within the Business Unit Cellular Systems.

The successful candidates will be responsible for executing Customer Projects for all ERAVA related projects within the Netherlands Antilles and Puerto Rico markets. This means to manage projects exceeding customer expectations as regards time and quality.

You need to have a proven record of using the PROPS model from earlier projects, be customer oriented, have a self drive and have high quality awareness.

You need good communication skills, ability to work with people from different cultures and organisations.

The successful candidates has preferable minimum 3 years of experience from work in commercial turn-key projects or other related activities within Ericsson. Fluency in written and spoken English is required, Spanish is an asset. Ability to establish good relations with customers and Local Companies is also required.

Application: Carmen Nadal, Human Resources Administrator Ericsson Caribbean, Suite 1910, 654 Muñoz Rivera Ave. San Juan, P.R. 00918-4141 Fax: +1-787-758-1776 - Memoid: EUS.ERACLNR E-Mail: eus.eraclnr@memousa.ericsson.se

Ericsson Eurolab Deutschland

Ericsson Eurolab Deutschland GmbH our young Research & Development Centre in Herzogenrath, near Aachen offers the following challenging positions:

The main responsibility is to support EDD/EED in its ongoing process of building up the technical competence of its customer and internal staff. Due to the new Training Organization we are looking for a

SENIOR TRAINING ENGINEER CUSTOMER TRAINING

● The main tasks in this position will include: Project related work (e.g. Course Development).

Provisioning of professional technical training. Course customizing according to operator's requirements. Promote Ericsson's image and its products.

As a suitable candidate, you have a solid technical education and good experience in Fixed and/or Mobile Networks, SAW Maintenance and/or Testing and APZ (IOG, CP). You have already prepared and held courses about Ericsson products, especially AXE10 including AXE10 Survey, -Platform, -Operation Handling and - HW Maintenance. You should also be routinized in project work. We require excellent communication skills in German and English, as well as team and result orientation, initiative and self-motivation. You must have a strong interest in people and be absolutely service-minded. The department and Human Resources will give support for your individual development and all needed training.

Contact latest 970320: Human Resources Simon Seebass, Memo:EED.EEDSIMS, Dial: +49-(0)2407-575-163 Manager Training Carsten Bruns, Memo: EED.EEDCAB, Dial: +49-(0)2407-575 114

The EED/XSL section within our PAX system house is responsible for worldwide Maintenance and Customer Support of released CME20 Switching Systems. We provide support for the CME20 Switching Systems after "General Availability" has been set. The section also has the responsibility to assemble, and test packages that compliment the main Product Line Releases (e.g. Correction, GIWU, and HW Packages). To strengthen our further activities we are looking for

GROUP MANAGER AC HANDLING

● To fill the position of the Group Manager AC Handling, we are looking for a motivated team leader with at least 3 years Ericsson experience and the qualification to steer the tasks mentioned below.

The AC Handling group is working on the following main area: Testing, AC Testing, Remote Loading of AC loadfiles, AC and TR handling processes.

Leadership Perform appraisals, participate in recruitment and introduce new personnel. Competence & career development of the staff and assignment of tasks. People management and development of the group scope.

As an ideal candidate you should have solid technical experience, e.g. in the area of TR and AC handling process and hands-on experience. A good understanding of customer expectations and PLMs responsibility is needed in order to find efficient solutions. PLM interworks with organizations on different levels. Supply and support is done in connection with EED/X/Y and the ASO/RSC FSCs. Coordination with other Product Lines is essential when discussing impacts on common products like APZ delivered by UAB.

We are looking for an open minded person with an ability to cope with change. An interest in people's development is an essential part of the candidates profile. Previous line management experience is desirable.

Contact latest 980320: Human Resources Simon Seebass, Memo: EED.EEDSIMS, Dial: +49 2407 575-163 Maintenance & Customer Support Thomas Busch, Memo: EED.EEDTHB, Dial: +49 2407 575-178

The Systemhouse General Packet Radio Service (GPRS) is responsible for the development and maintenance of Products in the field of GPRS and Telecommunications Management and Operational Support (TMOS). GPRS is aiming for the combination of data communication and mobility. GPRS is currently standardized as an extension of GSM. The department EED/D is responsible for the development and maintenance of the GPRS core systems OMS and PKM and for the GPRS applications VLR, SMS and PTM. System house GPRS is looking for an

EXPERIENCED TECHNICAL WRITER

● The main tasks for the position are: production of customer documentation in SGML/HTML (User Guide, Reference Manual, On-line help). close follow-up of product design. review of GUI parts regarding usability. inspection of the major design documents.

Customer documentation is an essential part of our complex products, as they shall guide the user in his operations. Thus, our products will not be used, if the documentation is not instructive and easy to handle. We are looking for a person with excellent English language skills and a solid background in GSM. Good general communication skills are required as well as the ability to understand and illustrate complex technical facts in an instructive way. Former experience as technical writer is definitely of advantage.

