

## Scramble for contracts

Following the suspense surrounding the awarding of Sweden's 3G licenses, a tough struggle over supplier contracts is expected to ensue for the four UMTS networks. Investments could run the neighborhood of USD 10 billion. **4**

## Installers create films

A team of installers at the WCDMA unit have taken over production of the unit's training films. In a future scenario, base station installers will be able to receive these training films directly into their handhelds. **21**

## Design for Japan

Ericsson and operator NTT DoCoMo have jointly launched their first i-mode phone for the Japanese market. The phone is designed for individualists. **6**

# contact



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His cellphone and computer are important tools for horse breeder Ron Kelso of Texas. He buys and sells Quarter horses over the Internet.

Photo: Ecke Küller

## Reins in horses on cellphone

Texas rancher Ron Kelso is different from a majority of the 143 million Americans who use the Internet. He earns a living using the Internet and his cellphone to trade horses.

In December, the first 3G auctions got underway in the US. For Ron Kelso, the construction of a 3G network will mean much faster and more secure horse trading. **Spotlight On, 14-17**

## New phones upgradable

Ericsson is developing mobile phones that can be upgraded in order to handle new and more advanced services than the ones existing now.

A collaboration with software company Tivoli will result in new smart phones for the GPRS and UMTS systems.

Both companies are also working to establish a standard for upgrading. **4**

## First real test of 3G in UK

Equipment has now been delivered for the first field testing of a WCDMA radio network. The tests and installation work will be overseen by Ericsson's technicians in Guildford, in the UK.

Field testing is expected to continue throughout much of next year, of which an important part will involve testing terminals. **5**

### ■ FEATURE

Luleå in northern Sweden is on its way to becoming a mobile Internet test center. It is the home of eStreet, the world's first electronic shopping street. During the Christmas rush, Luleå residents have been able to receive Christmas gift suggestions via mobile phone. So far, eStreet has been a success. **10-11**

### ■ AT WORK

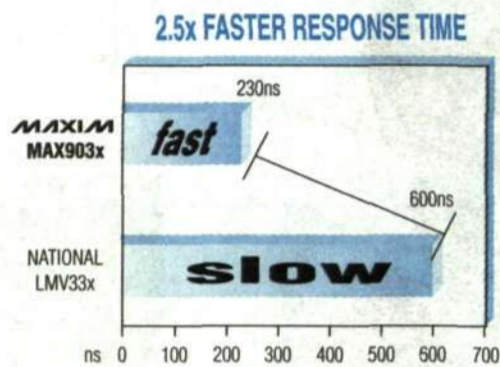
When the daycare center is closed, or the babysitter is sick, it sometimes becomes necessary to bring a child along to work. At Helene Stjernlöf's workplace, they are striving to make it easier for parents to do that. **22-23**

### ■ TECHNOLOGY

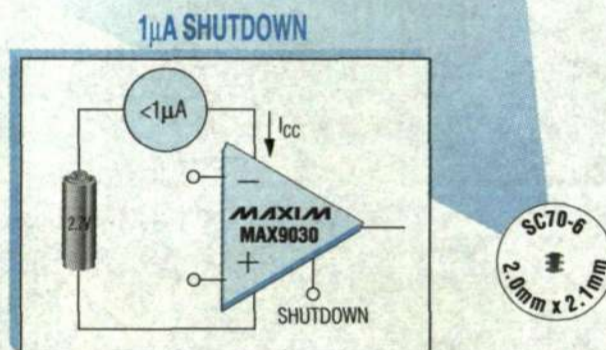
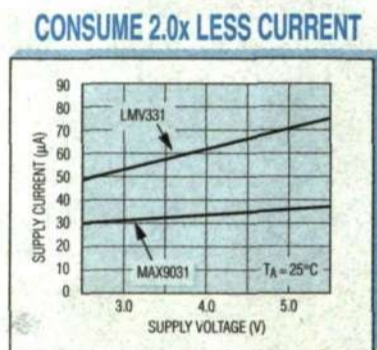
Dialog 3413 is Ericsson's new IP telephone for businesses. It supports, unlike its competitors, most switch functions, such as redialing and call-forwarding. These services can be implemented in the switch with the help of WAP. **19**

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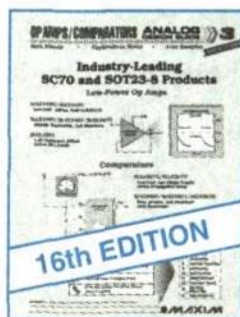
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# Ericsson well-equipped for next technology shift

► We have now reached the end of the first year of the new millennium. It has been a very exciting and challenging year, both for us at Ericsson and out in the world at large. Already during those first hesitant moments of the long-debated millennium shift, tension was at its peak, and just a few days ago, the most uncertain and exciting presidential election ever ended in the US.

Now, as we look forward to taking a few days off to enjoy the Christmas festivities, I want to emphasize that they are well deserved. We work in a constantly changing industry with rapid growth and a high rate of change. This is an exciting time, but it also places exacting demands and I know that every employee is working hard.

## Strong earnings

Our earnings for the first nine months of the year were strong. They were even more remarkable if you consider the losses sustained by our consumer products.

It is never fun to be forced to report losses, especially when they amount to millions of dollars. But we must remember that Ericsson needs its mobile phones to support sales on the systems side. Our successes in the areas of 3G and GPRS during the year stem largely from the fact that we can offer operators mobile phones which they, in turn, can offer to their customers when the new networks are put into operation.

That is why we all now must show our staying power and resolutely tackle the problems in this area of the company's operations. With that in mind, we started a program during the autumn – with which we have already made significant progress – to return profitability to the division as early as next year.

## Growing faster than the market

Over the past year, we have demonstrated that we plan to retain our position as one of the leading global telecom companies and be one of the driving forces behind third-generation mobile telephony. We have had the pleasure of announcing a large number of 3G contracts.

Sales within the mobile systems area have continued to increase at a remarkable pace. In fact, we are growing faster than the market as a whole and are, as a result, constantly increasing our market share. That is something we can all be proud of.

In order to prepare ourselves for the rapid expansion of 3G, we have stepped up our efforts to increase capacity. This is something that permeates the entire company.

Among other measures, we have opened a new plant for 3G production in Gävle, Sweden.



Kurt Hellström, President of Ericsson, looks to the future with new business areas being formed and existing ones being further developed.

And we have signed several contracts with construction companies in order to ensure the progress of the 3G build-out.

Furthermore, through our acquisition of Microwave Power Devices, we have improved our position when it comes to high-power amplifiers.

Finally, production at the plants in Kumla, Sweden and Lynchburg, USA, has been switched over from the manufacture of mobile phones to that of 3G equipment.

*We have received several major and strategically important contracts in this area as well.*

All of this puts Ericsson in a very strong position for the next technology shift.

The year 2000 has also involved significant market success and heartening positive earnings for our fixed telecommunications systems operations. Our ENGINE solu-

tion for migrating from circuit-switched telephone traffic to IP-based traffic is the established market leader. We have received several major and strategically important contracts in this area as well.

On the terminal side, where I mentioned that we have been struggling with financial problems, there has also been positive attention focused on Ericsson.

The new youth phone, the T20, which was launched in October, has been a hit both in newspaper reviews and among consumers. And the new World version of the R380 attracted hordes of visitors to our display at Comdex, a huge IT trade show in Las Vegas. It is a sign of the times when, at such a large computer trade show, we were one of the companies that attracted the most attention.

The USA Today newspaper even went so far as to claim that the Ericsson display was the most visited of all during the exhibition. That is also something we can all be happy about!

Another reliable sign that Ericsson is now a "hot" company on the data side as well is the important contacts that we established during the year with several major companies in the field.

It was for the purpose of expanding on the increasingly intertwined telecom and datacom services of the future that we initiated an intense collaboration with Microsoft, and started up the jointly-owned company, Ericsson Microsoft Mobile Venture. Already, the first product and customer contract has been presented. And we are constantly receiving proposals from other companies who wish to collaborate with us.

As a world leader in the field of mobile communications, we are a very desirable partner and, gratifyingly, an increasingly attractive employer.

In order to continue as such, we have initiated a new incentive program for all employees, with the option to buy shares at a favorable price. A new options program for employees in key positions is also being planned.

## Intense year ahead

I am convinced that next year will be just as intense as the one we will soon be putting behind us. We can expect both excitement and surprises. Among other things, we will see the first 3G systems put into operation in Japan. That is a major milestone that will be of great importance to all of us who work in the now intertwined telecom and datacom industries.

With these words, I wish to thank you all for your efforts and involvement during 2000. I wish you all a period of rest and relaxation with family and friends. That is something we all need, since the New Year will bring new challenges requiring renewed strength.

Merry Christmas and a Happy New Year!

Kurt Hellström

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## DID YOU KNOW THAT...

...that today's roughly 100 million European e-commerce links are expected to increase to 550 million by 2005.

Of these, roughly 350 million links will be accessible via mobile Internet.



## Telenor chooses Ericsson for 3G

» The Norwegian operator, Telenor Mobil, has chosen Ericsson as their main 3G supplier. Telenor is the first operator in Norway to announce its UMTS vendor selection. The company has a leading position in the Norwegian market with a market share of about 70 percent and approximately 2.2 million subscribers. In addition to UMTS infrastructure, the agreement covers areas such as terminals and applications.

The contract is scheduled to run until December 31, 2004.

## Profitable trend in networks

» Ericsson has been contracted to manage the operations of a TDMA network owned by Telecom New Zealand. Ericsson manages the networks of more than 20 telecom operators in all parts of the world, but the contract in New Zealand marks the first time Ericsson will assume operating responsibility for an existing network.

"This takeover reflects a growing trend that offers very substantial business opportunities," says Ingvar Larsson, head of Telecom Management and Professional Services within the Global Services Division.

## Ericsson invests in media company

» Ericsson has acquired a 15 percent share of the media and technology company Popwire. The investment will help Popwire develop technology, products and other solutions for television and radio entertainment to be transmitted over broadband and wireless networks such as GPRS and 3G. At Ericsson Business Innovation, which is behind the investment, they believe that entertainment will become one of the primary application areas for mobile Internet users.

## Division forms new company

» Effective January 1, 2001, large portions of Ericsson's operations within the Internet Applications and Solutions Division will form a new company. The name of the new company is Internet Applications and Solutions AB and will employ 1,450 people. Currently the division has approximately 4,000 employees working in 20 countries.

## Egypt gets faster Internet service

» Ericsson will deliver a turnkey multi-service network to the operator Telecom Egypt. By purchasing the multi-service access platform Tigris, Egypt's telephone network will convert from being a circuit-switched one to a network that handles packet data. Tigris makes it possible for Telecom Egypt to communicate directly with the Internet, without going through other networks.

## Correct number

As was mentioned in the previous issue of Contact, in countries that include Sweden, Denmark and the Netherlands, Ericsson is switching its emergency assistance company. The correct telephone number is +44 (0) 20 8762 8116.

# Final sprint for 3G contracts in Sweden

**The Swedish National Post and Telecom Agency recently unveiled the four winners of the Swedish 3G licenses. Following the decision, the bidding contest for supplier contracts will now begin. All contestants want to beat Ericsson at its home market.**

"We've been in contact with the ten candidates over the past year and we of course congratulate those who received licenses and commiserate with those who didn't," says Ola Elmeland, Vice President Marketing at Ericsson Sweden.

The winning operators are Tele2, Orange, Europolitan and HI3G.

The fact that Sweden's largest operator Telia was not among the winners was a surprise to many, particularly to Telia itself which plans to appeal the decision.

### High expectations

During the next phase, operators will be selecting suppliers for their networks. It is unclear how large their investments will be, depending on whether or not some operators collaborate in the construction of portions of the networks.



Nils Gunnar Billinger, Director General of the National Post and Telecom Agency announced the winners of Sweden's 3G licenses.

Photo: Bertil Ericsson/Pressens Bild

Swedish media has, however, speculated about several billions dollars.

"It is of great importance for us to receive contracts. Firstly, they involve a great deal of money, secondly this is our domestic market, and the expectations on us are high," says Ola Elmeland.

Ericsson already has a global general agreement with one of the operators, Orange, although it has yet to announce who its supplier will be in Sweden. Europolitan,

which has largely used Nokia in the past, has now, in a letter of intent, pointed out Ericsson as a second 3G supplier in Sweden. HI3G is partly owned by Investor, which has a major influence on Ericsson, but according to Elmeland there is no reason to assume a premature victory.

Several suppliers want to have a share of the pie and beating Ericsson in its home market would be something of a feather in their hat

which can be used as a reference elsewhere.

In that respect, the Swedish market will be one of the most important for such competitors as Nokia, Nortel and Motorola. These companies are keeping a low profile, however.

### Time to choose

But Ericsson also has the home field advantage. For one thing, it has the expertise within the company close at hand, and Ericsson also has close ties to the Swedish business community, which is important in an enormous project of this kind.

The winners are expected to make their decisions soon:

"We will be announcing which suppliers we have selected within the next few weeks," says Pontus Ekman of HI3G.

The frequencies for the 3G networks will be available starting January 1, 2002. By the end of 2003, operators should have completed the network build-out, which will then cover 99.98 percent of the Swedish population.

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## Soon possible to upgrade mobile phones

**In the future, mobile phone users will have the ability to upgrade their 3G telephones. A joint venture between Ericsson and IBM-owned software company Tivoli, aims to have the new products out by the end of next year.**

"This will ensure that mobile Internet reaches a broader audience," says Jan Ahrenbring, of the Consumer Products division.

Mobile terminals for the GPRS and UMTS systems will be able to receive information either through a PC connection or via a radio signal to upgrade in order to handle new services and applications. The software that makes upgrading possible resides on the servers of the mobile operator.

### Increased access

Users will also have direct access to services and applications, without having to configure their phones themselves – one aspect of WAP phones that has encumbered current users. They will also have the option of getting support from a helpdesk.

Jan Ahrenbring likens the new system with those systems that exist for PC upgrades of programs such as virus protection. He emphasizes that this is not something

that is being forced on customers. Customers will determine themselves when they want to make upgrades and what they want to download from operators.

### Focusing on a standard

"Another one of our goals is to establish a standard that hopefully many others will adopt."

The timeframe for all of this has yet to be determined, but the company will present a proposal during the first half of 2001. The company's goal is to work together with other leading players in the market.

Upgradability opens up new opportunities for both operators and service providers to start developing exciting, income-generating services.

The collaboration is expected to result in several products with broad functionality, leading to higher sales volumes.

Telephones are also lifestyle products whose sales are based largely on design, so there will continue to be demand for the launch of new models.

Ericsson is the first manufacturer in the world to reach this kind of an agreement.

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## North and Latin America become big GSM markets

**AT&T's decision to choose GSM as its path towards WCDMA is a very positive one for Ericsson.**

"It opens up a larger, overall market. At the same time, it will also mean that other GSM suppliers will be entering the market, resulting in fierce competition," says Bo Bergström, head of the GSM, TDMA, EDGE Systems business unit.

Like AT&T, virtually all TDMA operators will be likely to choose GSM, GPRS and EDGE with the ultimate goal being WCDMA.

The decision means that a GSM network will be built up alongside of the existing TDMA network.

### New voice services

"At the same time, we will continue to develop TDMA and add new voice services," says Bo Bergström.

He predicts that operators will use TDMA networks for voice and the GSM network for new data services.

"Ericsson has a very strong position when it comes to GSM. The fact that we also have very good

relationships with many TDMA operators means there are favorable opportunities for the future. In Latin America, we're in the process of negotiating in several countries," says Bo Bergström, and adds that even certain markets in Asia could be of interest.

Just this past autumn, a major organizational change was implemented. The business units formerly known as TDMA Systems and GSM Systems merged and a special business unit for WCDMA and PDC was formed.

### 2G paves way for 3G

"As a result, we currently have a very strong organization that we will be able to utilize in order to win market share in TDMA markets," says Bo Bergström. At the same time, he emphasizes that the traditional GSM markets continue to experience strong growth and are very important to Ericsson.

"It is the company's successes within 2G that are enabling the major investment in 3G."

In Western Europe, markets are cooling off slightly, while the Asian markets continue to grow and Central Europe is an area with many new deals in the works.

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# UK starts field-testing 3G

On December 1, a very important delivery was received at Ericsson's offices in Guildford, UK, from Ericsson Radio Systems in Kista. The delivery contained radio equipment for Ericsson's field tests of a WCDMA radio network. The UK tests will continue during most of next year.

"This is an important milestone for us and for the commercial launch of Ericsson's first 3G system, which will take place in Japan during the second half of 2001," says Gunnar Järnberg, who is head project manager for the radio network in the commercial 3G system.

This is a very large project for the Wideband Radio Network (WRN) product unit at the Mobile Systems division, which started in the spring of 1999 under the name of Victoria.

## Out of the lab

Johan Frisk, who is the customer project manager, relates that the system has previously been tested in a laboratory environment and that live testing is now essential. The core network will be delivered at the same time as the radio network, but all eyes will be on the radio network, since it consists of completely new technology.

An important part of the field tests will be to verify performance characteristics in a live network and to test terminals from both Ericsson and other manufacturers. This has previously only been done in a laboratory environment. The equipment now being delivered will be installed by Ericsson personnel in Guildford. The field tests will continue throughout most of next year.



Gunnar Järnberg, Johan Frisk and Mark Greenwell are pictured receiving radio equipment for Ericsson's field-testing of a WCDMA radio network in the UK.  
Photo: Laurent Briant, Vivid

"The first delivery consisted of three base stations and a Radio Network Controller (RNC). The system will gradually be expanded into a larger network," relates Johan Frisk.

During the spring, the test network will not only be deployed but also upgraded by successively adding new functions.

## New tool box

"In planning the radio network, we have used a new tool box called TRAM (Tools for Radio Access Management)," says Gunnar Järnberg, adding that TRAM consists of two Unix-based tools, one for cell

planning and one for transport network planning for WCDMA systems.

## Important learning period

"The first shipments arrived on time and we're now working to expand the system, a task that will continue until the end of March," says Mark Greenwell, project manager in Guildford, England. Technicians from Guildford are conducting the installation work.

"An important period of learning for both our technicians and employees of the WRN product unit in Kista is now beginning. In this case,

you can really talk about receiving 'on the job training'.

"We've already started building up expertise by locating a dozen of our people at the WRN and Core Network product units – both in Kista, Sweden, and in Aachen, Germany – over the past eight months to gain expertise and be part of the development projects. We are also starting up a training program here in the UK in order to meet the demand for more widespread knowledge about 3G," Mark Greenwell concludes.

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# Big seller reaches the US market

Ericsson's Chatboard, which has been a very successful product worldwide, will now also be available in the American marketplace.

Chatboard for the GSM standard, was originally introduced in stores in autumn 1999, and three million units have been sold to date.

This success has prompted Ericsson Consumer Products to offer a version of Chatboard for mobile phone users in the US.

"Now that network operators in the US are supporting SMS, we

have launched a TDMA Chatboard for the American market," says Ulf Persson, head of marketing and sales for Accessories at Ericsson Consumer Products.

Just in time for the Christmas shopping season, American consumers are getting acquainted with Chatboard, one of several communications products



Ericsson's Chatboard is a big seller that will now also be available in the US market.

that was developed especially to attract young people.

Chatboard is connected to an ordinary Ericsson mobile phone and, in conjunction with the site [www.chat.com](http://www.chat.com),

provides support for sending e-mail with attachments.

The tiny keyboard also includes

special keys to send SMS messages and make changes in the phone's address book.

Two other youth-oriented products, the FM radio and mp3 player, are also both selling well.

The first version of the FM radio, which was introduced about a year ago, has already sold half a million units. Over 50,000 units of the mp3 player, which was launched in conjunction with the MTV gala in November, have been sold.

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# First product from Ericsson Microsoft Mobile Venture

Norway's NetCom will buy the first product from Ericsson Microsoft Mobile Venture.

The Moso solution will enable NetCom's employees to have secure access to e-mail, calendars and other personal planning tools.

All employees within a project group will also be able to work with

the same document in mobile mode.

"NetCom has a clear picture of the possibilities that exist within mobile Internet and it is a perfect partner in the efforts to work this huge, growing market," says Ulf Avrin, President of Ericsson Microsoft Mobile Venture.

The agreement with NetCom includes tools for the rapid intro-

duction of Moso in the company's organization, support services and continuous upgrades of the scalable solution.

Moso integrates Ericsson's mobile Internet technology with the Microsoft Windows 2000 Server and the platform from Microsoft Exchange 2000.

The solution can be applied in both second- and third-generation

networks and can be used in various mobile terminals.

The launch is scheduled for the first half of 2001.

Ericsson Microsoft Mobile Venture is based in Stockholm and the company is planning regional offices in the US and Europe.

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## Swisscom buys 3G equipment

Swisscom Mobile has selected Ericsson to be its 3G network supplier.

The contract, which will apply over several years includes a complete system, including both equipment and the requisite services. Swisscom Mobile received its UMTS license on December 6, which is valid starting January 1, 2002.

Swisscom Mobile and Ericsson will begin field testing late next year and will put the network into commercial operation in 2002. Initially, 3G services will be launched in the country's larger cities.

## Global helpdesk receives award

Ericsson Global IT Services' helpdesk, Worldwide Integrated Helpdesk Gold (WIH Gold), has been recognized as a world leader in IT innovation by Remedy. The software company grants awards to companies that have utilized its software in a creative and interesting manner.

A jury selected WIH Gold out of 70 candidates. Remedy motivated its choice by recognizing the fact that WIH Gold has turned Ericsson into a more efficient, flexible and competitive company.

## Frånberg to lead IT body for EU

In a ceremony in Paris last week, Östen Frånberg of Corporate Technology, was named Chairman of the Internet Society Europe (ISOC-EU).

ISOC-EU is a cooperative organization that works to promote Internet issues in the country that currently holds the presidency of the EU Council of Ministers, which Sweden will hold for the six-month period beginning January 1.

Östen Frånberg, who has been involved with the Internet at Ericsson since 1988, will focus primarily on increasing collaboration and an exchange of knowledge between ISOC organizations in various countries.

## Jamaican operator orders GSM

Ericsson will supply a GSM 900 network to Jamaica. Mobile phone operator Mossel has ordered a network that will cover the entire country in a contract worth approximately USD 50 million.

Mossel, a new operator, received a license last February for both a 900 and 1900 MHz GSM network. The company has future plans to install a GSM 1900 network in Jamaica. To date, Ericsson has supplied over 150 GSM networks worldwide.

## WAP-payments tested in store

Ericsson and ICA Ahold, the leading Nordic retailing group, have held the world's first trials with Bluetooth wireless technology. Using mobile phones with WAP and Bluetooth technologies, customers have been able to pay for goods, check their accounts and receive current offerings.

The trial was conducted at an ICA store in Täby, outside of Stockholm.

The purpose is to test payment-related services and Bluetooth technology for communication in a retail store environment.

# Swedish design a hit in Japanese market

During the recent Asia Telecom 2000 trade show in Hong Kong, Ericsson and the Japanese telecom operator NTT DoCoMo jointly launched their first i-mode telephone in Japan.

