


contact

ERICSSON  PUBLICATION FOR EMPLOYEES WORLDWIDE

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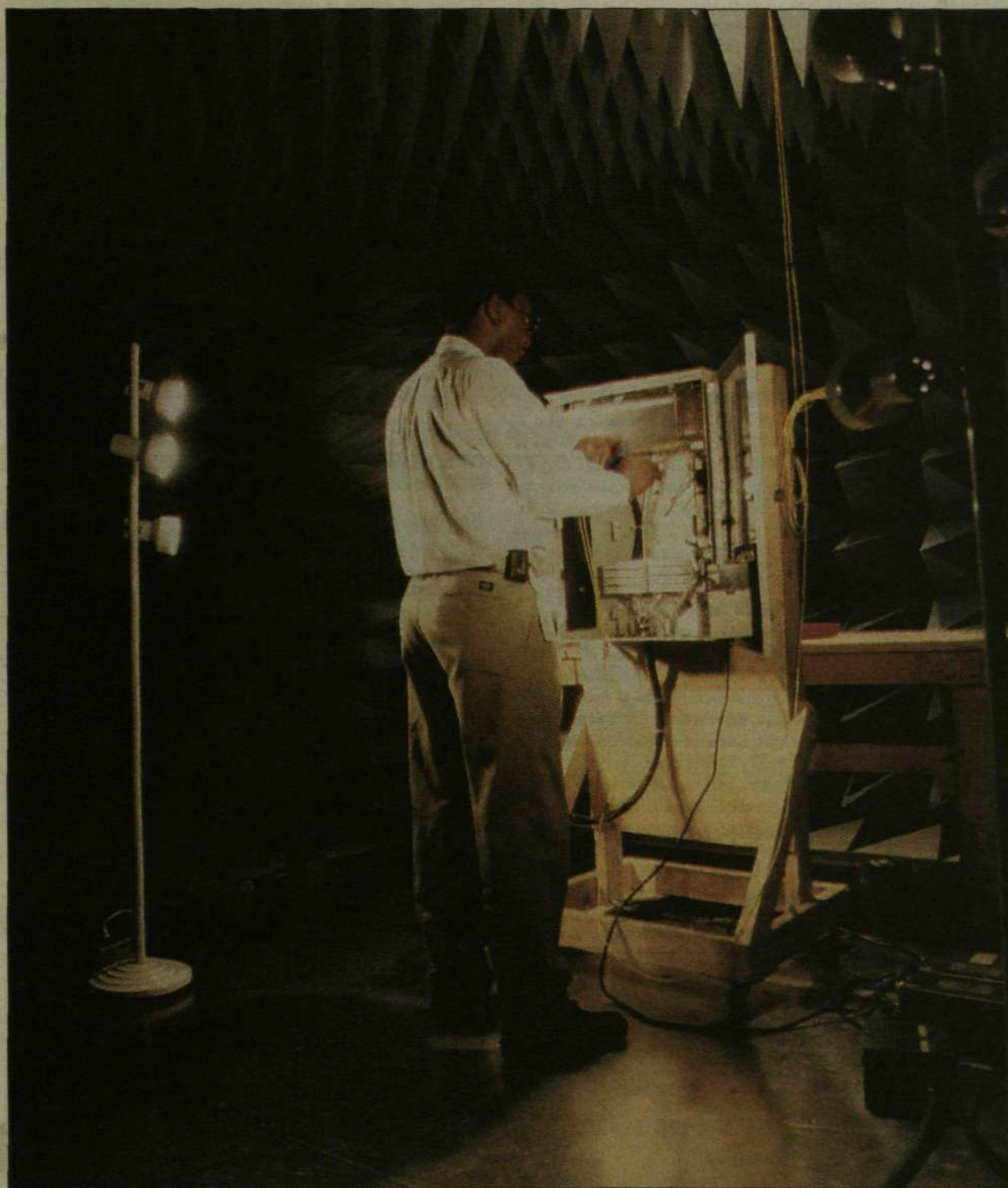


Photo: LARS ÅSTRÖM

On-site in Silicon Valley

No place in the world can match Silicon Valley in California for its huge concentration of computer companies. The broad stretch of valley landscape south of San Francisco is virtually boiling of creativity. Competition for qualified personnel is extremely tough. In the heart of "the Valley," an Ericsson company has grown up under the conditions that will prevail for all of Ericsson in the future.

Pages 12-13

CDMA for wideband

Ericsson booked a strategically important contract recently with NTT DoCoMo, a Japanese mobile operator. The order calls for development of a so-called wideband CDMA system for mobile telephony with larger bandwidth than present systems. Contact studies the concept this CDMA variation, a technology abandoned by Ericsson in other applications.

Pages 4-5

Making money from Customer Service

Customer Service is a highly topical area of operations. During the spring, agreement was reached in Ericsson to concentrate for the first time on Customer Service. Substantial amounts of money can be made for a company like Ericsson, which has tens of thousands of customers in all parts of the world.

Pages 18-19

Visual Identity

Corporate Visual Identity (CVI) is a concept used to shape Ericsson's graphic profile, logotype and trademarks. But the regulations governing the use of the logotype and trademarks are not always viewed with enthusiasm by those wishing to add a little spice to marketing materials.

Page 10

This is how it's done – the Mini Link, see pages 6-7

"Exciting new opportunities in the fastest growing Latin American market. Brazil."

Ericsson do Brazil, EDB, is rapidly expanding its Cellular operations as a result of its leading position in the explosive Brazilian telecommunications market. With more than 22 customers in the D-AMPS/AMPS A-band alone, and new opportunities evolving from the upcoming B-band license process, EDB requires the support of motivated telecommunications professionals. EDB's headquarter is based in Sao Paulo and there are regional sales and support offices across the country.

The general requirement for all positions is fluency in English. Fluency in Portuguese and Spanish is preferred. Both short- and long term contracts will be offered.

Take the opportunity to increase your professional skills while working under demanding, exciting and challenging conditions by applying for the open positions in the following areas:

EDB/RM - TECHNICAL SALES SUPPORT & PRODUCT MANAGEMENT

Product Managers for OSS (CMOS) and WIN

As Product Manager you are expected to perform activities related to the products i.e., execute actions required to make the product available to the rest of the organization, prepare product market plans, hold presentations both internally and for customers, handle market requirements, answer SOCs and develop strategic partnership with our customers.

You should have a B.Sc. or M.Sc. in Electrical Engineering with a major in Telecommunications and should have 3 years experience in a similar position.

EDB/ROM - CUSTOMER SUPPORT

System Support Engineers

As a system support engineer you will provide emergency support (on call), operational support, trouble shooting and software implementation.

You should be Electrical or Telecommunication engineer with 5 years experience in AXE. Strong knowledge in CMS88, PLEX, ASA, RBS, IOG11. You should be able to transfer knowledge to local organization (FSC), deal with customers, work and solve complex software problems. It's important that you are proactive and take initiative without supervision.

System Engineers (MSC) for Network Operation & Maintenance

As a systems support engineer you operate and maintain MSC's, keep track and execute schedule routines. Other tasks are customer care support, network surveillance, dispatch and co-ordination.

You should have a technical education in telecommunication, information technology, electronics or equivalent, 2 to 3 years experience with IT or telecommunication, documented experience in radio communication, experience within maintenance of telecommunication or computer system, good knowledge of general telecommunication and mobile telephone systems especially within installation and NO&M. Experience within Network Operation & Maintenance may replace the formal education requirement.

System Engineers (RBS) for Network Operation & Maintenance

You will work with Operation and Maintenance (preventive and corrective) of RBS, keep track and execute scheduled routines.

You should have a technical education in telecommunication information technology, electronics or equivalent, 2 to 3 years experience with IT or telecommunication. Documented experience in Radio communication. Experience within maintenance of telecommunication or computer system.

Good knowledge of general telecommunication and Mobile telephone systems especially within installation and NO&M. Experience within Network Operation & Maintenance may replace the formal education requirement.

System Support Engineers for Customer Support & Implementation (CMOS/OSS/SMAS)

As a system support engineer you will develop procedures in field support, investigate and solve complex problems both hardware and software. You will provide expert technical support to Ericsson's customers and transfer knowledge within the OSS Field Support Center.

You should have a degree in Electrical Engineering/Telecommunication or equivalent. A minimum of 5 years working in telecommunications/computer industry. Minimum 3 years experience working with Ericsson. Customer Support for CMOS/TMOS/SMAS. Good knowledge of CMS88, data communication protocols and some knowledge in cell planning statistics.

EDB/ROP - RF ENGINEERING & RF OPTIMIZING

RF Engineers

RADIO NETWORK PLANNING

You will work with radio network planning of Ericsson's CMS88 system, both 800 and 1900 MHz bands. This will include traffic and coverage dimensioning, frequency planning, coverage and interference predicting with Ericsson Engineering Tools. The radio network planning will be addressing both new systems and expansions in existing systems, as well as digital migration planning.

RADIO NETWORK OPTIMIZATION

You will work with radio network optimization of Ericsson's CMS88 system, both 800 and 1900 MHz bands. This will include analysis of the system's performance through switch statistical data, analysis of the cell plan, drive testing, data post-processing and analysis, search of non-optimized parts, suggestions of improvements and implementation.

We see the unit as a whole and expect to work as a team of dedicated but flexible resources, that will enhance and promote communication and exchanges between the groups. You are therefore specialized in one of the fields mentioned, but see the opportunity to broaden your knowledge and experience.

For both of the positions mentioned above we require at least 3 years experience, in either Cell-planning or Tuning/Optimizing of Cellular systems (preferably D-AMPS/AMPS). You have a B.Sc. or M.Sc. in Electrical Engineering, Telecommunications or equivalent. A broad international experience is an asset.

EDB/RI - IMPLEMENTATION SYSTEM

Switch Test Engineers

A switch test engineer provides high-quality testing of AXE switch equipment to include integrating mobile cell sites to the switch background performing data transcription implementation.

You should have two years experience of testing AXE hardware/software, ability to travel extensively and have knowledge of D-AMPS/IS 136 technology.

Switch/RBS Installation Engineers

As a switch/RBS installation engineer you make plans, implement and supervise the installation of the switch (AXE) and RBS equipment in customer facilities. You must be able to work with quality standards and provide quality control check and

progress reports. You must be able to read and understand Ericsson AXE documentation.

You should have two years of experience in telecommunication and installation of the AXE and have the ability to travel extensively. A valid Driver's license required.

RBS Test Engineers

You shall be able to test and commission radio base stations. This includes performing system/acceptance testing of digital interfaces, microwave and auxiliary Systems. You shall also be able to use TEMS for coverage and hand off verification.

You should have one year of experience in RBS 884 testing, an ability to travel, valid driver's license and knowledge of D-AMPS/IS 136 Technology.

Transmission Engineers

As a transmission engineer you plan, implement and supervise the installation and test of all types of transmission equipment, e.g. Mini-link, HDSL, cross-connection SDH and etc. You shall also be able to test the Access Network.

You should have 3 years experience in transmission equipment and an ability to travel.

DT Engineers

Provide engineering with support of the switch integration and create I-Modules.

You should have 3 years experience in DT environment for D-AMPS/AMPS system. Knowledge of DT tool such as PC-Comreg, C3fast, Compose and DTSS. A valid drivers license required.

RBS Site Engineers

As RBS site engineer you shall be able to perform site investigation, quantify and allocate the indoor and outdoor equipment, interconnection and produce RBS installation manual (C-Module).

You should have 3 years experience in D-AMPS/AMPS RBS and/or transmission equipment such as SDH, HDSL, DXC, Mini-Link, etc. Knowledge of Word, Excel and ability to travel. Drivers license mandatory.

Switch Engineers (MSC)

As a switch engineer you do the planning and implementation of switch installation projects, mechanical installation of switching, transmission, power, necessary cable ways, cable manufacturing and produce MSC installation manual (C-Module).

You should have 3 years experience in MSC site engineering concerning D-AMPS/AMPS systems. Knowledge of Word, Excel and Please. Driver's license required.

Please send your application to:

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KI/ERA/AHS Kerstin Malmgren
164 80 Stockholm

or to the mailbox at EDB, Brazil:
BRA.EDBEXPA


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Ericsson's 90,000 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 

Strong first quarter reported

Ericsson is demonstrating a new proof of strength in the first quarter of 1997, the 22nd consecutive quarter with increased order bookings. Even measured in the increasingly stronger US dollar, order bookings and net sales increased sharply during the first quarter, by 19 percent and 21 percent respectively, for comparable units. Our strong market organization and our focused investments in research and development continue to yield very positive results.

Ericsson's investments in research and development, with more than 18,000 employees in 23 countries, is probably the most forceful in the entire telecom industry. When order bookings, sales and profits rise, we receive confirmation that the aggressive investment in research and development is correct. I foresee that we must sustain a very high level of development activity also in the future. Competition will increase.

GSM world standard

The strong development of mobile telephony in the world is continuing. The trend for GSM has been particularly impressive. This system is practically established as a world standard and is in operation in 103 countries on all continents,

except South America. Ericsson GSM systems are installed with 94 operators in 52 countries and we hold a 45 percent market share, measured in number of subscribers. The American digital system D-AMPS is also widely established, in Ericsson's case in 25 countries, with a market share of nearly 50 percent.

Third generation radio

In Japan, NTT DoCoMo selected Ericsson as one of its cooperation partners for development of the first experimental "third generation" radio communications system which will be able to handle high-speed multimedia services. The system is based on W-CDMA (Wideband Code Division Multiple Access) technology for multimedia services such as full-motion video, video conferencing and access to the Internet. According to plans, full scale commercial launch is scheduled for the end of this century. I view NTT's selection of Ericsson as a partner as important proof of the confidence in our technical ability.

Ericsson's undertakings regarding customer financing have been made with a clearly limited risk exposure, which may be noted in light of reports about the financial difficulties of individual operators.

Strengthened position

We registered a very strong first quarter in the business area Mobile Phones and



"Change, adaptation and flexibility are absolute requirements for our competitiveness," says Lars Ramqvist.

Foto: ANDERS ANJOU

Terminals, with a two-fold increase in net sales compared with last year. Concurrent with an increase in competition, we have strengthened our position among the leading suppliers.

Infocom Systems has posted new successes for the AXE system and a number of newly established network operators chose Ericsson's AXE system to be competitive in new markets. At the same time, profitability is weak due to heavy price pressure and the costs for investments in data communications. Continued volume growth and realignments of production offers possibilities to improve profitability.

High pace of change

The demand for increased efficiency applies to all of Ericsson. We will be delivering higher volumes with fewer employ-

ees. Our personnel have had to adapt to a high pace of change, where new jobs are continuously being created while others are discontinued. Change, adaptation and flexibility are absolute requirements for our competitiveness. This was shown with great clarity in our "Ericsson 2005" strategy work, which is now guiding us into the next century.

In order to best meet the market's and our customers' demands, we have established a new organization as of January 1, 1997, as I have reported earlier.

The new organization has been very well received by our customers, employees and the stock market. Today, we see an even more competitive Ericsson in an increasingly demanding international market.

LARS RAMQVIST

Interim report first quarter 1997

Order bookings	SEK 39,213 m.	+36 percent
Sales	SEK 30,705 m.	+36 percent
Pre-tax income	SEK 2,020 m.	+30 percent
Income per share	SEK 1.40	+28 percent

- Order bookings, net sales and income rise
- Strong development for mobile phones

■ Ericsson's order bookings increased 36 percent, to SEK 39,213 m., in the first quarter of 1997, (SEK 28,757 m. last year). For comparable units (incl. consolidation of Ericsson Telecommunicacoes S.A. in Brazil), order bookings rose 29 percent. The increase was attributable mainly to the business areas Mobile Phones and Terminals and Mobile Systems.

Net sales amounted to SEK 30,705 m. (SEK 22,658 m.) an increase of 36 percent compared with the first quarter of 1996. For comparable units, net sales rose 31 percent. The business area Mobile Phones and Terminals posted the sharpest increase, +99 percent.

Income before taxes amounted to SEK 2,020 m. (SEK 1,549 m.), an increase of 30 percent, or SEK 471 m., compared with 1996. The consolidation of Ericsson Telecommunicacoes S.A. does not affect the pre-tax income. As a result of the weaker Swedish krona, income contains positive currency effects of around SEK 100 m. compared with the same period last year.

Income increased by 30 percent

Income per share after current and deferred taxes for the period and after full conversion rose 28 percent to SEK 1.40 (1.09).

The United States is Ericsson's largest market, followed by China/Hong Kong, Great Britain, Sweden, Spain and Italy. All market regions posted favorable growth.

At the end of the period Ericsson had 94,236 employees, an increase of 287 since December 1996.

As in the first quarter of 1996, cash flow before financial activities was negative, related to an increase in working capital and increased customer financing commitments.

The equity ratio was 38.5 percent (40.0).

Investments in property, plant and equipment amounted to SEK 1,216 m. (SEK 1,640 m.), of which SEK 589 m. in Sweden (SEK 855 m.).

BUSINESS AREAS (according to new organization)

Mobile Systems reports continued growth. The business area's order book-

ings rose 22 percent and net sales 16 percent for comparable units. Subscriber growth, particularly for digital systems, is very rapid throughout the world. GSM is practically a world standard, with systems in 103 countries on all continents, except South America. The American digital system D-AMPS is also widely established, in Ericsson's case in 25 countries.

Order bookings in **Infocom systems** rose 8 percent for comparable units. Net sales developed very positively, with an increase of 19 percent for comparable units. As a whole, the result of the business area was weak, due partly to price pressures in the business area's major product areas and continued heavy investments in technical development.

The process of change to shorten lead times and reduce costs is continuing. Agreements were reached with two of the world's largest contract manufacturers of electronics regarding the planned takeover of a large portion of the business area's global printed board assem-

ably activities for AXE switches and certain access products. The business area is continuing with its focused efforts concerning solutions for multimedia communication and the Internet. During the first quarter a number of newly established network operators chose Ericsson's AXE system to become competitive.

Mobile Phones and Terminals posted an increase in net sales of almost 100 percent. The business area carried out a number of successful product launches, including the GF 788 GSM phone, which was very well received on the market.

Other operations (energy systems, components, cables and defense electronics) developed favorably, with an increase in order bookings of 29 percent and a sales increase of 20 percent. Ericsson Microwave Systems' airborne radar Erieye continues to attract interest on the market and was selected for the Brazilian SIVAM system for airborne surveillance of the Amazon region.

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Boost for broadband

An announcement was made recently that Ericsson has been chosen by NTT of Japan, along with a handful of other leading telecom companies, to develop multimedia networks for the future of mobile telephony. The system will be based on broadband CDMA (W-CDMA) for radio transmissions able to handle up to 2 Mbit/second, an enormous increase compared with today's networks.

Long considered a science-fictional concept, surfing the Internet via mobile networks, or gaining access to "video on demand," defined as watching a movie of your choice, at any time, will soon become a reality. DoCoMo, the mobile division of Nippon Telephone & Telegraph of Japan, has decided to create a mobile network to handle these services. It also decided to focus on W-CDMA (Wideband Code Division Multiple Access) as the system's technique for radio transmission.

The bidding was also open to non-Japanese telecom companies. As a result, Ericsson and Lucent Technologies of the U.S. will develop base stations and work in cooperation with NEC, Fujitsu and Matsushita of Japan, while Motorola and Nokia will work with NEC and Matsushita on development of terminals for the new system.

The system will be specified in detail during 1997. A test system will be ready for initial operations at year-end, and the

GSM + ATM + W-CDMA = an unbeatable combination

network will begin commercial operations toward the new Millennium. It should also be noted that NTT-DoCoMo's system represents only one track in third generation mobile telephony.