As the GPRS organization is still rather young, there is the freedom to be pioneer for processes, system architecture and usage of documentation tools. On the other hand, we have well defined

projects and clear delivery deadlines for our assignments. To be first on the market with our datacom products is crucial for our future operations. Do you want to join this challenging race? If you have any questions and/or are interested, please get in touch with us by 1998-03-20.

Contact: Human Resources Doerte Kaulard, Memo:EED.EEDDKA, Dial:+49-2407-575-163 Manager GPRS Development Andreas Daun, Memo:EED.EEDAND, Dial:+49-2407-575-418

The system group within XIP PAX design department has the product responsibility for the mobile application 1/APT 210 25 and the subsystem MSS within the CME20 / CMS40 switching system. We also run the product committees for these products, PC-1/APT and MSS, and perform system studies. For further support of our system group we are looking for a

SYSTEM DESIGNER

● As a System Designer your main tasks include: Participation in prestudy, feasibility- and quick-studies. System level 1 design. Standardization, change request analysis, statement of compliant tasks. Market support. Writing of technical reports.

As a suitable candidate you are an Ericsson employee with at least three years of design experience preferably in the area of switching systems. Furthermore you should be familiar with 1/APT mobile applications. Good knowledge of mobile telephone systems and in Data communications is a clear advantage.

Being initiative, self-driven and showing good analytic abilities as well as good communication and cooperation skills are important personal qualities. In addition you should also be able to cope with a high work pressure. If you have questions and/or are interested, please refer to your colleagues until 1998-03-20:

Contact: Human Resources Simon Sebass, MEMO:EED.EEDSIMS, Dial:+49-2407-575-163 Systems Group Frank Plettenberg, MEMO:EED.EEDFRP, Dial:+49-2407-575-253

The EEDIXID is the department within Circuit Switching Systems (CCS) system house for system level activities. CSS is responsible for the Switching Systems node in CME20 and CMS40 mobile networks. Here at EED we have the overall Circuit Switching Systems responsibility for

CME20 & CMS40. Due to further expansion we are looking for people to work in the system management as

SYSTEM MANAGEMENT ENGINEERS, "CIRCUIT SWITCHING SYSTEMS"

● We are working with the following mobile applications: GSM 900, 1800 & 1900 systems. Global and regional satellite network applications. Studies about GSM MSC evolution. UMTS.

System Management focuses on a range of system level tasks which are necessary to ensure progressive development of Ericsson's CME20 & CMS40 switching nodes. This work involves a broad range of activities including RS writing, system investigations, standardization and system level tasks related to system dimensioning and platform management. Please refer to the department homepage in the www for further information about the department's activities "http://www.eed.ericsson.se/services/eed-x-d/Welcome.html". Suitable candidates possess a relevant engineering degree (e.g. telecommunications, electrical, or software engineering) with a minimum of 3-5 years of AXE development or testing experience, and preferably at least 2-3 years of experience in system-level technical development or testing. Experience with GSM or other mobile telephony development is advantageous, but not absolutely necessary. Good analytical skills are essential.

Good cooperation, verbal and written communication skills are important human skills. Experience in working in close customer relations would be advantageous.

Contact: Pieter van Rijnsoever, tel: +49-2407-575-172, Memo: EED.EEDPVR, Andreas Thuelig, tel: +49-2407-575-246, Memo: EED.EEDANT, Doerte Kaulard, tel: +49-2407-575-163, Memo: EED.EEDDKA (Human Resources).

Ericsson Communication Ltd, New Zealand

SWITCH PERFORMANCE ENGINEER

A vacancy has arisen for a Switch Performance Engineer within ENZ - Radio Systems, Network Engineering Group, based in Wellington, New Zealand.

Ericsson New Zealand has a close working relationship with its main customer Telecom New Zealand, who is very focused on network quality

improvement and the implementation of new features and services within its D-AMPS cellular network to gain competitive advantage.

● The position is responsible for maintaining and implementing a network quality improvement programme for Telecom New Zealand's D-AMPS cellular network. This includes representing ENZ as its TPIP (Total Performance Improvement Programme) Champion and implementing performance audits according to TPIP concepts and processes, coordinating and implementing Switch Performance Reviews and other network performance audits of each MSC (and also other non-AXE or UNIX nodes), provide troubleshooting specialist support for network problems, maintaining regular contact and a working relationship with Telecom NZ staff.

I am particularly interested in people who have: CMS8800 AXE specialist experience, a quality focus within their everyday work programmes, knowledge of Ericsson's global TAC and FSC support organisation, an understanding of PROPS project management processes, good verbal and written communication skills, the ability to work both independently and as a member of a team.

Application: Ericsson Communications Ltd. Attention: John Kliffen P.O. Box 11-745 204-206 Thorndon Quay Wellington New Zealand MEMO-ID ENZ.ENZJKN

Ericsson Radio Systems AB, Sundbyberg

NEXT CHALLENGE - SERBIA

RMOG have a new GSM customer in Serbia. We therefor preparing the future organisation in our local company RYU. Following positions are open and on long-term contract conditions based in Belgrade.