The new ER209i is a bilingual telephone with both Japanese and English text.

The mobile Internet is growing rapidly in Japan. At the end of November, NTT DoCoMo's i-mode was serving more than 15.2 million subscribers.

Launched in February 1999, the i-mode technology was developed to support packet data transmissions via PDC, Japan's equivalent of the GSM system.

Games and entertainment dominate services now available via i-mode.

## Small and light

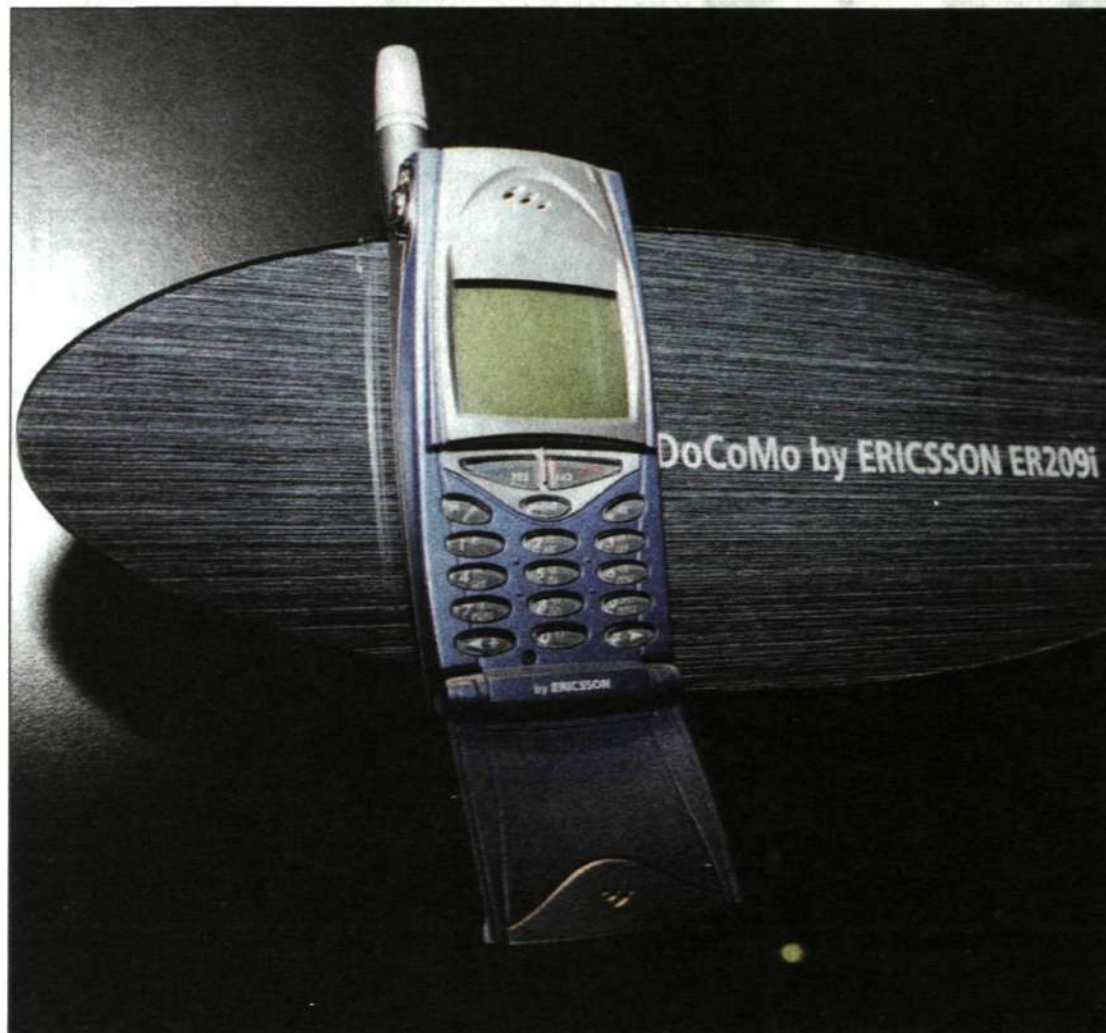
The extremely lightweight ER209i will be launched throughout the entire Japanese market.

The telephone weighs only 77 grams and offers calling times of 130 minutes and up to 310 hours of standby time.

With the ER209i, users can access the Internet, e-mail, e-commerce, games, bank services, restaurant information, maps, news and weather forecasts.

## Special adaptations

"With its Swedish design, the ER209i is extremely different from other mobile telephones sold in Japan, and the product has targeted a specific group of customers between the ages of 25 and 35. These people



An elegant and distinguished style of its own. With the new ER209i now on the market, hopes are high that Japanese i-mode customers will choose an Ericsson telephone.

Photo: Lars Åström

are characterized as individualists, people who want to be different, distinguishing themselves from the masses, and preferably using an exclusively designed mobile phone," says Sören Just-Pedersen, marketing

manager for Ericsson's mobile telephones in Japan.

In parallel with the market launch of ER209i, Ericsson is establishing an official i-mode web site in Japan. It features information about different

Ericsson products, and regular users will probably consist of loyal Ericsson fans in the Japanese market.

**Gunilla Tamm**

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## GSM order from Yugoslavia

Ericsson recently received a large GSM order valued at USD 300 million.

Mobtel, the leading mobile network operator in Yugoslavia, placed the order to expand and upgrade equipment for its GSM network.

Ericsson will expand the capacity of Mobtel's network, enabling the Yugoslavian operator to more than double its present subscriber capacity. The contract also includes installations of GPRS services, invoicing systems and the introduction of WAP services. Deliveries will begin as soon as possible and are scheduled for completion with 18 months.

"As a result of this contract, Mobtel will be fully equipped to meet the sharp increase anticipated in future mobile subscribers in Yugoslavia," says Sreten Karic, general director of Mobtel.

Jan Hultgren, President of Ericsson in Yugoslavia, says the contract also carries considerable value for Ericsson's overall operations in the Yugoslavian market.

"Ericsson will strengthen its position as Mobtel's sole supplier of GSM and mobile Internet equipment and applications.

"Naturally, this order is extremely gratifying and shows signs of a bright future for Ericsson's business operations in Yugoslavia, which have suffered through difficult times due to country's situation during recent years," says Jan Hultgren



Jan Hultgren

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## 4G research sponsorship

Ericsson will contribute USD 12 million to the California Institute for Telecommunications and Information Technology Cal-(IT)<sup>2</sup>.

This to support studies of the CDMA evolution to fourth-generation (4G) mobile systems.

Ericsson's sponsorship will be provided in parallel with funding from the State of California, which is contributing USD 100 million to a research fund at Cal-(IT)<sup>2</sup>.

"Ericsson has a long history in leading research and development efforts within the telecommunications industry. We believe that invest-

ments in development programs such as this will have significant global impact on the industry and the evolution of communications," says Åke Persson, President of Ericsson Wireless Communications Inc. in San Diego.

Areas of joint research activities targeted by Ericsson and Cal-(IT)<sup>2</sup> include CDMA wireless access technology, advanced antenna systems, the next generation of mobile Internet and "Quality of Service," a concept that guarantees quality services for end-users.

"These are important research areas for the future of mobile communications. Ericsson's sponsorship of research at Cal-(IT)<sup>2</sup> underlines our commitment to expand research activities in the San Diego region," says Håkan Eriksson, head of Ericsson Corporate Research.



Åke Persson

**Gunilla Tamm**



Lars Wellner and Andreas Holmsten work with a laboratory version of the HiperLAN2 terminal.

Photo: Anna Rehnberg

## First prototype for high-speed Wireless LAN

Ericsson is the first company in the world to successfully demonstrate a functional prototype for HiperLAN2, the next standard for wireless local networks.

The network can be used to supplement public networks in areas with extremely dense traffic, such as airports, and will eventually become an integral part of the mobile Internet.

The new standard will provide transmission speeds up to 54 megabits per second and operate in parallel with public networks.

WLAN, Wireless Local Area Network, was started as an attempt to provide complete mobile connection between portable computers at workplaces and existing local data networks, most often in the form of Ethernet with transmission speeds of 10 Mbit/s. A few years ago, IEEE established the WLAN standard for the 2.4 GHz-frequency band.

## Global reserves

HiperLAN2 is the next stage of development, and spectrum on the 5 GHz-frequency band has been reserved globally for the new standard. The technology will provide the same high capacity as fixed LANs and access to local networks for users in locations outside the workplace - with full security and authorization control.

HiperLAN2 is expected to function as more than a wireless Ethernet, also providing public and home networks access as well as personal broadband communications everywhere. Its high transmission speeds up to 54 Mbit/s will support several services, such as video streaming and multimedia.

## Energy efficient prototypes

With Automatic Frequency Planning, the new networks can also be placed in operation quickly.

As a member of the HiperLAN2 Global Forum, Ericsson has spearheaded development of the HiperLAN2 standard and has now become the first company to create energy- and cost-efficient prototypes based on integrated circuits developed in-house by the company.

Among other features, the company has designed PC Card adapters for laptops and Access Points that provide connections between wireless networks and the local Ethernet, while also controlling traffic and links between cells in the network.

**Lars Cederquist**

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# Patent prizes go to US and Germany

Ericsson's internal patent prize, Inventor of the Year, has been awarded this year to Rajaram Ramesh in the US and Heino Hameleers and Frank Hundscheidt in Germany.

All three winners have filed a large number of patent applications. Rajaram Ramesh, for example, has 23 patents and 45 patents pending in the US.

Rajaram Ramesh works at the Ericsson Research Center in Research Triangle Park.

Ericsson Research Center has an outstanding record in patent work, and at least one person from the unit has been named Inventor of the Year in five of the first six years the prize has been awarded.

## Mentor for colleagues

Rajaram Ramesh has no trouble meeting the two criteria for Inventor of the Year, which stipulate that candidates shall have filed a significant

number of patent applications over the previous two years, in addition to supporting and encouraging colleagues in their own patent work.

He has been extremely active, filing applications for 31 patents in 1998 and 1999, increasing his totals to 23 approved patents and 45 patents pending in the US.

He has also worked diligently to evaluate and protect patents, and contributed strongly to Ericsson's present position within IP, in addition to serving as a mentor for his colleagues.

## From 2G to 3G

Heino Hameleers and Frank Hundscheidt of Ericsson Eurolab in Aachen, Germany, have played major roles in the development of core networks for GSM and UMTS.

In the past, core networks took a back seat to radio in terms of patent activities, but the pace of development in the field has now picked up considerably.

One of their most important inventions was the development of a new architecture for core networks to support conversions from second generation to 3G mobile networks. They have also cooperated with each other and other employees at Ericsson Eurolab, and in various development groups, making valuable contributions to strengthening the spirit of original research.

## High patent levels

"Efforts to seek and win patents are extremely important to Ericsson," says Göran Nordlundh, who has managed the development of Ericsson's operations in Intellectual Property Rights (IPR) for the past several years.

"We average about 400 patent applications annually, which is an extremely high number. But that's also the approximate level we have to reach. Ericsson is respected today as a company with a heavy portfolio comprising a large number of exclu-



Inventors of the Year Heino Hameleers, Rajaram Ramesh and Frank Hundscheidt are thanked by Kurt Hellström for their important contributions to Ericsson's strong position in patents. Photo: Kjell Appelgren

sive patents within all main standards, with special emphasis on UMTS, and it's not easy for any competitor to challenge our patent strength."

It's difficult to estimate the value of a single patent. However, when a company has five or more patents in a specific area of technology, it is virtually unassailable. It is also a frequent occurrence that companies with strong patent portfolios exchange patent rights, rather than blocking each other's progress.

"Despite the fact that patent operations can be very expensive, and there is no way to prevent the development of standardized products, there are many other areas that remain vulnerable.

"We need a large basket of patents, therefore, to provide coverage protection for the complete range of Ericsson's operations," says Göran Nordlundh.

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# Improving patent management important

Ever since the GSM punch delivered by Motorola in the late 1980s, Ericsson has made enormous progress in terms of patent expertise and the number of patents it holds.

The company's patent operations are now being strengthened further through a more uniform and strategic approach.

In the late 1980s, Motorola went against the old tradition whereby standardized products were not patented, and then used its patents to block the GSM standard and force competing companies to buy licenses for the patent.

It sent a clear message to Ericsson to gradually improve the company's own patent operations.

The reorganization currently under way is designed to improve Ericsson's capacity to identify which patents the company will need in the future, create strategies covering all aspects of Ericsson's operations and develop greater resources in strategically critical areas.

The efficiency of patent activities will also be improved through increased process and interface harmonization.

## Better continuity

"We have created eight patent areas that are controlled by the business organization, but their areas of responsibility are defined by their respective fields of technology," says Tage Lövgren.

He has worked with patents for many years at Ericsson's research unit and recently assumed corporate responsibility for operational patent activities.

"We are trying to achieve greater



Patenting Management Team in the new patent organization. (L-r): Sten Hedberg, Microelectronics; Tage Lövgren, Corporate Technology; Gabi Möhler, Core Networks; Katarina Wendin, Service and Backbone Networks; Monica Magnusson, Radio Access; Anders Onshaga, Consumer Products; Kajsa Boestad, Internet Applications and Solutions; and Anders Molker, West. The manager of Research is missing from the picture.

Photo: Kurt Johansson

continuity and work in a longer-term perspective, without having to reorganize every time Ericsson restructures its business and product organization," he says.

"In the past, our organization was structured to meet the needs of Ericsson's business units, but that structure provided less than satisfactory efficiency, since most patents transcend the boundaries of a single business unit, and their lifetime extends over a long period of time—ten years or more."

The eight patent units are Radio Access, Core Networks, Consumer Products, Internet Applications and

Solutions, Service and Backbone Networks, Microelectronics, West (including military defense products and applications) and Research.

## Common strategies

Each patent unit has a head office and shares the resources of local patents units in several companies. The new organization will develop overall strategies that are sufficiently detailed to support applications in everyday operations.

"We all have to move in the same direction, guided by common or at least consistent strategies," says

Tage Lövgren. "That's a basic prerequisite for decentralizing patent activities to the local level."

Måns Ekelöf is responsible for development of a new, more sophisticated and more comprehensive IPR strategy for the entire sphere of Ericsson's operations.

Tage Lövgren is responsible for coordination of patent strategies developed by each patent unit to support the implementation of decisions on the company's overall strategy.

It's too early to say which will be the main areas of focus, but it seems clear that the organization will con-

cern itself with far more than just the total number of patents held by the company.

Quality and Time to File will be critical elements. There is virtually no merit in spearheading an invention unless you can also be the first company to file for patent protection.

Lars Cederquist

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

**Note:** The web site is now being revised to reflect the new organization.

## Telecom loans harder to get

It is becoming increasingly difficult for telecom companies to borrow money. According to a report in Swedish newspaper Dagens Industri, there is a growing gap between the interest rates that companies are paying compared with those that the government pays. According to the report, all telecom companies have been affected by rising interest rates, especially large operators.

Analysts blame these difficulties on license auctions for UMTS, for which telecom companies have received large loans from the bond market. The Bank of England has issued a warning, saying that the increased lending rate of banks is jeopardizing the stability of the financial system.

## New life for Iridium

The Iridium satellite phone project, which filed for bankruptcy, has been given new life. A group of investors has acquired the system for USD 25.4 million. The Iridium project was launched during the 1990s by Motorola, with the aim of making it possible for users to call from anywhere on the planet using a satellite phone. The project fell apart when mobile telephony proved to be much more inexpensive.



Gwyneth Paltrow  
Photo: Laurie Sparham/Pressens Bild

## Digital movie stars transmitted

Currently, movies are physically distributed to movie theaters around the world, a costly and time-consuming effort. Digital distribution of movies would save both time and money. Film distributor Miramax is currently experimenting with transmitting movies digitally via satellite.

It took Miramax eight hours to send the film *Bounce*, starring Ben Affleck and Gwyneth Paltrow, to a movie theater in New York.

The real problem is not bandwidth, however, but rather the cost of digital projectors, which can be up to USD 200,000.

## Pistol disguised in mobile phone

A pistol disguised as a mobile phone has shown up in Europe. The find was made at the end of October during a police raid in the Netherlands against a narcotics organization.

The small-caliber pistol can be loaded with four bullets. The barrel opening is located by the antenna and the pistol is fired by pushing the 8 and 5 keys.

# Show focused on "digital divide"

Telecom industry trade shows are showcases for a dominant industry that already has wind in its sails. Telecom Asia, recently held in Hong Kong, was no exception.

Of course, there are problems within the industry. Margins are shrinking in certain markets and segments, while investments in new generations of mobile networks are costly and difficult decisions need to be made regarding the choice of standards.

There are also concerns as to how this migration will be accomplished. Added to that is the problem of sluggish development of terminals and systems.

### Digital divide

At the same time, the so-called digital divide between developed and developing nations illustrates that there is an enormous need for telecommunications. This is especially true in Asia, where mobile phone penetration rates range from 0.19 percent in India to 63.61 percent in Hong Kong, according to figures issued by the trade show organizer, the International Telecommunication Union (ITU).

China is already ranked as the world's second-largest market, despite a penetration rate of just a few percent. The digital divide, in general, was one of the most popular topics at the show. This was due in part to the fact that the ITU is an organization whose mission it is to promote telecommunications on a global basis.

"Many believe that the digital divide simply refers to the number of Internet users, but the Internet is just one of many advanced technologies. And if you ask the man on the street what he needs, the answer is better telecommunications," said the General Secretary of the ITU, Yoshio Utsumi, at the opening press conference.

Trade shows are also a source of revenue for the ITU and participants grumble over how much it costs to participate. Nevertheless, the trade show is without question an increasingly important meeting place, especially in Asia where market potential is growing dramatically.

### WCDMA live from Kista

The importance of Telecom Asia was emphasized by the amount of activity at Ericsson's 500 square-meter large displays, where the flow of delegations with important customers and other visitors never seemed to end.

Kurt Hellström participated during a large portion of the week, as did regional manager Kjell Sörme and the new head of Ericsson in China, Jan Malm.

Ericsson employees demonstrated and explained numerous products in the displays including GSM Pro, I-Pulse, Jaldra and a host of consumer products.

"While visitors don't stay very long, they are quite interested," says Helena Bodvill, who was demonstrating the WISE mobile portal, which serves as a total solution for operators.

At Ericsson's main display, the main attraction was a live demonstration of WCDMA from Kista, generating a great deal of interest. Interest was further heightened as the standard recently received a major boost from NTT DoCoMo's plan to introduce WCDMA in the US, after having acquired a portion of AT&T Wireless.

Live demonstrations of various solutions including GPRS, Edge and WCDMA were presented at Ericsson's 3G pavilion. A number of applications for GPRS were also shown.

### Bluetooth tests

Examples of applications included a lottery and wireless chat, displayed inside comic strip bubbles on an ordinary website. The pages were displayed using an ordinary Web browser on a PC connected to Ericsson's new GPRS phone, the R520.

Visitors to the pavilion were also able to test a Bluetooth module for a Palm V handheld linked to an R520. In connection with the demonstration, the sessions of visitors testing out various applications were logged by a payment method from EHPT, a joint venture between Ericsson and Hewlett-Packard.

"There has been a great deal of interest in the ability to immediately see how one can charge for this kind of service," says Petra Lundmark, who markets the 3G pavilion. The general sentiment of the combined press core was that the trade show was boring.

Very little news was generated, although though Ericsson did demonstrate a new addition to its A-class family of phones, the A2628, and announced that Japan's NTT DoCoMo will be marketing one of Ericsson's phones that has been adapted for i-mode, the ER209i.

It also was apparent that Ericsson is poised to start shipping the Bluetooth-equipped headset that has been demonstrated at previous trade shows.

"They will be on their way to stores in December and will be available for consumers at the beginning of next year," says Philippe Kubbanga, Ericsson's consumer products marketing manager in the region.

This marked the first time that China hosted an ITU trade show. The rapid development of telecommunications in the world's most populous nation was a major focus of attention. One reason for this is the decision on infrastructure technology made by Chinese operator Unicom last year.

### New CDMA version

Through a CDMA licensing agreement, conditions are now favorable for using the version of CDMA that China has developed—TD-SCDMA or Time Division Synchronous Code Division Multiple Access—which is a parallel technology for use in very densely populated areas. Whether or not that will become a reality remains to be seen.

At another well-attended press conference, China's information industry minister, Wu Jichuan, ex-



The digital divide was something of a buzzword during the large telecom trade show in Hong Kong. There are enormous differences in the development of telecommunications between poor and wealthy regions. Otherwise, it was a fairly typical trade show on the whole for an industry that already has wind in its sails.

Photo: Lars Åström

plained that Chinese telecom companies will be allowed to own the intellectual rights to their technology. Unicom's selection solidifies China's ambition to manufacture as much of its infrastructure on Chinese soil as possible.

According to rumors at the trade show, the CDMA selection was also the result of ongoing negotiations pertaining to China's membership in the World Trade Organization (WTO).

Chinese mobile phone manufacturer ZTE launched its ZTE802 phone model last month. It is the only phone in the world that can

handle both the CDMA and GSM standards, using an interchangeable SIM card.

The new generation of wireless networks will result in the Internet world becoming increasingly mobile. It also means that the Internet Protocol (IP) standard will become increasingly important for the telecom industry. How will this migration occur? That was one of the questions posed by David Almström, strategic business manager for Ericsson in China, during a lecture at the trade show.

During his presentation, David Almström explained that although

## "divide"

# Users set standards for innovations

The Nordic countries are becoming a high-tech region while Japan remains the primary test market for new products. Ericsson ForeSight recently participated in a study on the future consumption patterns of families living in Japan, Silicon Valley in the US and the Nordic countries.

"Japan is, and will remain for years to come, the ultimate market for testing new technology."

The prediction comes from Marina Gorbis of the Institute For The Future (IFF), which conducted the study at the behest of, among others, Ericsson ForeSight.

Even if the Japanese high-tech industry is experiencing a slump, IFTF believes that the country will continue to exert an influence on global technology development over the next decade.

### Youth a driving force

"Young people in Japan are, without question, the world's foremost consumers of computer games and mobile phones. This has a great deal to do with the stance they have taken against the lifestyle of their parents' generation—to faithfully place one's life in the hands of a major corporation," says Marina Gorbis.

"Young people have become seekers looking for new lifestyles, and part of this 'social experiment' is to try out everything that feels new and fresh. If products do not live up to expectations, they are rejected as quickly as they were embraced."

The fact that Japan, Silicon Valley and the Nordic countries were selected as the basis for this study has to do with the fact that these three

regions have been very successful developers and advocates of modern technology over the past two decades.

"Every region is innovative in its own way. So far, the Americans have been the best at creating new technology, while the Nordic countries are good at getting consumers to use technology, and the Japanese have been phenomenal at developing and adapting existing technology," says Marina Gorbis.

### Nordic region a leader

The result of this is that consumers in the respective regions have their own ways of adopting and using technology.

According to the IFTF, the Nordic region is closing in on Silicon Valley's lead when it comes to creating new computer and mobile technology.