Broadband

Demands on the next generation of mobile telephony, regardless of solution, will be focused on transmitting very large amounts of information in a very short time. Today's mobile network data transmission speeds of 9 or 13 kbit/second will be totally inadequate.

Naturally, Ericsson has worked for a long time on developing the technique of the future. In its TDMA-based (Time Division Multiple Access) GSM networks, Ericsson has increased capacity on the existing channel width, 200 kHz, by allowing a call to use more than one time slot (normally, eight calls share one frequency channel). Working in cooperation with



Broadband will boost mobile telephony to unprecedented heights, say (l-r) Per Bergsten, Magnus Ewerbring, Jan Uddenfeldt, Håkan Djuphammar and Martin Ingels.

Photo: KURT JOHANSSON

Telia of Sweden, Ericsson has demonstrated a test system able to operate at 64 kbps. And GPRS (General Packet Radio Services) should provide GSM with 115 kbps. Corresponding development work is being conducted for the American digital TDMA standard, D-AMPS.

It should be possible to reach transmission speeds of 384 kbps (The minimum requirement for multimedia) in GSM with existing carrier widths and upgraded modulation techniques.

The giant step to 2 Mbps, however, will require new techniques. The carrier wave will have to be broadened. Broadband CDMA techniques will become an interesting alternative.

When carrier waves are broadened, in fact, some problems involved with CDMA are eliminated, along with certain advantages of TDMA. The fading properties of CDMA are improved, for example, while the TDMA technique experiences problems with equalizers and high peak effects in the mobile.

It should be emphasized in this context that W-CDMA differs significantly from the narrow band Q-CDMA, 1.25 MHz, introduced in the U.S. a few years ago as standard IS 95. The system is intended primarily for voice transmissions and does not offer any advantages compared with existing mobile systems.

The system chosen by DoCoMo, instead, will operate with 5 MHz channels in the 2000/MHz band, which has been distributed globally for systems of the future. (PCS systems on the 1900/MHz band in the U.S. have thwarted grandiose plans for a universal system.)

"The broadband CDMA concept will require a completely new architecture for radio base stations," says Håkan Djuphammar, head of product management at the new broadband unit established recently at Ericsson Mobile Systems to develop the next generation of mobile systems.

Until now, all base stations have been channel-oriented, or divided among a number of transceivers. The new system uses a function-oriented architecture whereby process resources are managed in a pool to facilitate dynamic broadband. In W-CDMA, all calls are mixed together and identified with the help of codes. The system makes it possible to flexibly distribute capacity with variable channel widths.

Transport networks

W-CDMA requires a transport network able to handle this type of variable channel width. It uses the ATM technique (Asynchronous Transfer Mode), which is described as "circuit-switched, variable packet connection," or something in between a pure connection and pure packet-oriented transmission. ATM, which is used between the exchange and base stations, is a highly economical alternative

for transmitting information, and the technique provides substantial flexibility for operators. ATM is also considered to be the "coming" fundamental standard for high-speed transmissions.

A powerful system will be delivered to DoCoMo in December, comprising three base stations, a BSC (Base Station Controller) and an MSC exchange.

"Every base station processes as many as 300 calls in six sectors, and has a packing density 10 times greater than today's base stations. When we have developed the commercial products, packaging density further increased by a factor of two," declares Håkan Djuphammar.

GSM keeps on surfing

"Today's GSM will remain completely dominant for voice and data transmissions up to about 100 kbps," says Jan Uddenfeldt. "The new W-CDMA access technique, on the other hand, will serve as a complement to GSM for applications involving high-speed data transmissions.

The GSM system is specified for two sections; network and accessing. The TDMA standard affects only the access section and a small part of the network structure.

"It will be completely within the realm of possibility for operators to introduce broadband W-CDMA services in existing GSM networks at a pace they choose themselves," concludes Jan Uddenfeldt.

LARS CEDERQUIST

news briefs

GSM expansion in northern China

■ Ericsson has signed a contract for expansion of a GSM network in northern China.

The order was booked by Liaoning Mobile Company, the operator in Liaoning Province. Valued at SEK 388 million, the order includes the most modern technology available and sophisticated radio base stations for Liaoning Province's future DCS 1800 system.

When the expansion project is finished later this year, the Liaoning network will

have capacity to serve one million subscribers in all parts of the province. Ericsson has conducted close cooperation with Liaoning Province for more than 10 years and is the sole GSM supplier.

R&D center established in Shanghai

■ During his visit to China a few weeks ago, Ericsson President and CEO Lars Ramqvist announced plans for a new research and development center in Shanghai. The center will develop products for data and telecommunications for the Chinese and global markets. In its

initial stages, the new R&D center will focus on the development of software for access networks.

The new center is expected to begin operations during the third quarter of 1997.

Submarine cable spans Baltic Sea

■ The TeleCable Division of Ericsson Cables and DSC Communications of Denmark have signed a contract for the delivery of an optical fiber submarine cable system between Sweden and Finland, via Åland, and between Gotland and

Lithuania. The order was booked by several telecom operators working in cooperation, including Telia, Åland's Mobiltelefon AB, Telivo of Finland, Eesti Telefon AS of Estonia, Lietuvos Telekomas on Lithuania and GN Great Northern Telegraph Co. of Denmark. The cable will be placed in commercial operation in the autumn of 1997.

Ericsson Cables in Hudiksvall will deliver the submarine cable and overland cable for the project. Ericsson's environmentally friendly submarine cable will be used, the same cable to be installed for a new link between Sweden and Poland.

Basis now established

Ericsson has for a number of years conducted research on supersystems for mobile telephony of the future, including work within the framework of European joint-venture projects. Last autumn the research and development department in Radio Communications was able to demonstrate a new broadband system based on the W-CDMA access method.

The broadband system that was demonstrated in a technology-packed test van in Kista – for interested visitors from Japan, China, the United States and other countries – is called Wideband CDMA (W-CDMA), which can handle voice, video conferencing and Internet access.

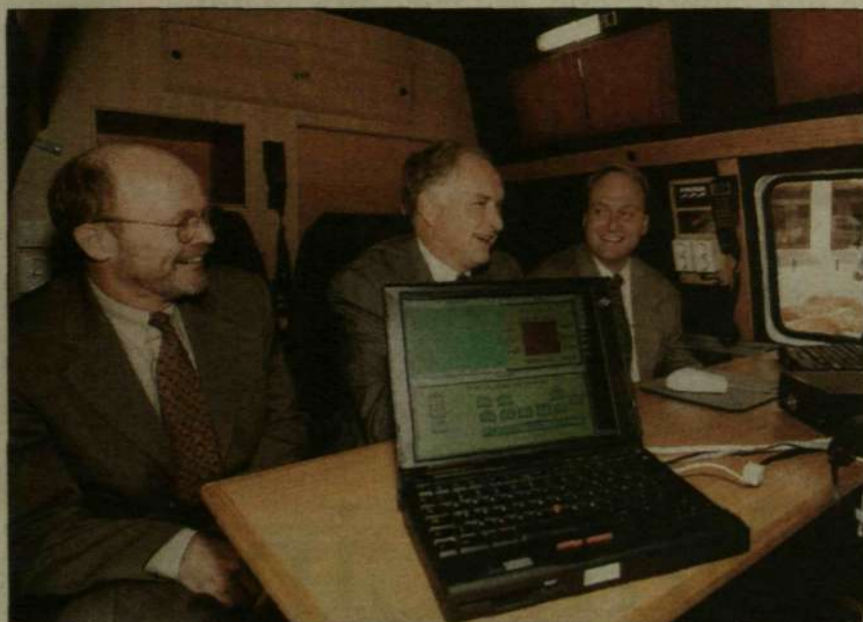
All in one cell

The system consisted of a cell in which a mobile station and a radio base station communicated. Two laptop computer in the van enabled observers to graphically track the quality of the video coder and transmission, the data speed, radio wave reflections and other activity. This information was stored for use in future simulations.

During the demonstration the van operated a 15-minute loop during which engineers showed communications over a 5 MHz broadband channel with a transmission speed of 144 kilobytes per second, with voice using 16 kb/s and Internet and real-time video signals 128 kb/s (with different speeds in the link to and from the mobile unit, which is appropriate when obtaining information from databases.)

Proprietary video coder

The Ericsson-developed video coder, which had to meet demanding specifications – because the eye is generally more sensitive to defects than the ear – was especially interesting. The coder, which compresses transmission by measuring the changes from image to image, is designed to handle everything – from slow sequences to the rapid sequences in a football match – in a way that uses the radio channel flexibly and with optimal quality. The coder proved to be stable un-



Last autumn Erik Örnulf (left) and Magnus Ewerbring (right), members of Ericsson Radio's research and development department, were able to show CEO Lars Ramqvist a mobile test system for multimedia transmission over mobile networks.

Photo: KURT JOHANSSON

der field conditions, and resistant to transmission faults.

The voice quality was also high. The voice coder operated with 10-millisecond frames at variable speeds from 0.4 kb/s to 16 kb/s.

In-house development

"All the work on the system, which we have designated Wideband Test Bed (WBTB), took place within our research and development department," says project manager Magnus Ewerbring. "It was done here in Kista, in the new development office in Nuremberg that was started for the project, and in the branch at Ericsson Microwave Systems AB in Gothenburg, which developed the base station antenna."

The project was started in January 1995 and completed in the autumn of 1996.

The developers worked in accordance with a modular model in which problems were broken down into "subproblems" that were handled by teams of three or four persons. Because an "integration-driven" method was used, it was possible

to "cut and paste" in the system and make step-by-step verifications, as well as to cross-verify measured and simulated data and quickly locate a problem.

"We have conducted research on broadband systems and CDMA for many years, but this was the first time we applied our results in a practical manner," says Erik Örnulf, manager of the research and development unit.

The project was based in large measure on knowledge gained by Ericsson in the European CODIT joint-venture project. But it was important for the new project to acquire total-system knowledge by constructing a complete prototype in-house.

"We have now acquired a broad technical base and we have a test bed that enables us to evaluate various technologies in radio systems, as well as other technologies in such fields as video coding and Internet access," Erik Örnulf says.

"The method involving the development of prototypes will become increasingly important in future technical development programs."

LARS CEDERQUIST

■ In a CDMA system, all calls are handled in carrier waves, "stacked" one above the other. In order to be able to separate the calls, each call is assigned a unique code. In this method, each bit in the original message is given a code signal that varies, for example, 125 times faster than the original signal, resulting in a signal that is 125 times broader in frequency. The code is repeated during the entire call. The receiver can now separate its particular message by applying

How CDMA works

the code again. The code is able to "neutralize itself" so that the digital signal of this particular message once more become a slowly varying signal, while the other calls (which have different codes) remain broadband.

The receiver filter then cuts out the narrow-frequency bit containing the particular call and "taps" the compressed call 125 times stronger than the other calls, which are noticeable only as background sound.



The broadband system was demonstrated in a test van.

■ Trade union negotiations regarding cutbacks of operations in cable production held at the Pre-Installation unit within Ericsson Business Networks in Järfälla, outside Stockholm have now been concluded. The cutback affects 17 of 65 employees. Fourteen have been laid off while three were offered new positions. The current work shortage affects the segment of operations dealing with cables for the DRA 1900 radio access system. The direct rea-

Cutbacks in Järfälla

son for the cutback is lower order bookings than expected. In addition, cable production for the DRA 1900 will gradually be taken over by Ericsson's contract manufacturer Flextronics which recently acquired the production plant in Karlskrona, where assembly of all DRA 1900s is carried out.

"Our main operations are installation of telecom equipment in portable telecom shel-

ters that are delivered worldwide," says Mats Odevik, manager of the Pre-installation unit.

A major portion of the other cable production involves customized cabling for Ericsson Radio's expansion of the mobile telephone network in Japan. A work group, headed by Mats Odevik, has been formed to provide various forms of support to those per-

sons affected by the cutback. The group includes representatives from the Labor Board, Järfälla Health Center, Career & Job Center, the personnel department and union representatives.

"The affected personnel are in an attractive age group," says Cathrine Vincenti of the personnel department. "In my opinion there are good possibilities of finding a replacement job within Ericsson or other companies."

THORD ANDERSSON

Industry news

Partners threaten to sue Telefonica

■ Unisource, the alliance of a number of European telecom operators, including Telia, is threatening to sue its Spanish member, Telefonica. The background: Telefonica wants to hook up with Concert, the BT/MCI consortium. Telefonica is telling Unisource that it is unhappy with the alliance and is looking for a way to withdraw in an orderly manner. The situation is complicated by the fact that Unisource is allied with AT&T, which is MCI's largest rival in the U.S.

Many courting NTT

■ NTT (Japan) is now being courted by a number of consortia of international operators. NTT, which as yet is not allied with any of the three large American telecommunications companies, is interested in the joint program of Concert, BT, MCI and Portugal Telecom. Meanwhile, NTT is being courted by Global One (Deutsche Telekom and France Telecom) and by Unisource. An alliance with Concert is considered most likely, however.

France Telecom being partly privatized

■ Part of France Telecom is to be sold to private interests. Between 25% and 35% of the company's shares are to be offered to private investors in May. Prior to the sale, there are sharply different opinions with respect to the value of the French operator. Figures ranging between 150 billion and 210 billion francs are being mentioned at the present time. Experts think that the shares will be traded at a price slightly below the average of these estimates.

SGS Thomson's profit down by half

■ Profits of SGS-Thomson, the manufacturer of microelectronics and other products, fell by nearly half in the first quarter of 1997, amounting to USD 90.5 m., compared with USD 175 m. in the year-earlier period. Sales were down 8%, to USD 945 m. Pasquale Pistoria, SGS's president, attributes the decline in earnings to lower prices for the company's products.

Merrill Lynch believes in future of satellites

■ Satellite communications faces a bright future, according to a study conducted by Merrill Lynch, a leading American financial firm. Merrill Lynch thinks that the satellite industry – including TV transmitters – will have sales of USD 31 billion in the year 2003. Satellites are also projected to be the primary channel for future distribution of advanced digital telephony (fixed-wire and mobile), high-speed access to the Internet, and multi-channel digital television.

STET ready for partners

■ STET, the Italian telecom operator, says that it is now prepared to ally itself with one of the three large international telecommunications consortia – Concert, Global One or World Partner – or to create a fourth grouping with a focus on local American operating companies. If Telefonica carries out its plans to leave Unisource, this may pave the way for STET and AT&T to get together.

During 1997, more than 20,000 MiniLink units will be produced at the Ericsson Microwave Systems plant in Borås. The various outdoor and indoor radio-link components are currently manufactured according to the conveyor-belt principle and entirely in accordance with the customer's specifications. Volume growth on the MiniLink front is related to the rapid development of mobile telephony worldwide. Every quarter, more than three million people become new mobile telephone subscribers. The Ericsson Microwave Systems MiniLink is now being used in more than 90 countries.

How a MiniLink is built

Since 1995, when 6,400 links were produced, the number of links manufactured has grown by more than 230 percent. A continuing increase is forecast for the current year.

For several years, employees of the Borås plant have been more or less working on a construction site, since the plant has been renovated and extended as order bookings for MiniLink poured in. After a couple of difficult years, however, it is now business as usual for the plant and its personnel, and radio links are being turned out like never before.

Assembly in five weeks

Assembling a MiniLink is a complex operation, requiring teamwork of the flow groups involved. From the surface mounting of the circuit boards of the indoor components, with the help of two modern Panasonic machines, to the packaging of complete radio-link systems, including outdoor and indoor components, ready to be delivered to the customer, takes about five weeks.

The various versions of the MiniLink "E" Family were designed by Mölndal engineers.

There are currently about 150 basic products that can be combined to form about a thousand different configurations, adapted in accordance with customers' preferences.

The indoor part, that is, the part that is connected to the mobile base station or the public network, consists of a shelf that can be configured with several basic units. The indoor part also includes the service unit, the SAU,



"MiniLink is currently installed in more than 90 countries, and the market continues to grow," says Bengt-Olof Olsson at the Borås technical-development unit.

and the modem unit, the MMU, both of which are manufactured in Borås.

The switch/multiplexor for the indoor part, the SMU, however, comes from Italy.

Manufacturing circuit-board assemblies

The first step in making a MiniLink is to manufacture circuit-board assemblies for the MMU and SAU components. Nowadays, this is a completely automatic operation, performed by a so-called Chip shooter, which has an assembly speed of about 25,000 pieces per hour, and a universal machine for fine-pitch and precision components.

The work proceeds on a five-shift schedule. A total of about 2,500 to 3,000 circuit boards are produced per week.

After the surface assembly, the circuit-boards are relayed to the final assembly operations for the manufacturing of control boards for the microwave unit, the MVE, and the baseband board for the radio unit, the RAU.

Follow production in Borås, from circuit board to packaging

Inspection

Step Two in the MiniLink process is the manufacturing of the MMU and SAU parts, and the manufacturing and inspection of the MVE part for the radio unit.

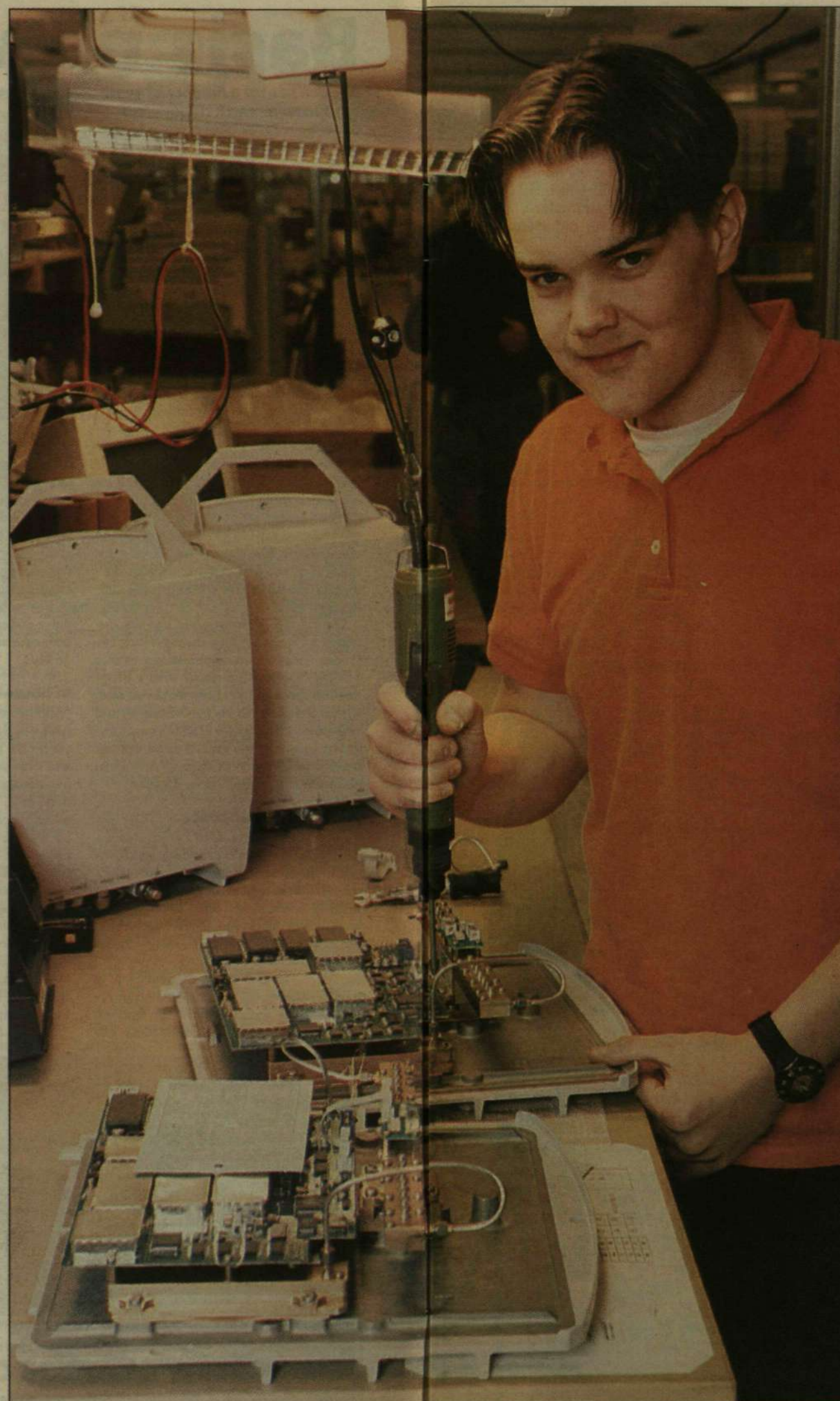
"The inspection of the manufacturing process is the weightiest element in the process," explains Bengt-Olof Olsson at the Borås technical-development unit.