KAM - KEY ACCOUNT MANAGER

● As an Account Manager you will work with the sales and customer order flow and be responsible for fulfilling the customer's high expectations. You will be a part of the marketing and sales team towards the customer account. Create and maintain Market Plans, responsible for meeting or exceeding sales booking objectives, billing quotas and consolidated profitability targets, maintain and negotiate contracts. Responsible for budgets and forecasts and establish long-

term partnerships between our customer and Ericsson.

Preferably you should have a M.Sc. in Engineering and you should have at least five years working experience and desirably 4 years with cellular communications and preferably with GSM experience. Ability to build excellent relations and drive for results.

CHIEF CONTROLLER

● As Chief Controller, you will ensure that a full budgetary, financial management and analysis service is provided, in particular through development and implementation of management information to support strategic business initiatives. You will be responsible to provide financial advice concerning setting, monitoring and achievement of Business targets, and work closely with the President to ensure that the financial implications of alternative courses of action are explored in advance of key business decisions. You will act as Controller, advising and reporting from a financial perspective on the company's operations.

You should have long experience of accounting, income statement/balance sheet analysis, financing, tax planning, consolidation and administration.

You have a university degree (B.Sc.) or similar education in accounting and/or Finance. Good spoken and written English.

CUSTOMER PROJECT MANAGER

● As a Customer Project Manager you will take care of the Operators extension, phase 2-4. You should possess qualifications that make it easy for you to motivate, inspire and guide the project and to create synergism in the team. You are experienced and recognised as trustful leader by the team and by the customer. You would not hesitate to take active part wherever needed.

Your task is to define and run the implementation project. You are responsible for organising, planning, ordering/initiating, follow-up and finishing all activities to fulfil the contract and budget and in accordance with the customers and our own expectations.

Contact: Jan Hultgren, phone +381 11 311 3899, fax +381 11 311 2249 Memoid ETX.ETXJEAN or Göte Hedblom, Human Resources, +46 8 585 31479 Memoid ERAC.ERAGGHE Application: Ericsson Radio Systems AB SG/ERA/LP/HA Siw-

ARE YOU SOMEONE WITH....

TECHNICAL TRAINERS ERICSSON TECHNICAL TRAINING CENTRE HASLEMERE, SURREY, UK

..... presence, personality and great communication skills? We're looking for good communicators who come in all shapes and sizes, irrespective of background and who tend to display similar basic qualities. Highly intelligent, quick to learn and curious about people, you will possess a positive and outgoing manner. You work well in a team, but also stand out from the crowd.

We're looking for Technical Trainers who will work with our extensive customer base in the UK and abroad, teaching them how to use our highly flexible systems and products in transmission, switching and mobile telecomms technology. Trainers work closely with our customer, so you will be expected to demonstrate excellent technical and human relations skills. You will also be responsible for course development and customisation. Maintaining a general overview of customer care will also be an important part of your role.

You will have a good knowledge of Transport Network applications in SDH or PDH or WDM telecommunications networks, applications and systems in GSM, IN, ATM, C7 or Private Networks, probably gained from an engineering role. If you are

interested in the challenge of training others in this leading-edge technology we would be pleased to hear from you.

As much of our work takes place on client sites, you will be expected to travel extensively within the UK and overseas.

In return you can look forward to a stimulating and challenging role in an unrivalled working environment where you will receive extensive, ongoing training and development.

If you are interested in applying or would like further information about these positions please contact:

Marie McDonough, tel +44 1403 277556,
memoid ETL.ETLMEMH

Emma Knapp, tel +44 01483 407358,
memoid ETL.ETLEAKP

ERICSSON 

Britt Johansson, 164 80 STOCKHOLM Memoid ER-AC.ERASBJ

Nippon Ericsson K.K. - Japan

SECURITY MANAGER

The IS/IT department is serving all Ericsson users in Japan, close to 850. We are responsible for quality in our wide area network and access to all local area network resources.

We have our operations divided into six responsibility areas, where security is one new established function. We are now looking for a Security Manager who will be responsible for the overall physical and logical security within NRJ.

● ABOUT THE JOB: As a Security Manager you will do and review security audits and work with action plans to improve the security. You will maintain a user friendly and efficient information security according to Ericsson's security policy. Advice and guide NRJ in all kind of security issues. You will represent NRJ in a Security work group and be the receiver of all company information regarding security related issues.

QUALIFICATIONS: You need good knowledge of Ericsson's IT policy and guidelines and a broad understanding of inter networking principles and security issues. Practical experience of "field" security work. You also need practical experience of small project leadership. You must have a service oriented attitude and a true interest in security issues related to modern information technology as well as traditional physical security.

Of course you need good skills in verbal and written English.

Contact: Dennis Keyson, Manager IS/IT, memoid NRJ.NRJKEY, phone +81 3 3221-8902, Kerstin Halen, Human Resources, memoid NRJ.NRJKERH, phone +81 3 3221-8205. Application: Kerstin Halen, Human Resources, Nippon Ericsson K.K., Kioicho Fukudaya Building, 6-12 Kioicho, Chiyoda-ku, Tokyo 102

Ericsson Toshiba Telecommunication Systems K.K., Japan - ERJ

TECHNICAL TRAINER, OSS

We are now looking for an experienced Technical Trainer for our training department in Shin-Yokohama.