"The Nordic area is clearly the leading region when it comes to wireless data technology. Finland and Sweden are probably the best in the world at using the Internet, while IT knowledge within Nordic families is considerable," says Marina Gorbis.

On the other hand, residents of the Nordic countries, like Americans, are relatively staid when it comes to experimenting with new technology.

"The people we interviewed most often reacted along the lines of, 'I'm not very interested in new technology, now that I've just learned how to use what I have,'" says Marina Gorbis.

Similar lifestyle factors shared among the Nordic countries, along with economic development in the Baltic countries, Poland and in East Germany, indicate that a large consumer market for technology will be

developing in the region during the coming decade.

IFFT believes that Silicon Valley will retain its influence within the IT field for at least another two decades, due in large part to the traditions and expertise that is already in place today.

However, it is difficult to predict how much revolutionary new technology will be created in Silicon Valley during that time period.

When it comes to future data technology, many operators in the US are still wavering between investing in wireless technology or developing traditional fixed networks.

### Interviews and home visits

On the other hand, the IFTF has noticed a clear change in attitude among American families that could have significant consequences in coming years.

"An increasing number of Americans are putting family life before their work and want to have time to relax and socialize with their children and friends. As a result, it has become something of a status symbol to be unavailable during one's leisure time. Many people are simply choosing not to use or not even acquire a mobile phone."

IFFT's study, which was initiated in January of this year, is based on interviews with a large number of middle-class families from the respective regions.

Multiple visits were made in people's homes in order to obtain as accurate a picture as possible of the everyday habits and technology usage of all family members.

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# New operator will be second largest in the US

The joint venture between BellSouth Wireless and SBC Wireless is an attempt to solidify a foothold in the American wireless communications market. The new company, to be called Cingular Wireless, will create the second largest wireless operator in the US.

The American telecom market consists of several competing technologies, a fact that also applies to the wireless segment.

A market consolidation is currently underway and one sign of this is the formation of Cingular Wireless. Contact interviewed the new CEO of the company, Stephen Carter.

You have extensive interests outside the US as well. What has this world market been like as compared with your experiences in the US?

"From a broader global perspective, deregulation also has helped fuel our expansion into markets outside

the US. From our experience, we have learned that overseas wireless markets differ substantially from market to market—and certainly are different from the US. They also offer significant opportunities. The key is to understand the different factors that drive development of each market."

"In Europe, for example, where we have investments in eleven different countries, differences from the US market are significant. Penetration rates tend to be higher. A different wireless technology, GSM, predominates. And cultural and economic differences mean that regional rather than national market influences predominate.

Deregulation has also resulted in former telecom monopolies expanding. How does your company's goals compare with those of younger companies?

"Younger companies tend to put price over features to fill up their net-

work traffic as soon as possible. Older, more mature companies with a broad base of customers are focused more on value-added than pricing. We plan to enhance our value propositions to customers through a number of value-added services."

"One example is WAP, which we deployed in August using circuit-switched technology in California and Nevada, where Ericsson has been our primary infrastructure provider since 1995."

What is your strategy for alliances and partnerships going forward?

"We will pursue acquisitions and alliances that allow us to expand our national wireless network and increase our value proposition. International alliances will continue to be an important part of our wireless strategy, particularly in Europe," says Stephen Carter.

Howard Wen

Edited by Mats Lundström



Michiko Mori, who works with public relations at NTT DoCoMo in Tokyo, demonstrates a phone from the 503i series, which is capable of handling Java applications in i-mode.



# A center for future mobile tests

Norrbottnen in northern Sweden has long served as a testing ground for cars. Sweden's northernmost province offers car manufacturers ideal conditions for testing performance standards under frigid temperatures during long winters.

With a concept called eStreet, the world's first electronic shopping street, the Mäkitalo Research Center in Luleå is creating a test environment for companies working with mobile Internet development. Norrbotten and Luleå might also become the site for "mobile test operations."

eStreet was created by companies working in cooperation with Mäkitalo Research Center and retail merchants in Luleå. Local business and mobile telephone users have also been brought into the eStreet project.

Via WAP and SMS, Luleå residents are able to access information on everything from bus schedules to special offers by stores and restaurants.

All residents of Luleå interested in the project are free to access eStreet's website and volunteer their services as "test pilots." An eStreet office has been opened in the center of Luleå, providing easy access for people who want more information about the project and helpful shopping hints during the peak holiday shopping period. Customers are free to access whatever information they wish to receive on their mobile phones when they log-on to eStreet.

Tor Björn Minde and Karl-Henrik Fjellström are enjoying the first gingerbread cookies of the Christmas season at a table in the eStreet office in Luleå. They are representatives of Ericsoft, an Ericsson company situated in Luleå. In cooperation with personnel from Telia, Frontec, Teracom, the Luleå University of Technology and other interests, they were instrumental in establishing eStreet. They

describe the eStreet project as test operations that have left the laboratory and stepped out onto the street.

eStreet is primarily a cooperative project established to develop services and technologies for mobile applications. The concept was presented to retail merchants in Luleå last spring. Some skepticism characterized the initial reaction, but it was soon reversed into growing enthusiasm.

## Not only commercial information

The project team has carefully created a balance of mutual relations between the merchants and their customers.

"To maintain customer interest and enthusiasm, it's important to balance the volume of material they receive and present attractive offers," says Karl-Henrik Fjellström.

He also explains that customers can benefit from the new technology in several different ways.

"Everything does not have to be a special offer. Some information might also focus on community news, for example," he says.

"The city regards eStreet as an opportunity to establish Luleå as a center for this type of test operations," says Tor Björn Minde.

eStreet had been operating about one week when Contact visited Luleå. A large number of people have stopped to visit the eStreet office, and 1,400 of Luleå's total population of nearly 75,000 residents have volunteered to serve as test pilots.

They chose the types of information they want to receive from about a dozen companies involved in the project.

Later in December, R320 WAP telephones with prepaid subscriptions will be distributed to about 100 test pilots as a token of gratitude for willingness to help. When the test period ends early in the New Year, they will be asked to return the telephones. However, 10 persons

will also be selected as lucky winners of WAP telephones. The chance to win a new R320 has naturally contributed to the widespread interest to serve as test pilots.

During the spring, eStreet will enter a new phase of development with tests of positioning services designed to increase the targeting accuracy of mobile services.

It will be possible to access information about a store, for example, simply by driving or walking past the building. Efforts are also being made to develop 3G services tested in an environment for handheld computers equipped with radio modems.

Mäkitalo Research Center will also seize the opportunity to present its activities when Sweden, as Chairman nation of EU in year 2000, will host a conference of EU ministers in Luleå in February.

## Local connection attracts users

Before proceeding with the development of eStreet, however, it's important to gather and evaluate experiences and opinions from the initial test period. Bo-Göran Stenman of Telia Mobile has served as eStreet's project manager and is responsible for the evaluation.

"The 100 test pilots who were able to borrow telephones will be asked to complete a detailed questionnaire. We will also conduct personal interviews. All other participants will complete a simpler questionnaire as part of another reference group," explains Bo-Göran Stenman.

eStreet is already considered a success. Tor Björn Minde and Karl-Henrik Fjellström believe its success is attributable to the concept's smörgåsbord of services. It's difficult to create a single WAP-service that attracts the interest of all parties - diversity is the key.

"The services also have strong local connections, which also attract people's interest," says Tor Björn Minde.

Bo-Göran Stenman also believes the local 'touch' is a critical element, but he cites other reasons for the success of eStreet as well.

"I believe the most important factor has been that large corporations such as Telia, Ericsson and Frontec have actually listened to the customer. We have created consumer confidence and developed something in cooperation with them. The eStreet concept is focused



Matz Engman, who represents a company called isMobile, explains to Birgit and Peter Georgson how simple it is to become a test pilot. Peter Georgson is the director of Luleå Näringsliv AB, a company owned by the city and private industry. He says the telecom industry provides 25 percent of all new jobs created in Luleå, and Peter Georgson is also extremely happy that eStreet has made such a significant impact. Photo: Stig Eidegren

Jesper Mott  
jesper.mott@ime.ericsson.se

## Business is good on eStreet

SMS messages have a limited number of characters and simple graphics. By using well-established slogans in the special offers, customers are able to associate themselves with the source and connect immediately to the Brothers brand.

### Response has doubled

The first phase of the project has only completed its first few weeks, but Stefan Stålnacke believes these types of services could become a part of the Brothers chain's communication platform.

Exciting new opportunities will also be presented by the introduction of positioning services in the near future.

To derive maximum benefits from new mobile services, however, businessmen and women must exercise meticulous care in selections of material they send to customers.

"This is a new form of communications. It's important to formulate our messages to ensure ourselves that our customers actually read the offers. If we present ourselves and our intentions clearly, we know that 1,000 persons will read and seriously consider our offer in less than a minute."

Although the project was started only recently, Stefan Stålnacke believes it's a success.

"When I send large volumes of direct-mail advertising, the response is usually in the range of 2 percent, which means that 2 percent of all people who receive the mail actually come into the store and buy something. As far as I can see after two weekends with eStreet, the response rate in terms of sales is between 4 and 5 percent. That's double the conventional response rate."

Jesper Mott

## FACTS/MÄKITALO RESEARCH CENTER AND CDT

- Mäkitalo Research Center is a program of cooperation to support the development of mobile technology. The center is named in honor of Östen Mäkitalo, one of the men behind GSM and Telia's great visionary. He was also born and raised in Norrbotten.
- The center is part of a larger and more comprehensive cooperation Center established in 1995 to focus on CDT, and acronym for distance-shrinking technology. Cooperation partners include Telia, Ericsson, Frontec, Teracom and the Luleå University of Technology. The goal is to create a bridge between research and industry.

## Three test pilots speak out

Christoffer Nilsson, Luleå

### What is your opinion of eStreet?

- It's good. Especially now during the Christmas rush, it's been a big help.

### Which services did you choose?

- I don't have a WAP telephone, but I receive information via SMS. I chose every service except Pharmacy.

### Is this the future of shopping?

- It offers a simple and practical marketing tool. Especially when customers can choose which services they want.

Anders Larsson, Luleå

### What is your opinion of eStreet?

- I think it's good, but there might be too many offers. But you are free to choose and there are many good offers.

### Which services did you choose?

- I chose every service except one or two. I don't have WAP-services.

### Is this the future of shopping?

- Yes, I think so. Provided I can choose the information that is interesting to me.

Lina Axhammar, Luleå

### What is your opinion of eStreet?

- It's pretty good. If there's a sale on records, sweaters or other things, I might go buy some.

### Which services did you choose?

- I have almost all the services, so I get beeped constantly. Maybe I should drop a few.

### Is this the future of shopping?

- Yes, I think so. Everything is more IT-oriented nowadays.



Stefan Stålnacke manages the Brothers clothing store in Luleå. He is extremely pleased with the effects of eStreet's on his business, and believes in future development of mobile Internet services as a marketing platform.

## Business is good

Stefan Stålnacke is a franchise entrepreneur and manager of the Brothers clothing store in Luleå. He believes strongly in the mobile Internet as a powerful marketing tool.

Thanks to eStreet, he is able to offer the "right" products at the "right" time, generating a sharp increase in sales. Stefan Stålnacke has the look of satisfaction as he looks around his store on Storgatan in Luleå. Christmas sales are booming.

With eStreet providing a new avenue to customers, he is now able to make special offers and attract customers to his store whenever he wants. There is no good reason for special offers during the Christmas rush, when the store is already filled with customers. The secret lies in seizing opportunities when the rush subsides, thereby creating a steady stream of customers into the store.

"It's important to sell unique products at

sharply on research and development, and it's important that we do not punch holes in it with too many references to commercial considerations."

Personnel at the Mäkitalo Research Center believe firmly in Luleå's future as a center for mobile service tests and other IT-innovations.

Luleå has a contiguous city center and a uniform demographic structure. The city has also

unique prices for limited periods of time," Stefan Stålnacke says.

At 2:20 PM on Saturday, 1,400 test pilots are beeping via their mobile telephones. A message on the display screens asks: "Would you conduct salary negotiations without a tie? Long-sleeved t-shirts on sale for den dollars. Ordinary price: 29 dollars." A little later, customers start streaming into the store to buy t-shirts with long sleeves.

### Established slogans

"It's extremely critical for me to reach the right customers. My customers don't sit at the kitchen table in their homes and make purchase decisions based on newspapers ads. Brothers focuses primarily on a target group of men 20-45 years of age, a group also known as frequent users of mobile telephones."

Stefan Stålnacke's offers are based on newspaper and billboard marketing by Brothers.

# Worries ease with change

The goal of the Harvest project is to allow Ericsson to concentrate on its core operations. This means IT support in many areas will be outsourced to independent suppliers.

Just before Christmas 1999, employees at Ericsson Infotech in Karlstad found out that their IT support unit was to be sold to Compaq, a decision that caused a great deal of worry and misgiving.

► In order to convince employees, company management had to sit down and revise its strategy. A great deal of work was required in order to complete the project. In the end, what made the transition so straightforward was the fact that employees had been involved in the planning and decision-making process.

Contact recently spoke with some of the members of the support team.

"For us, it was essential that we were involved and able to make the decisions. We had to feel that we had looked at all the options and chosen the best," says Ingrid Eriksson.

December 1, the day that IT support at Ericsson Infotech in Karlstad was transferred into the control of Compaq, proved to be completely uneventful.

"The only difference so far is that the sign on our door now says Compaq and that on paper we are employed by them. Our work responsibilities are the same, as is our workplace. Most important, however, is the fact that we're able to focus on our work again," says Kjell Henriksson.

## Wanted to sell entire operation

Initially, the intent was to sell only 50 percent of the IT operation in Karlstad. But when the employees were given the opportunity to look things over, they came up with their own pro-

posal, preferring instead to divest the entire IT department.

"For us it was either all or nothing. We didn't believe in a solution where only part of the IT operation would be sold off. Instead, we wanted to go further than most and outsource the entire IT department. Now we're the first major research and development unit to outsource our entire operation to Compaq," says Gunnar Gruvberger.

## Eleven out of twelve choose Compaq

The twelve employees who worked at Ericsson Infotech's IT support unit had the option of either switching over to Compaq or, if they so chose, staying on with Ericsson. Only one person decided to stay at Ericsson and be reassigned to other duties; the others all went over to Compaq.

"We felt insecure with the option of staying at Ericsson, not knowing what kind of work responsibilities we would have. Now we know that we'll be working on the same things as before, but for a different employer," says Mats Persson.

Ericsson employees who transferred to Compaq were allowed to retain the seniority that they had acquired at Ericsson, meaning that some have been employed for longer than Compaq has been in existence. Their salaries also remained the same, but the employees



feel as though they have greater status with their new employer.

"At Ericsson we were actually the ones who cost money. This is a chance for us to come to a company where what we are doing is the core business operation. Ericsson is a telecom

company, where IT is considered a necessary evil. We've got more status at Compaq," says Gunnar Gruvberger.

Sara Morge  
sara.morge@ime.ericsson.se

Effective December 1, 2000, IT support workers at Ericsson Infotech in Karlstad became Compaq employees. Since the employees had been involved in the decision-making process, the transfer itself was uneventful. Pictured are Kjell Henriksson, Mats Persson, Gunnar Gruvberger and Ingrid Eriksson. Photo: Eicke Küller

# Ambiguity a dangerous pitfall

The Harvest project in Karlstad managed to turn setbacks into success and is now being seen as a good example of a successful process of change. It was far from painless, however. Failure loomed over the entire project since employees were initially not given adequate information.

► "We simply underestimated the effort that was required to implement this kind of change. It was only when we understood how incredibly complicated it was that things actually began working more smoothly," says Knut Evers, personnel manager and the leader of change at Ericsson Infotech in Karlstad.

## Misleading details

In Knut Evers' opinion, the first directive from company management was neither clear nor especially well thought-out.

This led to confusion and meant that employees were working on details without being

able to see things in their entirety. Initially, even management was not displaying much commitment.

"As dissatisfaction grew and employees became increasingly worried, we realized that this was something that had been presented in too hurried a manner, so we sat down to think things through. We tried to clarify for ourselves what it was we were really trying to accomplish. We had a chat with the employees and decided we are going to do this together."

► "We simply underestimated the effort that was required to implement this kind of change. It was only when we understood how incredibly complicated it was that things actually began working more smoothly," says Knut Evers, personnel manager and the leader of change at Ericsson Infotech in Karlstad.

## Extra resources

Since winning over employees and finding the best solution required quite a bit of rethinking, management in Karlstad decided to commit extra resources to finding a solution. Several people devoted a large portion of their work time over a six-month period to working on the process of change in various project groups.

"Altogether, it involved roughly one additional man-year. But without those extra re-

sources, we probably would not have succeeded," says Knut Evers.

The process of change was subsequently divided into three stages. Stage 1 involved clarifying and determining why Harvest should be implemented and what consequences it would have for the company and individual employees.

## "Follow plan of action"

"We wanted to clarify the fact that Harvest was not an IT project, but rather a business development project," explains Knut Evers.

Stage 2 involved answering the "how" questions. It was during this stage that Compaq got involved. Only at this point did the aims of the project really become clear. Compaq was enlisted to assist in developing a plan for the designated project groups on how a transfer of responsibility and personnel would take place. Stage 3 involved the actual transfer, when employees and responsibility would be transferred to Compaq.

"If you follow this kind of action plan and get it right from the start, the transfer becomes an easy task," concludes Knut Evers.

Sara Morge

## FACTS/TIPS FOR PROJECTS INVOLVING CHANGE

- Present clear, well-thought-out instructions.
- Clarify and define the key questions: Why, What and How?
- Have clear goals for the process of change and specify the prerequisites.
- Involve everyone affected – management, employees and end-users throughout the operation.
- Secure the support of personnel regarding decisions and let them be involved in the planning and decision-making process. Respect everyone involved.
- Management must be actively involved.
- Add extra resources that can be devoted solely to the process of change and take active responsibility.
- Expect that it will take time and view that time as an asset.
- Expect setbacks and be prepared to make changes.
- Inform and document. Information should be open, honest and accessible to everyone involved.

# Core operations should be prioritized

Ericsson should devote its time and resources to what it is good at – that is, telecom operations. There are other companies that are better equipped to provide first-class IT support. This is the basic theory behind the Harvest project.

► The goal of the Harvest project is to streamline Ericsson's IT support and reduce costs. Ericsson aims to focus on its core operations.

"This is a business initiative that will free up resources for us. The idea is that we will be able to concentrate on what we do best, while Compaq can do what it is good at," says Johan Ringstedt, project manager for Harvest in Sweden.



Johan Ringstedt

## Create a uniform IT standard

"Harvest will also help in the implementation of a uniform company-wide IT standard. In the final analysis, Harvest will provide improved IT support, although difficulties could be experienced in the beginning," says Johan Ringstedt.

"It is impossible to implement as large a project as this without it causing a few initial disruptions for users. But the important thing is to always keep users informed about problems so that they know what kind of support they can expect."

The plan is that the project could also benefit from those experiences that have been gleaned elsewhere, in order to avoid making the same mistakes twice.

## Minimum level

The Harvest project was launched during summer 1999. Ericsson in Sweden was first to implement it, with IT support for all Ericsson companies being outsourced. The executive decision that formed the basis for the Harvest project only established a minimum level

regarding the parts of Ericsson's IT operations that should be outsourced.

Each company has to conduct a cost analysis and outline the advantages and disadvantages of outsourcing IT operations to an external supplier. Once that process has been completed, a decision is made on the scope of the operations to be outsourced, but this must at least meet the stipulated minimum level.

Obviously, the requirement for a high level of IT security needs to be taken into consideration in these decisions.

## Various suppliers

In Sweden, a five-year contract was signed with Ericsson's chosen partner, Compaq. Ericsson has also signed a global contract with Compaq for the delivery of hardware. It is not yet clear which other suppliers may enter contracts with Ericsson.

"It is not important that we have the same suppliers everywhere in the world. The main thing is that we have good service and that the collaboration functions according to the uniform manner that we have specified," says Kaj Nilsson, Program Manager for Harvest, with responsibility for global distribution.

Outside Sweden, the project has progressed most in Western Europe, where plans have been made to sign a Memorandum of Understanding with an outside supplier before the end of the year. Even in South America, Harvest work is moving ahead at full speed.

"There is a great deal of interest in Mexico and Brazil. The project has been established and the companies have started contacting subcontractors," says Kaj Nilsson.

Sara Morge

## FACTS/HARVEST PROJECT

### The five Harvest project areas:

- Sweden
- Western Europe
- North America, North of Rio Grande
- South America, South of Rio Grande
- Asia Pacific

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ERICSSON



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A lot is happening in the US, Ericsson's largest market. The first 3G auctions are taking place in December. With higher network speeds, the use of mobile Internet services is expected to really gather momentum among the highly computerized Americans. The GSM standard is making inroads into the US and one of Ericsson's largest customers, AT&T, has opted for the GSM route to 3G.

# Reins in one hand, cellphone in the other

The US is a world-leader in Internet use and the number of mobile subscriptions is skyrocketing. Contact met Ron Kelso, a horse breeder in northern Texas, who earns his living by combining a traditional profession with modern IT technology.

▶ The young mare trots steadily around her owner and perks her ears inward so that she can always hear the trainer's voice.

The quarter horse is being trained at the Buck Ranch, located 50 kilometers north of Dallas, near the border with Oklahoma, in the US southwest. Texas is a horse lover's paradise, with more horses per capita than any other state.

Ron Kelso is a horse lover and a breeder. As a modern horseman, Ron Kelso both earns and saves money with the Internet and his cellphone.

"I surf the Internet two-three times daily, looking for information about different stallions and mares, their breeding and performance in competitions. This is key information in my business," he says.

## Passion: Quarter horses

He's been riding since he was seven years old. At that time his passion was Tennessee Walking Horses, a breed that is known for its high-stepping gait and to riders for its comfortable ride.

Currently, Ron has 16 quarter horses in his stable. This American breed is used mainly for cattle driving and for competitions in western riding. Hope, a mare, is the diamond of his eye. She has all the qualities required for a top-class quarter horse: good exterior, good temperament and beautiful gaits. Ron Kelso competes his horses in Western Pleasure, a form of dressage in western riding.

"Primarily, the quality of the horse's various gaits are graded as well as response to the rider," explains Ron, as he strokes the mare over the head. Ron has a leathery tan after years

working outdoors on the ranch. It is unusually warm for late autumn, nearly 15°C, although the wind cuts cold today.

"The really hectic season for me begins at the end of January—the mares have to be covered and in the spring seven foals will be born," he relates as he leads another foal out of one of the boxes in the stall.

## IT horseman

Ron also uses the Internet to buy and sell horses, send e-mail and book horse vans to pick up the horses he buys.

"This saves time and money, since the distances are so great here in the US," continues Ron.

The cellphone is another important tool. "It is important for me to always be reachable. If one of my mares is foaling or to be covered, I can always be reached or I can ring to a veterinarian," he says, thumbing his R280.