"It's a combination of digital and analog technology, and the inspections, carried out in simulated environments, are at the forefront of the currently feasible. The work places very high demands on the inspectors."

"This is where we perform the last tests of the MMU component, before sending it on to the customer, who will perform the final test of the unit, when the link is assembled."

Radio unit customer-adapted

Simultaneously, while the indoor parts are assembled, the manufacturing of the radio unit – that is, the heart of the link – proceeds, in another section of the Borås plant. There, the unit is assembled entirely according to the order numbers the customer has compiled, based on the product catalogue.



3. The heart of the link is the radio base unit. At the RAU unit, the seat of RAU, the link is assembled in accordance with the customer's particular preferences.

"Today, ordering MiniLink is, for us, like shopping by mail-order. Easy for us and easy for the customer."

A total of about 100 links are produced every day, in different versions. This places high demands on our expertise and the employees' flexibility.

"All employees are continually undergoing training, to enable us to meet customers' various preferences properly."

When the radio unit has received all its fittings, includ-



1. The surface mounting of circuit boards is the first step in the manufacturing of a MiniLink. Currently, the Borås plant's two production lines manufacture close to 3,000 circuit boards per week. Operators Joakim Håkansson and Christian Gunnarsson monitor the process, ensuring that mounted components – approximately 25,000 per hour – end up in the right place.



2. When the circuit boards have passed the final mounting stage, including manufacturing of control boards for the microwave unit and baseband boards for the radio unit, it is time for tester Patrik Ramberg to test the parts of the outdoor unit in simulated environment. Here, he is testing a microwave unit, assisted by trainee Mathias Carlsson.



4. At the packaging department, a well-organized workbench is the order of the day. Every order consists of approximately 100 pieces that must be wrapped in boxes before delivery. "A well-organized workbench makes the work go more smoothly," says Folke Eriksson, who ensures that the packaging proceeds correctly.

Third generation of mobile systems

During the summer of 1990, Mölndal began work on the development of the base stations. This was something of a pioneer time for us," relates Erik Löwenadler, manager of the MDE Base Stations Division. "The Japanese mobile telecom market was new for Ericsson, and the products totally new for us here at Mölndal. Since then, the successful cooperation with NTT has opened doors for us on the Japanese market."

Today, the development of products for mobile-telecom networks is an established and continually growing business at Ericsson Microwave. The MDE Base Stations Division and the Mobile Telephony Products Division together employ three hundred people. At year-end 1996, the company took over the responsibility for the production of base stations for Japanese NTT, from Ericsson Radio.

Pico-base or micro-base

The Mobile Telephony Products Division includes several products: pico-base or micro-base stations for a few different mobile-telephony standards, antennas to mobile-telecom networks, and units for base stations for CMS 30, a system used by a competitor of NTT in the Japanese mobile-telecom market.

Mobile-telecom network

For some time, the Division has also been in charge of the development of components for the WCS, Wideband Cellular System, also called the third generation of mobile-telephony systems. The WCS is intended to facilitate data and video transmission via the mobile-telecom network. The future of mobile telephony lies in this technology, according to the manager of the Mobile Telephony Products Division, Erik Roland Karlsson.

"Our division is working on techniques such as video coding for the WCS. In the future, being able to transmit video images over the mobile-telecom network direct from a camera may be very useful. One example of an application might be accidents: doctors could determine what has to be done, quickly and without having to be physically present."

Good opportunities

For the Base Stations Division, the future holds many good opportunities, in the opinion of Division Manager Erik Löwenadler. However, NTT is a demanding customer, with several suppliers competing for each order.

"To maintain our position, we must constantly develop our products and our operations – but that's what's so challenging."

NICLAS HENNINGSSON

Fast figures from

Ericsson's consolidated financial results for 1996 were presented on February 11 this year. This is the earliest publication date in the company's history. But Ericsson will be even faster next year, with the deadline set at January 29. The accounting departments responsible for preparing the consolidated and business area accounts consistently burned the midnight (and weekend) oil during the first weeks of the new year. The bookkeeping of more than 200 Ericsson companies had to be compiled into consolidated figures for the entire organization.

The main factor underlying the higher tempo is increased demand for faster and more detailed financial information. The demands are being imposed by investors worldwide and by decision-makers within Ericsson, who need to know

how companies and units are performing to be able to plan for the future. Increasing the speed at which financial information is published also reduces the risk of rumor-mongering and speculation.

"Figures are a fresh product whose usefulness as a basis for decisions improves the earlier we receive

Ericsson

them," says Lars Jacobsson, responsible for compiling consolidated results.

Before Lars Jacobsson and his colleagues can start adding up their columns, every single Ericsson company must complete its bookkeeping for the past year, or "close the books" in accountant language. This year, they were given until January 15 to conduct this essential ground work.

To save valuable time

"It is in this phase that we can save valuable time," Lars Jacobsson explains. "The quality of the information we receive at this stage determines the time it takes us to compile the consolidated figures. Reducing things always takes longer."

In practical terms, the process entails the companies reporting their results electronically. The reports are stored in a joint database. The system can then be used to prepare various financial reports - about Ericsson as a whole, or about its various business areas, business units and companies.

Save three days

If all the figures received are complete, arrive in time and lack errors or ambigu-

ities. It's a pity we have to waste time on such internal transactions," says Lars Jacobsson. "We don't like having to act as an internal police force."

40 different accounts

Only the consolidated figures are publicized. Nonetheless, about 40 different annual accounts are prepared, for different levels of the organization, such as business areas and business units. These accounts serve as documentation for decisions by executive management.

Efficient routines

To be able to make additional time savings next year, the corporate accounts department, meaning Lars Jacobsson and his colleagues, have turned their attention to improved systems, more efficient routines and producing more comprehensible forms. All levels and instances will

This year's annual report was produced in record time

ties, more than three days can be saved at the compilation stage. However, since there are always some misunderstandings, or computer systems that are reluctant to cooperate, a number of unnecessary days invariably have to be devoted to collecting the late information and ironing out question marks.

Agree about liabilities

"It is not exactly rare that two Ericsson companies who do business with each other can't agree about liabilities or re-

view their work procedures in order to shorten the reporting period.

"The main tool in our efforts to save time is a proper follow-up of reporting activities in the preceding year. Now that the storm has abated and the annual report has been mailed, we have time to breathe out and go through everything again."

"This time the aim is to find out why a certain company sent its accounts too late, or why certain routines functioned better or worse this year. This should enable us to make improvements every year,



Ericsson's next financial publication will be the interim report for the first quarter of 1997. It will be released on April 25, the same day as the Annual General Meeting.

despite the fact that Ericsson is growing ceaselessly."

Faster reporting in the U.S.

Even if the speed of Ericsson's financial reporting is satisfactory compared with similar companies in Sweden and the rest of Europe, the company is outdistanced by U.S. companies. Motorola, for example, published its full-year results on January 9 this year.

Leif Hedenström, who is responsible for ensuring that the figures ultimately printed in Ericsson's annual report are correct, explains why:

"In the U.S., companies have to prepare much more detailed monthly accounts than has traditionally been the case in Europe. In general terms, the monthly accounts of American companies are as detailed as the quarterly reports in Europe. In other words, on January 1, U.S. companies only have to find out and add figures for December to the 11-month report to be able to attain publishable results. We have to deal with a complete quarter."

PATRIK LINDÉN

Source of Ericsson's abbreviations

A large variety of abbreviations are used throughout Ericsson. These usually cause great difficulties for new employees. The source of a large number of these abbreviations - the three-letter company designations, which are used in memo identities, for example - is found in the Ericsson's corporate accounts department.

"We have to have exact designations for all companies and other reporting units. That's why we allocate them abbreviations such as LME for the Parent Company, ERA for Ericsson Radio Systems and ETX for Ericsson Telecom, to name but a few," Leif Hedenström explains.

In fact, Ericsson has more than 400 three-letter abbreviations, and not just for Ericsson companies. They may also refer to units that have been outsourced or consultants and suppliers who, for various reasons, are found in Ericsson's computer system. Each of these must have a unique designation.

Year-end report and annual report - what's the difference?

Ericsson presented its financial results on February 11. But the annual report was not published until March 21. How does this reconcile?

What Ericsson did in February was to release a year-end report, in which a selection of key figures were presented together with comments from CEO Lars Ramqvist. The year-end report is telefaxed to the mass media and financial analysts. The annual report, which contains comprehensive financial statements and other detailed information about the company, is produced and printed a little later. The annual report is sent to a larger group of recipients, including all shareholders.

In the past, Ericsson released a preliminary year-end report, followed by a definitive year-end report and then by the annual report. As of the current year, only one year-end report is released.

Welcome to an International Configuration Management Conference in Stockholm 29-30 May

There will be two days full of activities with focus on Configuration Management.

29 May
Configuration Management - Lessons learned from the Industry
Anders Gustavsson
Vice President Q-LABS

AXE Methods, Tools & Training for Configuration Management
Torbjörn Hansson UAB

Five Miniseminars to choose from:

1. The CM role, how to develop the competence.
ETX
2. The CMS8800 CM process and its implementation
BR RMOA
3. Incremental development and the special demand on CM.
BR RMOJ
4. Use of PROPS to get control over several unsynchronized configurations.
BR RMOG
5. CM experiences from a major project at ETX

30 May
CM Tool demonstrations and product information

- CM-Tool, provided by UAB
- CM-Tool project, provided by LMC
- PDL, provided by LM Ericsson Data AB
- ClearCase, provided by Pure Atria

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• Send application form to Helena Lagerlöf

How to apply? • Send application form by fax

• Use application form at our website
<http://www-cmce.ericsson.se/>

Corporate Visual Identity (CVI) is a concept used to shape Ericsson's graphic profile, logotype and trademarks. The logotype is a common identifier for companies spread across the globe, filled with creative employees with thousands of ideas. But the regulations governing the use of the logotype and trademarks are not always viewed with enthusiasm by those wishing to add a little spice to marketing materials, signs on buildings, publications and other materials.

Keeping control over the trademark

don't let the regulations stifle creativity. Instead use them as guidelines and support," encourages Ericsson's CVI council. And follow them! Ericsson invests considerable time and money in building up its trademark, and mistakes are costly. Each improper use of the trademark weakens the trademark and destroys what others have built up.

Why is this so important? In part, because Ericsson, without unambiguous rules for the use of its trademark, is at the mercy of the market and its competitors, who would be able to re-interpret and distort Ericsson's profile.

The CVI council, which is headed by Lars A. Ståhlberg, senior vice president, corporate relations, consists of representative of the business areas and various corporate staff functions. The council has been given the authority to interpret the CVI regulations and grant exemptions from them.

Consult the "bible"

The much-debated regulations are found in the CVI Manual, a document available throughout Ericsson. Whenever uncertainty arises concerning the use of the logotype, this is the "bible" to consult. Answers to most questions are provided. Otherwise, the matter can be forwarded to the CVI council, which will interpret the regulations by providing a number of more understandable examples.

"We work in such a manner that routine matters are handled by a working committee, while more complicated issues are always considered by the full council," says Walo von Greyerz, who as corporate legal counsel responsible for trademark rights and vice chairman of the CVI council, is one of the Ericsson trademark's strongest defenders.

"The basic foundation is the law. Legal considerations are always the basis for our right to use our own trademark. We must therefore ensure that the CVI regu-



This giant billboard, designed in strict accordance with regulations, adorned the facade of Ericsson's Tellus plant in Stockholm during several weeks in March.

Photo: THORD ANDERSSON

lations are legally correct. Then we also know that by following them, our actions have a legal ground," says Walo.

Over the years, the CVI regulations have come to encompass an ever-greater number of areas. When they were revised in 1989, rigorous standards for marketing materials were included. The objective was to put an end to the confusing variety of materials that Ericsson units produced that resulted in customers receiving tenders consisting of many disparate documents without a uniform profile.

One of the regulations for marketing materials states that the back cover of a brochure may not use the Ericsson logotype. Many employees wonder why, but Walo can explain.

"Many of our brochures are used by distributors and retailers. The back cover is theirs. There should never

be a collision of logotypes, any question about a company being bought out or anything that gives rise to uncertainty among our common customers."

Well-established brand

Understanding of importance of the CVI regulations has gradually increased. Today the council usually meets once every three months, if no pressing issues arise. During more turbulent times in the history of the current logotype, the council met more frequently, convening once a month only a few years ago.

It is worth remembering that the stylized E that is today's well-known Ericsson trademark did not exist just 17 years ago. The positive value it has today is the result of more than a decade and a half of concerted effort. The industry has undergone radical change during this period. New technologies have created new markets and opened new groups of customers for Ericsson. Today in the consumer market, Ericsson is a well-established brand.

KARI MALMSTRÖM

What does the name Ericsson stand for?

■ The Ericsson corporate trademark embodies common values for Ericsson's entire range of products and services. It should not symbolize a single product, yet the Ericsson name on a product should function as an invisible bearer of a number of positive values. For this to succeed, a clear strategy and rigorous discipline are required.

Prior to the introduction of the Ericsson logotype, there was no self-evident symbol that universally identified Ericsson. The meaning of the name Ericsson was also uncertain.

For a time, Ericsson conducted operations in Mexico on behalf of the state-owned PTT. The Ericsson name became so well-known, that the highly coveted communications tool came to be called "un Ericsson" instead of a telephone. This shows what too much success can do in making a name well-known.

Agatha Christie's heroine Miss Marple traveled "by Inch" when she took a taxi, since this was the name of the first taxi driver in her village. Today, "Vespa" seems to be a designation for all light motorcycles of a certain type, and many consumers forget that Vespa was but one of many brands. The goodwill once embodied in the name has partially been lost, since consumers no longer distinguish the original brand from its competitors.

Trademarks can thus become diluted, and it is therefore of critical importance that a strategy is followed when they are introduced.

The same applies to product names. There must be a strategy. The corporate trademark and the product name should strengthen, not kill, each other.

Remember "Hotline"

Many employees probably remember "Hotline," the Ericsson mobile phone launched in the mid-1980s. At that time, Ericsson was relatively unknown in the consumer market and primarily associated with AXE and large systems. From a marketing standpoint, the "Hotline" campaign was successful, but it was nonetheless ill-conceived. As a concept, "Hotline" is charged, signifying, for example, a support line in the computer world. Many associated "Hotline" with such concepts, not with Ericsson. It was also not possible to register the name as a trademark.

Further problems were encountered. As it turned out, there was a company with "Hotline" as a part of its registered name. Ericsson was sued for infringement of a trademark, and the company quickly phased out the "Hotline" name. Few miss it today, and the experience provided a valuable lesson in the handling of trademarks.

The current strong focus on the corporate trademark in the marketing of mobile phones has a clear strategic objective. Mobile phones are acting as messengers and helping to position Ericsson in the mass market.

The mobile telephone explosion created an unprecedented opportunity for the company to make the Ericsson name known among millions of consumers. This was an opportunity that Ericsson could not afford to miss.

KM



The CVI council, headed by Lars A. Ståhlberg, senior vice president, corporate relations, consists of representatives of the business areas and various corporate staff functions.

Photo: PETER NORDAHL

Mobile subscribers seek more coverage



Garages, shopping centers or shielded outdoor locations. Lars Unell and Ulric Brant at Ericsson Radio Systems in Kista see a growing need for mobile telephone coverage and are offering special solutions in the form of repeaters and distributed antennas. Photo: NILS SUNDSTRÖM

As the number of mobile telephone users increases, there are growing demands for the technology to function everywhere – in tunnels, garages, shopping centers and other “shielded” locations. A new business unit in Radio Access Systems in Kista is making it possible for operators to offer coverage by means of repeaters and distributed antennas.

“There is money to be made by the operators, and by us as well, in this field,” says Ulric Brant, who is manager of the new Public Indoor Coverage unit which today consists of ten persons. “The only question is how rapidly the need for indoor coverage will increase. Personally, I think that by the end of the century this business can amount to half a billion kronor for us.”

There are a number of aspects of the anticipated increased need for indoor coverage. Technically, radio waves are weakened or stopped by walls and windows, by the use of increasingly smaller cells, and by the lower power in mobile telephones.

“There are many indications that the problems will increase, while more and more people expect their mobile telephones to work under all conditions,” Ulric Brant says. “Indoor coverage and coverage in shielded outdoor locations will therefore be highly important for operators, from a competitive point of view.”

The new unit will provide

“the Ericsson world” with Radio Coverage Solutions comprising special applications for all mobile telephone systems. This operation supplements the activities of the three business units in Ericsson Radio Systems that have their own units for dealing with indoor coverage in their respective units.

A number of methods

There are a number of methods for solving coverage problems, including increasing the number of base stations or installing micro base stations in exposed locations. The new unit will work with other methods: repeaters (which function as amplifying slave transmitters), and distributed antennas that conduct signals between problem areas via optical cable.

“Repeaters were not widely used in mobile telephony until recent years,” according to product manager Lars Unell. “The cost is approximately one fourth the cost of the radio portion of a base station.”

Basic principles

The basic principles used make it possible to extend coverage up to 35 kilometers from the base station. The new unit purchases the products – distributed antennas and repeaters – from leading world suppliers.

“There is no need for Ericsson to develop everything itself,” Ulric Brant points out. “On the other hand, we control the system environment and have joint projects to develop specific solutions for various systems. For example, we are paying for the development of

special repeaters for the Japanese market.”

“By this autumn the monitoring of all repeaters will be an integrated part of the OSS operating and maintenance system, which will facilitate the handling of alarms,” Lars Unell adds.

Experts

To be close to the markets, the unit has its own experts in many locations throughout the world, including Japan, and plans to have experts in Singapore and Australia.

An installation is currently under way in a large Southeast Asian city where traffic in a business district often comes to a halt. What do people do then? They talk on their mobile telephones.

“We are solving the problem of poor connections by placing a system of repeaters on light poles, creating ultra-small cells and thereby distributing the capacity from the base station,” Ulric Brant notes. “This is an example of a special application that offers a competitive advantage for an operator.”

Railway coverage

Coverage in underground railway locations can constitute a competitive advantage in the domestic market. But mobile telephone operators are not the only ones to benefit from offering good coverage.

“In the future people will not select a hotel that does not offer mobile telephone coverage,” Ulric Brant believes. “It will be a selling point, just like breakfast, a swimming pool and cable TV.”

NILS SUNDSTRÖM

diary



Ulla Livonen.

Photo: INGER BJÖRKLIND BENGSSON

Icy swimming, pride, joy and alertness

Ulla Livonen is the financial manager at Viikin-kaapeli Oy (VKF), Ericsson's cable company in Finland. She has been with Ericsson for 13 years.