● The candidate shall have experience in teaching OSS courses, have a deep knowledge of the UNIX systems and it's environment and knowledge about OSS system maintenance and upgrading. Knowledge of IN, SMAS, Packet Data and MXE is a benefit.

The candidate shall be fluent in speaking as well as in written English. The candidate shall also have the capability to transfer competence to local staff.

We are ready to offer an 2-year contract to the right person and starting date is negotiable.

Contact: Peter Nilsson, phone + 81 45 475 6761, memoid NRJ.ERJPENS E-mail: nrj.erjpens@memo.ericsson.se

Ericsson GMBH, Germany

INSTALLATION ENGINEER

● The installation engineering group produce C-Modules, using the PLEASE system, for the CME 20 mobile system and some APT 210 12.3/APT 210 12.4 fixed Network ISDNE Application Systems. Due to a heavy workload we are now looking for three experienced installation engineers on a short term based contract (3 month). The positions are vacant in Duesseldorf Germany.

Contact: EDD/K/SE Andreas Bartkowski, Tel: +49 211 534 1151 Memo-ID: EDD.EDDAB; EDD/K/SE or Peter Reading, Tel: +49 211 1156 Memo-ID: EDD.EDDPR; EDD/H Heike Ganz, Tel: +49 211 534 1386 Memo-ID: EDD.EDDHEGA

Ericsson Toshiba Telecommunication Systems K.K., Japan - ERJ

SENIOR ITAC / ITAC ENGINEER

Ericsson in Japan (ERJ) are in the process of developing an ITAC department (Implementation Technical Assistance Center) and we are currently looking for two engineers, one will be a senior position. These positions will be based in Shin-Yokohama.

● We are now looking for engineers with at least 5 years experience of testing/support of AXE 10 mobile platforms (PDC/GSM/AMPS).

The ITAC in Japan will be responsible for the introduction into the Japanese market of new H/W products, i.e. IOG20 and HWM - the new AXE platform.

The perfect candidate has an in depth knowledge of hardware testing, expansion and up-

grade and can develop or adapt instructions for the introduction of new H/W into the network.

For the position as Senior ITAC Engineer, proven leadership qualities is required as well as good presentation skills. You must be good at giving support to engineers on site and assist to solve any problems they might have.

Travel within Japan will be also be required from time to time.

You should be highly motivated and good at working within a team, excellent communication skills are also required. Fluency in written and spoken English is also required.

These vacancies are to be filled as soon as possible.

Contact: Mr Peter Nilsson, Memo Id: NRJ.ERJPENS E-mail: nrj.erjpens@memo.ericsson.se Office number: + 81 45 475 6761 Fax number: + 81 45 475 0035

Ericsson Eurolab Deutschland GmbH, Hildesheim

LOC SYSTEM DESIGNER "PRODUCT AREA ACCESS"

The EED/IEP department has the worldwide product responsibility for the Ericsson optical Access System LOC2i including its management system IRIDES. We cover the whole product life-cycle from the Technical Product Management, HW and SW Development, Test, Verification and Maintenance.

● You will participate in quick-, pre- and feasibility studies concerning the further development of the LOC2i system and IRIDES. The studies include system-, hardware-, firmware- and software aspects. Additionally you will help to support product- and project management and marketing concerning the LOC2i-system and IRIDES. Furthermore you will support the development-organisation in introducing new development methods and processes.

As a suitable candidate you are an Ericsson employee with at least 5 years of experience in system-, software and/or hardware engineering for switching or access systems. In this position you will need good telecommunication knowledge, initiative and good cooperation, communication and organizing skills. Furthermore you should be flexible, open-minded and enjoy working in an international team environment. If you have questions and/or are interested, please get in touch with us.

Contact: Human Resources EED/E/K Astrid Mayer, Memo: EED.EEDASMA, Phone: +49 5121 707 400, or EED/E/PI/Torsten Rosenthal, Memo: EED.EEDTORO, Phone: +49 5121 707 260.

Ericsson Radio Systems AB

Our success is based on our customers' success. Together, we are contributing to development in countries with a strong growth. Ericsson Radio Systems AB is looking for

CUSTOMER PROJECT MANAGER TO ISRAEL

For supply of a GSM mobile telephone system.

● Are you a customer project manager? Do you have international experience? Are you business-minded and flexible? Are you interested in technology? Can you get people to build a GSM system? Have you done this before?

You should possess qualifications that make it easy for you to motivate, inspire and guide the project and to create synergism in the team. You are experienced and recognised as trustful leader by the team and by the customer. You would not hesitate to take active part wherever needed.

Your task is to define and run the implementation project. You are responsible for organising, planning, ordering/initiating, follow-up and finishing all activities to fulfil the contract and budget and in accordance with the customers and our own expectations.

The position is in Israel on a 1-2 year contract. The first phase consist of switches and 500 base station sites incl. civil works in a very aggressive roll-out.