Half the population owns a computer. The computer maturity in the US is high. Some 143 million of the 260 million population has access to and regularly utilizes the Internet. Ericsson projects that 70 percent of the population will have access to the Internet via computer or cellphone by 2005. The Americans are already world leaders in Internet use.

The number of mobile subscriptions skyrocketed last year. The forecast points to continued growth from today's 125 million subscribers to 155 million next year. Net traffic is also projected to rise 21 percent. The increase in both areas is due to increased competition between operators having pushed telephone prices and call rates downward. A service that has become extremely popular is the possibility of unlimited calling within the same city for a fixed monthly cost.

Ron Kelso's income is mainly from the young horses he sells over the Internet.

**Isn't it difficult to give up one of your horses?**  
"Not a bit. I love money, Ron says with a big laugh."

**Ulrika Nybäck**  
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A computer and a cellphone are important tools in the daily life of horse breeder Ron Kelso, shown here with Hope, his favorite mare. Ron uses the Internet to buy and sell quarter horses. The US is one of the world's most computer-dense countries and mobile Internet is expected to accelerate during the next two years. Photo: Ecke Küller

# 3G makes a grand entrance in Ericsson's largest market

The first 3G auction in the United States started at the beginning of December. Per-Arne Sandström, head of the North America market area, has changed Ericsson's organization in this gigantic market to better satisfy customer demands when they move into the world of the mobile Internet.

▶ At the beginning of December, virtually all news broadcasts on American TV stations were dominated by discussions and debates regarding the presidential election recount issue. Suddenly, events in the rest of the world did not seem so important. The people of America then started to tire of this story, which never seemed to fade.

Per-Arne Sandström, head of the North America market area, also had more important matters to consider than the recount issue. He doubts that the outcome of the election will have an impact on Ericsson's operations in the US.

## New organization

Since Per-Arne Sandström became head of the North America market area just nine months ago, he has focused on changing Ericsson's organization in the US to align it with customer needs.

Units that work directly with customers, the Key Account organizations, have been strengthened. Cooperation with content providers is becoming increasingly important in efforts to generate interest in GPRS and 3G services. Ericsson's Cyberlab in New York and collaboration with Mobile Application Initiative (MAI) in California are playing a key role in this respect.

"Customers expect us to be able to make faster decisions and to further accelerate our delivery capacity," says Mark Wilson, Vice President Strategic Planning and Sales Support for the North America market area.

Mark Wilson and Per-Arne Sandström and have jointly formulated five strategic goals for Ericsson in the US. These goals are that Ericsson must be a better business partner, increase its total sales, speed up the delivery chain, improve terminals and



Mark Wilson



Ericsson in the US must become an even better business partner. This is one of the strategic goals set by Ericsson's office in Richardson, in Texas. Photo: Ecke Küller

make them more profitable and increase market shares in certain areas, such as CDMA.

## Auctions in December

The December 12 auction involved licenses for the 1900-megahertz band. The license procedure in the US differs from those held in Europe in several respects.

In the US, operators can bid for frequencies in those areas or states where their expansion needs are greatest. In Europe, many governments have demanded that the bidding operators offer a nationwide build-out of networks.

Many US operators are trying to avoid a presumably high license cost by swapping frequency spectrum with each other, in order to achieve a more dedicated and continuous frequency spectrum that will facilitate the migration to third-generation mobile systems.

It is estimated that four years from now, the operators will need four times as much frequency spectrum as they have today to be able to provide high-speed 3G services. One way of creating

more spectrum is to replace AMPS, the old analog system, with new digital mobile systems. The AMPS networks are still used by 36 million subscribers and account for 30 percent of the subscribers in the US.

## Computer maturity

While the number of subscribers of mobile services is increasing sharply in the US (see accompanying article), the growth shown by mobile Internet services has not been as sharp as in Japan, for example. Per-Arne Sandström explains that there are many reasons for this.

"The US computer market is extremely mature. Today, 140 million people have access to, and regularly use, the Internet. For this reason,

the need for a permanent connection is not very strong at present. Computer maturity also means that the Americans impose greater demands on the services provided. The complex

services that will emerge as and when new networks are built will fuel demand for mobile services," he believes.

Mark Wilson agrees. "The operators are still tackling the development of their business models. What is the best way to charge for the new services? How will subscribers contact Ericsson, CNN or Yahoo if a service doesn't work? There are many pieces of the puzzle that have to fall into place before the market gains true momentum," he says.

Interactivity, positioning and advertising are three areas Per-Arne Sandström believes are the keys to best-selling mobile services in the North American market.

The head of this expansive market area is looking to the future with confidence and enjoys working in a competitive market like North America.

"If Ericsson is successful in the US in the future, it can succeed anywhere," he concludes.

Ulrika Nybäck

## FACTS/ERICSSON IN THE US

- The company's largest market in terms of sales - 13.9 percent of Ericsson's total sales during the first quarter of 2000.
- Head of the North America market area: Per-Arne Sandström.
- US shareholders own 35 percent of Ericsson's Series B, common, shares.
- More than 10,000 shareholders.
- Sales in 1999: Approximately USD 2.7 billion.
- Sales in 1998: Approximately USD 2.3 billion.

www.ericsson.com/us

## Largest customers

- AT&T Wireless Services
- Airadigm Communications

- Cingular Wireless
- Microcell Telecommunications
- Rogers AT&T Wireless
- Sprint PCS
- Tritel Communications
- Triton PCS
- Verizon Wireless
- VoiceStream

## Ericsson in the US can be found in more than 100 locations, including:

- Ericsson Berkeley Wireless Center: Berkeley, California
- Ericsson CDMA Systems: San Diego, California
- Ericsson Business Operations: Richardson, Texas
- Ericsson Microelectronics: Richardson, Texas

- Ericsson R&D: Richardson, Texas
- Com-Net Ericsson, Critical Radio Systems: Lynchburg, Virginia
- Ericsson Manufacturing: Lynchburg, Virginia
- Ericsson Consumer Products: Research Triangle Park, North Carolina
- Ericsson Cyberlab New York: New York City
- Ericsson Messaging Systems: Woodbury, New York
- Ericsson DataCom: Burlington, Massachusetts

## Partners or strategic collaboration with such companies as:

- Texas Instruments, Charles Schwab & Co, Hewlett-Packard, Intel, IBM, Microsoft, Novell, Zsuna and Juniper.



Cellular consultant Sam Wise receives numerous inquiries every day about the best subscription plan and the best phones for use in various parts of the country. Currently, the US has five different mobile system standards. While AMPS, CDMA and TDMA remain the largest, GSM is gaining ground.

Photo: Ecke Küller

# Tips on cellphone purchases

The United States currently has five competing cellular system standards. It can be complicated to figure out which standard provides the best coverage in different parts of the country.

But help is available at every phone store, where there is at least one sales consultant who can decipher the technology.

► Sam Wise, a sales consultant at Best Buy, leans over the counter and points to a map to help explain what kind of coverage different operators offer in this vast nation.

According to Sam Wise, AT&T and Sprint are the operators that provide the broadest TDMA and CDMA coverage, as well as providing

the best overall offers for new mobile customers.

#### Best prices

"VoiceStream clearly has the best prices if you want to call on a GSM network. Sprint, with its CDMA network, has the best overall offer."

At Best Buy, an American retailer specializing in electronics and technology-related products, customers who need a GSM phone usually select Ericsson's T28 or Nokia's 8290, while those who buy a CDMA phone primarily choose phones from Samsung or Motorola, according to Wise.

#### Four digital standards

Currently, the US has four different digital standards: TDMA, CDMA, GSM and ESMR. The older, analog AMPS standard remains the largest in terms of the number of subscribers at 36 million. TDMA, which today has 25 million subscribers, was developed in order to digitize the AMPS standard. The TDMA standard was set in

1988 by the American standardization organization, Telecommunication Industry Association (TIA).

The CDMA standard was set in 1991. As mobile phone networks in the US have expanded, various telecom suppliers have lobbied for different standards.

Today, Ericsson supplies systems and terminals for the TDMA, CDMA and GSM standards, as well as support for their existing AMPS systems. The company also offers various options for migrating to third-generation networks using GPRS and Edge.

Ulrika Nybäck  
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## AT&T changes course

An open standard, more terminals and the chance to collaborate with European operators – these were some of the reasons behind AT&T's decision to choose a GSM-based approach to 3G.

► The US market has been dominated for some time by the AMPS, TDMA and CDMA mobile standards and, to date, only the US operator Voice Stream has offered near nationwide GSM-based services. Recently, however, AT&T Wireless announced that it too plans to build a GSM-based network, in order to gradually be able to offer faster data services using GPRS, Edge and – in due course – UMTS systems. (See fact box.)

#### Simpler collaboration

Rory Buckley, Ericsson's Key account manager for AT&T, explains why one of Ericsson's largest customers is changing its strategy:

"They are making the switch primarily because GSM is a more open standard, the number

of potential customers is larger, more terminals are being developed for GSM, and it will simplify future collaboration – with European and Asian operators for example."

It may seem to be a roundabout route to take – choosing GPRS next year, migrating to 3G speeds through Edge in 2002 and then switching to the WCDMA system in 2003 in order to add even more speed. However, Rory Buckley does not agree.

"The hardware will be ready for 3G the outset. All that will then be required is a gradual upgrading of the software," he explains.

#### GMS as a bridge

While AT&T plans to continue developing services for its TDMA network during the next two years, it will be focusing on the GSM standard as the bridge to 3G. The company is already offering mobile Internet services based on the CDPD packet data standard. Today, some 300,000 subscribers use these services, and this figure is ex-



Rory Buckley

#### FACTS/GLOSSARY FOR THE 3G JUNGLE

- **GPRS:** A packet-switched technology that enables wireless Internet and other data communications via a wireless route at high speeds of 115 kilobits per second.
- **Edge:** A technology that enables the joint development of GSM and TDMA for the handling of 3G services. Edge can transmit large amounts of data at high speeds, up to 384 kilobits per second in mobile applications.
- **WCDMA:** A technology for broadband digital

radio communications, such as Internet and multimedia services. This technology has been selected for 3G mobile systems in Europe, Japan and the US.

- **UMTS:** Term for the 3G mobile standard in Europe, as standardized by ETSI.
- **3G:** Collective term for all three technologies that satisfy demands for the data transmission speeds required for third-generation mobile systems.

pected to increase sharply over the next two years. The most popular mobile Internet services are currently stock quotes, news and – to many people's amazement – horoscopes.

While AT&T has been an Ericsson customer for 17 years, Rory Buckley emphasizes that no operator in the US market has ever felt constrained by bonds of loyalty.

"We have to improve constantly in order to understand what the customer wants," he explains. "It was only 18 months ago that we lost

parts of our market share to our competitors, Nortel and Lucent. We have won new contracts since then, but this experience shows that we must constantly strive to satisfy our customer as if we don't, our competitors will. There is no room for complacency."

AT&T expects the number of subscribers to grow to 20 million next year, compared with 15 million today.

Ulrika Nybäck

# New technology and new phones improve profitability

The level of activity is intensive at Ericsson's research and development center in Research Triangle Park in North Carolina, USA. The center is developing new mobile technology bands based on a standard called GAIT plus several new TDMA and CDMA phones to be launched next year.

► Ericsson research and development center for Consumer Products and the TDMA and CDMA cellular standards is located in Research Triangle Park, North Carolina.

Contact met with Åke Lindström and Sandeep Chennakeshu to talk about the center's future.

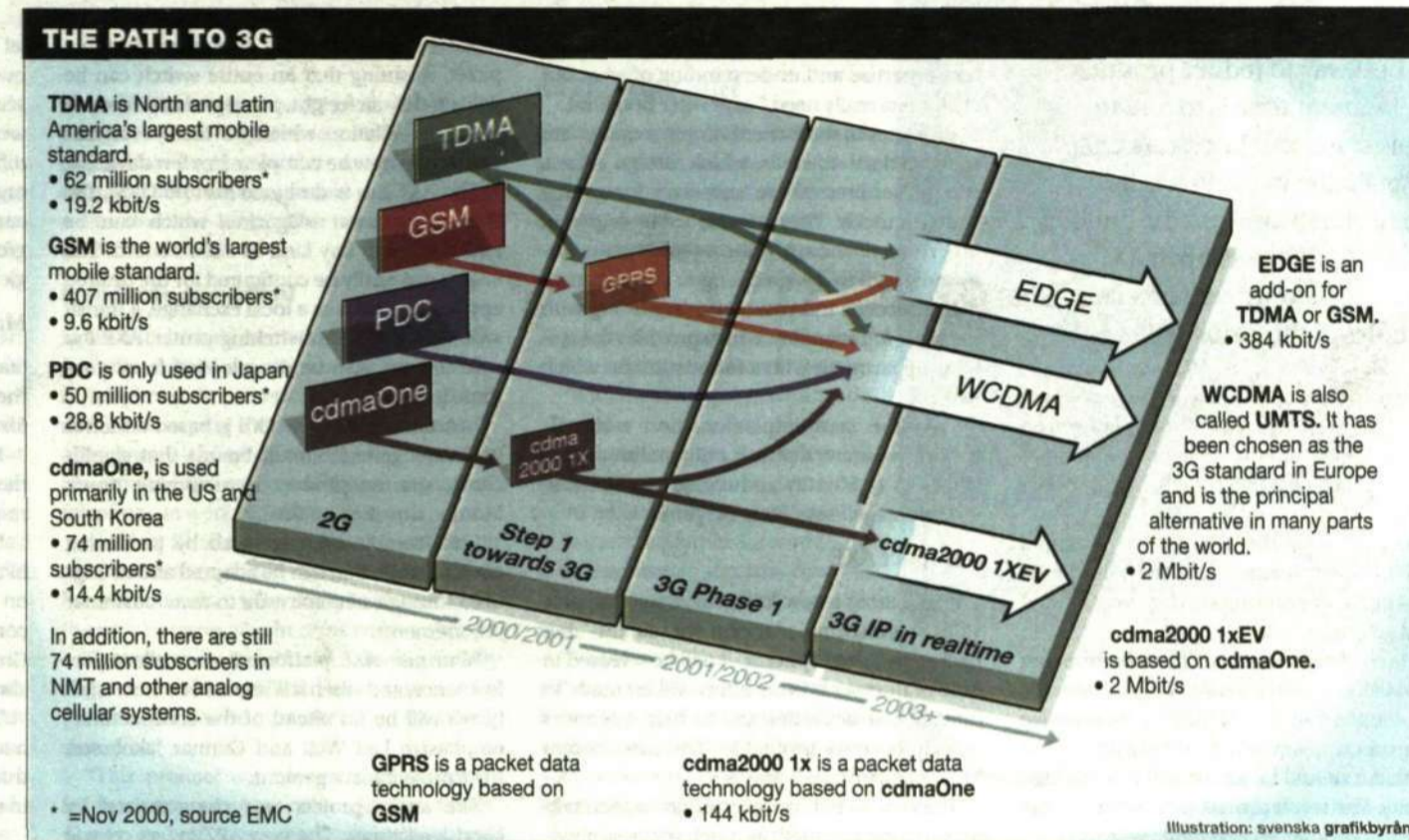
"Returning to profitability is very much a question of planning operations more effectively," says Åke Lindström, who is responsible for business control and logistics at the business unit.

The strategy for achieving this goal includes several points. One is focusing on accounts, not markets. Others are improving materials and capacity planning, meaning selling portfolios rather than products and utilizing the strength within the company by working closer with the people from the system business.

## New technology

Ericsson engineers at Research Triangle Park have developed a technology band based on a standard called GAIT. This is a major development step for the US market that will allow roaming between TDMA and GSM networks, using a single phone. The first GAIT phone will be available in two years.

Sandeep Chennakeshu is responsible for the product unit that develops terminals for the TDMA and CDMA standards. He is enthusiastic



about the new phones to be launched next year.

"The design is very different, even though you can recognize the Ericsson profile," he says, as he shows us some of the phones that will soon be released. One has an integrated antenna. Another has a somewhat rounder shape.

"We must never forget that we are building our brand with phones," emphasizes Sandeep. "That's why quality and functionality are so very important."



Sandeep Chennakeshu

While showing the phones, Sandeep demonstrates a trick for which he has become famous among customers.

"The new Ericsson phones are the market leaders with respect to technology and functionality. They're also very rugged," he says, throwing the phone on the table with a loud thud that makes everyone jump.

At a time when US operators are increasingly investing in the GSM standard, there is cause for concern about what will happen to the TDMA and CDMA-focused business unit and the more than 1,000 employees who work there.

"As TDMA will undoubtedly remain impor-

tant for a couple of years more, we will continue, as planned, to develop a competitive and cost-effective portfolio. At the same time, we will gradually consolidate our teams to support the strategy chosen by our customers," says Åke Lindström.

Even though the coming years will mean continued fierce competition, both Åke Lindström and Sandeep Chennakeshu are optimistic about the future. They are convinced that Ericsson's new telephones will be best-seller.

Ulrika Nybäck



"Today, profitability is more important than market share," says Åke Lindström, business control and logistics manager at Ericsson's research and development center in Research Triangle Park.

Photo: Ecke Küller

# Standard platforms give new products a flying start

The best way to reduce product development time is to find reusable solutions. Ericsson's Cello Packet Platform (CPP) for the transport network and the building practice for the new open AXE switching platform are excellent examples of this principle.

► CPP originally began as a 3G project whose primary purpose was to provide a platform on which to build radio base stations and other products, such as a Radio Network Controller (RNC).

Today, however, the platform, consisting of hardware and software, can also be used with only minor modifications for access and media gateway products.

"The challenge was to design a platform that combined two extremes: the requirement for base stations that they should be inexpensive to manufacture and the requirements for the RNC that it should be robust and provide high capacity. The result proved to be a very useful concept," says Peter Berglund, who was responsible for CPP hardware development.

"This means that we can now re-use nearly 90 percent of the hardware platform in our new Media Gateways, which are a core node in Ericsson's new network architecture.

## Configured as needed

CPP is a platform for ATM and IP communications which, when combined with various applications, becomes a complete product for a communications network.

Physically, the CPP is a magazine with slots for 28 circuit boards. Two switch modules occupy the outer positions, while the remaining 26 can be filled as required with line boards, processor boards, codecs, echo cancellers, et cetera. Each board contains a Device Board Module (DBM) with communication circuits for processors and memory. Each application adds its own components. All communication between circuit boards is handled by the switches and the magazine's backplane.

The CPP employs a modular and scalable design that allows several magazines to be stacked. It is also an open platform, meaning that Ericsson can purchase existing components or request that suppliers develop new components. Working with third-party suppliers, however, requires careful planning and technical expertise.

"We have now succeeded in creating an inexpensive and robust platform that can shorten lead times by providing the foundation for a variety of products," says Peter Berglund.

## Saving time at the start

Continued refinement of CPP is intended to provide internal and external customers with greater integration, lower costs and improved functionality.

In the later phases of a project, it is difficult to realize significant time savings, but much time can be saved at the start.

The project phases that take the longest to complete are developing the circuit boards and designing ASICs (Application-Specific Integrated Circuits). It is therefore important to get started on the hardware as quickly as possible.

"At that stage, however, it is not certain that the organization is ready for the work that we

do, so we have to maintain a high level of system expertise and understanding of what our customers really need," says Peter Berglund.

Baselines in the form of simple requirement specifications towards which design efforts should be directed are necessary for getting started quickly. They provide some degree of order, even though new requirements inevitably lead to design changes. Development then proceeds in increments, beginning with the basic functionality, which provides the systems department with a foundation on which to work.

"We also start implementation early. Although we know that it is only preliminary, it allows us to identify and correct problems at an early stage," says Peter Berglund.

## Compact AXE

The AXE 810 is a new AXE generation that provides a switching platform for circuit- and packet-switched systems. It will be released in June of next year. Every effort will be made to provide fast deliveries and to help operators quickly become profitable. The new system has several unique features.

The new switch is extremely compact, taking only one twentieth as much space as previous generations. A complete node requires only three or four cabinets, which can be accom-

modated on a standard European shipping pallet, meaning that an entire switch can be delivered by air freight, pre-tested and ready to install. Installation, which previously took four weeks, can now be complete in a few days.

The AXE 810 is designed around GEM, the Generic Ericsson Magazine, which can be equipped with any kind of circuit board. The switch can easily be configured for the desired application, such as a local exchange, a transit switch or a mobile switching center. AXE 810 software can also be downloaded from a remote location.

In addition, the new AXE is based on fewer but more generic circuit boards that significantly shorten product development times. Months shrink to weeks.

Considerable time is saved by producing circuit boards that can be adapted and configured through new software to meet customer requirements.

"Our new AXE platform has excellent performance, and when it is released commercially, we will be far ahead of the competition," emphasize Leif Woll and Gunnar Jakobsson from project management.

The entire project was characterized by short lead times. The new APZ 212 33 central processor was developed in record time. Many phases of the project were conducted in paral-

lel and with the help of simulations and frequent testing. By starting with a worst-case scenario in testing, some 90 percent of all tests were completed. In addition, the number of different types of cables has been reduced. In organizational terms, much time was saved by conducting the project with small project groups that then disseminated their results globally to Ericsson development centers.

## Major breakthrough

Standard components are being developed for the AXE 810 that can be used for other platforms.

Many components are already re-used, but the goal is that standard interfaces will allow re-use across system platforms.

In early December, a major step was taken in the development of the AXE 810. At 7:00 p.m. on a Saturday night, engineers succeeded in connecting the first call through the 512K Group Switch, which can handle 256,000 simultaneous calls.

"A few bugs remained, and we had to use our best people to rectify them, but we know now that the design itself is correct and that it works in practice," concludes Gunnar Jakobson.

Lars Cederquist

lars.cederquist@lme.ericsson.se



Gunnar Jakobsson from project management for the AXE 810 shows the Generic Ericsson Magazine (GEM), which can be equipped with different circuit boards in any position.

Re-usability was a prime concern for the CPP platform. Regardless of what is being built, whether it is a base station, an RNC or a router, a standard platform consisting of CPP modules can be used. Peter Berglund shows a representative Circuit board and the CPP magazine.

Photo: Anders Anjou

# New IP-based system telephone

The latest addition to Ericsson's terminal portfolio is the Dialog 3413 IP telephone, developed by Ericsson Enterprise AB. The IP telephone has the same design as Ericsson's other analog and digital tabletop telephones, but carries an "IP technology" label in the upper left-hand corner of the device.

► "Now we're able to offer an IP telephone with our brand name on it, which is an important investment for the future. If Ericsson's infrastructure is in the network, whether it be analog, digital or Internet telephony, then our name should also appear on the terminals that people use," says Juri Vajdaffy, product manager for end-user terminals at Ericsson Enterprise.

Interest is great within the company. Juri Vajdaffy says he receives numerous e-mails and inquiries about the new phone every day.

New versions of the MD110 business switch and BusinessPhone that will be coming out at the beginning of next year are IP telephony enabled. The first area of application for the Dialog 3413 will be as a user terminal, together with version 2.6 of the WebSwitch 2000 IP switch.