Monday Finished accounts for March in the morning. Lively discussion at lunch as to whether the right team won the Finnish hockey championship. Quick visit to LMF; saw tax auditors and was reminded that they will soon be coming to us. We reviewed course evaluations in business administration: “Course fun and interesting.” Finally, a model that works! Management group meeting in the afternoon.

Tuesday Tried to quickly dispose of emergencies, get credit information, open new customer accounts... in order to begin work on FIRE 9703A report. Fussed with fixed assets; thought there was an error in Hyperion (data program for company reporting), but I had forgotten that the report and codes had been changed. Fortunately, I checked first with colleagues at LMF and didn't put the blame on the staff at Ericsson's headquarters.

Finished the VKF and VNF (real estate company) accounts just after 5 p.m., and was glad. All went well. Nice to work with people who have a night line so you can reach them when needed.

Wednesday Hectic morning. This spring I'm brushing up on my little used English once a week. It's a pleasant group; the teacher is good, and we have a lot fun together.

Chaos at work at 10:06. A power outage in the area for a couple of minutes. No telephone service, the computers went down and disaster seemed imminent.

But power was restored. We called LMF's Helpdesk and the network and telephone service were restored quickly and professionally. What a lot of action for a small power outage!

Thursday Snow in the morning. Will winter never end?

“But you winter swimmers must certainly be happy!” says my husband. In the morning, review insurance policies and insurable values with our account executive at the insurance company. Always something that has to be changed and updated. In the afternoon, prepared my notes to the financial statements – two days after the deadline, which is not my habit. Hope I have better figures when it's time for the next Company Controller Report.

Friday Inauguration of the new file room. Account verifications, invoices, inventory documents – all in proper order on shelves that our clever warehouse fellows arranged in the other end of the building. “Just say what you want!”

LMF's security manager reminds me that we do not really meet the security requirements covering access to the building. Lively discussion in the corridor about improvements – ranging from more locked doors to dynamiting the building and building a new one.

Reconciled April netting and sent our payment plans to Navet. There is enough money. How much else falls due before the netting? How large is the value-added tax? And the supplementary advance payment of taxes?

Magnus Kreuger called from Stockholm. We reviewed intra-Ericsson transactions at the CHO (Cables Holding Company) level. What a lot of “sub-consolidations” we make at various levels within Ericsson! But as an old Ericsson corporate staff employee, I at least think it's amusing.

ULLA LIVONEN

Terms used in Ericsson's financial reporting:

FIRE= Rules governing Ericsson's financial systems.

Navet= A system that facilitates reconciliation of supplier and customer ledgers.

Netting= payment system.

Net= Net of payments between companies.

CCR= Company Controller Report.

CHO= Ericsson Cables Holding Company.

Ericsson unknown in the New World



Those who wish to attract qualified personnel in Silicon Valley must be able to continually offer exciting and challenging work assignments on the leading edge of technology.

These days, everyone's talking about infocom and the convergence of the computer and telecommunications industries. In connection with the "2005" project, it was emphasized that many new challenges are in store for Ericsson when the time comes to bid farewell to traditional telecommunications.

The fabled Silicon Valley is where it's all going to be happening. There, the rules of play are dictated by the so-called data paradigm. Ericsson Fiber Access is a small upstart among giants like Sun, Apple, Cisco and Hewlett-Packard. Ericsson Fiber Access is in a position to give Ericsson a taste of what's to come, and explain the new scenario.

Silicon Valley is probably the most dynamic area in the world, in terms of computer and information-technology development. About 80 percent of all Internet development occurs here. There are hundreds of thousands of people employed here, in thousands of smaller or larger corporations. Silicon Valley is where many of the top IT and datacom companies several of them started by Stanford University students first saw the light of day. Stanford is in the heart of the Valley, which stretches from San Francisco to San José, 70 miles to the south.

Silicon Valley is constantly in dire need of highly-qualified personnel. The average turnover rate for companies here is just under 17 percent.

Test bench

"The workforce here is much more movable, people change frequently between different companies and that creates a large information network" Örjan Mattsson explains for Contact. Örjan left his



Work is carried out on several exciting future products at the Ericsson Fiber Access's development laboratory.

executive position at the old Ellemtel a few years ago, to become General Manager at Ericsson Fiber Access in Menlo Park in the heart of Silicon Valley. Ericsson Fiber Access stems from the American company Raychem. The company was renamed Ericsson/Raynet when Ericsson acquired an interest. In the beginning of 1996 Ericsson bought the company and it became a division of Ericsson Inc., the American Major Local Company, and received the name Ericsson Fiber Access.

Ericsson Fiber Access is developing a line of access products for fiber-optic networks. An 85 million dollar order for Indonesia's largest fixed telecom operator, PT Telecom, was a commercial milestone for the still rather young company. The company's products are an important complement to the traditional Ericsson product portfolio and a key aspect of Ericsson campaign to focus on datacom and multimedia communication.

"We know our technical know-how is important for Ericsson these days, but that is not the only thing we can offer," Örjan explains. "Now, when there is so much talk of cultural shift and the 'data paradigm,' it is important for Ericsson to have a presence in the Silicon Valley to learn not only technology but how to work from the companies and the environment that to a great extent have created today's information society. Here, where head hunters are constantly on the prowl, and big, much more well-known companies are constantly singing their siren song, Ericsson can learn to secure long-term access to expertise.

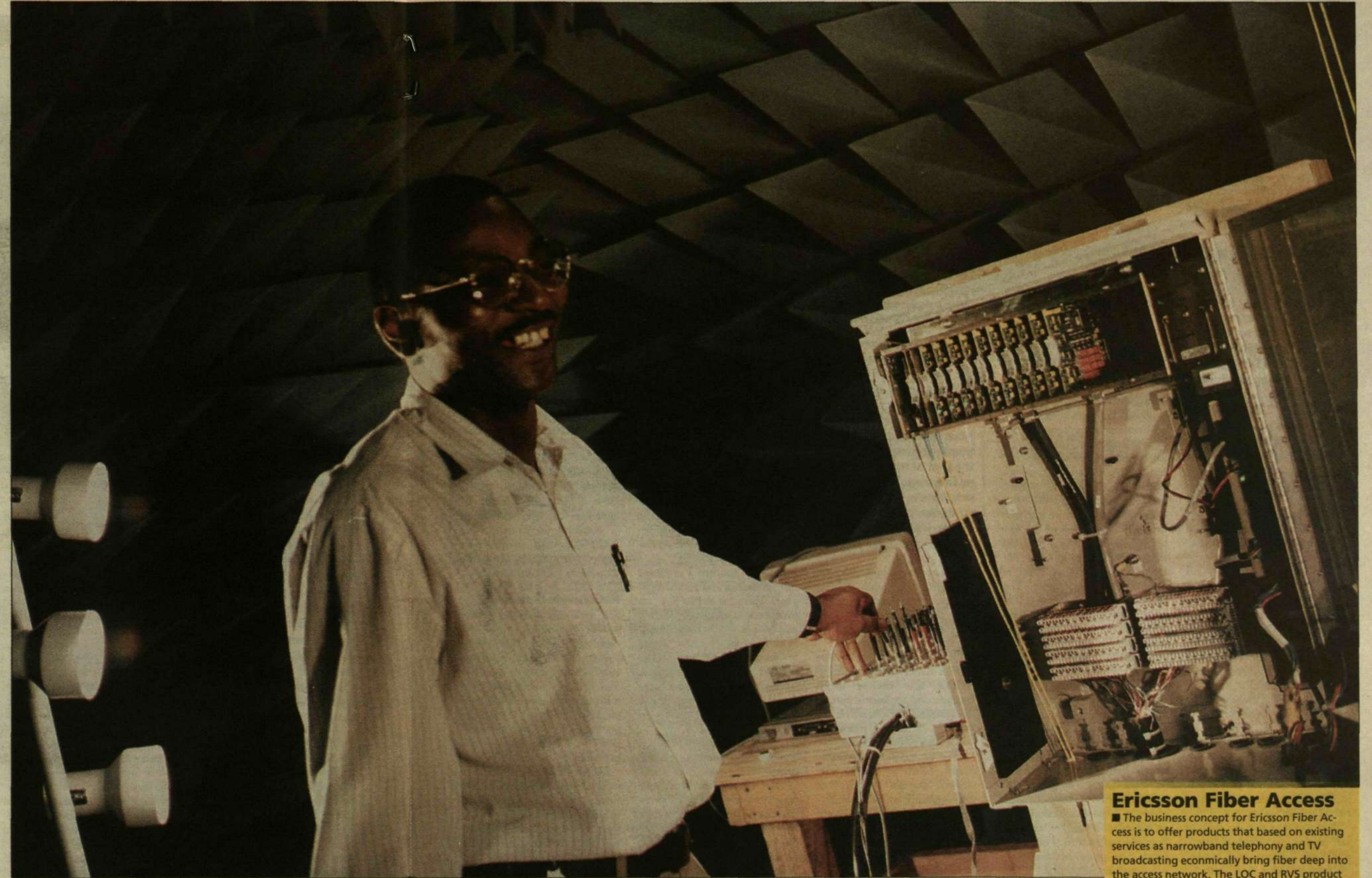
"This isn't Sweden. Here, there are still many people who haven't heard of Ericsson. Many just have heard the rumor that Ericsson is downsizing. During 1995 and 1996, the Menlo Park staff was cut from 750 to 270, when the Ericsson Fiber Access production organization re-located to Norrköping, Sweden. In an environment where all curves slope upwards, including companies' employment statistics, that gave us some negative attention.

Self-improvement is the thing

In this kind of environment, how will Ericsson be able to attract good people? Örjan Mattsson knows.

"It's a question of being able to offer exciting work in development projects that provide real technical challenges. Salary is important of course in a place where the cost of living is sky-high (a modest house in the middle of Silicon Valley costs USD 1 million or more) but it's usually not the deciding factor.

"For many people here, a job is only attractive as long as they feel it helps them increase their own knowledge. Here, the contents of your re-



Ericsson Fiber Access a small contender among giants in Silicon Valley

sumé are extremely important as an insurance it's what determines your worth in the market. Fortunately, Ericsson's Menlo Park operations are this type that is, truly high-tech, and also to be part of a successful company and access to world wide technology and markets is exciting. And yet, Ericsson's personnel turnover is higher than average slightly more than 20 percent possibly because there is one other thing, that many people here demand, that the company cannot offer: stock options."

A shorter year

"A positive side of the Silicon Valley culture is that it's certainly not difficult to get a hold of good

people. The pace is cranked up very fast at all the Valley companies, and that's the way it has to be. You're talking about a completely different time line.

"We often say that an 'Internet year' is much shorter than a normal year, since the pace of development in IT is so extremely high. Therefore, like everyone else, we have to develop our products in accordance with this new time line, the most compressed of any in the datacom area," continues Örjan.

The fact that employees rarely take more than one week's holidays which can be explained by the fast pace, while at the same time it helps maintain it.

Fusing corporate cultures

"When Ericsson entered the company, we brought in a more planning, consensus driven total approach style. It was a radical change from the Silicon Valley quick action let us try and see culture where time to TG2 in PROPS is very short" Örjan relates.

"Our job now is to fuse the Ericssonian and the American ways of working, and try to create a productive cross-fertilization.

"Having planted Ericsson's culture in the company, we should like to tackle the next stage of the process which is no less important namely that of grafting our operations onto the Ericsson Company. Here, it is a matter of listening to and learn-

ing from the Silicon Valley culture, while concentrating at the same time on stabilizing our operations here. We know we have a lot we can contribute to the Ericsson, and we are totally depending on Ericsson to get our products out into the market."

World-wide marketing

"The opportunity to market Raynet products by means of Ericsson's world-wide marketing machine was a strong incentive for the Americans when the cooperation between Raynet and Ericsson was established. That motive is still very much a factor witness last year's huge order from Indonesia, Italy Spain etc."

"Ericsson acquired access to spearhead technology in the access area and, not the least, the chance to learn from the Americans how a successful IT company must work to keep up in the fantastically booming infocom business."

TEXT: LARS-GÖRAN HEDIN
PHOTOS: LARS ÅSTRÖM

Ericsson Fiber Access

The business concept for Ericsson Fiber Access is to offer products that based on existing services as narrowband telephony and TV broadcasting economically bring fiber deep into the access network. The LOC and RVS product lines are designed for greenfield or upgrade of existing copper and cable network using fiber-to-the curb and hybrid-fiber-coax concept respectively. They are supported by network management system iRides/Broadview. Fiber rich deployment offers considerable increased future capacity and a gradual development of new services as Internet access and multimedia using Ericsson internal and external products. Just now cable modem for high speed data has been certified with RVS in the lab.

Örjan Mattsson is now General Manager at Ericsson Fiber Access in Menlo Park in the heart of the Silicon Valley.





Beautiful Monterey was the site for a meeting devoted to power transistors, a key component in Ericsson's radio base stations. The meeting gathered RF power experts from all parts of Ericsson (from left): Rainer Arndt, supply manager, Ericsson Radio; Bengt Larsson, purchasing staff, Ericsson Radio; Tom Moller, business unit manager, RF Power Products, Morgan Hill; Sigrun Hjelmquist, vice president, Ericsson Components; Eric Sandberg, R&D manager, Ericsson Radio Access; and Leif Larsson, sales manager, Ericsson Components.

RF power experts

Ericsson Radio engineers, purchasers, supply managers and production coordinators from around the world gathered for three days at the end of February in Monterey, California

monterey in the US. On the agenda was an exchange of ideas and the formulation of goals and strategies to increase Ericsson's competitiveness.

Ericsson Radio's internal supplier, Ericsson Components RF Power Products, took the initiative in arranging the meeting. RF Power Products is the unit within Ericsson Components responsible for manufacturing and supplying power transistors, a key component in Ericsson's radio base stations.

The original idea came from Henrik Höyer, operations manager, and Tom Moller, business unit manager at Ericsson Components RF Power Products unit in Morgan Hill, California. As a supplier to Ericsson Radio and members of the Ericsson family, they saw a value in gathering all RF Power experts within Ericsson to share ideas, experience and information.

The meeting was opened by Ulf Mimer, president of Ericsson Radio Access and Sigrun Hjelmquist, vice president of Ericsson Components.

"What we are seeking is a con-

stant, interactive exchange of information to increase Ericsson's competitiveness in the areas of design, production, testing and purchasing of RF power components," said Ulf Mimer. "The key word is interactive, which means that everyone is involved, asks questions, suggests new ideas and proposes new challenges."

"Ericsson is very good at designing, manufacturing and supplying RF power components. Judging from the results, we are probably the best in the world," noted Sigrun Hjelmquist.

In order to improve the participant's knowledge of the entire chain of events behind Ericsson's leading position in RF power products, a number of presentations were held. The range of topics was broad and covered everything from silicon to base stations and included the supplier's role, market overviews and visions for the future.

Professional teams

The days in Monterey were filled with activities, and professional teams were formed for on-going improvement work during 1997. Key issues were identified, such as how global forecasts can be made more efficiently and how production yields (approved products from production) can be improved through test specifications and statistical controls. Goals were established for 1997, which will be followed up at the next meeting in 1998.

HENRIK HÖJER

Stronger in 'Alcatel land'



The scissors, please! The ribbon, seconds before it was cut. Patrick Devedjian, a member of the French Government is at the speaker's rostrum. Mayor Georges Siffredi and company president Gilles Pichon respond appreciatively to the speaker's remarks. Photo: THORD ANDERSSON

Ericsson is now consolidating its presence in France, the home field of its competitor, Alcatel. S.A. Ericsson, a business-communications sales and development company formed at the first of the year, has now inaugurated its new premises in its building in Chatenay-Malabry, an hour's drive by car from the center of Paris.

The ceremonies took place on April 3 in the presence of invited customers, political leaders and representatives of the Swedish Embassy, plus the entire staff of 130 employees.

Company president Gilles Pichon delivered an inspiring address that evoked much laughter and applause when, in the amazingly brief span of 120 seconds, he recited Ericsson's entire history of 120 years.

"Our intention is to help Ericsson continue to be the world's largest supplier of telecommunications equipment," Gilles Pichon said. "Our aim is to make Ericsson the first choice of French companies. We are also determined to be the first choice of independent distributors."

"We also want to be one of the leading social forces in Chatenay. We will build up a center of expertise here in Chatenay-Malabry to serve both Ericsson and the local municipality."

Patrick Devedjian, a Government member, and Mayor Georges Siffredi responded with typical Gallic esprit, declaring that Ericsson is most welcome in France and that the citizens of Chatenay are looking forward to a rewarding cooperation.

Ericsson has had a presence in France for more than 40 years. Ericsson Radio S.A., an independent marketer of mobile telephones, has been highly successful in France, where it now has a 25% share of the market. The market is still in its infancy in terms of an infrastructure for mobile systems.

Back in business

In a joint venture with Matra, a French telecommunications company, Ericsson has a minority interest in Met S.A., which for a number of years has provided Ericsson with a substantial percentage of the market for public networks. Under terms of an agreement with Matra, Ericsson left the field of business communica-

tions for some years but it has been back in business in this sector since 1994.

S.A. Ericsson is concentrating its resources on Consono systems for large companies and organizations. Prestigious customers include Renault. At present the company is focusing on the French portion of the project for the European Parliament in Strasbourg. Initial cooperation with Met has resulted in obtaining an order for an AXE/MD110 system in the port city of Marseille. Next on the schedule is ISO certification.

Nationwide network

S.A. Ericsson occupies a very strong position with "indirect" channels of distribution in France; it has a nationwide network of independent distributors, including more than 15 in Paris alone. Representatives of virtually all of the distributors participated in the inauguration of the company's new premises.

Magnus Robach, a minister in the Swedish embassy, performed the official ribbon-cutting. As the ribbon dropped to the ground, a sea of blue Ericsson balloons floated down over the assembled guests. The tour of the new offices could begin.

THORD ANDERSSON

Campaign attracted many marketers

■ A little more than three months ago, 18 new marketing persons were recruited by the Public Networks business unit in the Infocom Systems business area.

The objective was to acquire new and supplementary expertise for the unit's operations. Following the completion of an introductory course, the new employees are now awaiting "apprenticeship" assignments in local companies throughout the world.

"Market conditions have changed a great deal in recent years, and this affects the knowledge requirements we impose on our marketers," says Ann Jinglek, personnel manager of one of

the marketing departments in Public Networks. "We had to strengthen our already substantial expertise and commercial know-how."

To find people with the desired experience, the business unit conducted a recruiting campaign via advertising in Sweden, Norway and Finland.

Charlotte Ahlquist was of those selected. At the time she was approached, she was manager of financial-market sales for an information technology consulting firm. Why did she decide to leave that job to join Ericsson?

"It was an opportunity I absolutely could not resist," she says. "The tele-

communications market is growing explosively and is facing great changes, which represents a great challenge for Ericsson and for the Infocom Systems business area in particular. It is highly attractive to be part of this trend and have an impact on it."

Charklotte and her 17 colleagues have completed a three-month introductory course dealing with Ericsson as a whole, its product portfolio, markets, customers and competitors. The course concluded with a study trip to the United States, the theme of which was "The future of the Information Society."

LENA WIDEGREN



Charlotte Ahlquist is the new manager of marketing responsible for Indonesia in the Public Networks business unit.



Success in Hong Kong

Ericsson in Denmark is extremely adept at system support for AXE exchanges. Since December 1996, the Danish company's department for AXE system support has worked on compiling and testing new software for three of the world's largest international exchanges, all of which are installed in Hong Kong. Since the exchanges are in operation constantly, the Danes had to develop a conversion method that made it possible to update the software without interrupting the large flow of international telephone traffic through the exchanges.