At Ericsson Intranet you will find methods, tools and competence profiles for customer project manager; <http://www-rmog.ericsson.se/process/projman/>

Contact: Sven Jungmar +46-8-7573281 or Henrik Moberg +46-8- 7572919. Application marked "Project Israel" latest 980315: Ericsson Radio Systems AB, SG/ERA/LP/HA Siw-Britt Johansson, SE-164 80 STOCKHOLM, e-mail: siw-britt.johansson@era.ericsson.se

Ericsson Eurolab Deutschland GmbH, Aachen

The EED/XID is the department within Circuit Switching Systems (CCS) system house for system level activities. CSS is responsible for the

Switching Systems node in CME20 and CMS40 mobile networks. Here at EED we have the overall Circuit Switching Systems responsibility for CME20 & CMS40. Due to further expansion we are looking for people to work in the system management as

SYSTEM MANAGEMENT ENGINEERS, "CIRCUIT SWITCHING SYSTEMS"

● We are working with the following mobile applications: GSM 900, 1800 & 1900 systems. Global and regional satellite network applications. Studies about GSM MSC evolution. UMTS.

System Management focuses on a range of system level tasks which are necessary to ensure progressive development of Ericsson's CME20 & CMS40 switching nodes. This work involves a broad range of activities including RS writing, system investigations, standardization and system level tasks related to system dimensioning and platform management.

Please refer to the department homepage in the www for further information about the department's activities

"<http://www.eed.ericsson.se/services/eed-x-d/Welcome.html>"

Suitable candidates possess a relevant engineering degree (e.g. telecommunications, electrical, or software engineering) with a minimum of 3-5 years of AXE development or testing experience, and preferably at least 2-3 years of experience in system-level technical development or testing. Experience with GSM or other mobile telephony development is advantageous, but not absolutely necessary. Good analytical skills are essential.

Good cooperation, verbal and written communication skills are important human skills. Experience in working in close customer relations would be advantageous. If you have questions and/or are interested, please refer to your colleagues:

Contact: Pieter van Rijnsoever, tel: +49-2407-575-172, Memo: EED.EEDPVR, Andreas Thuelig, tel: +49-2407-575-246, Memo: EED.EEDANT, Doerte Kaulard, tel: +49-2407-575-163, Memo: EED.EEDDKA (Human Resources).

The AXE Mobile Network department, within our AMC System House, will reinforce our System Integration unit for the AXE Mobile Core (AMC). The AMC consists of the core subsystems that are common to the mobile applications CME20, CMS30, CMS40 and CMS88. For more information see: <http://www.eed.ericsson.se/international/am/>

The system integration unit will have as main responsibilities to perform integration verification of the AMC product components and have an active role in AMC customer support activities. The unit will furthermore also be responsible for integration verification project both on main (AMC) as well as subproject level.

These projects perform in an international and intra-culture environment and is covering a vast range of development areas at the leading edge of technology, such as ISDN and Internet accesses. To strengthen our activities we are looking for

SYSTEM INTEGRATION & CUSTOMER SUPPORT ENGINEERS

● Your main authorities and tasks are: Definition of the prerequisites to perform a verification of the test object on AMC level in both target and simulated environment. Performance of the System Integration execution and reporting of the result verification. Trouble shooting.

As a suitable candidate you have good knowledge of mobile telephony systems, you are flexible, show initiative and have good communication & cooperation skills. The ability to work under pressure is also an important personal quality.

Furthermore, fluency in written and spoken English is required. Experiences from System Verification/Test and/or Customer Support is a clear advantage.

SYSTEM INTEGRATION TEST LEADERS

● Your main authorities and tasks are: Plan, control and report System Integration activities for AMC projects. Initiation and coordination of subproject planning and reporting. Initiation of reviews of the System Integration document.

Technical approval of the subprojects System Integration plans and reports. Selection of test environment (simulated or target). Performance entry and exit criteria checks. Coach the team.

As a suitable candidate you have good knowledge of mobile telephony systems, you are flexible, show initiative and have good communication & cooperation skills. The ability to work under pressure is also an important personal quality.

Furthermore, fluency in written and spoken English is required. You should be familiar with

System Verification/Test and/or Customer Support. Previous managerial experience, e.g. as Project leader/Testleader is a clear advantage.

Contact: EED/H/R Doerte Kaulard, Memo-Id: EED.EEDDKA, Tel +49 2407 575 163 EED/U/TV Mats Erlandsson, Memo-Id EED.EEDMERL, Tel +49 2407 575 635

Ericsson Radio Systems AB, Sundbyberg

SATELLITE COMMUNICATION - NEW OPPORTUNITIES

To be able to support and provide the satellite operators with a total satellite system we are working closely with several satellite companies. A satellite system can be global or regional. The satellite "footprint" for one of our regional projects, Thuraya, covers 49 countries.