#### Upgrades via the Web

The Dialog 3413 essentially provides plug-and-play functionality and will work together with a number of future Ericsson systems without further modifications. The software is the same as is used in WebSwitch, MD110, BusinessPhone, GSM on the Net and the IPT operators platform. Future program upgrades or expansion of services can easily be completed

via the Web. A typical target group for IP telephony systems, and consequently the telephones, are businesses that want to use IP to connect a local office to a main switch. In such a situation, the local office uses its LAN for telephony as well.

#### Standards-compliant

In its initial implementation, the Dialog 3413 complies with H.323, the current standard for IP telephony. At present, H.323 is completely dominant among those user terminals available, since it is good at handling functions that are required for traditional telephony and IP telephony to work together.

Another IP telephony standard starting to gain momentum is SIP. This, as well as other future standards, will be easily implemented in the new Ericsson telephone as needs arise.

Flextronics in Karlskrona, which annually ships close to one million Dialog system telephones, will also be manufacturing the IP version.

"This product complements our offerings for business communications in which telephony and data are gradually converging," says Johnny Nyman of Portfolio Management at Ericsson Enterprise.

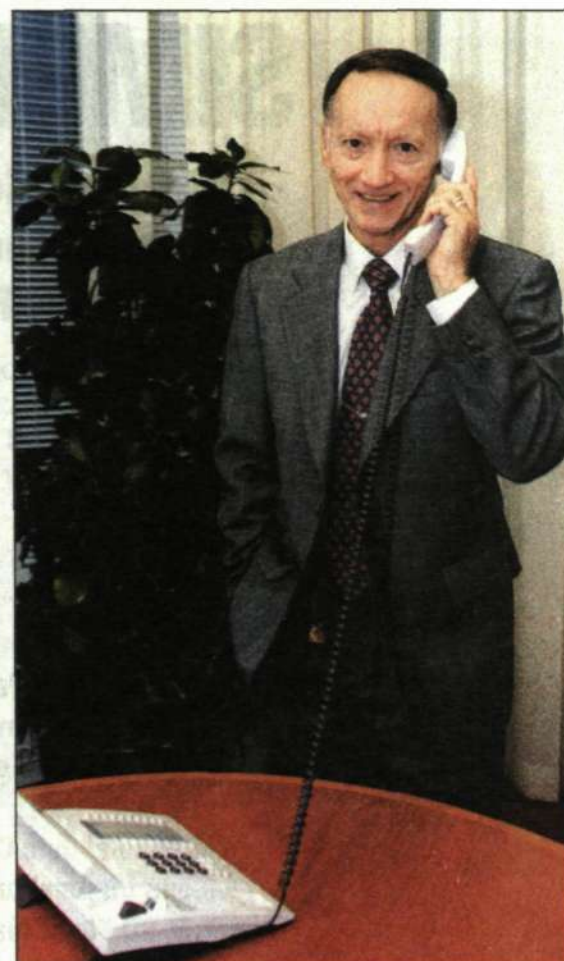
"Demand is steadily increasing for a migration path from today's to tomorrow's infrastructure. It is our ambition to provide the same high standard of services that users have gotten used to with the existing telephony system," continues Johnny Nyman.

#### An attractive price

Unlike all other H.323 compatible phones on the market, the Dialog 3413 can support most switchboard functions that an average user needs, such as redialing and call-forwarding. With the help of WAP, those telephony services that the H.323 protocol cannot handle itself, can be implemented in the switch.

"With the Dialog 3413, we have developed a 'high-end product' at a very attractive price," says Juri Vajdaffy. "Over the years, the Dialog 3000 series has enjoyed considerable success around the world - due to its ergonomic receiver, clear display and well-designed function keys."

This is also true of the IP telephone, which has a technical platform that has already been adapted to the next generation of Dialog, the 4000 series, now being developed at Ericsson Enterprise.



"With the Dialog 3413, we have developed a high-end product at a very attractive price," says Juri Vajdaffy, product manager for end-user terminals at Ericsson Enterprise.

Photo: Ecke Küller

Kari Malmström  
freelance journalist

Ericsson Systems Expertise Ltd, Dublin, Ireland

## SENIOR TESTER/ TROUBLESHOOTER

The position of Senior AXE Tester/Troubleshooter has become available within the RNM department of the RNSC (Radio Network Solutions Centre), Ericsson, Belfield Office Park, Clonskeagh, Dublin 4, Ireland.

The position is available immediately.

The successful candidate will have the opportunity to work with an Open Systems group, developing near-real-time applications in the Performance Management and Performance Tuning area. There will be many opportunities for travel as well as broadening of technical horizons through R&D work. The successful candidate will have skills that include of the following:

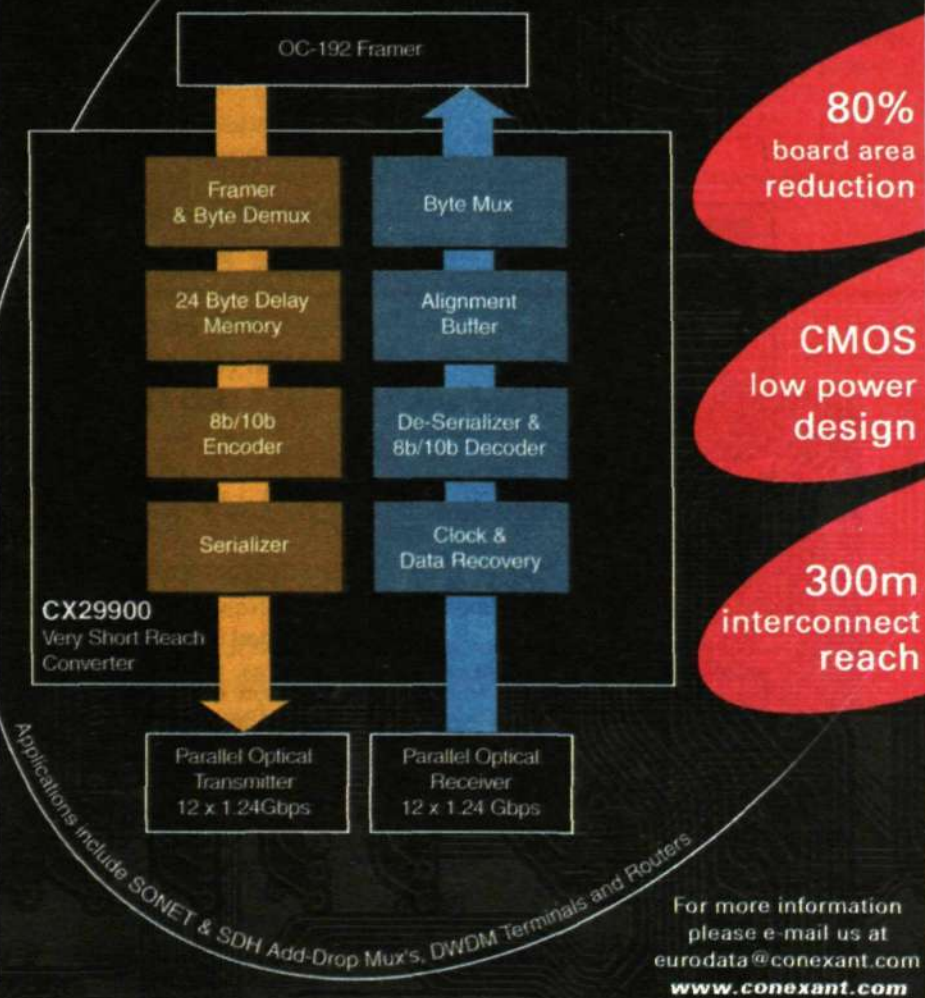
- Strong 'Hands On' exchange environment experience in the TDMA area
- 2 - 3 years experience of TDMA troubleshooting/testing
- Good knowledge of PLEX
- Good knowledge of ASA
- Knowledge of Unix desirable
- DT testing experience desirable
- Good knowledge of exchange commands desirable
- Telecoms Software Maintenance Experience desirable

For further information on the role please contact:

Nora Hearty  
+353 207 7566  
in the RNM group or  
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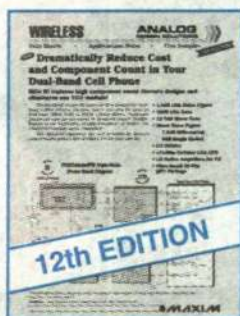
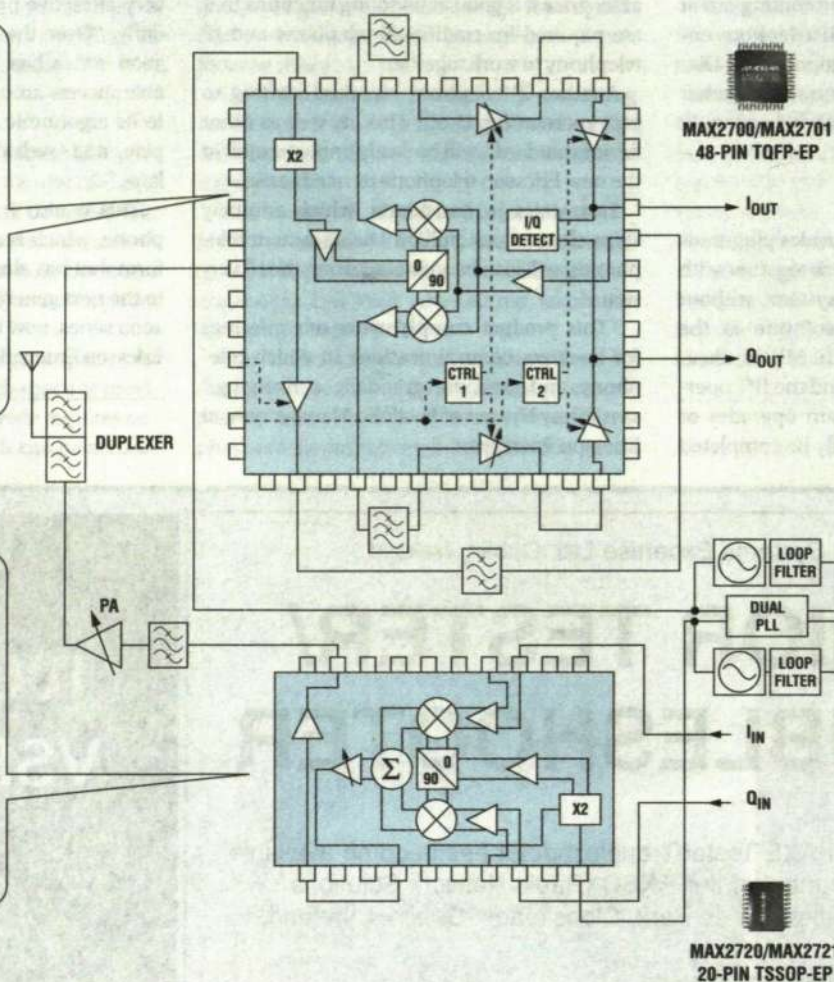
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# Filmmakers know their trade

Better feedback and improved quality. These were the results when the WCDMA unit allowed former installation engineers to take over production of training videos for the installation of base stations in the field.

► "We know our trade and are also interested in filmmaking and video technology," say Björn Åman and Jesper Swahn, two of the six members of the scaled-back WCDMA team for Multi-media Based Learning (MBL), a concept that was originally developed by the GSM unit.

All of this came about when a group of employees in the methodology department lost their jobs during a reorganization almost two years ago. Several of them had previous experience working as installation engineers.

## Many discussions

Björn Åman was one of them. He had worked on-site and had been involved with startups for six or seven years when he heard that an installation training video was going to be made for the GSM unit by an outside team. He expressed his interest in being included in order to learn.

He managed to be included and quickly came to the conclusion that everything was being done in a very professional manner but that the film team itself did not know anything about the subject.

Numerous discussions ensued, since there simply could not be any errors in the instructions sent out to installers around the world. A small error can take a long time to detect and constitute a major obstacle in reducing the number of return visits to radio base stations, which lowers their overall cost.

## Digital studio

For this reason, an idea was hatched to produce the film internally. After overcoming many obstacles and with a large dose of stubbornness, this goal was reached.

In just a short amount of time, the WCDMA unit has succeeded in building up a full-fledged digital studio with its own server in order to be able to distribute all of the material and receive feedback and input during the course of a project.

Editing and animation equipment are also available in order to provide more pedagogical information and to illustrate what would otherwise be difficult to show on film.

Finished productions are posted on the Web



Jan-Erik Müller is being filmed as he demonstrates how to install a subrack into a transmission cabinet. Behind the cameras are Jesper Swahn (closest to camera) and Harold Lythall, while Jan Hytänen oversees the editing board.

Photo: Kurt Johansson

and on CDs, which are then used in local offices for training purposes.

Everything happens very rapidly and the information is now even available at local offices prior to production, which is very much appreciated.

Over the long term, it is also conceivable that an installer or repairman will be able to access this information via a handheld device.

## Two months

Each production takes approximately two months, and so far films have been made for a number of GSM stations. Currently a film is

being made about RNC (Radio Network Controller) and base stations for WCDMA.

Most of the work is conducted in the studio, but certain aspects have to be filmed on site, such as in Malaysia, in order to clearly show the environment where the base stations will be installed.

## Ordinary mistakes

"We want to emphasize that this work simply complements the written manuals," says Björn Åman.

"We're focusing on the critical questions and the most common mistakes, and explain in the

film why things have to be done in a certain way. We are currently translating the script for an English speaker with the assistance of Harold Lythall, who is part of our team. Eventually, however, it will be possible for everyone to hear the text in their native language. It doesn't help to say that English is the company language when there are many people who barely understand English."

Lars Cederquist

[lars.cederquist@lme.ericsson.se](mailto:lars.cederquist@lme.ericsson.se)

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# More fun with kids at work

Bringing your children to work is far from child's play. But what can you do when the babysitter gets sick on the same day you have an important meeting scheduled? At Helene Stjernlöf's office, a playroom has now been established for parents faced with this dilemma.

► Helene Stjernlöf's workplace in the middle of a large office landscape is not especially child-friendly.

Four-year old Calle and 18-month old Gustav are busy examining the copying machine. There are a lot of boxes and shelves that can be pulled out and many buttons to press.

"No, you can't play with that," says their mother, Helene Stjernlöf, as she tries to distract the attention of her little boys from the fascinating machine.

## Make shift solution

On a few occasions, she has been forced to bring her children to work at the Multi Service Networks division. The daycare center was closed for a planning session on one occasion. Another time, the boys had nearly recovered from a sickness, but were not quite ready for the rigors of their daycare center.

"This is always a make shift solution in emergency situations," says Helene. "It is extremely difficult to concentrate and accomplish things when the children are with me at the office. I'm constantly worried about them creating a disturbance. So there's a lot of don't do that and put that umbrella down."

It's not much fun for the children either. They can sit for a while and draw pictures or examine the contents of a desk drawer, but that soon becomes boring and it's impossible for kids to sit still all the time.

And although none of her colleagues have complained, Helene is very aware of the higher noise level when her children are in the office.

"Personally, I think it's a lot of fun when other people bring their children to the office," she says. "But I'm not sure everybody has the same tolerance level if they don't have children of their own."

The company has shown understanding for the occasional need for employees to bring their children to work.

In September, the division furnished and opened a playroom adjacent to its offices in Stockholm. The childcare facility features Lego blocks, cars, dolls and puzzles to keep children occupied and amused. One corner of the room is also equipped with a VCR and an arsenal of cartoons. The brightly colored furniture in miniature format is also able to withstand the rough-and-tumble treatment by the kids.

Calle and Gustav always find something to do as soon as they enter the room.

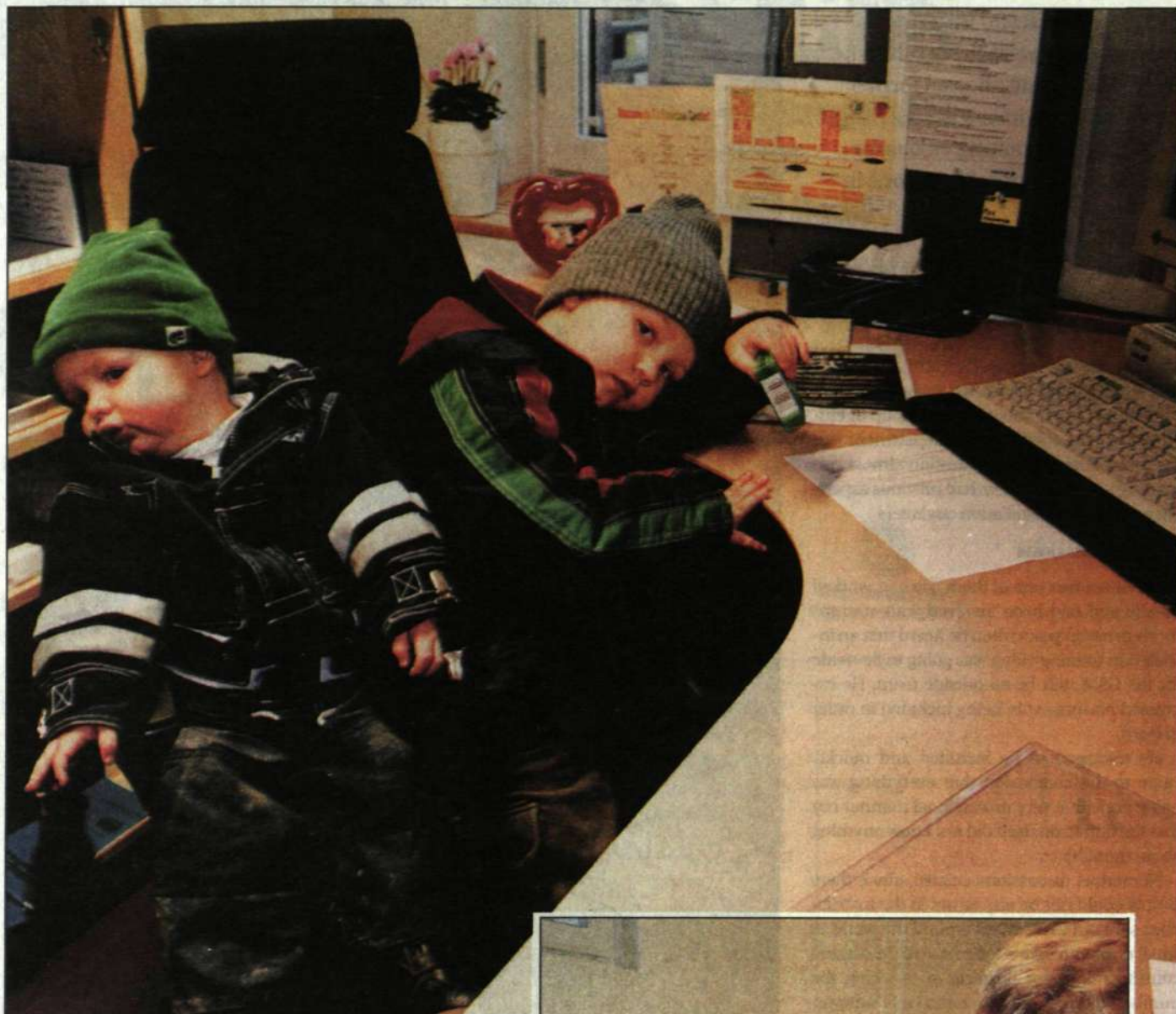
## Supervision during the meeting

Helene says she has used the playroom a few times. Most recently, Gustav accompanied his mother to the office. Helene had an important meeting with suppliers. It had been planned for weeks and would be difficult to get the suppliers to agree on another date.

To complicate things, Helene's husband was away on business and Gustav hadn't fully recovered from a recent sickness.

"I thought about canceling the meeting, but I also thought it was worth a try to bring Gustav to the office. I called around to the others and asked if they would agree to hold the meeting here. It actually seemed like most of them thought it would be fun."

Large windows separate the playroom from



Before the playroom was finished, Calle and Gustav couldn't find much to do at the office. Now, it's much more fun to go to work with their mother Helene. Photo: Jezzica Sunmo

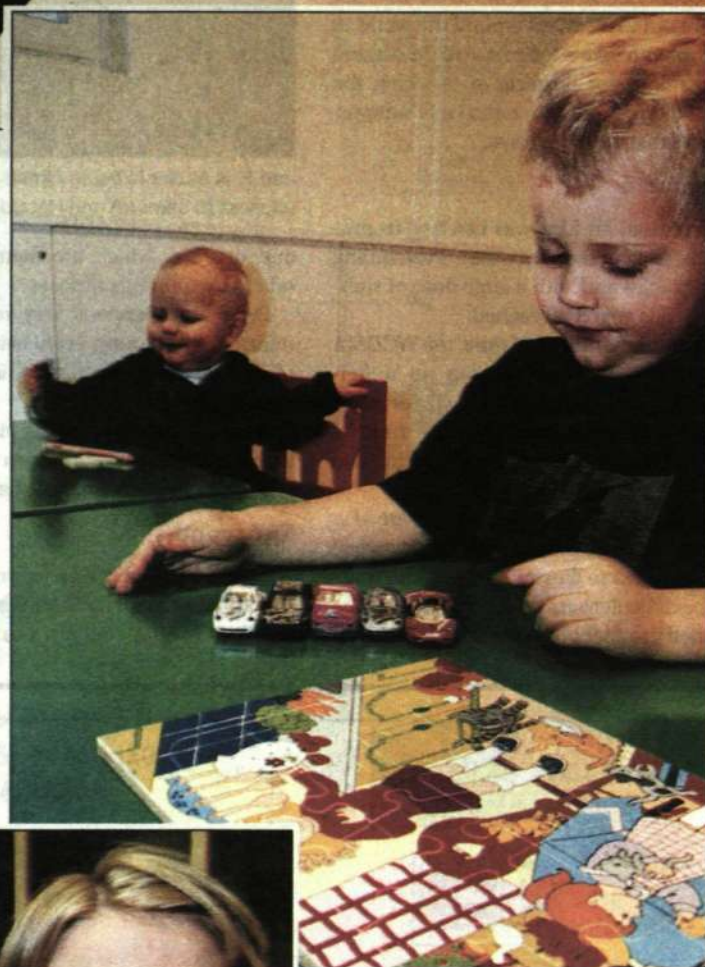
a large conference facility. Helene and her colleagues were able to hold the meeting while she kept a close eye on Gustav. Every once in a while, he came into the meeting and sat on his mother's lap.

"It was difficult, of course, to remain completely focused, but I think I managed about 90 percent, and that's pretty good."

It means a great deal to Helene to have her employer's support in her capacity as a parent.

"The company's understanding of my situation and the situations of other parents is a tremendous support that makes everything much easier. I'm a firm believer that kids at work strengthens Ericsson's standing as a true pioneer and innovator."

Maria Paues  
maria@pauesmedia.se



Once in a while, in certain situations, parents simply have to bring their children to work. The new playroom is a welcome addition, says Helene Stjernlöf. A conference room is situated on the other side of the glass wall, allowing parents to attend meetings and still keep a watchful eye on their children.