During the Easter holiday, 10 people who had traveled from Denmark to Hong Kong made last-minute preparations for the conversion. On Monday, March 31, conversion of the first exchange was completed with great success, on the first attempt. The project has strengthened the Danish subsidiary's position as a software supplier for international telephone exchanges in all parts of the world.

Visby starts with NMT

Ericsson's factory in Visby, the Swedish city of roses, has started production of NMT radio base stations. The first complete radio base station for the NMT 450 system was delivered as scheduled on March 7. The base station was ordered by a customer in the Netherlands. Personnel from Ericsson's factory in Linköping were present to lend their support with work on the new products.



Joachim Westling tests one of the NMT radio base stations.

On March 20, the first NMT customer visited the Visby plant when representatives of Telenor Mobil in Norway checked specifications on 10 NMT racks on order. The Norwegian customers were completely satisfied with the results of their tests.

Ericsson awarded a different order by Chilean government

Hugo Cubillos, Chilean ambassador to Sweden, recently awarded the Bernardo O'Higgins Order to Ericsson's Latin America manager Alfred Svensson. The ambassador cited "significant efforts in strengthening the economic ties between Sweden and Chile" as motivation for the award, which Alfred Svensson received as Ericsson's representative in Chile.

"Receiving the order is naturally a great honor, especially since it is seldom awarded to others than diplomats and is only given a few times a year. The award is not for me as a private person, however. Rather it should be seen as Chile's recognition of Ericsson's work in the country and our confidence in Chile's technical development," says Alfred.

Alfred Svensson has worked with Latin America and Chile during more than 12 years



Alfred Svensson, marketing manager for Latin America at the corporate level, recently received the Bernardo O'Higgins award from the Chilean government for his excellent efforts in strengthening the economic ties between Chile and Sweden. Photo: PATRIK LINDÉN

since he joined Ericsson in 1970. Last year, Alfred received a similar award from Colombia.

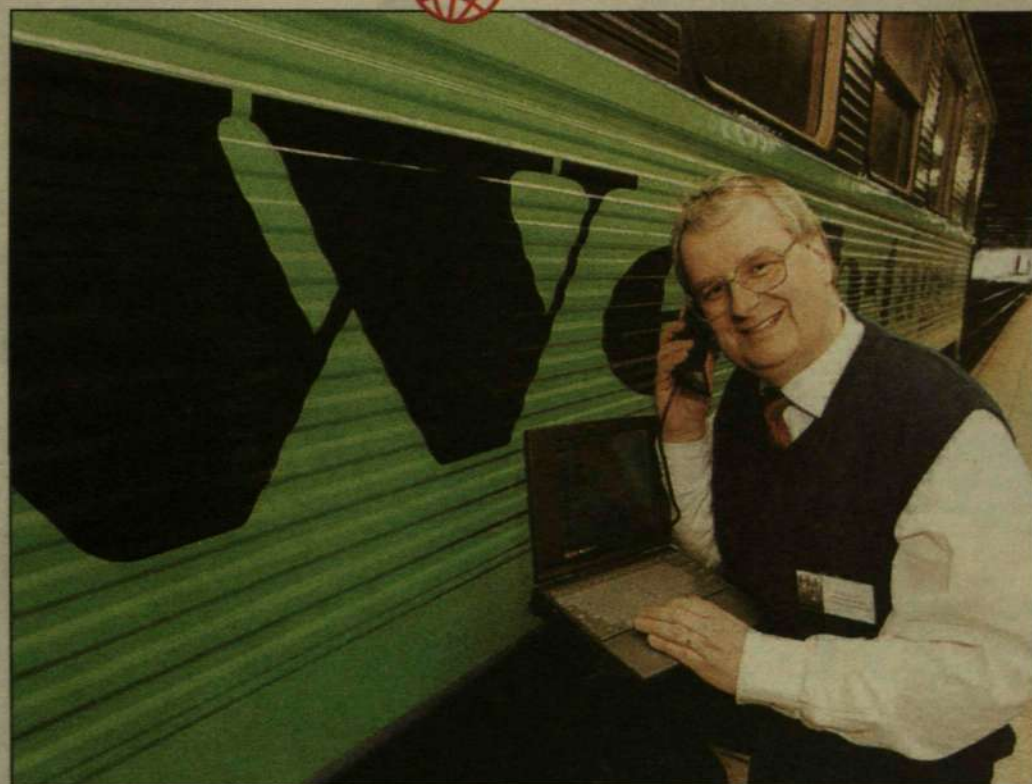
Bernardo O'Higgins, whose name the award honors, was a Chilean freedom fighter.

An international science festival will be held in Gothenburg on April 24 to 30. The goal is to demonstrate the relationship between science and daily life in a number of popular applications. A number of companies, mu-

Science Festival

seums and universities around the city will be open to the public and many activities are planned.

Ericsson Microwave Systems is inviting high school students to the company during three of the festival's



Erik André from Ericsson Mobile Communications is one of Ericsson's representatives and hosts on the Web Train. Erik is working in cooperation with Per Körner, who was absent from the inauguration ceremony in Stockholm's Central Station. The two men will spend one week each demonstrating how the Internet and mobile telephony can help businessmen manage many business routines while they are traveling or working away from home.

Photo: PETER NORDAHL

All aboard for the Internet as Web Train tours Sweden

"As we speak," the Web Train is traveling throughout Sweden, a mobile telecom fair, reaching companies and organizations outside the greater Stockholm area with information about the latest opportunities available via the Internet. Ericsson is one of the Web Train's hosts, in cooperation with Telia, Sun Microsystems and Oracle.

"The Internet is still used mainly as a reference book, although its areas and scope today reach far beyond such limited applications. It is now possible, for example, to manage order processing via the Internet, make business transactions, order and disseminate information for marketing purposes. Industry can only benefit from greater utilization of Internet capacity, and that's the message of our train trip through Sweden," says Per Körner, a product manager at Ericsson Mobile Communications.

Ericsson's part

Per Körner is joined on the Web Train by Erik André, who both demonstrate Ericsson's part of the exhibition: mobile tele-

phones. Increasing general understanding for the simplicity of working "on the road," or away from home, with today's modern technology is the main theme of the Web Train's ride through Sweden.

Equipped with facilities

The train is equipped with facilities for presentations, product displays and demonstrations of various solutions in the form of role games. A rather unconventional approach, or...?

"Our main message emphasizes different ways in which web technology can increase a company's competitive power, regardless of business operations or industrial affiliation. Role games are pedagogical tool we use to show how things function in reality with the help of Internet applications," explains Erik André.

Into the country

"We felt a need to reach farther into the country, outside the Stockholm region, with this exhibition. There is a clear risk, otherwise, that we spend too much time talking to people who already realize the potential of modern technology," says Kjell Duveblad, President of Oracle and the man behind the Web Train. "It was only natural

for Oracle to contact Ericsson, Telia and Sun Microsystems," Mr. Duveblad continues.

"The four companies complement each other completely in this endeavor. Ericsson has the hardware in its mobile telephones, while Telia has network solutions; Oracle has software in the form of business applications and Microsystems provides the database software."

In other words, everything needed to enable customers to utilize the latest in web applications with connections to mobile telephony.

Far to the south

The train pulled into Kiruna station for the first seminar on April 14, then headed for Malmö far to the south, with scheduled stops in Luleå, Umeå, Sundsvall, Falun, Västerås, Örebro, Linköping and Gothenburg. The final seminar was scheduled for April 25 in Malmö. Preparations for the train's arrival at each scheduled stop included invitations to retailers and suppliers who, in turn, were asked to tell their customers about the Web Train. The train's lecture room accommodates about 50 guests, and Oracle believes it will be filled at every stop.

LENA WIDEGREN

New company within Components

Ericsson Standard Components and GB Topcomp Electronics were merged as of March 1 to form Ericsson Component Distribution. The new company gains a stronger profile in the component market, where the trend is toward larger units with a broader product range, the new company has more than 100 employees throughout the Nordic region.

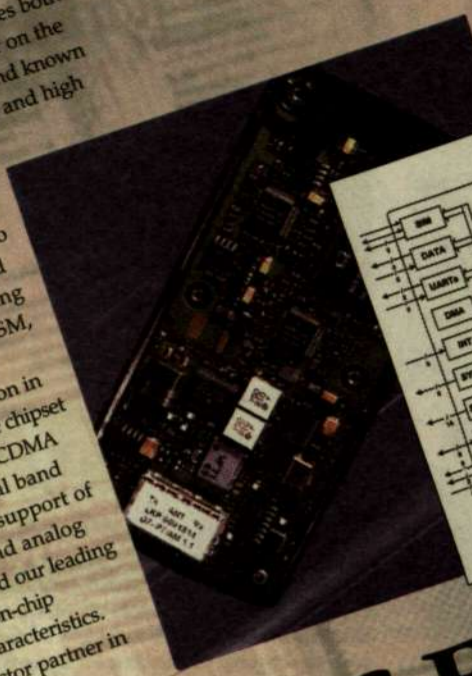
For further information:
<http://www.vetenskapsfestival.se>

TECHNOLOGIES FOR CELLULAR

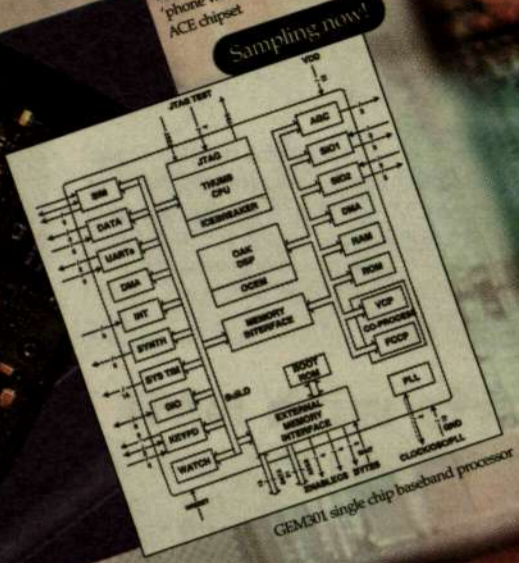
GEC Plessey Semiconductors has supplied the complete range of silicon technologies into cellular applications for many years. For example, our ACE solution for analog systems is now shipping in high volume. We used our advanced mixed signal technology to develop this very cost effective chipset. As part of our GSM chipset, the GEM301 integrates both a Digital Signal Processor and 32-bit RISC Processor on the same chip. Both processors are widely supported and known throughout the industry for low power, low cost, and high performance.

This tandem processor solution provides the optimum trade-off between hardware and software, and gives flexibility for customers to develop their own specific algorithms and hardware solutions. GPS is already working with several partners on versions for GSM, other TDMA, and CDMA phones.

GPS is building on this strong position in digital cellular and is developing a single chipset supporting all the new worldwide CDMA standards demand simultaneous support of wideband digital and narrowband analog signals. For this, we have exploited our leading edge RF expertise to implement on-chip channel filters with variable characteristics. GPS is an ideal semiconductor partner in cellular phone development.



Analog cellular phone with GPS's ACE chipset



GEM301 single chip baseband processor

Sampling now!



GEC PLESSEY SEMICONDUCTORS

ASIC PRODUCTS FOR COMMUNICATIONS

GPS's family of ASICs are ideal for communications applications, providing low power solutions for portable equipment and high density for high end systems. Our CLA90000 family of embedded and gate arrays provide solutions up to 1.1 million equivalent gates. This product was launched a year ago and is in production at GPS's 8" CMOS wafer fab. By mid-1997, three new families of 0.35 micron products will offer a range of embedded and gate arrays and cell based products.

GPS differentiates its ASICs by offering SystemBuilder™, analog cells, System Level Integration (SLI) solutions and highly accurate design kits and design flows.



- SystemBuilder™ is a wide range of soft and hard macro cells - including medium sized functions to complex functions such as 32-bit RISC processors and DSP cores.
- Analog cells include high speed serial links, converters and special bus interfaces.
- SLI solutions are based on GPS's expertise in developing ARM based ASICs, ASSPs and the Butterfly microcontroller. GPS aims to move rapidly into the emerging systems level ASIC market whilst maintaining its position as number one CMOS gate array supplier in Europe*. GPS will continue to develop its ASIC capability and is planning to introduce 0.25 micron products during 1998.

NEW CMOS FACILITY

A further \$160m expansion of GPS's CMOS fab at Plymouth, UK, was completed in mid-1996. This advanced 8" facility - which incorporates Standard Mechanical Interface (SMIF) and mini-environment techniques - quadruples CMOS capacity for the company and will handle process geometries down to 0.25 micron and beyond.

The SMIF wafer handling system is used to automate the handling process within protected 'mini-environments' - essentially clean rooms within clean rooms. Coupled with sophisticated Computer Integrated Manufacturing (CIM) this significantly reduces cycle time variations. It also enables output improvement from a given equipment set and enhanced flexibility to assign or change production priorities. This new facility enables GPS to offer even more competitive capability in both digital and mixed signal CMOS products and with the introduction of Multi-Project Wafers (MPW) allowing variation in product scheduling, is geared for fast turnaround, flexible production.

This is the second in a series of features aiming to give all Ericsson staff an overview of GEC Plessey Semiconductors' capabilities so that we can better work together. Check out our WWW site for more details of the products and services we offer:

www.gpsemi.com

*Dataquest January 1997

The lights are dimmed, the spotlights are turned on, and the play begins. No, we're not at the Royal Dramatic Theater in Stockholm. This performance is staged by the European Standard business unit of Ericsson Radio Systems, a form of teaching new employees the concept of customer value with a theatrical touch.

Curtain goes up on Ericsson theater

Kjell-Albin Folkeson is a reporter on assignment, a man caught between different parts of the business area's processes. From management processes to support processes. A separate event is played out theatrically in every step of the process. The sales team meets the customer, a certain Prince Ahmed, in the Middle East. We follow the process through final contract signing and then see how different sections of Ericsson's organization support efforts to meet the customer's needs and demands.

New approaches

New approaches are being tested and used to teach new Ericsson employees. Hans Henriksson, the man in charge of internal training for marketing and sales at Radio Systems, started the theater project with one of his colleagues. In the beginning, they were the actors, but as the project consumed more time, it was subcontracted to Teater De Vill (Theater To Want).

"The main objective is to understand our internal work methods and increase the focus

on customers. Everything centers around satisfying customers," says Hans Henriksson.

Mildly ironic undertone

In a clear and pedagogical manner, explanations are provided about how the organization works and how process control is managed. The "play" has a mildly ironic undertone and the cast, whose members also wrote the manuscript, don't hesitate to use caricatures.

"That's OK with us. We believe it contributes to the achievement of our pedagogical objectives," Hans Henriksson continues.

"The next time you hear the term 'customer supply flow,' it might be easier to remember our definition."

Certain fiasco, they thought

Johan Bössman, one of the originators of Teater De Vill, regards corporate theater as a new and interesting market. Johan and his colleagues attended courses at Er-

Ericsson Radio Systems teaches new employees about customer value in a theatrical form, as portrayed here by Teater De Vill. The theater is a new concept used to instruct new employees.

Photo:
ANDERS ANJOU



icsson to learn how the organization actually functions.

Teater De Vill, which is now planning a dramatic play at Stockholm's Södra Teater, learned in their first stage performance that it's quite different to portray corporate theater.

"We were convinced our performance was a fiasco," Johan Bössman says.

There were no roars of laughter, but rather an audience with pens and pads taking notes diligently. Perhaps it was because they were invited to a course, not a theatrical play.

Resounding success

Hans Henriksson is satisfied with the project, convinced it has been a resounding success. Through follow-up work with participants who attended the performances by Teater De Vill's troupe, he has gathered various audience reactions, which have been overwhelmingly positive. Comments by today's audience were also favorable. Gun Mölleryd and Anneli

Robertsson, who both work for the radio base station product unit, thought the performance was easy to understand and provided a new approach to personnel training.

"The emphasis on customer-orientation was good. It's important also to provide some insights into the technical side," said Anneli Robertsson.

Another important aspect of corporate theater – which was also a novelty for Teater De Vill – is how the message is conveyed slower and more clearly. The subject matter to be conveyed is comprehensive and fairly heavy information, and getting the message across clearly is the most important objective.

Today's performance was called "Tune in to RMOG," an English language presentation that placed special demands on the actors and actresses. After the performance, however, only the second, the lines were presented perfectly. Several more performances are now being planned.

GISELA ZEIME



Johan Bössman, one of the leaders of Teater De Vill.

Seven service areas attractively packaged

■ "This campaign is partly about changing attitudes and behavior in our target groups. We intend to position Ericsson as the leading company in 'Service Solutions for Telecom Operators,'" says Sture Sjöström. "In addition, we want to train our target groups in how they can derive the greatest value from our service offerings."

In preparation for the campaign, a market survey is being conducted by the London-based research firm Business Planning and Research International. One of the objectives is to document knowledge of and attitudes towards Ericsson as a service supplier among the target groups.

"We also want to compare Ericsson with competitors in these respects," Sture continues. "Last but not least, we want to have a tool for measuring changes in operators' perception of Ericsson as a result of the campaign."

"Ericsson is now providing a clear signal that services are a part of our product portfolio," says My Spangenberg, who is the campaign coordinator within the Infocom Systems business area. "With this joint campaign, we are not only responding to the needs of our customers, but also to those of the local companies."

Central to the campaign is a simple and understandable packaging of services in seven areas with a common message for both Mobile Systems and Infocom Systems.

BUSINESS CONSULTING

■ Ericsson provides help with business planning and marketing strategies, as well as process development and change management. Ericsson also proposed suitable business support systems.

NETWORK DESIGN

■ Based on the customer's business requirements and existing installations, Ericsson designs a complete network, including gateways to other networks. The result is a complete technical solution and a network design plan.

NETWORK IMPLEMENTATION

■ Ericsson implements and integrates systems in the network and performs acceptance testing in cooperation with the network operator. The result is a fully operational network.

COMPETENCE DEVELOPMENT

■ Based on existing competence and the customer's need for competence enhancement, Ericsson formulated a plan for competence development and assumes responsibility for its implementation. The result is that the operator's personnel have the competence required to operate the network.

NETWORK SUPPORT

■ The competence of the operator's own personnel is supplemented through an established contact with Ericsson's global support organization. In addition, Ericsson offers a service contract covering a number of key parameters for network functionality. The contract includes hardware, software, documentation and spare parts management.

NETWORK PERFORMANCE IMPROVEMENT

■ Ericsson conducts a comprehensive analysis of network performance and quality and proposes improvements. Based on the operator's needs, Ericsson implements selected improvement measures.

NETWORK MANAGEMENT

■ Based on the customer's business plan, overall strategies and available resources, Ericsson proposed a custom solution for network operation. If the customer wishes, Ericsson can also offer to operate the network on behalf of the operator.

"Ericsson, a service company? Since when?" asks a corporate advertising campaign. The ads are part of a joint campaign being conducted by Ericsson's Mobile Systems and Infocom Systems business areas that targets both mobile and fixed-network operators. With these ads, and other somewhat provocative messages, Ericsson intends to profile itself as the industry's leading service provider. Many of the activities previously went under such names as Customer Services and Alliance. Now they are being consolidated under the common concept Ericsson Service Solutions for Telecom Operators.

Ericsson, a service company? Since when?

P

resenting Ericsson as a single company is essential for profiling as a service company.

You have to maintain an overall perspective in this job," says Fredrik T Strandh, marketing manager for services and operating support systems at the Cellular Systems - American Standards with the Mobile Systems business area.

"Ericsson is well-known as a systems supplier of communication systems, but now we are going to become equally well known as a supplier of services. Growth in mobile communications has been and remains strong, but price pressures are increasing. Calculated over a ten-year period, we expect that communication systems will account for just six percent of an operator's total costs," notes Fredrik.