The first phase for Thuraya includes Apr. 6-7 gateways. The implementation schedule for Thuraya is 36 months. During this time we will support our partner in the US and of course the satellite operator in UAE, work on the development of new satellite features within CME 20 and co-ordinate this with our local companies. Ericsson's role is to provide MSC/VLR/HLR/AUC and the GSM product portfolio.

If you think this is a real challenge in the new and exciting field of GSM based cellular satellite communication, then we can offer you interesting positions as:

SALES MANAGER

● As a Sales Manager you will work with the sales and customer order flow and be responsible for fulfilling the customer's high expectations. You will be a part of the marketing and sales team towards the customer account. Create and maintain Market plans, responsible for meeting and exceeding sales booking objectives, billing quotas and consolidated profitability targets, maintain and negotiate contracts and establish long-term partnerships between our customer and Ericsson.

The successful candidate should have an ability to build and maintain good customer relations, have strong sales & leaderships skills and experience from several markets/regions.

TECHNICAL MANAGER

● As Technical Manager you will provide our customer with technical competence. That includes technical discussions with the customer, product presentations, be responsible for preparation of technical specifications and production of technical documentation, all in close teamwork with our marketing and sales organisation.

For both positions we need persons who's profile shows that they are outgoing, independent and self-motivated with strong interpersonal and communication skills. They should have a university degree, preferably M. Sc. or similar. Good written and oral skills in English. It's a strong plus if they have experience in tender preparations.

Contact: Catharina Jedberger, tel +46 8 404 4464 Memo: ERAC.ERACAJE or Ulf Borison, tel +46 8 757 1580 Memo: ERAC.ERAUBOR Ansökan: Ericsson Radio Systems AB SG/ERA/LP/HA Siw-Britt Johansson, 164 80 STOCKHOLM

Research and Development centre Nuremberg, Germany, Radio Communication

QUALITY COORDINATOR

● that can support our development projects in quality matters. You will mainly support development projects run from BT department. That means that we would like you to have experience in consumer electronic, preferably in mobile phones.

We are for the moment working in the following areas: Cordless Telephone System (CTS) Dual band phone and Speech recognition.

Your daily work will be to give support when it comes to the project models (TTM) and local process to use, follow-up of actions from risk analysis, audits, etc. Investigate quality related problems.

Examples of preventive actions will be to train and educate the members of the project in the method and propose improvements of the project environment.

We would like you to have experience in quality work, an academic degree and experience from consumer electronic preferably terminals.

You will need strong organisation, planning, co-ordination and communication skills and also have to be flexible and have the ability to work under time pressure.

Contact: R & D Centre Nuremberg Radio Communication Norbert Lechner Manager Human Resources Dial: 0911/5217-111 Memo: EED.EEDNLE or Anna Hawkins Manager Quality Dial: 0911/5217-130 Memo: EED.EEDAHA

"Telecom Management Solutions (TMS) – Making Things Happen!"

Ericsson Radio Systems AB, Kista

Telecom Management Solutions (TMS) was formed in 1997 as part of Ericsson's strategic focus on services. Working within Ericsson Mobile Systems, we offer consultancy services to all Ericsson customers within the mobile communications industry, specialising in Network Management and Business Consulting.

To meet the challenge of growth within the service solution areas, we need more of the right kind of people. People with varying backgrounds and interests, but most of all the drive to reach our high targets. We work in a team-based organisation where different roles interact closely.

Business Operations Support (BOS) assists Ericsson Local Companies in providing customers with total service solutions. The business consulting areas of BOS are:

- Billing Solutions
- Prepaid Solutions
- Fraud Management Solutions
- Customer Care Solutions

We now have the following openings:

SENIOR IMPLEMENTATION PROJECT MANAGERS

Senior Implementation Project Managers should have a minimum of 4 years experience of leading projects.

As a Senior Implementation Project Manager, in addition to the general requirements, you will:

- Be prepared to work abroad on short-term assignments
- Have experience and general knowledge of how a mobile operator works
- Have experience of working with suppliers in an international environment
- Understand commercial issues such as proposals, agreements, Request For Quotations (RFQ), technical specifications, and requirement specifications
- Have experience of working with IT solutions in the BOS area or a similar area

SENIOR BUSINESS CONSULTANTS

We are looking for people with several years consultancy experience, preferably with a mobile operator, with in-depth knowledge of business processes, organisational issues, and IT solutions in the areas of Marketing and Sales, Customer Care, and Billing.

As a Business Consultant, in addition to the general requirements, you will:

- Analyse and define business processes and procedures
- Analyse and define requirements for optimal integration between process organisation and IT solutions
- Manage projects to implement new services and business processes

SENIOR PRODUCT MANAGERS – BILLING/PREPAID

As a product manager working within the Billing, Customer Care and Prepaid areas, you will evaluate systems and solutions, liaise with and manage Ericsson partners, create total solutions for operators, provide technical sales support and give customer presentations. You will also be responsible for providing Ericsson sales channels with marketing information and materials.

You should have a background in Billing, Customer Care, telecom, IT project management or IT systems development, in addition to the general requirements.