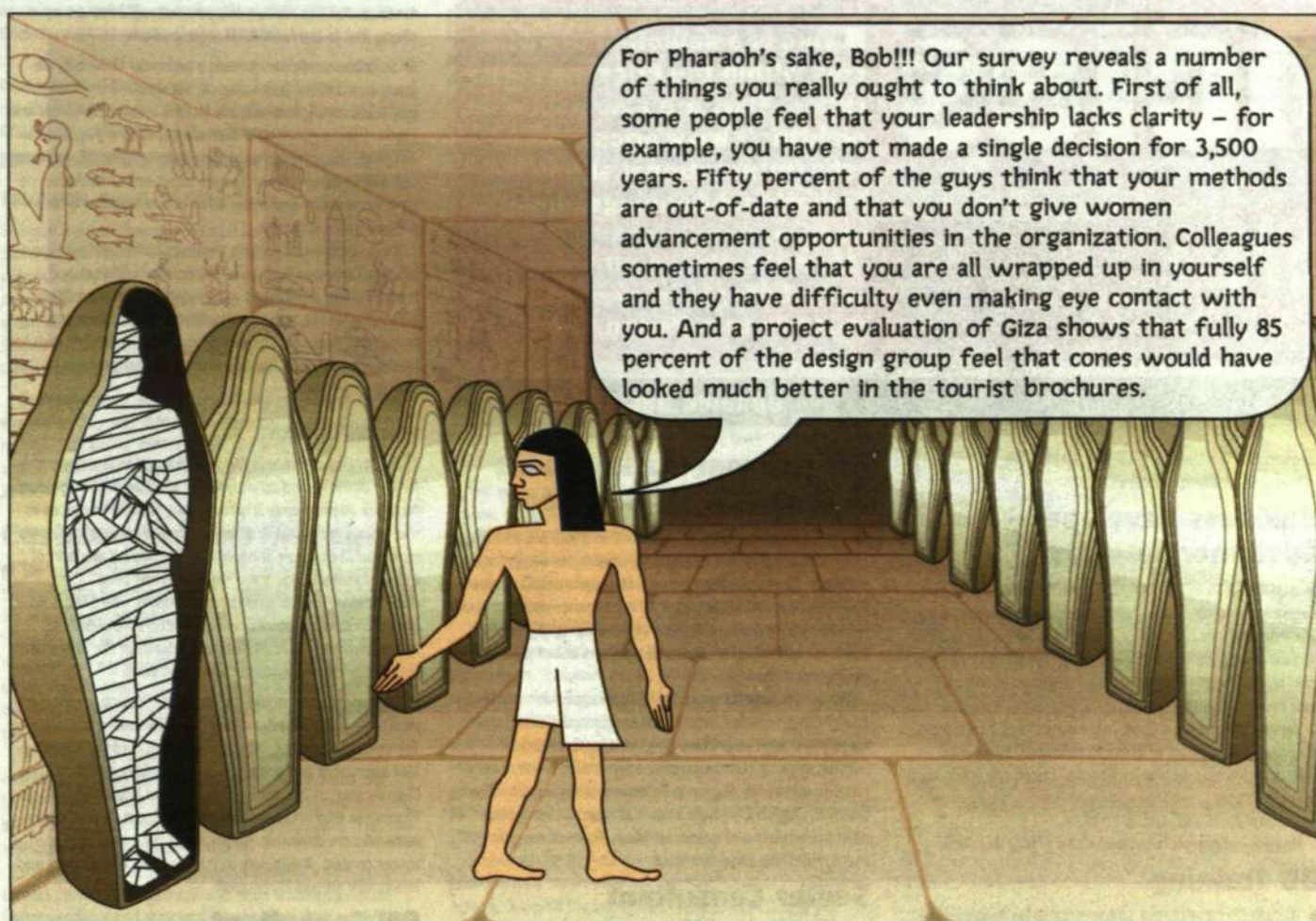


Illustration: Paues Media

# Employee opinions show the way

In January 2000, Ericsson switched to a new model for gathering employee opinions on issues related to motivation, empowerment, leadership and personal development. Since then, more than 50,000 employees have participated in the web-based survey known as Dialog. Results from the survey have led to several operational changes.

► Job satisfaction and commitment affects the atmosphere both in the workplace and the bottom line. Motivated and competent employees represent a valuable asset to a company and its customers. They are a key factor, accordingly, in efforts to improve profitability.

This view is supported strongly by Ericsson's senior management team, and naturally by Mike Meadows. Being the the global Dialog Manager, he wants as many people as possible to participate in the survey:

"Dialog enables each and every one of us to participate in shaping the future. Working to improve our results will help us meet our strategy to be first, best and most cost-effective. In the past we sometimes overlooked the importance of continuous improvement and change, and didn't always follow up on survey results," Mike Meadows says.

## How does one avoid that happening with Dialog?

"By total commitment to change throughout the organization," says Mike Meadows. "And by linking Dialog to meeting our business strategy, rather than just using it as a way to see how satisfied we are."

By the end of November, a total of 95 Ericsson

businesses had run Dialog during 2000. About 53,000 employees have been surveyed and almost all units have taken steps to improve results. One such example is the Multi Service Networks division. Two years ago the situation was catastrophic.

"At that time, we had poor profitability and record-low levels of motivation among employees," says Hans-Erik Svensson, head of marketing for the Asia Pacific region.

"We were forced to take drastic measures and decided to conduct frequent surveys of employee opinions. We wanted to demonstrate that we were taking the situation seriously and that everyone, up to the highest levels of management, was involved."

So far, four Dialog surveys have been conducted. The results have been reported openly, leading to important discussions about what has not been working.

## Why, for example, are employees between the ages of 25 and 34 less positive than others?

"The results will help us determine which issues we need to concentrate on," says Susanne Sundling, who is responsible for the Dialog surveys within the division.

Each unit conducts a joint analysis of the responses of its own members with a view to corrective action.

Examples of changes include altering meeting procedures, raising the level of IT expertise,

meeting with other units or catching up on personal-development discussions. ...

One of the concrete measures that management has invested in is increased communication, to ensure that employees are familiar with the goals and strategies of their division.

Not all measures are from the top down, however. Susanne Sundling believes that all employees now have the opportunity to see where he/she can make a contribution.

"We've passed the grumbling stage," says Hans-Erik Svensson. "There was a lot of that here in the past. Now, people realize that it's possible to do something about the various issues instead of just going around being dissatisfied."

Naturally, many factors have contributed to the success the division is now experiencing. But Hans-Erik Svensson is convinced of the importance of Dialog.

A total of 70 percent of the employees responded to the first Dialog survey at the Multi Service Networks division. The figure for the most recent survey was 82 percent. The average response rate for all Dialog surveys conducted at Ericsson this year is 80 percent.

"That's a great figure. It shows that employees really want to be involved in effecting change. Now our job throughout Ericsson is to ensure that we work together in turning results into improvements", says Mike Meadows.

Maria Paues

## FACTS/DIALOG

- Dialog was developed in cooperation with SIFO Research & Consulting. The survey is based on the research firm's Human Capital Model, adapted to Ericsson's needs.
- Because SIFO conducts Dialog with a number of other global companies, it is able to provide Ericsson with external benchmark-

ing figures that can be compared to the results of its competitors. The way the questions are designed makes it easier to conduct in-depth analyses of the responses. Consequently, it is possible to use the survey results as a basis for improvements in operations.

## Don't dwell on your career

► Do you want to be a manager? If so, you shouldn't dwell too much on career thoughts. The best way to progress and become a manager is to concentrate on doing a good job here and now. The advice is offered by Anders Gustafsson, section manager of Proficore development. It's also important to attract the attention of persons working around you, without necessarily being boastful.

## Control is good for your health

► People who work overtime feel better than part-time employees, according to researchers at Karolinska Institute and the Institute of Psychosocial Medicine in Stockholm. The number of hours you work is not the determining factor, however. The results are probably attributable to the fact that overtime work is most common in professions that offer people significant control over their work.



Photo: Pressens Bild

## Saliva instead of nasty needles

► A study by the Professional and Environmental Medical Clinic in Umeå will try to measure stress through saliva samples. Measurements used in the past based on blood samples have not been particularly successful, since the actual test represents a stress factor that can increase the number of stress markers in a person's blood.

In the new study, 100 men and women will provide saliva samples every two hours over the course of one day. Researchers hope to monitor their stress levels over a 24-hour period.

## Danish women work the most

► Seventy-five percent of all women in Denmark have jobs in the marketplace, according to a report by DA, the Danish employers' association. The percentage of working women is higher in Denmark than in any other EU country. Sweden ranks second. Denmark is also the only EU country where the birth rate has not declined.

The low childbirth statistics of several other countries is attributed to the fact that many women believe they are forced to choose between children and work.

In Denmark, only 20 percent of women cited that choice as their reason for not having children.

## Italy needs IT-personnel

► Italy is screaming for IT-qualified personnel. The country's manpower needs amount to 112,000 technicians and engineers, and the shortage is expected to double next year.

The situation has become so critical that Federcomin, the association of Internet and computer companies in Italy, has sounded the alarm, according to a recent article in a business publication.

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You should ideally have extensive experience in the area of GSM with knowledge in SS, BSS, transmission and datacom related areas including ATM and TCP/IP. A good knowledge of GPRS and/or WCDMA is an advantage.

To be successful in this position you should preferably have 5 years experience in mobile telecommunications and/or datacom/IP industry, with strong technical background and business orientation. You should be proactive and take initiative on your own. You are a good team worker, and you are comfortable in making customer presentations. Spanish is a strong plus. You are able to express yourself fluently in English and/or Spanish.

Contact: Tomas Dahlberg +54 11 4319 5748, [tomas.dahlberg@cea.ericsson.se](mailto:tomas.dahlberg@cea.ericsson.se).

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He/she should have an university degree in Telecommunications, must be fluent in English language and must have a strong business orientation and customer-focus.

#### BD Telecom Management & Professional Services

● BUSINESS DEVELOPER TELECOM MANAGEMENT PROFESSIONAL SERVICES Will be Responsible for designing service proposals in the Network Management, Customer Management and Operations & Maintenance areas. He/she will actively participate in developing the services portfolio and will give recommendations about pricing and new services design.

We are looking for a candidate with experience on Network Management, Customer Management (billing, customer care, service provisioning) and/or Operation & Maintenance or communications systems. He/she should have an university degree in Telecommunications, must be fluent in English language and must have a strong business orientation and customer-focus. Form of employment: Full Time Local Contract.

#### Senior Consultant

Internet Applications & Solutions for GSM Service Networks. The local DIA organization in Buenos Aires (Argentina), with approximately 20 employees, is looking for a senior consultant reporting to the Consulting & Solutions Director.

Functional responsibilities include supporting the local Key and New Account Management teams in their production of Mobile Internet proposals, interpret customer requirements, solution architecture design based on Ericsson and 3rd party products, and ensure technical viability in terms of quality of service, openness and market adaptation. Our customers are two of the strongest players in

the telecommunication business in Argentina and Latin America. For this reason, this position will have a very strong link to the local KAM organizations.

● Suitable candidates possess a technical University degree, an excellent technological background on GSM mobile telecommunications and Mobile Internet enablers and applications such as WAP Gateway, Mobile e-pay, Web on air, WISE, etc., and an important knowledge of IT and Internet, with a minimum of 3 years experience in solution design. Knowledge and experience of Internet and e-commerce is an advantage.

Good verbal and written communication skills in Spanish and English, a high level of personal initiative and teamworking capabilities are essential for this position. This will give the successful candidate a great opportunity for personal and technical development in the Telecom/Internet convergence, leading Ericsson's competence shift to the Internet world.

#### SDU DEPARTMENT

The SDU Department in Ericsson Argentina is responsible for the delivery and co-ordination of Network Design and Network Performance Improvement, ND&NPI services in the region with base in Buenos Aires. All technologies represented in Ericsson Services and the region are part of the assignment. The main standards are thus: AMPS/DAMPS, GSM and Fixed Networks. The SDU is now in search of competent and committed consultants to spearhead the ND&NPI business growth in the areas of Radio, Switch, Transmission and Datacom.

● The successful candidate has the following profile: University degree in Master of Science (Electronic Engineering, Telecommunications, etc.). A consultant profile with excellent teamwork and customer relation skills. Ability to use IT-tools such as MS Office, Outlook and Engineering tools. Fluency in English and previous experience on Ericsson's networks are desirable. All positions have extensive customer contact. Availability to travel within the country and eventually abroad is required.

#### RN Consultant

● Radio Network Design & Performance Improvement, RF Consultant - minimum of 2 years of relevant experience. The task involves RF design, RF Optimization, frequency planning, microcell & indoor design, strategic planning, drive-tests, site survey, etc. in cellular systems using AMPS/DAMPS and/or GSM technologies.

#### CN Consultant

● Switching Network Design and Performance Improvement, CN Consultant - minimum of 3 years relevant experience. The task involves voice and #7 signaling network

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#### TECHNICAL OPPORTUNITIES - GUILDFORD

With one in four of all mobile phone calls handled by our network technology and an unbeatable record in telecoms innovation, Ericsson is pushing forward the boundaries in every aspect of mobile telephony development. To help us unleash the full potential of our service-switching function technologies for IN (Intelligent Network) calls, we're building the teams at our state-of-the-art design centres in Guildford, Burgess Hill and Warrington:

**Technical Development Manager** *£excellent* Responsible for managing a team of designers, you'll allocate technical work and motivate your staff to deliver projects to quality, time and budget objectives. You'll need at least three years' experience of software design in the telecoms industry, including AXE methodology. Ref: 533.

**IN Troubleshooter** *£excellent* Working in our SSF-AM department, you'll analyse IN challenges, propose solutions and support function testers. Ideally with a background in IN troubleshooting, you'll have experience in writing ACs and handling TRs and a thorough knowledge of PLEX and AXE test plant. Ref: 534.

**Senior/Software Testers SSF** *£excellent* With at least two major projects under your belt, you'll need to be able to write test documentation, handle AXE test plant and follow all test design and execution methodologies for this team-based role. A good knowledge of IN/SSF and MGTS would also be an advantage. Ref: 535.

**System/Senior/Software Engineers SSF** *£excellent* Working within a close-knit team, you'll develop software and associated technical documentation. Your responsibilities may also include software testing using emulators. At a senior level, you'll be involved in complex systems design. Ref: 536.

With more customers than any other telecoms business, we're helping the world communicate freely. There are outstanding rewards to be had, together with the best career opportunities in the business. So to unleash yourself to work on tomorrow's technology today, visit [www.ericsson.co.uk/UK/myfuture](http://www.ericsson.co.uk/UK/myfuture) or email your CV to [myfuture@etl.ericsson.se](mailto:myfuture@etl.ericsson.se), quoting the appropriate reference number.

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dimensioning, definition of network topology, node dimensioning and capacity estimations, O&M, AXE and other Ericsson equipment knowledge, and others.

Contact: M-E Pistacchia, +5411 4319 5543, maria-eugenia.pistacchia@cea.ericsson.se. Application latest 010105: COMPANIA ERICSSON S.A.C.I. www.ericsson.com.ar

#### ERICSSON, D.O.O., SLOVENIA

Ericsson local company is located in Ljubljana, capital of Slovenia and has 35 employees at the moment. We provide our customer (100% Ericsson equipment) with GSM products and services, taking care of project management, logistics and support. Mobile phone penetration in Slovenia is 55% with 90% market share owned by our customer (700 employees at the moment).

Our customer is technologically very competent and advanced as they buy and deploy latest products and technologies, including WAP, PPS, MPS, GPRS, UMTS. We signed a contract for UMTS trial system to be deployed in 2001.

#### Customer Project Manager

We need to strengthen our local project organization in Slovenia with two experienced Customer Project Managers for managing customer projects in GSM and UMTS area. You will work in Projects and Logistics department that focuses on the implementation projects. Our role is to plan, order, deliver, implement and hand-over to support organization products and services according to customer contract.

As a Project Manager in our organisation you will be managing projects dealing with the latest products and technologies in GSM and UMTS, like R8 SW upgrade, VMS, MPS, Fraud Office, PPS, WAP, MVPN, GPRS, UMTS Trial. You will work very closely with customer.

We expect you to have relevant experience from (customer) project management and have knowledge of different products and their implementation. Well established network of personal contacts within Ericsson is an advantage.

In order to succeed in this position we expect you to be a competent, customer-focused and result-oriented person, willing to cooperate with colleagues. You should be fluent in English and have good interpersonal and communication skills. Your commitment and motivation is equally important. If you have been working in Product or Technical Management area so far and if you are interested in working more with customer projects, your application is equally welcome.

Contact: Goran Rakovic, Manager Projects & Logistics, goran.rakovic@evn.ericsson.se, +46 70 5781895, Marija Kajba, Manager Finance, Human Resources & Administration, marija.kajba@evn.ericsson.se, +386 1 23 63 020. Application: goran.rakovic@evn.ericsson.se with CC to gabor.szekely@evn.ericsson.se or Ericsson d.o.o., Dunajska 63, 1000 Ljubljana, Slovenia, Att. Gabor Szekely.

#### MU CARIBBEAN, PUERTO RICO

#### Radio Network Design & Performance Improvement Engineer GSM/TDMA

The MU Caribbean is responsible for marketing and deliveries of Ericsson products in the Caribbean Region covering an area of 230,000 squares kilometers and with a population of 27 million people. Activities are carried out from offices in Puerto Rico, Dominican Republic, Jamaica and Curacao.

We are looking for a Radio Network Design and Performance Improvement Engineer to help us in the fast growing business in the Caribbean and expand our current group of three engineers. We are experiencing significant growth in GSM networks in the region and need to care of this business.

The candidate will be working with both design of new cellular systems, especially GSM, and optimisation of existing systems. The work will be performed in close cooperation with the RF Engineers from the operators. Most of the work will take place in Puerto Rico but traveling will be required for both design and optimisation work to the other islands in the region. Sale support regarding new systems as well as for expansions will be requested from and performed in close cooperation with local KAM, NAM and LPM's.

Responsibilities: Perform radio network performance improvement services for our existing TDMA and GSM operators. Support the customers with network design for new systems and existing system expansions.

Requirements: Minimum 2 years experience within cellplanning and optimisation, preferably from GSM systems. Experience of Ericsson planning tools (EET/ TCP). Knowledge about AXE statistical measurements and post processing tools. CMOS/OSS experience, especially Performance Management. Experience of drive-testing using TEMS tools. Consultant minded.

Contact: Stefan Ljungberg, Manager Radio Network Design & Performance Improvement, +1 787 771 1700

#### RBS IE Engineer

The telecom markets in the area is in the process of deregulation with a number of possibilities within mainly cellular and datacom networks. Radio Base Station Installation Engineering Engineer to work with TDMA and GSM systems.

The candidate will be a team leader that provides guidance and directions, drives improvement changes and the quality assurance for the following areas: Radio Site Investigation. Radio Site Design documentation (C-module). Preparation of drawings in CAD. Design of new project specific material. Investigate and solve engineering related problems. The work should be performed in accordance with Ericsson methods, quality and safety standards.

Requirements: A degree in Electrical/ Electronics engineering or similar education. Broad experience from RBS Installation Engineering within Ericsson. CAD competence and strong knowledge of computer programs. Leadership skills. Independent, self-motivated and well organized with analytical mind. Cultural awareness. Ability to work independently as well as in a team. Self-starter and result oriented with strong interaction skills. Fully bilingual (English & Spanish). The candidate will be based in Puerto Rico but will need to travel to other countries in the Caribbean such as Jamaica, Dominican Republic and Curacao.

Contact: Jan-Urban Johansson, Impl. Mgr +1 787 7711700.

#### GSM Local Product Manager

The telecom market is growing strongly with hard competition between operators. Several large global operators are present in the region. We are now looking for an experienced manager who can support the NAM in driving the sales and marketing activities; provide product strategic information and system proposals to offerings to assigned clients in our office at San Juan, Puerto Rico.

The candidate should have a good technical knowledge of GSM / CDMA cellular systems with a successful track record. Knowledge of 3G Mobile technology and Ericsson's datacom solutions is a merit. As for your personality, we expect you to have a drive for result and excellent interpersonal skills. Fluency in English is essential. Spanish knowledge is a plus. Ericsson experience is requested.

Contact: Espen Myhre, NAM, +1 787 771-1700.

#### MU CARIBBEAN - JAMAICA

#### Local Support Engineer

We have an interesting challenge for you within our new GSM contract in Jamaica. The main responsibilities for

this position will be to provide technical support for resolving complex problems at highest technical level. The responsibility will also include TR/CSR handling and being on emergency service.

The competence requirements are: Degree in Computer Science, Electronics or Telecommunication Engineering. Minimum of 5 years working experience on AXE (mainly BSC). RBS 2000 of which at least 3-4 years experience should be on CME20 BSS systems in verification and/or support environment. Some knowledge in WAP and GPRS is desirable. Candidate should also have good English communication skills.

#### GSM Local Product Manager

We are now looking for an experienced manager who can support the KAM in driving the sales and marketing activities; provide product strategic information and system proposals to offerings to assigned clients in our office at Kingston, Jamaica. The candidate should have a good technical knowledge of cellular systems with a successful track record. Knowledge of 3G Mobile technology and Ericsson's datacom solutions is a merit. As for your personality, we expect you to have a drive for result and excellent interpersonal skills. Fluency in English is essential. Ericsson experience is requested.

#### Project Manager / TDMA

We are now looking for a Project Manager to handle the rapid expansion of our customer's cellular network in Kingston, Jamaica. The Project Manager should manage the implementation projects contract to customer acceptance in accordance with project time schedule, budget and quality requirements. The candidate should have several years of experience of managing implementation of cellular networks. As for your personality, we expect you to have a drive for result and excellent interpersonal skills. Fluency in English is essential. Ericsson experience is requested.

#### GSM

#### Sales & Marketing Manager

We are now looking for an experienced manager who can support the KAM in driving the sales and marketing activities; provide product strategic information and system proposals to offerings to assigned clients in our office at Kingston, Jamaica. The candidate should have a good technical knowledge of cellular systems with a successful track record. Knowledge of 3G Mobile technology and Ericsson's datacom solutions is a merit. As for your personality, we expect you to have a drive for result and excellent interpersonal skills. Fluency in English is essential. Ericsson experience is requested.

## Would you like to work with the latest in GSM, Voice over IP and Internet?

Our customer's interest in GSM on the Net is growing, and so are we!

Would you like to take part in creating a new communication system?

Give yourself the chance to participate in and lead the development of a winning concept that combines the biggest and the best in communication: GSM and the Internet.

You will work in an international environment, focused on business-oriented thinking and the latest in technological development.

We are a newly established development organization. We are responsible for the development and the marketing of a new telecommunications solution for the office. The technology is based on GSM and IP, with focus on VoIP (Voice over IP), multimedia and Internet technology.

"GSM on the Net" is a total solution that is replacing today's office solutions and handle all enterprise communication needs. The office IP network will be used for the transmission of speech, data and video conferencing.

"GSM on the net" is based on H.323, a standard for multimedia communication over a data-packet network, through which we reach our system via PC/Multimedia terminals, GSM or IP telephones.