Advancing positions

The market for services and support systems, on the other hand, is steadily increasing, as are Ericsson's market prospects. All indications are that the customer's customers, the end users, in future will be able to make more and more specific demands, thus increasing the operator's demands on the supplier. "Ericsson Service Solutions for Telecom Operators" will help Ericsson advance its positions and move further up the value chain.

"Our job really involves personal relations," asserts Hugo Österlund, sales and marketing manager for services and support systems within Infocom Systems' Public Networks business unit. "Sitting at home, whether here in Sweden or at a local company, and designing sophisticated systems doesn't work. Every customer is unique.

"Working closely with the customer is the first requirement for success. The second is high quality in the hardware and software that we have already delivered. After that comes delivering our message at the right level in the customer's organization," says Hugo.

By sculpting a corporate message with respect to services, Ericsson now has the tools required to estab-

lish a strong position in the market as a service supplier.

"The introduction of Ericsson Service Solutions for Telecom Operators will entail a radical change of course," says Sture Sjöström, the project manager from Mobile Systems who is responsible for the campaign.

"For the first time, we are targeting all telecom operators around the world with a unified concept. Collaboration will mean that we will be able to make much more efficient use of our global expertise in the future," notes Sture.

The joint approach will allow existing synergy effects to be exploited while creating new ones. However, although successful cooperation between the two business areas is an important achievement in itself, project members are quick to point out the opportunities it opens.

"As a service supplier, we can create new business in which we leverage our expertise," says Fredrik. "We can be even more explicit in packaging, marketing and charging for services. Already, sales derived solely from services account for a sharply increasing share of revenues from Ericsson's large customer projects,

Melkersson, manager for marketing and sales support at Mobile System's business unit for European Standards GSM, NMT and TACS.

"We want to move from selling resources, such as consulting time, to selling results," says Robert. "Our goal is to be able to sign long-term service contracts that are based on the customer's requirements and a clear division of responsibilities between Ericsson and the customer."

Competence development

Those who sell services must know the market and the rules of the game. There must be a customer relationship on which to build. The new campaign has several objectives. Creating a perception of Ericsson as a service company among customers is one. Another is to help local companies develop competence and to establish new identities in their markets.

"One of our strategic goals is to develop competence in the organization near the customer in the local companies," says Anders Lindström, marketing manager for services and operations support at Mobile Systems' business unit for Japanese Standards.

Ericsson Service Solutions for Telecom Operators, a provocative campaign

both in mobile and fixed networks."

In addition to his job as marketing manager, Fredrik is chairman of the Ericsson Services Marketing Council, which provides a network for all marketing and marketing communications managers working with services throughout Ericsson.

Coordinating activities

"The fact that everyone works in different business areas and units using their own methods to satisfy customer requirements should not be evident in our marketing messages," says Fredrik. "We have a lot to gain by coordinating our activities."

"It is extremely important that we have agreed on a global campaign. Our customers are often global players, and a common message sends a clear signal," says Robert

"We want to increase understanding for service sales at all levels and are investing in training for sales and account managers. At the moment, we are evaluating opportunities for coordination and hope that this will develop into a common Ericsson training program for collaboration between business areas," relates Anders.

Profiling Ericsson as a services company not only increases the company's attractiveness to customers, but also among potential employees. The "Ericsson Service Solutions for Telecom Operators" approach is important for future recruitment. A talented, services-oriented person should know that there is every opportunity for a career at Ericsson in this dynamic and customer-oriented segment.

KARI MALMSTRÖM



Bryan Oates is something of a magician when it comes to selling services.

The gentle art of selling at Infocom

The Public Networks business unit within the Infocom Systems business area works with a wide range of customers. Gaining a foothold as a service supplier requires formulating the message precisely. China is a test market for the NPI service package, which stands for Network Performance Improvement. The sale has not yet been made, and identifying the most appropriate sales arguments takes time.

"We must constantly adapt our message," says Hugo Österlund. "We have so many different types of customers. There are still monopoly markets where one set of rules apply. Then there are all the former monopoly owners in deregulated markets, as well as new operators who in many cases want a total solution from the start.

"We must determine what is important for the customer and formulate our sales arguments accordingly," says Bryan Oates, who is something of a magician when it comes to service sales.

China is one of the markets that Australian-born Bryan knows well. During the more than 20 years he has been working from Sweden with various fixed-network operators, he had gained extensive

experience from most parts of the world. "It's different everywhere!" emphasizes Bryan. "Some operators attach great importance to absolute reliability and accessibility in their networks. Others are strictly focused on profitability. Operators may meet fierce competition or have a monopoly in their markets. For us, it's a matter of finding the lowest common denominator and feeling our way forward."

The gentle art of selling

Hugo and Bryan emphasize that selling services to public operators can require a delicate balancing act. A customer representative who is a network operations manager with detailed technical knowledge of the content of a service designed to improve network performance may not be the right contact person. On the contrary, this person may perceive Ericsson's offer as criticism.

In this case, the operator's executive management is probably a better target group, but to reach these managers, Ericsson must translate the contents of the service package and the sales arguments into measurable results in terms of increased revenues, more satisfied customers, increased accessibility, etc.

"The gentle art of selling services," is how Bryan describes it, pointing out that

selling service products on the basis of the product contents has its limits. A careful analysis of the customer's requirements is a better starting point. Thereafter a package can be created using service products as building blocks. The ideal is to sell functionality or results, not a given product. To explain, Bryan makes a comparison with driving.

"We don't want to sell a course in how to drive but rather something that results in the ability to drive," says Bryan. "Translated into Ericsson's business, we want to be able to sell a certain level of performance in the customer's network. How that performance is achieved technically is not of primary importance for making the sale."

Taking the long view

Taking the long view is another of Bryan's obsessions. The goal is to sell contracts, not isolated service measures. The sales process takes place once. Thereafter, Ericsson is able to deliver and receive payment over a period of five years, for example, before a new request for tender is received from the customer.

Let us return to the Chinese market and its special terms. Here there is still a monopoly as well as cultural patterns that differ considerably from those in the




Hugo Österlund, sales and marketing manager for services and support systems within Infocom Systems' Public Networks business unit.

West. How should Ericsson formulate its message in China? Profitability is not a convincing argument. Neither is accessibility. Quantity, many lines with good coverage, may appeal more to the customer.

"It's a question of using your fantasy," says Bryan. "It's also essential to identify exactly the right contact person with the customer. Ericsson's representatives have a local presence. We work closely in teams with the local company in China to succeed with this pilot project."

KARI MALMSTRÖM



One of the most important aspects of a marketing campaign is the message. It is not enough to have a good product or service. The message must be clear, concise, and compelling. It must be tailored to the target audience and delivered through the right channels. In this case, the message is about the benefits of Ericsson's service solutions for telecom operators. The message is delivered through a combination of print and digital media, including brochures, newsletters, and online content. The goal is to educate the target audience about the value of Ericsson's services and to generate interest in a pilot project in China.



While the product is a key component of any marketing campaign, it is not the only one. The message and the delivery of the message are equally important. In this case, the message is about the benefits of Ericsson's service solutions for telecom operators. The message is delivered through a combination of print and digital media, including brochures, newsletters, and online content. The goal is to educate the target audience about the value of Ericsson's services and to generate interest in a pilot project in China.



Marketing is a complex process that involves many different elements. One of the most important elements is the message. The message must be clear, concise, and compelling. It must be tailored to the target audience and delivered through the right channels. In this case, the message is about the benefits of Ericsson's service solutions for telecom operators. The message is delivered through a combination of print and digital media, including brochures, newsletters, and online content. The goal is to educate the target audience about the value of Ericsson's services and to generate interest in a pilot project in China.

An advertising campaign is part of Ericsson's effort to profile the company as a leader in "Service Solutions for Telecom Operators."



Anders Lindström, Fredrik T Strandh, Robert Melkersson and Sture Sjöström get a demonstration in one of Ericsson's many training centers, in Kista north of Stockholm.

Photo: PETER GUNNARS

Explosive growth in mobile telephony shapes the industry

Certainly there are differences between mobile and fixed network operators, but the similarities are greater. The major difference lies not in technology but in the fact that the operators are in different business phases. For this reason, there business prospects and need for services are usually different.

Customer development phases can be roughly divided into build-out, expansion and consolidation. Among Ericsson's fixed network customers, many – particularly state-owned PTTs, whether subject to competition or not – are very definitely in the consolidation phase.

Mobile telephony is a newer phenomenon, and build-out has shaped the entire industry. With the exception of the operators who started early – often as offshoots of the PTT – all customers are ei-

ther in the build-out or expansion phase. There are clear parallels between most mobile operators and new operators in the fixed network.

Every step of the way

The scope for configuring services in contracts with customers in the build-out or expansion phases is great. Ericsson is already involved in the early stages and takes part in business planning, investment calculations, proposals for network design, etc. When the network is up and running, continues Ericsson its involvement by operating the network, either during a transition period to train the operator's personnel or more permanently as a contracted service.

For the typical mobile operator just starting up, one goal is paramount: getting the network running and signing on subscribers. Fine tuning of the network

to achieve optimum performance is relatively unimportant at this stage. Ericsson's goal as a supplier often coincides with the customer's. The primary task is to deliver and install all equipment on schedule. After many years of explosive market growth, resources have been taxed to the limit. Growth has gone before perfection in many cases.

Virtually all operators underestimate their market potential, conclude Fredrik T Strandh, Anders Lindström and Robert Melkersson. Subscribers flock to the network in greater numbers than anticipated and the operator hits the wall. A network dimensioned for 100,000 subscribers will not support double that number. In this situation, the operator naturally turns to Ericsson and asks, "What now? You supplied this network, but now it doesn't work."

All problems can be solved, and they

are solved. But some solutions are more efficient than others. With a well-defined range of services and a well-conceived marketing of these services, we can escape the "fire brigade mentality" in responding to emergencies and instead sell long-term service contracts to customers.

Regular analysis of traffic

"Most of our customers are in the expansion phase," says Fredrik T Strandh. "When we design a network expansion, we can offer to optimize the existing network. We can also regularly analyze traffic and continuously tune the network. One of our strengths is being able to integrate other suppliers' equipment in our own systems. A customer can choose Ericsson, even though someone else supplied the equipment, and we'll make it work better."

KARI MALMSTRÖM

Why are the seven service areas so important?

Tom Voss, Ericsson Netherlands

"In order to be able to sell services, you have to have a concept, a way of describing what you have to offer that acts as a door opener for Ericsson. Until now, our product catalog contained more than a hundred different services, making it too confusing for the sales force to handle. Being able to offer seven service areas is a big step in the right direction. Another step in the right direction is that the local companies are now becoming involved in marketing strategies. We often feel that the head office is too far removed from the market.

The market is demanding this kind of concept. Deregulation and the competitive situation are also increasing customer demands.



Fabio Pasquazi, Ericsson Italy

"Selling products, as we have done previously, is not sufficient. This concept creates greater opportunities for a dialogue with our customers that allows us to meet their needs. It's also positive that the local companies and their organizations which are close to the customer can become involved in developing the concept. This is something of a revolution that really puts the focus on the customer. I think that creating this concept was a really great idea.

With regard to market demand, this is something customers have been asking for. They want to become more involved and want the supplier to understand their strategies and business goals. We have to be more pro-active to meet customer demands.



Pirjo Lounela, Ericsson Finland

"It's really necessary. It's impossible to do anything new without a clear vision and concept. Otherwise we continue to work as before, based on products. That's not what customers want. Now we can create a new image through which we can clearly describe what we have to offer.

"There is definitely a demand for this concept. We have to make it easy for the customer to understand what we have to offer, and now we have the tools that we need. Having the backing of corporate management is very important, because if we are to succeed with this concept, we must be able to invest money and resources in implementing the concept."

MY SPANGENBERG



vacancies

AT ERICSSON

Contact no. 6 1997

Updated April 22

international

Ericsson Montreal (Canada) LMC

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

SYSTEM ENGINEER

● Ericsson in Montreal is seeking four System Engineer. Here are the job description and the requirements.

RESPONSIBILITIES: A Systems Engineer is responsible for overall systems design, preparation of detailed requirements, supervision and coordination of subsystems and products.

ACTIVITIES: Execute prestudies and feasibility studies according to the Prestudy and Feasibility study process; Execute quick studies and technical studies according to the technical investigation process; Carry out patent work according to the invention and patent process; Participate in standardization work according to the standardization process; Participate in technical committees, e.g. TC-AMC, PC-APT and PC-CMS88; Participate in system evolution/architecture development; Maintain knowledge of industry standards and competitor technology; Participate/identify system improvements; Provide support to the customer and the development units;

Ensure that change requests are issued for non-compliance to requirements: ensuring approval of the change request is via the change control board; if required, updating the necessary documents upon approval to change request; ensuring that non-compliance to requirements during projects are tracked/documentated to ensure consistency/quality for future development projects;

Participate/execute system performance measurements; Educate the organisation in the latest systemware; Identify new design rules or design rules that must be used within a project; Contribute to process improvements.

JOB REQUIREMENTS: University Degree or equivalent; Knowledge of competitor/external technology and industry standards; Knowledge of AXE 10 design; Knowledge of LMC Development Processes and/or Medax Development Processes; Knowledge of software development and testing; Very strong communication skills.

Contact: LMC/NXM/ Sonal Patel, lmcsonp.

TECHNICAL COORDINATOR

Ericsson in Montreal is also seeking for two technical coordinator. Here are the job description and the requirements:

● **JOB DESCRIPTION:** One of the roles within the SNP systems group is to be responsible for the technical coordination activities within the area of CMS88 Switching Network Products. The technical coordinator is assigned per project and has the following responsibilities to:

Coordinate the SNP project in the technical areas from pre-study (TG0) to the conclusion phase (TG5); Ensure the SNP system consistency throughout the whole project; Ensure a SNP requirement management within the project; Ensure that the requirements will be fulfilled during the Feasibility and Execution phases-mainly by reviews, statement of compliance; Coordinate the answering of all SNP trouble reports during the project execution; Initiate and follow up SNP technical investigations within the project;

Responsible for technical support to Project Management; Participating in PC review when required; Coordination of change requests; Supporting customer in technical discussions and presentations; Intellectual Properties Right issues; Ensure that the SNP technical coordination team (includes the LDC coordinators) is accountable for the deliverables in a project; Ensure that all SNP technical coordination team members know their responsibilities and contributions; Write monthly Progress Report for Technical Coordination; Member of Project Management team; Member of the overall project technical coordination team.

JOB REQUIREMENTS: Knowledge of LMC Development Processes; 6 to 8 years experience;

University Degree in SW Engineering; Knowledge of AXE 10 design development; Very strong communication, interpersonal skills; Previous experience as a team leader during a project; Project Management experience; Knowledge of the RMOA PROPS Model; Knowledge of SNP Products.

EXTERNAL CONTACTS: The SNP Technical Coordinator will establish and maintain contacts with other technical coordinators within the project in order to ensure cohesive and uniform technical solutions are developed to improve the quality of our systems.

TRAVELLING: Occasional traveling in North America and Europe shall be expected. More specifically, 1 to 6 times yearly, each trip lasting less than two weeks.

Contact: LMC/NXM/ Sonal Patel, lmcsonp.

CMS 8800 ARCHITECTURE SECTION MANAGER

Finally, Ericsson in Montreal is seeking for a CMS 8800 Architecture Section Manager. Again, here are the job description and the requirements:

● **GENERAL:** The responsibilities of this section are to ensure optimal evolution of the CMS 8800 System Architecture and of the system's platforms in terms of capacity, quality robustness, reliability and degree of automation.

RESPONSIBILITIES AND AUTHORITY: Relating to the various RMOA systems technology investigations covering the applications, standards and characteristics aspects of CMS 8800 in order to condense the impacts on the systems platforms and architecture;

Interfacing within CMS 8800 System Provisioning Organization and with Core Unit Radio Research (RCUR), Basic Systems (UAB, EHPT) and other business units regarding different architecture solutions and upcoming new platforms; Carrying out studies on architecture on the standpoint of hardware, software, product structures; Developing and Maintaining a CMS 8800 Network Reference Model; Identifying needs for software and hardware platform evolution by close connection to product management as well as the customers; Analysing industry trends towards new platforms; Supporting released CMS 8800 systems in operation (trouble shooting as well as answering customer questions); Working in Product Concept Studies, Business Opportunity Tracing and Technical Investigations.

The main areas of interest for the section are: Application Modularity; Functional Modelling (Logical Network Reference Model, Ericsson Reference Model); Hardware platforms for AXE, OSS, RBS and for new nodes; Open Telecom Platforms; External Technology Provisioning; Self configuration of the system.

JOB REQUIREMENTS: A University degree in Science; At least 6-8 years relevant experience; Well organized, flexible and professional; Effective written and oral communication skills (in English); Good leadership skills; A contact network both inside and outside the Business Unit; Ability to make contacts and cooperate with other people.

Contact: LMC/SD/S Glen Schmid, lmcglen.

Ericsson Telecommunicacoes S.A., Brazil

RADIO NETWORK PLANNING MANAGER

The Regional Network Planning Centre for Latin-America, based at EDB in Sao Paulo, supports all Radio Network Planning activities in Latin-America. The region is one of the world's fastest growing markets. We are strongly increasing our activities, and are therefore recruiting a Radio Network Planning Manager.

● You will be in charge of recruiting, training and managing a group of RF engineers. Your ambition shall be to develop the team from start, and to communicate and spread your enthusiasm and motivation.

We are looking for you that: hold a B.Sc. or M.Sc. in electrical engineering, telecommunications or equivalent experience, have a broad international experience, have a few years experience of cell planning or cellular operations, preferably on D-

■ 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.

AMPS/AMPS markets, have at least a few years experience management in the cellular world, know that you are the one that will make it interesting.

English fluency is required, Portuguese and/or Spanish are a strong advantage. The assignment will be of one year minimum.

Contact: EDB/RAC Frédéric Aron, phone +55 11 681 02 98, Memoid ERA.ERAFAR, fax +55 11 681 20 70.

Intracom Hellenic Telecommunications, Greece

SW DESIGNERS FOR CME20/CMS40 CELLULAR SYSTEMS

INTRACOM in Athens is an ERICSSON affiliated company and its Software Design Centre (IXG SWDC) is working with AXE10 development since 1989.

Within IXG/DG section we are working with the SW development of CME20 and CMS40 applications, used for digital cellular mobile telephony based on GSM/DCS standards.

● Within our SW projects you will learn to develop features used by the biggest GSM telephone operators around the world. You will learn about project organisation and team working and you will use the latest methods and tools for SW development.

We are looking for SW designers or SW testers with at least 1 year experience in Block and Unit design or Function Test. We want you to start as soon as possible and the assignment period will be at least for 6 months.

Contact/Application: George Alevropoulos (IXG.IXG GAS) +301 6860408, e-mail gas@intranet.gr, or Argirios Diamantis (IXG.IXGADIA) e-mail adia@intranet.gr

Ericsson Ltd, UK

CONSOLIDATION AND MIGRATION OF TACS SYSTEM

● We need a number of TACS expert for an interesting project in England for approx. one year from June, July -97. The project is about consolidation and migration of the TACS system. The aim is to replace of a number of TACS/MTX switches by GSM/MSC switches while maintaining the radio coverage of the TACS network.

This is a highly qualified and interesting job and we need a number of experts to participate in this pilot project. Experts are needed in the following areas.

PLANNING AND ENGINEERING

● Planning remodelling of the TACS network. Dimensioning of MTX switches. Data transcript of switches. Re-arrangement of interconnection of links.