MARKETING MANAGERS

As a marketing manager, you will be responsible for sales within defined geographical regions and for securing Local Company buy-in for Business Operation Support services. You will need to establish confidence internally in the TMS Business Consulting portfolio of services and to ensure customer buy-in for our services together with Local Company account teams. You will have overall responsibility for the tender process through to signed contracts. You will work closely with Ericsson partners, account managers, and management of the customer. You must be able to travel extensively.

As a marketing manager, in addition to the general requirements, you will have:

- International marketing experience
- Knowledge in the Business Operation Support area
- A proven, creative, consultative sales approach
- Experience in handling contract negotiations and in outlining proposals

What's in it for you?

- Opportunities for advancement
- Responsibility – personal development

- New, service-minded organisation
- Dynamic working environment
- International contacts
- Travel
- Positions available in Kista, with opportunities in the near future for Sao Paolo and Kuala Lumpur

Your profile

To be a part of our future success, we believe that you are the type of person who:

- Can prioritise
- Is motivated by responsibility
- Enjoys working both independently and as part of a team
- Can not only recognise opportunities, but also create and act upon them
- Is culturally aware
- Is goal oriented, yet flexible
- Has strong management and organisational skills
- Has strong communication skills, both oral and written, including English (Spanish is a merit)
- Has experience in budgetary and economic planning
- Has administrative and report writing skills

For further information, please contact:

For Senior Implementation Project Managers:

John Ericsson, phone 08-404 36 20

For Senior Business Consultants:

Petter Ödegaard, phone 08-404 55 73

For Senior Product Managers:

Bo Strand, phone 08-764 18 43

Magnus Flyg, phone 08-404 78 72

For Marketing Managers:

Lennart Neujd, phone 08- 404 65 41

Home page: <http://www-br.ericsson.se/rtms>

Please send your application with a CV, no later than April 10, 1998 to:

Ericsson Radio Systems AB
NHS Towa Raak
164 80 Stockholm

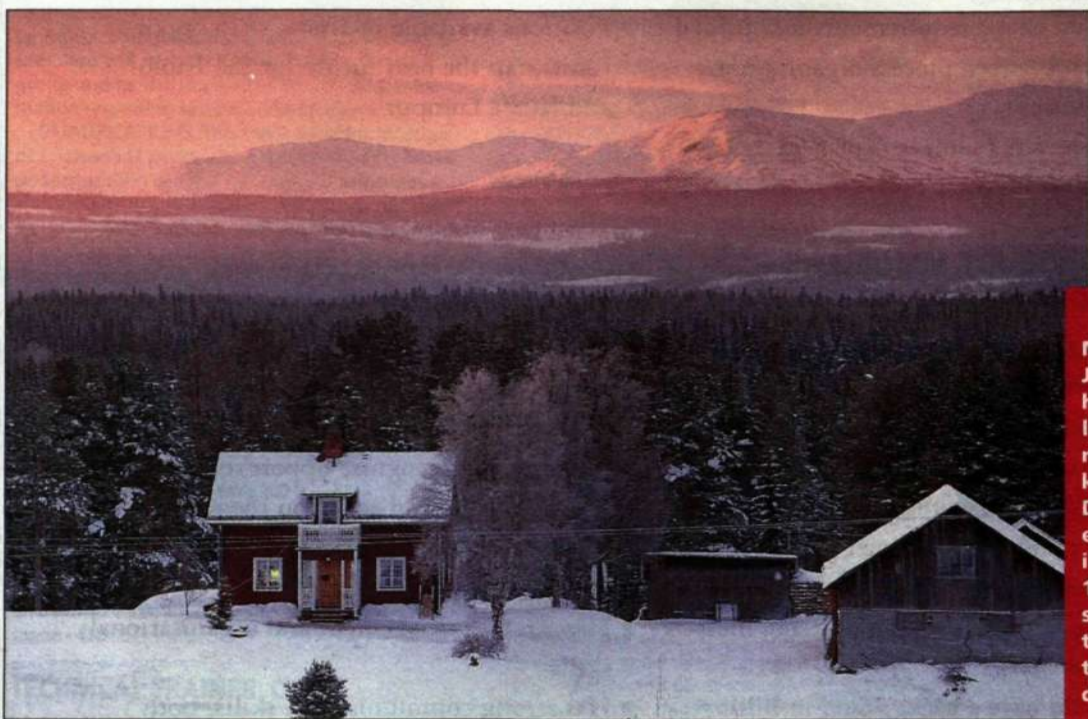
Ericsson's 100,000 employees are active in more than 130 countries. Their combined expertise in fixed and mobile networks, mobile phones and infocom systems makes Ericsson the world-leading supplier in telecommunications. You can get more information about us on our homepage www.ericsson.se/SE/

ERICSSON 

contact

Ericsson, HF/LME/I, Room 811023, S-126 25 Stockholm

Monica Isberg-Johansson used to work for Telia's directory assistance service in Östersund. Her commute to work was 300 kilometers each way. Thanks to an AXE/OPS Remote Work Station, a so-called telephone operator system, which Telia purchased from Ericsson, she now can walk 30 meters to her new workplace instead.