#### Integration and Verification

Do any of these profiles match yours?

- Experienced at building and configuring LAN networks, and understands the various network components, such as TCP/IP, H.323, routers, firewalls, and network security.
- Experienced in integration or function and system test of GSM, other telecom systems or computer networks.
- Experienced in test tools such as protocol analyzers for the GSM and IP network. Examples of the tools used are MGTS, TSS2000 and sniffers.
- An experienced system test Project Manager for leading a team of testers in lab environment.
- A customer focused Project Manager for coordinating beta installations and evaluations at selected customer sites.

Interested? Please contact us today!

Michael Schahine, tel 08-757 5810,  
email: michael.schahine@era.ericsson.se

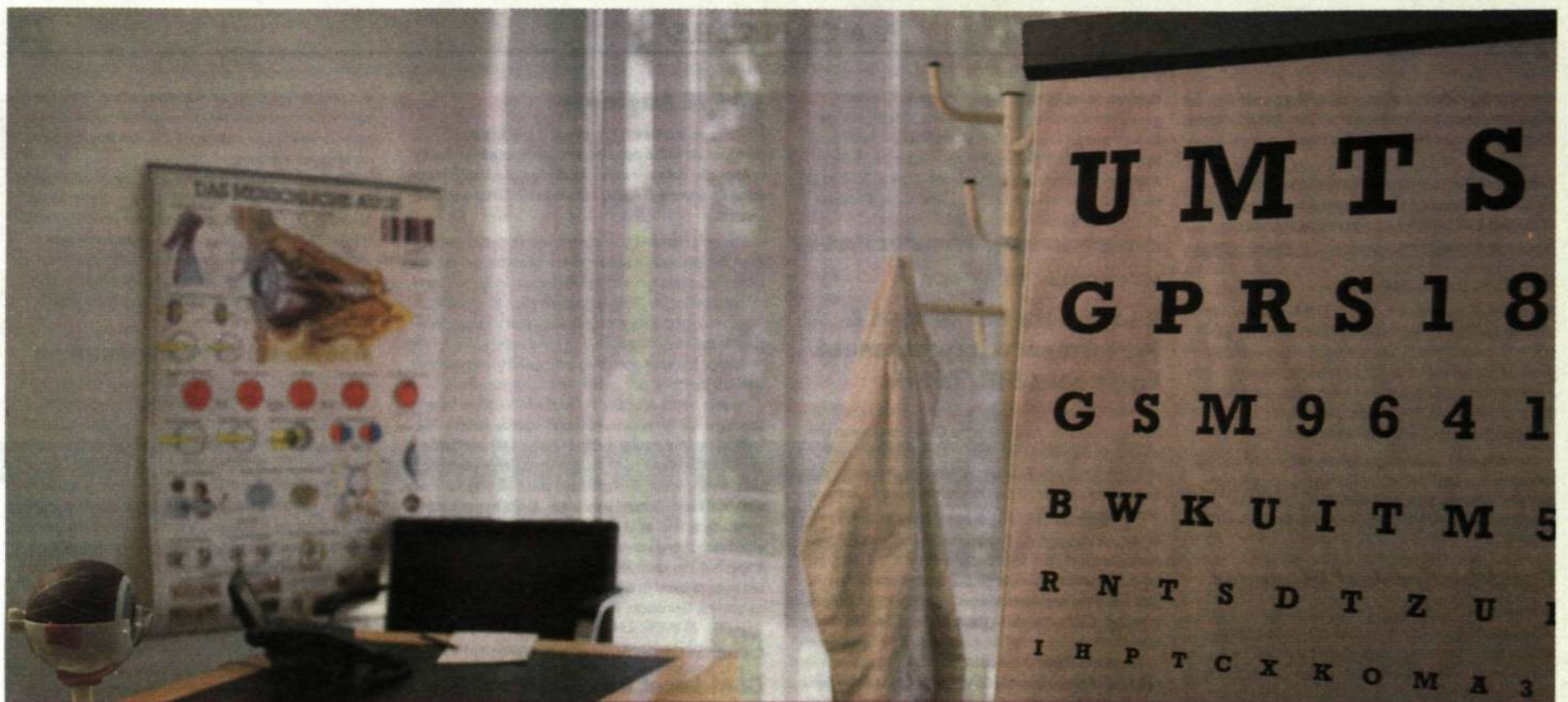
Send your application (marked 00-20-I&V-C) to:

Ericsson Radio Systems, SG/H,  
S-131 89 Stockholm,  
email: cecilia.jettel@era.ericsson.se



Make yourself heard.

ERICSSON 



## Ericsson in Germany – We see Mobile Internet. What about you?

The Ericsson GmbH (EDD) is headquartered in the international town Düsseldorf / Germany and has about 1,000 employees. With UMTS the Internet becomes Mobil Internet. The world will change and we are pushing these changes. Therefore we need people who think and react unconventional as we do. People who are able to see more.

We offer you exciting opportunities in a variety of fields, a new and challenging business for Ericsson. All positions require a strong customer focus and the successful candidates should be able to work well within a team environment. English fluency is essential and a good knowledge of German desirable.

### **Solution Marketing Manager - Network Management Solutions**

Your main responsibilities are in the area of both technical product management and product marketing for Network Management Solutions. You translate customer needs and wants into NMS through competent solution know-how and interaction with the relevant product units.

As a suitable candidate you should have a university degree in engineering or related discipline and experience in network management technologies, systems and applications. Fluency in English is a requirement and because of working with tenders and making presenting of our solutions a command of German is desirable.

### **Solution Marketing Manager – Internet Applications**

We are looking for persons wanting to play an important role in making Ericsson the market leader in Mobile Internet. Specifically we are looking for candidates in the area of Unified Messaging, Mobile Portals, IN Applications, E-commerce, and Games & Entertainment.

As a solution manager you would be responsible for the product strategy as well as making sure that the strategy is carried through. Included in the job is performance of market- and competitor analyses, finding, developing and supporting the right sales channels. Strategic product marketing belongs to your tasks as well as product introductions and partner relations. You will be the interface toward sales force, design units, technical support, consultancy and integration units.

We expect you to think independently, to possess a high degree of flexibility and a desire to work within the rules of the New Economy. Product management experience from the Enterprise sector could be an advantage as well as web architecture.

### **Customer Solutions Manager - Mobile Internet**

One of the most dynamic markets in Europe is moving rapidly towards realizing the Mobile Internet, by means of GPRS, WAP and an ever increasing focus on mass market applications and new revenue streams from portals, e-commerce and advertising.

Do you want to take on a senior role in grasping this opportunity and help making our key account Mannesmann - Mobile operator as well as ISPs - the most successful Mobile Internet player?

We are looking for a dynamic and driving person with a good feeling for the new market place and the Ericsson portfolio of Mobile Internet and Internet Applications. The ideal candidate has a good mixture of Technical and Business competence through education and practical experience.

### **Customer Solution Manager – Access**

The main responsibility is working for our GSM / UMTS Radio Network Solution towards the Mannesmann Group. This includes the definition of solutions meeting customer requirements and to conduct technical presentations. You

will be the interface with the customer in issues related and to assume the performance of workshops with the customer.

Applicants will be qualified at degree level and will have built up sufficient technical and business experience to allow them to function independently at a professional level for all activities. The nature of the role is very dynamic, therefore will require pro-active individuals with good problem solving and decision-making skills. Demonstration of communication skills is important as is strong customer and efficiency awareness.

### **Customer Solution Manager - Applications, Mannesmann Group**

You will be part of our focused efforts to create image, presence and a major market share in the area of applications for the Mannesmann group. Our customers, being ISPs as well as Mobile operators, are moving fast into new opportunities, bringing their position forward in the area of content alliances, e-commerce and mobile internet. We have a very strong and successful business relation, being the main supplier, which we now need to further expand into these areas.

You will be the main responsible for business segment applications, but also working across all segments as addressed by our customers. You will be responsible to, based on a close customer contact and the global as well as local Ericsson portfolios, define complete profitable solutions. The responsibility also means building and shaping our customers needs in order to create new business opportunities.

The successful candidate shall have a solid understanding on how our customers situation is changing as the internet goes mobile, as content and media goes mobile and what opportunities the emerging value chain of mobile internet will mean. Furthermore, we expect you to have a good understanding of Ericsson's applications portfolio as well as WAP, GSM, IP, UMTS and other enabling technologies.

### **Manager Competence Line – Section Manager Network Management & Application Service**

We are looking for a manager of our section Network Management & Application Service within the Competence Line CSS and ESME. Your department will deliver support & supply of all network management systems (e.g. TMOS, SMAS, MMS, TMIP) and Datacom Applications (e.g. e-commerce, WOA; IP-telephony, WAP). As Manager you are accountable for Strategic/Resource Planning, Budget and follow ups of costs. The realization of department and company goals belongs to your tasks as well as (further) development of related and new processes. You will have to do the long-term planning regarding leadership, competence development, improve the efficiency of the section and make sure that we are having fun at work.

As a suitable candidate, we expect that you have a few years of management experience as a line manager or project manager. We also want you to be result oriented as well as business and customer oriented. Strong people orientation and very good competence developer is a must. You have to

For further details or to apply for a position above please contact:

Ericsson GmbH  
Recruitment Service  
Fritz-Vomfelde-Straße 26  
D-40547 Düsseldorf  
eMail: career@ericsson.de

be known as a person who can create team spirit and are able to take over changing requests and well organized. Technical background in the area of network management systems and/or IP-Datcom would be ideal.

### **Project Manager**

This challenging position involves project management in realization of innovative infrastructure and application solutions for our customers in the segment of network operators and service providers. You will be involved in tender teams, feasibility studies, selection of resources / sub-contractors, contract formulation, set-up of project teams, preparation of project plans and the observance of project milestones and quality assurance.

For this position, the ideal candidate has a degree preferably in electrical engineering and several years experience as a manager of technical projects. You have a strong business focus and are familiar with project management methods and tools. We are looking for a highly motivated and team-orientated candidate who is a good communicator and builds trust in customer relation. You are flexible in finding solutions, see opportunities first and then the limitations. In addition to a good working knowledge of MS-Office applications is a requirement.

### **Teamleader Package Switching System**

We are looking for an enthusiastic, goal and people oriented teamleader who will be responsible for 20 people. You will lead and establish the team which is responsible for integration of the GPRS Support Nodes in existing GSM networks (GSM connectivity) in backbones and in Internet Services. Parameter production and preparation for PSS integration in UMTS Networks, co-ordination and description of Services, execution of pre- and feasibility studies for Services and support/advanced\*trouble shooting for delivered Services are some of your tasks. You will be technical customer interface for delivered Services.

The job requires a university degree in Electrical Engineering or Computer Science and fluency in English. We want you to have extensive experience in either UNIX/LINUX and/or AXE as well as knowledge about the GSN nodes, knowledge in the IP/Datcom area, LAN/WAN, ATM. 2 - 3 years of relevant work experience are welcome, work/study experience abroad are of advantage. The ideal candidate has to be a strong skill developer and make sure that process and tools run smoothly.

### **Multi Vendor-Integration Engineer and Senior Multi-Vendor Integration Engineer**

You will work in Ericsson's largest Multi-Vendor Integration Center, which focuses on the Verification & Integration of systems and products from Ericsson towards other vendors. Our role is to globally support local market units in their effort to deliver Multi-Vendor Integration Services to their customers.

As Multi-Vendor Integration Engineer you will be responsible for the customer specific service supply of Multi-Vendor Integration services. Furthermore you will have the chance to support services in advanced technologies of other Ericsson Services Mid Europe (ESME) units, e.g. Acceptance tests and Demo Tests. We are looking for engineers with a formal degree in electrical engineering / informatics or similar. 1 - 2 years of relevant work experience in telecommunications is desired for Multi-Vendor Integration Engineers and 3 - 5 years for a senior position. Knowledge in C7 Signalling, UNIX or TCP/IP is a clear advantage. Willingness to travel globally is required.

### **Service Product Manager - Integration Services**

You will work in Ericsson's largest Multi-Vendor Integration Center, which focuses on the Verification & Integration of systems and products from Ericsson towards other vendors. Our role is to globally support local market units in their effort to deliver Multi-Vendor Integration Services to their customers.

Within our Product Management Unit you will be responsible for the development of new integration service products e.g. Service Product Specification and Supply Manual. You will establish a cross-functional network within Ericsson and maintain links to related Shared Service Product Units/Practices. Furthermore you will act as an interface to Customer Units and Supply Units. You will also be responsible for the service-product life cycle management of integration services e.g. processes, costs, documentation. Willingness to travel globally is required. We are looking for a person with 1 - 3 years of relevant work experience in the area of telecommunications or close connected areas. He/she should be highly business oriented and should be skilled in communication techniques.

### **Multi-Vendor Integration Manager**

You will work in Ericsson's largest Multi-Vendor Integration Center, which focuses on the Verification & Integration of systems and products from Ericsson towards other vendors. Our role is to globally support local market units in their effort to deliver Multi-Vendor Integration Services to their customers.

Your responsibility is to plan, lead and supervise the execution of Multi-Vendor integration projects, preparing reports on progress and informing the managers involved in the organisation. Naturally in our projects many different Ericsson organisations locally and globally are involved, but a strong focus is on cross-vendor / competitor projects. Apart from technical knowledge, an interest to lead sensitive and political discussions with competitors is required. As a suitable candidate you should have some years work experience in the technical aspects of telecommunications. You should have knowledge about PROPS and project planning. Good knowledge of mobile telephone systems and Ericsson practises would be an advantage. Resourceful, flexible, initiative, good communication, co-operation skills and a good ability to work under pressure are important personal qualities. Furthermore you should have a strong interest in people and be willing to develop as a leader.

### **Engineers - UMTS Test & Integration**

Your tasks are the test, support and integration of new network-elements in 3G mobile and data networks in Germany. You are responsible for field acceptance tests with the customers, do the trouble report handling and solve HW-, SW- and Configurations-problems. You will be the active interface for the back-office and implement (roll out) new HW- and SW-products. One of your tasks will be to support, introduce and to brief new colleagues and service partners.

### **UMTS Radio Network Design Engineers**

The WCDMA Competence Center at EDD takes central responsibility in the area of third generation mobile telephony systems based on the new UMTS standard. Therefore we are looking for qualified Radio Network Design Engineers in the area of UMTS/WCDMA. You will be part of our new UMTS Radio Network Design organisation which is developing network solutions for our German customers. The position contains the following activities as complete cellplanning of WCDMA Systems, developing methods for WCDMA Radio Network Planning, tuning and optimisation and support of internal and external customers.

As a suitable candidate you have experience in the area of GSM, TDMA and/or IS-95 cell planning. Additionally you need solid knowledge in Unix and telecommunication. You are flexible, a team player, open-minded and self motivated. You will be trained in the area of UMTS System Technology and Cell Planning by attending courses and On-the-Job training.

### **Engineers - Network Configuration**

The network configuration engineer will compile and develop all required data for switching networks (e.g. A- and B-number-analysis, routing analysis, charging-/accounting and signalling data). You will also configure new features and services (AOC, IN functionality and features) and work Ericsson internally and at the customer. Further tasks will be preparation of configuration data for hardware expansions and new systems (mobile and fixed networks). Programming of data transcript support system tools and preparation of technical documentation for our customers and service partners are also part of the job.

On top of the above mentioned requirements a suitable candidate should have a good understanding of structures, procedure and functionality of existing telecom nets.

### **Engineers - System Test Plant (STP) support and Test Configuration Management (TCM)**

You will be responsible for the configuration and updates of our System Test Plants (STP's). The STP's are used for various projects like Type Acceptance, trouble shooting, test of 3rd party products, or customer demonstrations of new products. As each project requires an individual test configuration, you will cooperate closely with our Project Managers to meet these needs. Other tasks are planning and supervision of STP extensions (e.g. for UMTS), provisioning of test tools like protocol analysers, and trouble shooting of all STP equipment. You will work with a large variety of equipment, like GSM systems, UMTS, wireline AXE's, IP products like AXD and AXI, Access products, and Test Automation Systems.

The job requires a university degree in Electrical Engineering or Computer Science. You should be interested in both Hardware and Software. Therefore, an apprenticeship as a telecommunication installer or similar is of advantage. Experience in GSM or AXE is also a plus. Depending on your experience, you will do various training courses, as well as a training-on-the-job program.

### **Engineers - Operation and Maintenance Systems**

You will work with Support and Supply of Our TMOS-Software, which is used for the support of mobile and fixed telephony networks, from the user's and system administrator's perspective. Your tasks are customer specific integration as well as the execution of installation and integration tests and type acceptances. You will develop complex solutions for our customers on your own authority using the worldwide Ericsson network. Experience in working with TMOS products (OSS, SMAS) is a must.

### **Engineers - Core Network Mobile**

You will work with Support and Supply of the Mobile Core Network nodes for UMTS and GSM, e.g. the Media Gateway (AXE or Cello) and the MSC Server. You are responsible for the market verification of the new nodes. Our customer is one of the strongest players in the Telecommunication business. Therefore it is one of your biggest efforts to introduce new releases and products into the live network as one of the first markets worldwide. You will work very closely with the development projects.

You will also be responsible for supporting one of the biggest networks in the world. EDD is defined as a 'Stand Alone FSC', which means you will work closely together with the PLM nodes. You will be part of the 'Master Back Office' within ESME, so the other ESME countries will also use your expertise. Experience in working with Mobile Core products (MSC or UMTS) is a must.

### **Engineers - IP Datcom**

Your tasks are the design, integration and implementation of complex solutions for our Networks & IP Service products. You will be mainly concerned with the newest Ericsson products for high performance backbones, broadband access and products for integration of new internet services as e.g. IP Telephony. On top of the below mentioned requirements you have good knowledge of LAN / WAN technologies and routing protocols.

For these three vacancies you will be introduced by a training on the job, which will be intensified by courses. You match well with our young international team, if you have a technical degree or appropriate professional experience. You feel at home in the UNIX world as user or administrator. Experience with relational databases, TCP/IP networks, Java or shell script programming would be an advantage.

**ERICSSON** 

## TDMA Local Product

● We are now looking for an experienced manager who can support the KAM in driving the sales and marketing activities; provide product strategic information and system proposals to offerings to assigned clients in our office at Kingston, Jamaica.

The candidate should have a good technical knowledge of cellular systems with a successful track record. Knowledge of 3G Mobile technology and Ericsson's datacom solutions is a merit. As for your personality, we expect you to have a drive for result and excellent interpersonal skills. Fluency in English is essential. Ericsson experience is requested.

**Contact:** Ake Ohnback, KAM, +1 876 754 8659. **Applications:** N. Borrego, HR Repr. noelia.borrego@ericsson.com.

## ERICSSON SOUTH AFRICA PTY LTD

Support Engineers / Group Managers and Service Delivery Managers. Ericsson South Africa is looking for team players that have excellent interpersonal skills with a high regard for customer satisfaction to work in our Field Support Centre. The main focus of the job is to offer competent technical support to operators of a contracted GSM Network in South Africa and certain other countries in the Sub-Continent. The successful applicants must be flexible to travel as well as being responsive to new challenges.

● The successful candidates are to be accountable and responsible in the efficient handling of the System Support function within the FSC. The co-operation in developing the expertise and transfer of knowledge within the department is a required function. We are looking for candidates who meet the following requirements: At least 3-5 years experience working in a support environment. Network integration experience is an advantage. Excellent Fault finding capabilities as well as knowledge and experience of all related tools used in a support environment. Ericsson South Africa has the following positions available in the FSC:

### 2 Senior BSS Support Engineers

### 1 Group Manager BSS

### 1 Senior SS Support Engineer

### 1 Senior OSS Support Engineer

## 1 Senior IN Support Engineer (Prepaid and/or MVPN)

### 3 Service Delivery Managers

**Contact:** Eric Liddell, Mgr Field Support Centre, +27 11 2832097, +27 83 2120672, eric.liddell@esa.ericsson.se. **Application:** Nadia Radjoo: Senior HR Officer, +27 11 283 2178 or +27 83 222 6124, nadia.radjoo@esa.ericsson.se

## NIPPON ERICSSON K.K. - JAPAN

The IMT-2000 Research and Development department located in Yokosuka Research Park, south of Tokyo, has the following opening.

### Senior System Designer/ System Designer

● In Yokosuka Research Park (YRP) we are a growing unit working with software development for the Wideband Base Transceiver Station (WBTS) with NTT DoCoMo as the customer. The software project for this product is distributed between several design centres in Sweden and YRP in Japan.

Our tasks concern system design and software development for operation & maintenance and traffic control. The software is run in an embedded system and we are currently using C and VxWorks real time operating system.

We are now looking for a senior system designer or system designer with at least 3 years experience in mobile communication. As we are still a small unit, work tasks will vary and can include such as; customer requirement analyses, system design, coaching of junior staff, participate in design and code reviews and team leading.

Knowledge in the following areas is regarded as a merit, C, VxWorks, UMTS, WCDMA, WBTS and Victoria. As the WBTS project is distributed on many design centres a good contact network in PU-WRN would also be an advantage.

**Contact:** +81 468 47 5212, jan-olov.eriksson@nrj.ericsson.se or +81 468 47 5215, erik.svedmark@nrj.ericsson.se

### Team Leader

CMS30 System Upgrades in Japan. Within the CMS30 System Integration Department located in Shin-Yokohama, we are responsible for the System Upgrades in the CMS30 networks. We are currently handling Application System replacements and CN-A's in all AXE based nodes, more than 70 today, and will from 2001 in addition to this be responsible for the upgrades of the packet data nodes (PM-

SC, similar to the GPRS GSN nodes). The pace in Japan is fast with normally two major CMS30 projects per year, the customer is demanding and is expecting top quality, not only from the product but also from the way it's handled and implemented. The upgrades are performed both on site and fully remote from Shin-Yokohama, with the aim to handle all upgrades remotely. 2001 will be a very interesting year with releases for packet data, service-in during the summer, and new functionality for interoperability between CMS30 and the 3G IMT-2000 network. From April 2001, our activities will be based both in Shin-Yokohama and in Osaka, covering the western part of Japan.

● Are you up for the challenge? We have a number of vacant positions, in Shin-Yokohama or Osaka, for the role as a Team Leader for an upgradeteam.

The applicant should be customer focused, very experienced with AXE upgrades and be able to work under pressure. Furthermore, experience in one or several of the following areas is a big bonus: Unix, Remote Handling Methodology (OPS scripts), System Verification, Field Support, GPRS, Datacom.

**Contact:** Claes.Haglund@nrj.ericsson.se

## ERICSSON TELEBIT A/S, AARHUS, DENMARK

### Supporters for Customer Services Department

Ericsson has become one of the world's largest enterprises because we believe that individual development is the key to success. We demand initiative and results and expect a businesslike approach to the tasks. In return, there are many challenges and career opportunities in a global network organisation with 100,000 colleagues. Ericsson Telebit A/S works on the cutting edge of data communication and develops specific products within the Ericsson group. We are currently seeking Supporters for our Customer Services Department.