RADIO ENGINEERING

● Radio network dimensioning, e.g. removal of voice channels. Cell Data Transcript. Plan site cutovers.

NETWORK/TRANSMISSION

● Plan Link rearrangement. Re-dimension of cross-connections.

Contact: Karin Skyman at ETL/GU Tel:+44-1483-305077. MEMO: ETL.ETLKNSN or Chris Sherry at ETL/GU Tel:+44-1483-305724. MEMO: ETL.ETLCSX

Ericsson SA/NV Brussels, Belgium

In order to strengthen Ericsson's position in the Belgian market place, the local company EBR is building up the organization that is prepared to face the challenge to win new business in the area of cellular networks.

MARKETING MANAGER

● During the marketing phase the Marketing Manager is involved in detecting and collecting information of existing and future operators in Belgium. He will be in contact with the customers in order to understand and analyze their needs and expectations.

Marketing Manager participates the Market Planning and has the overall responsibility of initiating and managing the preparations and execution of the planned activities.

During the sales and negotiation phase the Marketing Manager will contribute the Core3

work as outlined in the tendering process description when applicable.

TECHNICAL/SOLUTION MANAGER

● During the marketing phase the Technical/Solution Manager has the overall responsibility of initiating and managing the technical preparations required for the planned marketing approach. These activities may include the coordination of nominal cell planning, network topology planning, transmission planning and hardware dimensioning. Technical Manager is expected to be able to give solution level presentations to customers.

During the sales and negotiation phase the Technical Manager will co-ordinate and initiate technical works. He will be responsible for the network design, SoC, and the system proposal - in fact of the entire technical solution corresponding to customer's needs. Technical Manager will also provide necessary technical support to both Marketing Manager and Customer Project Manager.

EXPECTED QUALIFICATIONS AND EXPERIENCE FOR BOTH POSITIONS:

Approximately five years or more of experience in the requested area. Understanding of operator's business. Good communication skills. University degree. Fluent in English, French and Flamish are an asset.

For expatriates minimum assignment is one year.

Contact: Christer Ahlner, ERA/LFH, phone +46 8 404 84 07, memo ERAC.ERACRAR or Seppo Lohikko, EBR, phone +32 2 745 13 54, memo EBR.EBRLOH. Application: Ericsson Radio Systems AB, LFHS Ingela Vikenfolk, SE-164 80 STOCKHOLM

Ericsson Corporatia - ECR

RMOG MARKETING AND SALES MANAGER IN MOSCOW

The Russian cellular market is in an expansive phase where Ericsson has captured a total market share of 50%. In NMT we have already today a solid base and late last year we got our first contacts for GSM. We now need a result-driven manager who can coach and lead our team in Moscow and in close cooperation with the home organisation develop the RMOG business in Russia.

● An important part of the job will be to build up competence and resources locally for marketing and sales.

You will be responsible for: developing business opportunities, sales as agreed upon with Business Unit, recruiting and developing of personnel resources within the agreed personnel budget, to manage and own resources for offer preparation and commercial support.

This position require: Master of Science, Electrical Engineer or similar, a solid foundation in communication systems technology, at least two years related experience, good knowledge in Russian and English, negotiation and management skills.

Contact: Ulf Borison, phone + 46 8 757 1580 or Eric Franke, phone + 7 505247 6211. Application: Ericsson Radio Systems AB, SG/ERA/LPH Liljana Sundberg, 164 80 STOCKHOLM

Ericsson GmbH, Germany

Our role as network provider is to supply customers with complete cost-effective and revenue generating solutions tailored to their business needs. The solutions are based on appropriate products from the entire Ericsson product portfolio, as well as from third parties.

Ericsson GmbH, Germany, will develop engineer and implement total solutions for our customers. The customers segments second operator (fixed), city operators and international carriers are supported by one product management unit. Within this unit we are urgently looking for an excellent

SECTION MANAGER for Access Products

● We offer you an interesting and ambitious position. The main authorities and tasks are: leading a team of highly qualified product managers, work with product strategies, sourcing, consolidation of the German market requirements, business cases and life cycle management. discuss, define and describe features, functions and configuration of access products in close co-operation with customer experts. transfer your knowledge into the customers organisation, coordination with Ericsson Global Product Management, drive improvement activities.

As a suitable candidate, you have the following experiences and qualifications: M.Sc. or equivalent. English fluently.

Good Knowledge of Ericsson's access products. 2 to 3 years management experience.

Be able to translate customer needs for products and services. enjoy working close to new operators in an existing start-up phase. think an work customer and solution oriented. be open minded to work in a flexible and team-oriented organisation.

Contact: Stefan Reuther, Phone: +49-211/534-4770, Memo-ID: EDD.EDDSR or Jutta Hartmann, Phone: +49-211/534-4342, Memo-ID: EDD.EDDJUHA. Application: Ericsson GmbH, Division New Network Operators, Heerdter Landstr. 193, 40549 Duesseldorf, Germany

Cia Ericsson de Chile S.A - CEC/Ericsson Taiwan Ltd

LOCAL PRODUCT MANAGER TO CHILE AND TAIWAN

Cellular Systems - American Standards is one of the fastest growing business units within Ericsson Radio Systems. We are expanding rapidly in the world over, and many challenges and opportunities are awaiting for us.

● Are you a person motivated in translating your technical knowledge into business results? - If so, you are a potential LPM.

Now we have two Local Product Management (LPM) positions vacant: one in Chile and the other one in Taiwan. (and new requirements will come shortly)

In the Local Company (LC), the main position responsibility is to provide customers with optimal technical support for our CMS 8800 Cellular products, during Sales to Order Process. Network design and Third Party Products are under the LPM responsibility as well.

He/She will be in close relation with customers, acting in a co-ordinated way with Marketing and Sales people as well as with others LC groups.

The LPM will be appointed to perform tasks like: to promote CMS 8800 products by presenting the clients their characteristics, and the advantages they provide. to elaborate customised selling proposals based on the Ericsson products. to answer technical Statement of Compliance. to make Product Planning, in close relation with the customers. to keep the LC staff technically updated.

The ideal candidate has an Engineering degree and two or more years experience in technical support in the cellular industry, the better if with AMPS-DAMPS standards. AXE experience is a must, as well as English fluency. Spanish is required for the position in Chile.

The persons we are looking for are self-motivated, ambitious, outgoing and interested in taking the challenge of being a key person in the LC and a valuable adviser for the customers. Hard working is a normal attitude for these persons.

As on developing their tasks the LPM's will be daily using both technical knowledge and human skills, their professional and personal competence will be exceptionally developed.

Contact: Oscar Casetta, phone +46 8 757 5719, memoid ERA.ERAOCAS. Application: Ericsson Radio Systems AB AH Göte Hedblom, 164 80 STOCKHOLM

Ericsson Radio, S.A. (REE), Madrid (Spain)

TECHNICAL SALES SUPPORT & PRODUCT MANAGEMENT ENGINEER

● We are looking for a person to support Telefonica Moviles in all matters related to MIN: Services, SMAS and Platform.

Job Requirements: GSM(switching), CCS-7(IN-AP,CS-1,ISUP), AXE, MIN. Market oriented/customer focus. Fluency in english and spanish is preferred. Good communication/presentation skills. Availability to travel is necessary. Preferable experience from MIN area.

Job Description: Marketing and Commercial relations with Telefonica Móviles. Design services and solutions to meet customer requirements. regarding Intelligent Network area. Presentations regarding MIN services and functionality. Product Management of MIN.

Contact: Juan B. Pérez REE/RMF, Mobile Services Marketing Responsible, via MEMO: REEJBP, or Tel. +34 1 3391353. Application: Isabel Simonet, Human Resources, Retama, 1 - 28045 Madrid (Spain), Tel. +34 1 3392332 - Memo ID: REEISR

Global Response Center; Richardson, USA; Rijen, The Netherlands; Melbourne, Australia

GRC SUPPORT ENGINEER/SYSTEM EXPERT - ISDN, IN and I/O areas

● The Global Response Center is seeking ISDN, IN and I/O competence. If you are up for a challenge and have ISDN, IN or I/O competence and have possibly other AXE Customer Support skills then this interesting job is for you. The Global Response Center (GRC) provides technical support and service to the majority of Ericsson AXE customers on a 7 days * 24 hour basis. This is achieved via 3 hubs (Rijen, Richardson & Melbourne) using a 'follow the sun' structure. You will receive exposure to the latest products via training, work and job rotation, and thus help us and you maintain the competences our customers insist on.

Your profile is probably one of a person with a bachelors degree in engineering or equivalent (telecommunication, computer science or comparable), with 5 to 10 years of AXE experience (2-3 years of ISDN or IOG11). Good command of the English language is a must (another language

such as Spanish is a plus). You should also be a good team player with strong customer orientation, the ability to work independently and happily in a lively, mixed culture working environment.

Contact/Application: Peter Dicksson, (EUS.EUSD-CKN, +1-972-583-1356), Dave Eales, (ETM.ETMDES, +31-161-249362) or Andreas Luiga, (EPA.EPAADL, +61-3-9301-1814).

Ericsson Hellas S.A.

is the market leader in Greece and significantly contributes in the upgrading of the national telecommunication infrastructure both in the public and private sectors. The company's mission is "to understand our customers' opportunities and needs and to provide communication solutions better than any competitor".

Currently we are in the phase of dynamic expansion in the sector of cellular infrastructure and services supply for GSM-900/DCS-1800 networks.

Our Business Unit is dedicated to one of the two GSM operators with a goal to exceed our customer's expectations by achieving absolute customer satisfaction in the offered products and services. In order to continue meeting our mission and goal, we have identified two openings and we are looking for self-motivated team players with excellent communication skills for the following positions:

JUNIOR PRODUCT ENGINEER

- radio/transmission network

● As a product engineer for radio and transmission network, you will be handling technical questions from our customer related to Ericsson products in this area, prepare technical presentations and update the customer with the latest product developments.

JUNIOR PRODUCT ENGINEER

GSM hardware evolution/network dimensioning

● As a product engineer for GSM hardware evolution and network dimensioning, you will be handling technical questions from our customer related to Ericsson hardware products, prepare technical presentations and update the customer with the latest product developments. You will be also responsible for hardware dimensioning of new GSM switches being introduced in the customer's network.

Your profile: University degree in a relevant sector with specialization in Telecoms (preferably cellular). 1-2 years experience preferred. Age between 25 and 30 years old. Excellent knowledge of English.

We offer: Remuneration matching experience Excellent working environment Full benefits package Training in telecommunications Potential for personal development

Contact: Mr. Dimitris Manolopoulos, ETG/PC (phone: +301-9697165, e-mail: etg.etgdim), or Mrs. Maria Boura, ETG/PPM (phone: +301-9697167, e-mail: etg.etgmba), or Mr. Tryfon Kantas, ETG/F (phone: +301-9697209, e-mail: etg.etgkan) Application: ERICSSON HELLAS S.A. (Attn.: Personnel Department), 33, Zeppou Street & Vouliagmenis Avenue, 16675 Glyfada - Athens, Greece

MARKETING EXECUTIVE

● As a marketing executive you will participate in the BU's marketing activities for both existing and new products/services, in the creation of new business, and assisting in end user/market studies and in communicating the findings to our customer.

Your profile: 1. University Degree in Marketing Management (preferably MBA). 2. 1-2 years marketing experience. 3. Age up to 28 years old. 4. Excellent knowledge of English. 5. Experienced PC user.

We offer: Remuneration matching experience. Excellent working environment. Full benefits package. Training in telecommunications. Potential for personal development.

Contact: Mr. Dimitris Manolopoulos, ETG/PC (phone: +301-9697165, e-mail: etg.etgdim), or Mr. Harry Haralambidis, ETG/PPM (phone: +301-9697134, e-mail: etg.etghhs), or Mr. Tryfon Kantas, ETG/F (phone: +301-9697209, e-mail: etg.etgkan) Application: ERICSSON HELLAS S.A. (Attn.: Personnel Department), 33, Zeppou Street & Vouliagmenis Avenue, 16675 Glyfada - Athens, Greece

Ericsson Toshiba Telecommunication Systems K.K., Japan

Ericsson is supplying the CMS30 systems for the PDC (Japanese cellular standard) network in Japan. Our customers networks are now handling more than 2.3 million mobile subscribers and are increasing rapidly. In addition to the tremendous growth, the network will also soon be added with our sophisticated AM based Intelligent Network. Our headquarters is situated in Shin Yokohama (near Tokyo) with regional offices spread around Japan.

To cope with the promising future, we have vacant positions, long term and short term, in both Sweden

and different locations of Japan. Employment in Sweden includes possibilities for future assignments in Japan. We are looking for people from all over Ericsson to support us in this challenge. If you are up to challenges you should not skip this opportunity. See you in Japan.

MSC/HLR SUPPORT ENGINEERS

● Main tasks: trouble report handling; participate in 24 hr emergency support; correction packages handling; support roll-outs and provide technical support (on-site/off-site).

You should have good AXE knowledge and at least 4 years field support experience in the MSC/HLR areas. Experienced in CMS30 is an advantage. We work as a team. As part of our support team, you will be working together to solve problems on-site/off-site. Trouble shooting skills is mandatory. Good team spirit and customer focus are demanded.

Starting date: 1997-04 Location: Japan

Contact: Santoso Budiman, phone +81 45 475 6284, memoid: NRJ.ERJBUDI, Ulf Sundberg, phone +81 45 475 0077, memoid: NRJ.ERJUFSG, Anders Birkedal, phone +81 52 586 1676, memoid: NRJ.ERJBIRK or Gullic Fahlgren, phone +46 8 757 1728, memoid: ERA.ERAFAH. Application: Ericsson Radio Systems AB, J/H5 Ann Beer 164 80 Stockholm

RADIO BASE STATIONS SUPPORT ENGINEERS

● Main tasks: trouble report handling; participate in 24 hr emergency support; correction packages handling; support roll-outs and provide technical support (on-site/off-site).

You should have good AXE and RBS knowledge and at least 4 years field support experience in the Radio Base Station area. Experienced in CMS30 is an advantage. We work as a team. As part of our support team, you will be working together to solve problems on-site/off-site. Trouble shooting skills is mandatory. Good team spirit and customer focus are demanded.

Starting date: 1997-04 Location: Japan

Contact: Santoso Budiman, phone +81 45 475 6284, memoid: NRJ.ERJBUDI, Ulf Sundberg, phone +81 45 475 0077, memoid: NRJ.ERJUFSG, Anders Birkedal, phone +81 52 586 1676, memoid: NRJ.ERJBIRK or Gullic Fahlgren, phone +46 8 757 1728, memoid: ERA.ERAFAH. Application: Ericsson Radio Systems AB, J/H5 Ann Beer 164 80 Stockholm

APZ/IOG SUPPORT ENGINEERS

● Main tasks: trouble report handling; participate in 24 hr emergency support; correction packages handling; support roll-outs and provide technical support (on-site/off-site).

You should have at least 4 years field support experience in the APZ and IOG systems. Experienced in CMS30 is highly an advantage. We work as a team. As part of our support team, you will be working together to solve problems on-site/off-site. Trouble shooting skills is mandatory. Good team spirit and customer focus are demanded.

Starting date: 1997-04 Location: Japan

Contact: Santoso Budiman, phone +81 45 475 6284, memoid: NRJ.ERJBUDI, Ulf Sundberg, phone +81 45 475 0077, memoid: NRJ.ERJUFSG, Anders Birkedal, phone +81 52 586 1676, memoid: NRJ.ERJBIRK or Gullic Fahlgren, phone +46 8 757 1728, memoid: ERA.ERAFAH. Application: Ericsson Radio Systems AB, J/H5 Ann Beer 164 80 Stockholm

IN EXPERT

● The responsibilities include on-site trouble-shooting, problem analysis, technical support of IN System Integration Testing on customer sites, technical consultation and communication with customers.

We require solid experience of IN and working experience within Ericsson.

Starting date: 1997-04 Location: Japan

Contact: Santoso Budiman, phone +81 45 475 6284, memoid: NRJ.ERJBUDI, Ulf Sundberg, phone +81 45 475 0077, memoid: NRJ.ERJUFSG, Anders Birkedal, phone +81 52 586 1676, memoid: NRJ.ERJBIRK or Gullic Fahlgren, phone +46 8 757 1728, memoid: ERA.ERAFAH.

SMAS EXPERT

● The responsibilities include on-site trouble-shooting, problem analysis, technical support of IN System Integration Testing on customer sites, technical consultation and communication with customers. The work also includes installation and testing of SMAS SW and customer training.

We require solid experience of SMAS and working experience within Ericsson.

Starting date: 1997-04 Location: Japan

Contact: Santoso Budiman, phone +81 45 475 6284, memoid: NRJ.ERJBUDI, Ulf Sundberg, phone +81 45 475 0077, memoid: NRJ.ERJUFSG, Anders Birkedal, phone +81 52 586 1676, memoid: NRJ.ERJBIRK or Gullic Fahlgren, phone +46 8 757 1728, memoid:

ERA.ERAFAH. Application: Ericsson Radio Systems AB, J/H5 Ann Beer 164 80 Stockholm

TEST ENGINEER CMS 30

● You will work with installation testing, AS Rollouts and other software implementations within CMS 30 networks including IN. We require previous experience from the telecommunication industry and working experience within Ericsson.

Starting date: 1997-04 Location: Japan

Contact: Per Jansson, phone +81 45 475 0084, memoid: NRJ.ERJPEJA, Ulf Sundberg, phone +81 45 475 0077, memoid: NRJ.ERJUFSG, Anders Birkedal, phone +81 52 586 1676, memoid: NRJ.ERJBIRK or Gullic Fahlgren, phone +46 8 757 1728, memoid: ERA.ERAFAH.

IN IMPLEMENTATION AND TROUBLE SHOOTING

● You will work with integration, testing, software rollout and/or trouble shooting during the introduction of IN in Japan

This introduction will take place in the April-October timeframe. Both short and long term applications are welcome.

Starting date: As soon as possible Location: Japan

Contact: Ulf Sundberg, phone +81 45 475 0077, memoid: NRJ.ERJUFSG, Anders Birkedal, phone +81 52 586 1676, memoid: NRJ.ERJBIRK or Gullic Fahlgren, phone +46 8 757 1728, memoid: ERA.ERAFAH.

LM Ericsson Ltd, UK

PROJECT MANAGERS

● The growth and evolution of Mobile Systems continues to expand at record levels. Consequently, our need to build and expand upon our skills and competences continues.

Opportunities now exist in the Telecom Ireland Business Area for Project Managers who have up to 5 years experience in Mobile Telephony Systems and in particular, Network Performance Measurement Systems, Radio Propagation and Cell Planning, Cellular Network Management and Intelligent Networks.

The management of customers, contracts and projects will also be central to the responsibilities of these positions as well as formulation of evolution strategies and solutions to meet customers needs.

Candidates should be qualified to degree level with a combination of interpersonal, commercial and technical skills. Due to a range of positions available, varying levels of experience will be required.

We invite applications from personnel who believe they have acquired sufficient expertise in the relevant areas to undertake this task.

The above positions are based in Beech Hill, Clonskeagh. As a screening process based on applications received will take place, it may not be necessary to interview all candidates.

Applications not later than 970502 with ref.nr HR-97:0356: Margaret Gaffney, Employee Relations Manager, LM Ericsson Ltd., Beech Hill, Clonskeagh, Dublin 4

Ericsson (China) Company Ltd. - ETC

TECHNICAL MARKETING SUPPORT DIRECTOR

Ericsson (China) Company Ltd, ETC, is the major local company of Ericsson in China. ETC's organization consists of 4 Regional Offices and Local Offices reporting to Regional Offices, Product Divisions, and Staff Functions. Region North, ETCIN, stretching from China's northwest border to its eastern border with Korea, is by far the largest of the 4 Regions and the most sparsely populated.