Monica Isberg-Johansson and her husband Tommy live in Raukasjö, more than 160 kilometers from Dorotea in northern Sweden. There is no road the last 14 kilometers, so snowmobiles are the only means of transportation during the winter.

Ericsson and Telia meet in the mountains

In the northernmost corner of the province of Jämtland at the tourist station in Raukasjö lives Monica Isberg-Johansson, together with her husband Tommy and their twins Marika and Marius.

At Ericsson Telecom Sweden, it was Monica Eriksson who was responsible for the contract between Telia and Ericsson. She was also in attendance at the inauguration up in the Jämtland mountains just before Christmas.

"We traveled up from Östersund by bus to Dorotea and from there another 150 kilometers to Storjula; that is where the

road ended," recounts Monica Eriksson from Ericsson Telecom Sweden. "We were met by Monica Isberg-Johansson's husband, Tommy. He took the whole party the last 14 kilometers up to Raukasjö by way of snowmobile."

The journey traversed along frozen lakes and bogs in the wintery Jämtland evening. "Snow-laden birches lined the way, and the moon shone down on us," says Monica Eriksson. "It was like a dream landscape."

Tommy built the cottage

The installation of the new equipment means that Monica Isberg-Johansson no longer has to travel the 300 kilometers to Östersund. And now she can work a 3/4 time job from the little "operator's cottage" in Raukasjö, rather than the 1/4 time job she was working in Östersund.

Ericsson delivered and installed the work station, Telia installed AXE and husband Tommy built the 20 square-meter cottage.

Monica Eriksson tells of how Tommy was truly moved at the inauguration, since this will simplify life for them up in Raukasjö.

The electricity needed to operate the equipment is also a remarkable story. Down by the stream, behind the little telephone operator's cottage, lies a power station with a turbine that generates the electricity that is needed. The regulator that controls the electricity is from 1919.

AXE/OPS in Raukasjö

In order for Monica Isberg-Johansson's workplace in Raukasjö to operate, two four-wire connections to the central AXE/OPS station Jericho in Stockholm were required. The connection to Jericho goes via a so-called RSM (a small AXE), which now exists in Raukasjö. The connection takes place via a modem and normal copper wires the first leg out onto the network.

Along with the upgraded connections to Raukasjö, it is now possible to have access to faxes, payphones and the Internet for the few subscribers located around the tourist station. Included among these, at the end of the line, is the Sami camp which is located farther up in the mountains.

It was hauled up to the mountain, disassembled into small pieces.

"One can really talk about contrasts," laughs Monica Eriksson, "a power station from 1919 which operates modern, cutting edge technology."

Quick solutions

The new workplace is a project that will be evaluated by Telia over the next three years. Should the project, against all odds, not succeed, Raukasjö will at least have received modern telephone technology and fast telephone lines.

end line

All out of letters

If you eliminate both I and J because they are so similar, use both V and W, and exclude the Swedish letters Å, Ä and Ö, there are twenty-four different letters to choose from. If you then, as we do within Ericsson, love combining letters in threes, then you have no less than 15,000 combinations.

That should be sufficient to satisfy our need for acronyms. However, there are of course many combinations that must be excluded. Some already have another meaning which we under no circumstances want associated with our company, its products or its organizational units. Naturally, we would like to have most things begin with the letter E, as in Ericsson.

This letter can appear in only 625 combinations with two others, so this almost limits growth of new subsidiaries, lest we run out of letters.

Shortly after I joined Ericsson, I began to wonder what rules apply to this alphabet soup. Who decides that ETX is ETX and ERA is ERA, I wondered. To my delight, I found out that there are people specially appointed to deal with this. This felt very secure. But it still happens that more than one unit receives the same three-letter code. This can cause problems with our company address database for magazine distribution.

Even more difficulties arise when we get into acronyms for different systems and technologies. Recently, I thought that we would be publishing a spread on a nationwide paging system called Wide Area Paging (WAP). That is, until someone explained to me that WAP stands for Wireless Access Protocol. I then asked myself, do other companies in our industry agree with this? Is there some kind of an international organ that has made an arbitrary decision that WAP no longer means what it used to? What if the same thing happens with GSM and NMT? What an expense for everyone concerned! And what if AXE is claimed by someone else? I guess we can console ourselves with other similar combinations such as ANX or AXD.

Of course it's convenient to use acronyms, as long as you're a hundred percent sure of what they refer to. Unfortunately, we often forget to mention what the letters stand for, such as "ATM - the new technology for broadband transmission."

For the aesthete in all of us, acronyms are typographically unattractive. Just look at this article. It's a typographical disaster with all of the capital letters protruding from the running text.

That should be reason enough to go easy on the acronyms. Just remember, they may run out some day.

As we all know, the earth's resources are limited.



LARS-GÖRAN HEDIN



Telephone operator Monica Isberg-Johansson at her new work station at home in Raukasjö. Thanks to Ericsson's AXE/OPS Remote Work Station, she no longer has to commute 300 kilometers to work in Östersund.

ANDERS NIKLASSON