ETCINT, product support, is responsible for Fixed Networks and Radio Communications technical activities within the Region North area. ETCINT is responsible to contribute with technical competence and support during the pre-tender, offer, contract and implementation phases for GSM, TACS, (D)AMPS, PSTN, ACCESS NETWORKS and TRANSMISSION. ETCINT is also responsible for all RADIO NETWORK DESIGN activities in the region.

● The successful applicant will have broad knowledge of Ericsson's product portfolio. He/She should have an academic education with several years of documented management skills and experience from the international telecommunication area. The position requires initiative, good communication skills and good ability to work in an international environment and under high pressure.

Contact: Moncef Mettiji, Product Support Director, memoid ETC.ETCMOME or Zhang Xing Sheng, Executive Vice President, memoid ETC.ETCZHXS phone +86 10 64632288, fax +86 10 64615406. Application: Ericsson Radio Systems AB, KVERALDH Britt Gustafsson, SE-164 80 STOCKHOLM, memoid ERA.ERABGUS, fax +46 08 404 5311

Ericsson Ltd, UK

TECHNICAL EXPERTISE

● Covering 'rest of the world' activities of Cable and Wireless, i.e. outside of Asia and Europe. To develop business opportunities for Ericsson in telecoms markets where C&W are operating or planning to operate covering wireline and wireless products.

QUALIFICATIONS AND EXPERIENCE: We are looking for someone who can utilise their technical expertise in a creative and lateral way covering solutions for the Cable and Wireless world-wide operations and you will liaise closely with specialist teams to support implementation.

In addition, to your technical knowledge of broadband, mobile, switching, signalling and network architectures, your solution-orientated background and commercial awareness will enable you to develop and maintain excellent client relationships and fully utilise your inquisitive and innovative mind.

Contact: MICHAEL CHANCE - HUMAN RESOURCES +44 1483 305213 or FRED CHRISTMAS - BUSINESS DEVELOPMENT +44 1483 305314

Ericsson Ltd, Burgess Hill, UK

MOBILE PRODUCT MANAGERS

● In the Mobile Product Management department at the Mobile Business Sector, Public Systems Division (ETL/XM/X) we are working towards various mobile cellular operators in the UK.

In order to support the various accounts, we have a number of immediate positions for highly knowledgeable Product Managers;

PRODUCT MANAGERS - CME 20 SWITCHING

The responsibilities include analysis of Requirements and preparation of Requirement Specifications, conduct technical presentations, hold technical discussions/negotiations with customers, provide tender support, review contracts, evaluate commercial considerations, prepare Statement of Compliance, specify product contents and answer technical questions to both internal and external customers.

An interest and the ability to understand the customer's requirements is essential.

You should have at least 3 years of experience in mobile systems with the main focus on switching. Knowledge of Product Management, Intelligent Networks, mobile datacom (HSCSD & GPRS) and telecom networks in general will be meriting. You should be looking for challenges rather than seeing problems, be outgoing and driving, customer focused and have excellent communication skills including verbal and writing skills in the English language.

If you are looking for a real challenge, then we can offer you an interesting opportunity for a minimum of two years at Burgess Hill in West Sussex, England.

PRODUCT MANAGERS - CME 20 BSS

● The responsibilities include analysis of requirements and preparation of Requirement Specifications, conduct technical presentations, hold technical discussions/negotiations with customers, provide tender support, review contracts, evaluate commercial considerations, prepare Statement of Compliance, specify product contents and answer technical questions to both internal and external customers.

An interest and the ability to understand the customer's requirements is essential.

You should have at least 3 years of experience in mobile systems with the main focus on BSS and/or radio. Knowledge of Product Management and telecom networks in general will be meriting. You should be looking for challenges rather than seeing problems, be outgoing and driving, customer focused and have excellent communication skills including verbal and writing skills in the English language.

If you are looking for a real challenge, then we can offer you an interesting opportunity in a creative and inspirational assignment for a minimum of two years at Burgess Hill in West Sussex, England.

PRINCIPAL PRODUCT ENGINEER / TECHNICAL CONSULTANT - ICO

● A consortium led by NEC and including Hughes Network Systems and Ericsson has recently won a contract to supply a cellular satellite system.

In order to support the ICO account and the consortium, we have an immediate position for a highly knowledgeable Principal Product Engineer / Technical Consultant.

The main responsibility is to participate in a joint team to define, specify and agree the high level system design of the complete network.

An interest and the ability to understand the customer's requirements is essential.

You should have at least 3 years of experience in CME 20/CMS 40 with the main focus on switching. Knowledge of Product Management, Intelligent Networks and telecom networks in general will be meriting. You should be looking for challenges rather than seeing problems, be

outgoing and driving, customer focused and have excellent communication skills including verbal and writing skills in the English language. A key requirement is the ability to work independently and being adaptable to a mixed culture working environment.

If you are looking for a real challenge in the new and exciting field of GSM based cellular satellite communication, then we can offer you an interesting opportunity in a creative and inspirational assignment for a minimum of one year based in the consortium office in Hammersmith, London with further potential in the UK.

If you feel you are the right candidate for any of the positions above and/or have any questions regarding the positions offered, please

Contact: WC4/ETL/XM/XC Thomas Bystedt, tel. +44-1444-234389, mobile +44-802-256977, memo id. ETL.ETLBYST

Ericsson Ltd, UK

ENTERPRISE NETWORKS - GLOBAL CUSTOMER ACCOUNT MANAGER

● Based in the UK, reporting to the Director and General Manager, Network Solutions, the position also has a reporting line to the Director of Global Customer Operations, (who is based in Nacka Strand, Stockholm).

The role is primarily to co-ordinate, develop and manage selected customers from an Enterprise Network portfolio of global accounts.

The individual needs to be able to deal with senior management, both internally and externally.

A proven track record in dealing with major customers is essential as are good project management and commercial skills together with highly developed negotiating and interpersonal skills.

This is a demanding role for a person with drive, enthusiasm and determination.

Degree level education and a second main European language an advantage.

Contact: Kirstie Free, Human Resources ETL/Z MEMO-ID: ETLKEFE

Ericsson Australia

SUPPORT ENGINEERS, BASED IN MELBOURNE

● Ericsson Australia (EPA) has recently acquired the responsibility for the Regional Service Centre (RSC) of the Asia / Pacific region for the global Ericsson Group. Substantial growth is already being experienced and is expected to continue well into 1998. In order to continue to meet the demand, EPA is advertising for support engineers with substantial support (troubleshooting and verification) experience in either of the following: CMS88, CME20 or AXE10.

Major responsibilities include: Troubleshooting/analysis/solution development. AS/CN-A testing and support. Development of corrections. Delivery of software correction packages. Consultation with regional Ericsson Field Support Centres regarding support and project issues.

Prerequisites: Fluent with PLEX and ASA210C. Competent with AXE10 troubleshooting techniques. Exposure in AXE Software testing/projects would be of benefit. Excellent English verbal and written skills. Customer Focussed. Works well under pressure situations. Ability to travel on a regular basis.

Ideally applicants will possess a relevant I.T. tertiary qualification (Engineering or Computer Science etc.), whilst experience in digital or analogue mobile (GSM/AMPS) applications will be well regarded.

Preference and assistance will be given to candidates willing to emigrate to Australia and work at EPA on local conditions, however there will be some contracting positions on offer.

Application not later than 970428: Dean Oppedisano and Connie Malligeorgos via MEMOID's EPA.EPADUO and EPA.EPACMM.

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

PROJECT MANAGER

- MOBILE TELEPHONE SYSTEM

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

REQUIREMENTS: Bachelor of Science degree in electrical engineering with specialization in telecommunications, or equivalent. Four years work experience in the technical aspects of telecommunications.

Three years proven experience in management of customer projects. Good knowledge of PROPS, project planning, budgeting and management methods.

Good technical knowledge of mobile tele-

phone systems. Good knowledge of Ericsson's business practices, supply organization and standards.

Result orientation, flexibility and patience are important personal qualities. Traveling is a natural part of the job.

Previous experience from Asian business culture is an advantage.

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

Take active part in negotiations for new contracts in close co-operation with our marketing and technical sales department.

Train and coach new staff in assistant project management positions to become skilled and professional project managers.

Contact: Project Management and Logistics, Manager: Peter Holmertz (ETC.ETCPETZ), Project Management Mobile Systems, Manager: Enneth Frohman (ETC.ETCENFR) or Human Resources, Manager: Huang Yanyan (ETC.ETCSHY) Telephone: +86-21-6375 3399, Fax: +86-21-6350 9140 Application not later than 970515: ERA/LDH Hans Falk (fax +46 8 404 5311).

Ericsson Radio Systems AB, Kista

CUSTOMER SUPPORT ENGINEERS, located in Totowa, NJ

● These positions support the CMS40 networks in Totowa, NJ and surrounding areas. Primary responsibilities include: application (software and hardware) system changeouts and upgrades, CN-A testing and implementation, loading correction packages, troubleshooting and 24 hour support.

Individuals should have a Bachelor's Degree in Electrical Engineering or Computer Science, a minimum of 3 years' experience with AXE switch, and BSS/BSC experience. Also required are excellent interpersonal, communication and customer relations skills.

Contact: Frederick Aw (EUS.EUSFAW), Tammi Terry (EUS.EUSTERR), phone (703) 397-9011 or Solveig Vallentin, Human Resources, ERAC.ERASOLO, phone +468-404 5619. Application: Frederick Aw (EUS.EUSFAW) or Tammi Terry (EUS.EUSTERR)

Ericsson AS, Arendal, Norway

MAS TESTERS

● Our Software and Support Centre (SSC) for AXE Local Systems, covering the Nordic region, has the responsibility for the production and verification of new or modified systems and the development of the means for network implementation. The processes used are SWPV, ASM, and ASR.

We are looking for persons for MAS Testing and MAS Maintenance willing to work on contract in Norway for 1 to 2 years.

We are offering you: Challenging tasks. Excellent opportunities for personal development.

Qualifications: Minimum 3 years of experience in function testing or AS Verification. B.Sc. or equivalent. Good spoken and written English. Knowledge in Norwegian is appreciated.

Contact: Roar Walderhaug SSC manager, phone +47 37 05 15 99, MEMO: ETO.ETORW

Ericsson Telecomunicazioni, Roma, Italy

PRODUCT MANAGEMENT AXE - EXPORT MARKETS RESPONSIBLE

● His task and responsibility are to agree with the export customers the functional content and delivery dates of the AXE application system. For this activity he has a support of four competence teams common for all the operators (Italy and export).

Required skill:

- He should have a good knowledge of AXE, 3-5 years of experience (at least 2 in ERICSSON), a very good knowledge of English. Some knowledge of French and Spanish is appreciated.

- Good experience of marketing activities.

- Good experience of work with requirement specifications.

- Good experience of several cultures and basic experience of working abroad.

- Good knowledge of Ericsson current and planned product portfolio and its rationale within relevant areas.

Location: TEI Rome, Italy

PRODUCT MANAGEMENT AXE - COMPETENCE TEAM "SERVICES"

● His task and responsibility are to follow international standards and in cooperation with the customer

responsibles define with the customers and the product units in ERICSSON the functions to be implemented in AXE.

The team will be formed by 3-4 product managers and will address the following product units in public networks: Residential services. Signalling. Charging. Network element Management.

Required skill:

- He should have 2-4 years of experience, a good knowledge of English.

- Some technical knowledge on the above indicated areas is appreciated.

- Basic experience of work with standardisation and regulation.

- Good knowledge of the telecom network, its components and principles.

- Basic knowledge of Ericsson current and planned product portfolio and its rationale within relevant areas.

- Good skills in writing requirements specifications.

Location: TEI Rome, Italy

PRODUCT MANAGEMENT AXE

- COMPETENCE TEAM "NETWORK"

● His task and responsibility are to follow international standards and in cooperation with the customer responsibles define with the customers and the product units in ERICSSON the functions to be implemented in AXE.

The team will be formed by 3-4 product managers and will address the following product units in public networks: Intelligent Networks. Business Comm. System/Platform Management.

Required skill:

- He should have 2-4 years of experience, a good knowledge of English.

- Some technical knowledge on the above indicated areas is appreciated.

- Basic experience of work with standardisation and regulation.

- Good knowledge of the telecom network, its components and principles.

- Basic knowledge of Ericsson current and planned product portfolio and its rationale within relevant areas.

- Good skills in writing requirement specifications.

Location: TEI Rome, Italy

PRODUCT MANAGEMENT AXE

- COMPETENCE TEAM "PRODUCTS"

● His task and responsibility is to define the products (HW and SW) of the application systems AXE, for all the customers (Italy and Export). He should handle the Product substitution Plans and the Product Forecast for HW. For SW he should be responsible to define MAS using PLGAS and other traditional Application System Handling methods. The team will be formed by 3-4 product managers.

Required skill:

- He should have 1-3 years of experience, a good knowledge of English.

- Some technical knowledge of product handling in ERICSSON is appreciated.

- Basic international experience.

- Basic knowledge of applicable Ericsson systems and products.

- Basic ability to complete assigned tasks in time.

Locations: TEI Rome, Italy

Contact: Maurizio Montani (Human Resources and Organization) EITA.TEIMAMO

Ericsson Ltd, UK - Warrington

REGIONAL RESOURCE CENTRE

ETL (with LMD) has been nominated as the Regional Resource Centre for BM Product, Market Application System Verification activities. The unit will be based at Daten Park, Warrington, North West of England (near Manchester).

The unit will be responsible for the Production, Verification and delivery of worldwide Transgate Market Application Systems to customers of Ericsson Regional Marketing Units.

PROGRAM PRODUCTION ENGINEER

The Program Production Engineer will be responsible for all activities associated with AXE Application System Assembly, AS Modification and Build Handling. A key responsibility will be to share knowledge and competence with the System Test Engineers.

The Program Production Engineer should have at least 2 years experience in a similar role working with GAS/MAS products.

SYSTEM TEST ENGINEERS x 2

The System Test Engineer will be a key member of a team which participates in all phases of AXE Application System Verification (ASV) and replacement (ASR) activities, ensuring that the MAS product meets the customers' specifications.

The Testers should have at least 2/3 years in AXE10 and Testing environment.

Contact not later than 970502: Nigel Bramall, +44 1925 883054, ETL.ETLNLBL

contact

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

New cooling technique simplifies

Lighter, quieter, cheaper. The Cooling Center at Ericsson Radio Systems in Kista, Stockholm, has developed a new cooling technique that permits the construction of considerably more compact outdoor base stations. The

first prototype is now ready for the AMPS system.

he weight, the volume and the cost of radio base station hardware can now be made two to four times less expensive," says Björn Gudmundsson, manager of the cooling center.

Björn's Magazine

The method, known as "Björn's Magazine" (also the name of a popular Swedish TV program for children - transl.), was developed in 1991. A patent was applied for in 1994.

"We have found a suitable application in the AMPS, and the RBS 884, which is based on a simpler mechanical design. However, the principle can be used for basically all types of base stations," Björn Gudmundsson asserts.

Many cooling techniques

A radio base station has to have a cooling system to eliminate the heat that is released from, primarily, the broadcasting component. Outdoor base stations, which are becoming increasingly common, are basically indoor base stations encased in cupboards or other containers for protection against the sun, the cold and the damp. They are usually cooled by any of various systems combining heat exchange and cooling.

"Some models use filtration of outdoor air as a cooling system. It's always a gamble, however," Björn Gudmundsson claims. "Exhaust fumes, dirt



and dampness in the air don't disappear. Consequently, the design is unreliable in terms of corrosion resistance."

"The disadvantage of encasing cooling systems in sealed containers is that it's expensive. The containers aren't always airtight either, and outdoor air seeps in regardless."

The prototype of the RBS 884 micro-base station weighs 80 kilos, contains up to 150 liters and has a capacity of 400 Watts.

"We've recycled the units and the wiring side of the micro-base, basically in toto. We've added some hardware details and constructed two airflows in one and the same base station," project manager Carl Tullstedt relates.

Outdoor air

With the new cooling method, the radio units are cooled with outdoor air, without the air coming into direct contact with the actual electronics. The radio units are already sealed as it is, to prevent radiation leakage.

"The unprotected units are in turn enclosed in a separate compartment with its own circulation flow, where the temperature is steered by heat exchange," Carl Tullstedt explains. Eventually, probably all units will be encapsulated. Then, only one air flow will be needed."

Better back-up

Not only does the new cooling technique make the radio base station lighter, smaller and cheaper, it also

Thanks to a new cooling method, the size of outdoor radio base stations can be greatly reduced. Here, Carl Tullstedt, Björn Gudmundsson and Anders Lindström show off the prototype of the new RBS 884 that has been developed at the cooling center in Kista, Stockholm. The larger base-station model behind them operates with ordinary cooling. Currently, the radio equipment is not intended for the same purposes. However, with a few small alterations, the prototype can be made exactly the same.

represents an improvement in terms of back-up facilities.

"In many currently operating outdoor base stations, a third of the power supply is used to operate the cooling system. The new cooling device requires considerably less power, so that if something should happen, battery operation can last longer," says Carl Tullstedt.

Anders Lindström, in charge of hardware design for the new cooling technique, estimates that tools for the production of the new micro-base model should be available in about a year.

The technique has caught on in other parts of Ericsson, too. A radio base station based on the same basic principle as that of "Björn's Magazine" is being built at Research Triangle Park in Raleigh, North Carolina, U.S.

NILS SUNDSTRÖM

end line

Sprintime in Vegerbol

Last year was characterized by a sense of history here at Ericsson. It was the year we celebrated the 150th anniversary of Lars Magnus Ericsson's birth, it was 70 years since his death and Ericsson's 120th Jubilee. A few days ago, I finally had the chance to experience the countryside and simple home where Lars Magnus was born. I visited Minnesgården (Memory Farm), with a capital M, Lars Magnus Ericsson's family farm in Värmskog, not far from Karlstad in western Sweden.

Nowadays, we refer to this type of rural area as a "sparsely populated" region, often supported by Government aid, but the Province of Värmland was a rather successful business and agricultural area in the 1800s. Even then, however, some were left in the wake of other people's success.

The Vegerbol Home, a few kilometers from Värmskog's Church, was not a poverty stricken area when Lars Magnus Ericsson was born. After a few years, however, the family consisted of 12 children. His father died and, by custom in those days, his oldest brother assumed responsibility for providing for the family. Lars Magnus became a mine worker, a strenuous job for many years, while his brothers and sisters grew up. At the age of 30, Ericsson was finally able to get out of mining, and he began his long journey toward success and fame. His journey began with a 350-kilometer walk to Stockholm!

All this information is presented in detail at Vegerbol. Minnesgården is open from June 15 to August 15.

What impressed me most about Lars Magnus Ericsson from Vegerbol and his achievements in life was the fact that it took less than 20 years from the time he left Värmland until his company was an international leader in the new and very exciting telecommunications industry. Just imagine the excitement that characterized the prime of his life. Creativity abounded in a society captivated by the industrial revolution as the future was built.

We talk today about the dynamic nature of telecommunications, believing that development has never progressed at the same speed, but we measure everything with modern-day yardsticks. I am convinced that Lars Magnus and his colleagues must have felt the same "urgency" when they developed their first telephones.

Lars Magnus Ericsson understood the need to concentrate on the type of products the market demanded in his day. And he recognized the importance of a strong international base for his business operations.

Technical development and international presence were cornerstones of the Company from the very beginning. To this day, Lars Magnus Ericsson's recipe for business success guarantees a prosperous venture.



LARS-GÖRAN HEDIN