● Tasks: Your main tasks will include: Support to our multi-protocol router customers. Maintenance of customer relations throughout the world. Customer training, both in-house and on-site. Qualifications: MSc EE, BSc EE or equivalent. Knowledge of data communication and communication protocols, mainly IP protocols. Work experience from for instance a telecommunications company. Fluent in English. Knowledge of teaching is desirable.

To succeed in this position you must be an extrovert and possess excellent communication skills. You will be working in an enthusiastic and dynamic environment that challenges both your professional and personal skills. You will get ample opportunity to define your own field of activity, depending on your qualifications and interests. Apart from Ericsson Telebit's own product development, you will also be involved in international projects. Some travel to be expected.

**Contact:** Manager Niels Kristensen, +45 89 38 51 00. **Application:** HR Dept. Ericsson Telebit A/S, Skanderborgvej 232, DK-8260 Viby J., Denmark, poulsen.dybdal@ericsson.dk

## ERICSSON EUROLAB, HERZOGENRATH/AACHEN, GERMANY

EED, in the heart of western Europe, is a young and growing company with an open working atmosphere and highly motivated colleagues. As part of the Core Network Mobile System operations, EED has the overall responsibility for the MSC/VLR product and the Integration, Verification, Supply & Support of UMTS Core network Mobile Systems. With that responsibility, EED will play a key role in introducing and supporting the 3rd generation mobile systems, UMTS, on the world market. The Transit Platform and System Evolution unit is responsible for the core of Switching Products, a new international organisation formed at EED in Aachen, Germany.

### Product Manager, Release Responsible

Proj.No 16/E00

● Your task will be the definition and coordination of the scope, timing and costs of the Prestudy, Feasibility Study and Execution Project with the support from the Strategic Product Management Network in TPSE. Furthermore you are issuing Core Requirement Specifications. You are responsible to ensure that the products ordered by our customers are delivered with the defined quality and content in the agreed time. You act as the main interface between the Project Management and the Product Management of TPSE as well as the interface to the ordering parties.

That also includes the responsibility to handle change requests together with the project and follow-up of the progress.

You need to have at least 2 years of experience in Product Management, System Design and/or Project Management. The job requires a high level of perseverance and self initiative as well as the willingness to communicate with several different speaking partners. The job offers you good opportunities to utilize and develop your managerial and leadership skills. The Release Responsible's perspective is to develop towards Strategic Product Management.

**Contact:** Carsten Bruns, Carsten.Bruns@eed.ericsson.se, +49 2407 575 106, Human Resources: Simon Seebass, Simon.Seebass@eed.ericsson.se, +49 2407 575 163

## Senior System Designers, GSM and UMTS

Proj.No 127/E00

● Your main tasks will be to carry out and coordinate system studies and other activities in the wide field of system management for GSM and UMTS projects. This will be in one or several of the following activity areas: Technical Studies for the Core Network & MSC; Characteristics & Dimensioning for Core Network & MSC; System Management Interface for Market activities; Core Network related Standardization; HW Platform Management; Operation & Maintenance.

Suitable candidates possess an engineering degree (e.g. telecommunications, electrical engineering or software engineering) with a minimum of 5 years experience in design, system level development or research. As we are looking forward to strengthen our system management organisation significantly we offer challenging positions for very experienced designers with the ability to motivate others, take decisions and convince with a strong and balanced personality. Good verbal and written communication skills, a high level of personal initiative and the ability to work autonomously are essential for this position. Knowledge of mobile Telecommunications or IP & datacom networks is an advantage.

**Contact:** EED/X/DKC, Frank Sell, +49 2407 575 172, Frank.Sell@eed.ericsson.se; HR, Christina Schneidawind, +49.2407.575-7814, eedcsch@eed.ericsson.se

## Software Design Engineers/ Software Test Engineers

Proj.No 35/E00

As a result of this we would like to strengthen our core competence in traffic handling and network architecture with external expertise. We are offering plenty of opportunities to learn and progress in a challenging and changing design development and software test environment. You would be part of a fast moving team developing and testing a new system, which migrates towards a successful future proof development product. A key product for Ericsson for its market positioning. For this reason we are looking for a number of experienced software design and software test engineers who want to play a leading role in the evolution of Ericsson's products in the fast moving mobile world market.

● For Software Design: You should have a minimum of 2 years experience in a design development area be familiar with complete telecom systems, have programming experience in a number of different languages, SDL knowledge, a background in telecommunications is preferred with a working knowledge of structural design methods is required for this position. To understand the complexity of our system is part of each designer's responsibility when working on our software modules, the design documentation for the interfaces or the system studies.

For Software Testing: You should have a minimum of two years experience in software maintenance or software testing, be familiar with complete telecom systems, have programming experience, very good analytical abilities and a strong interest in troubleshooting. Experience in software testing in a simulated or real environment, preferably on AXE10 with mobile application is a clear advantage. Currently we are also running a Pilot investigating the usage of new test environments such as TTCN in order to enhance our software testing possibilities for future products. Throughout our design projects we use the team work concept which encapsulates the team's responsibility for planning the work package, designing products and producing associated documentation as well as function testing of the work package. For both positions: Relevant Ericsson experience is a plus but not essential. To be successful you need to have very good communication skills, quality orientated, innovative and a strong team player.

**Contact:** Dave Henderson, +49 2407 575 630, eedhe@eed.ericsson.se; HR, Christina Schneidawind, +49 2407 575 7814, eedcsch@eed.ericsson.se

### Method Expert Engineer

Proj.No 109/E00

We are seeking for candidates, who enjoy the area of methods. We expect you to become/to be an expert not only for already established methods within NPU MSC (Work Package Concept, System 105/106) but also for evaluating, developing, and introducing new ways of working in software development.

● A suitable candidate should have at least 4 years of experience in the software engineering area. You should have worked with standard methods in software engineering, know state-of-the-art modeling and specification languages (e.g. UML, SDL) and have some experience with CASE tools. The ability to think analytical and abstract is essential for this job. Critical dealing with methods is also required. Needless to mention that team working skills and ability are very important qualities for the candidates, but there's also a possibility to become a team leader for the group, depending on your ambitions. Formally, a combined degree in engineering/computer science and economics is a benefit.

**Contact:** +49 2407 575-95904, Veli-Pekka.Sarjanen@eed.ericsson.se, +49 2407 575-7771, Jan.Andersson@eed.ericsson.se, HR, +49.2407.575-7814, eedcsch@eed.ericsson.se

Ericsson Systems Expertise Ltd, Dublin, Ireland

# SENIOR TESTER/TROUBLESHOOTER

The position of Senior AXE Tester/Troubleshooter has become available within the RNM department of the RNSC (Radio Network Solutions Centre), Ericsson, Belfield Office Park, Clonskeagh, Dublin 4, Ireland.

The position is available immediately.

The successful candidate will have the opportunity to work with an Open Systems group, developing near-real-time applications in the Performance Management and Performance Tuning area. There will be many opportunities for travel as well as broadening of technical horizons through R&D work. The successful candidate will have skills that include of the following:

- Strong 'Hands On' exchange environment experience in the TDMA area
- 2 - 3 years experience of TDMA troubleshooting/testing
- Good knowledge of PLEX
- Good knowledge of ASA
- Knowledge of Unix desirable
- DT testing experience desirable
- Good knowledge of exchange commands desirable
- Telecoms Software Maintenance Experience desirable

For further information on the role please contact:  
Nora Hearty  
+353 207 7566  
in the RNM group or  
e-mail your C.V. to Lorna.Mulvihill@eei.ericsson.se



## GSM SS/UMTS System and Network Testers

Proj.No 55/399

● These Testers are mainly responsible for test design and test execution needed to integrate and industrialize mobile telecom/datacom networks of the third generation. This involves node testing on AXE10, CELLO or JAMBALA platforms; network testing in a network containing C7, ATM and IP interfaces; trouble shooting, configuring and tuning the whole UMTS network. The test execution is mainly performed in target environment.

As a suitable candidate you have experience in software testing or design, preferably in the area of AXE10 based GSM systems; knowledge of Intelligent Network (platform, services or CAMEL) or charging or C7 Signalling is a significant plus. In the UMTS world testers will need more and more datacom knowledge. So people with experience in TCP/IP or ATM networks UNIX, Windows NT or other platforms; C/C++, Java or other higher programming languages are most welcome.

In addition we expect good communication skills, openness, respect, initiative and reliability to work as an effective member in our project teams.

Contact: A. Demmig, +49.2407.575-366, eedade@eed.ericsson.se, +49.2407.575-89447, Markus.Helfrich@eed.ericsson.se

## Exp. Troubleshooters UMTS

Proj.No 46/399

● You will be actively involved in the Product Introduction of UMTS / GSM Core networks and FOA activities worldwide, like on-site support. You will handle emergency situation on Core Network Products towards UMTS / GSM customers and the UMTS / GSM support organization, like hot TR Troubleshooting and customer escalations.

As member of the 'Key Competence Center' for Core Network Products you will give technical consultancy towards the customer and the support organization. Routine work like technical studies, testing activities and work on ISP and QoS activities will conclude the big variety of the job.

You should have good testing or Trouble-shooting background in one of the areas GSM on AXE 10 platform, GPRS nodes, ATM switching and protocol or TCP/IP protocols. You should have a determination to tackle problems and be able meet new challenges. Willingness and ability to travel to customer sites is expected. An open minded and flexible attitude and the ability to work well in a team environment are important personal qualities. You should also show good written and verbal communications skills.

Contact: Dieter Ahlers, +49.2407.575-404, Dieter.Ahlers@eed.ericsson.se; HR, Markus Helfrich, +49.2407.575-89447, Markus.Helfrich@eed.ericsson.se

## Strategic Product Managers

Proj.No 218/E00

● for the following products/components: WebOnAir(tm) Filter Proxy, WebOnAir(tm) Interactive Media, WISE(tm) Portal Presentation Layer.

The Strategic Product Manager is commercial responsible for the product throughout its complete life cycle. He is responsible for the assigned product budget and is free in his decisions within the frame that has been agreed with the product sponsor.

The tasks of the SPM in the early phase of the product life cycle is to development requirements in close co-operation with local and remote design team. During the execution phase the SPM monitors the market trends and the competitors and corrects the product development direction accordingly.

Moreover, he/she supports the marketing organization in pre-sales and sales activities. He/she participates in tender work and represents the product Ericsson internal as well as for customers. Due to the global nature of the product the person taking this interesting and challenging task must be willing to travel frequently.

An ideal candidate has experience in related activities like OPM or project management or has a strong technical background and an interest in product management work. Very good communication and presentation skills are an absolute must for this position as well as a high interest in working directly with the customer.

The position is moreover linked directly into the management of the responsible product line at the PU Mobile Internet Applications, and the position holder reports directly to the PL manager. Within EED the position holder reports directly to the manager of the Application Design. The positions are available with immediate effect.

Contact: +49-2407-575-182 Ralf.Wellens@eed.ericsson.se, +49-2407-575-475, Manfred.Husz@eed.ericsson.se, HR, +49-2407-575-163, Simon.Seebass@eed.ericsson.se

## ERICSSON LTD, UK

Technical Solution Engineers. Do you want to join a dedicated sales team, using your technical expertise for direct customer benefit?

The WorldCom account hub is responsible for developing, securing and implementing business with WorldCom across the EMEA region. This regional account in Guild-

ford, UK, is part of the global WorldCom account. WorldCom is a key strategic customer for Ericsson, considering their market leading role in global data and voice services, their ambitions in mobile Internet, and their subsidiary UUNET being the Internet service provider that ships more than half of the world's Internet traffic.

Intense cooperation across national borders with WorldCom engineering, product development and marketing organisations, as well as with product units of Ericsson is a given for this job.

In addition to your experience from a technical telecommunications environment you will need strong personal drive, excellent communication skills and a sales attitude to succeed in this role.

● For both positions you would have the opportunity to work across the full Ericsson portfolio including datacom, transmission, wireline voice, mobile systems and value-add applications when needed, thereby gaining a unique overall understanding of communications networks.

Specifically, for your own area of responsibility you would: Own the requirements capture process between WorldCom and Ericsson. Be the main point of contact for any technical queries from the customer. Present detailed roll-out plans and future evolution outlook, perform upgrade planning. Prepare technical parts of offers

## MULTI-SERVICE NETWORKS. REF. 489.

● You would be responsible for the product strategy for multi-service networks, including ATM solutions and IN. You will need a technical background from AXE and an understanding of ATM networking. Ideally you have IN experience.

## MOBILE SOLUTIONS. REF. 490

● You would be responsible for the product strategy for GSM, GPRS, WCDMA systems as well as mobile Internet applications. You will need a technical background from GSM and/or GPRS systems and an understanding of mobile Internet applications.

Application: myfuture@etl.ericsson.se quote reference number as above. Recruiting Manager: David Lindblom.

## NIPPON ERICSSON K.K. - JAPAN

## Integration Engineers

3rd Generation, WCDMA/IMT-2000. Japan has today over 55 million cellular subscribers and Japan is the first market to launch 3G (WCDMA/IMT2000) in the world. J-Phone will launch 3G services in October 2001.

The J-Phone network will consist of parts from different vendors, as Core Network and Radio Access Network from Ericsson, Core Network and Radio Access Network from other vendors. Ericsson is the single vendor for coverage of major cities in Japan and at a later stage the system will become multi vendor in the remaining areas. In order to meet the challenges presented by the deployment of a 3rd Generation WCDMA/IMT-2000 Network in Japan, the Multi Vendor Integration unit (NRI/ST/W) within Nippon Ericsson is looking for a number of motivated and experienced engineers.

For all positions, knowledge and experience from TR handling, correction testing and knowledge of MHS/MSS is required. In addition experience from IMT-2000 testing is a bonus.

Another requirement is to be able to work well within a team environment and be able to work in a new culture. The main role will be to verify the standard protocol between different vendors and between network elements. For further details regarding Nippon Ericsson K.K please visit the web page at: <http://inside.jp.ao.ericsson.se/>

## Core Network Circuit Switched

● Previous experience from AXE testing, upgrade and testing of SW packages is required. Experience from CN1.0 and having an overall knowledge of WCDMA/IMT-2000 is a plus.

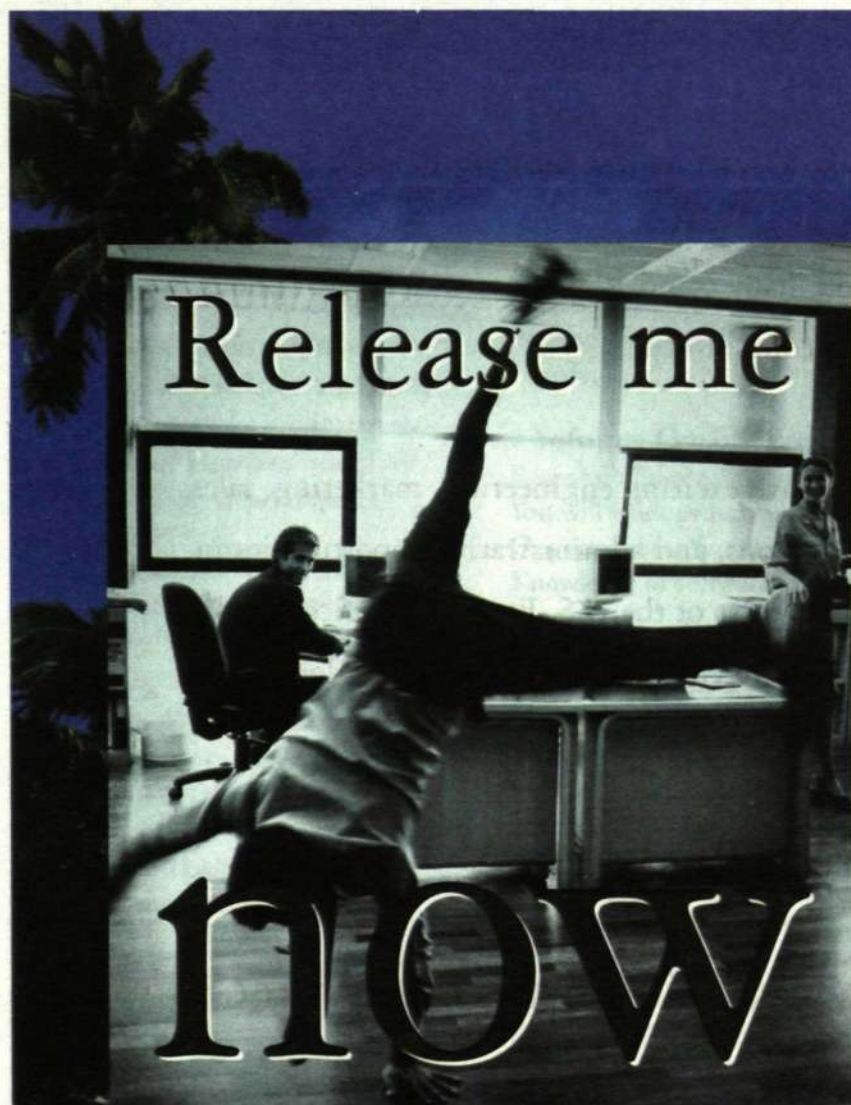
## Core Network Packet Switched

● Previous experience from AXE testing, upgrade and testing of SW packages is required. Experience from GPRS based packed switching function in network as well as ATM/IP protocols and having an overall knowledge of WCDMA/IMT-2000.

## RAN, Radio Access Network

● Experience from RNC-Core network integration. Testing of lu (lur) interface. If you feel you can meet the requirements, we are ready to offer you a long-term contract. Please send your application in English, including CV and references.

Contact: John Fornehed, john.fornehed@nrj.ericsson.se, +81 45 475 5841.



## PROGRAMME OFFICE MANAGER GUILDFORD, £ENERGISING

With more customers than any other telecoms business, Ericsson is pushing forward the boundaries in every aspect of mobile telephony development and helping the world to communicate freely. To help us co-ordinate our global supply chain across the entire market spectrum, we need a committed and energetic Programme Office Manager.

With wide-ranging responsibilities, your role will include planning the content of global supply chain conferences and helping presenters communicate more clearly to their audience. Along with a background in logistics and programme rollout and excellent customer relationship skills, you'll need a good degree in a relevant subject and a strong understanding of our business. Just as important, your imagination, drive and passion to succeed through effective teamwork must be up to the challenge of creating a new way of living and working. In return, you'll enjoy a refreshingly red-tape-free environment, an outstanding salary, industry-leading training and superb benefits.

To find out how to release yourself to work with the most exciting technology around, visit [www.ericsson.co.uk/UK/myfuture](http://www.ericsson.co.uk/UK/myfuture) or email your CV to [myfuture@etl.ericsson.se](mailto:myfuture@etl.ericsson.se), quoting reference 532.

Deliver the 3rd Generation

ERICSSON

A strong community will enhance the abilities of each individual member. And when people work together towards a single goal, amazing things can happen.

# datacommunity

At Ericsson's Data Backbone and Optical Networks division, we work together as a community to reinvent communications solutions that meet the challenge of the current datacom revolution and the coming **Mobile Internet** revolution.

Our products and services focus on the technology needs of next generation wireless and wireline operators and service providers in the areas of backbone infrastructure, network access, IP telephony, network management, and optical networks.

Take a closer look at the global mobile infrastructure leader – Ericsson. We are confident you will find many compelling reasons to be part of our datacommunity.

We have exciting engineering, marketing, sales, operations, and administrative opportunities in many parts of the U.S. For the specifics, check out our Web site's careers section for locations of interest to you.

An Equal Opportunity Employer

[www.ericsson.com/datacom](http://www.ericsson.com/datacom)



# Internet car of future on display

The world's first Internet car was unveiled in Kista at the beginning of December.

► Millions of new cars are sold each year and people are spending more and more time in their cars. In order to be able to offer the Internet and interactive mobile multimedia to motorists who want a continuous connection, several technical problems need to be solved first.

A technical solution will be based on modules that are easy to replace and upgrade. Terminals, a built-in communications platform and infrastructure that supports

several radio systems will be required.

The system must be able to connect to third-generation mobile systems when traveling in rural areas or to local, high-speed systems, depending on the traffic density. The ability to connect to personally adapted portals for various applications will also be available.

"In order to accomplish all of this, we will have to collaborate with other companies," say Ralf Keller and Thorsten Lohmar of Ericsson's research unit at Ericsson Eurolab in Aachen, Germany. "That collaboration will include the automotive industry, various service providers, telecom and datacom companies and the media."

Work is moving forward, with



The world's first Internet car offers continuous access.

Photo: Kurt Johansson

Ericsson focusing on developing communications systems and infrastructure. But it will take several years before an Internet car is available on the market.

Lars Cederquist

www.ist-drive.org

research.eed.ericsson.se/comcar

# Ericsson in the US gives helps children buy gifts

► Ericsson in the US wants to provide children with an opportunity to buy Christmas gifts for their family and friends.

For the sixth year in a row, Ericsson employees in Richardson, Texas collected gifts from fellow workers to make it possible for children from low-income families could buy Christmas presents for symbolic amounts of between USD .50 to 3.00.

Employees either buy or donate

presents that they have received but have not used at home. Last year's holiday bazaar was a success, with around 600 grade school and middle school students buying some 3,000 Christmas presents.

Ulrika Nybäck

ulrika.nybäck@lme.ericsson.se

www.exu.ericsson.se/EUS

/G/crops/bd/holidaystore/holiday2.htm



Photo: Denise Duggan

# Satellites on same wavelength

► Using a new satellite communications system, large base stations on earth would become unnecessary and operators could lower their costs.

That is the conclusion reached by Henric Johnson, a Ph.D. candidate at Blekinge Institute of Technology, in a master's thesis. Johnson was recently awarded the Ericsson Software Technology Prize for his ideas.

The jury's motivation read: "Best thesis study which, using excellent prose, presented an innovative solution to a current problem within the field of mobile communications."

The master's thesis discusses how to get mobile phones and stationary base stations to communicate via satellite on the same frequency band. That would result in only using two frequencies instead of today's four. In order for this to work, a mobile phone, a smaller stationary base station for that phone and new software would be required. Henric Johnson based his conclusions on test simulations. The new system would be cheaper than today's satellite systems since expensive base stations on earth would be replaced by smaller antenna modules.

"If an operator can lower its costs, then it could also potentially lower the fees it charges customers," reasons Henric Johnson.



Henric Johnson

# Job Opportunities in Ericsson, Ireland

*Network Operator Solutions Centre is a leading design centre, which provides Ericsson customers with solutions for the management and control of the multi-service Core and Fixed Access Networks. The unit provides management and control solutions across the Mobile Fixed Access domains*

*We focus on providing products and services that reduce the cost of ownership for network operators increasing the efficiency of their networks. We are dedicated to making our products the best of their type in the market.*

If interested please send your Curriculum Vitae to

Michael McGann  
Competence and Human Resources  
Manager  
Ericsson Software Campus  
Athlone  
Co. Westmeath  
Ireland

Or email, stating the job applied for in the subject area

recruit.ath@eei.ericsson.se

## ● Software Engineers

As a Software Engineer you will be working with applications for the management and control of Wireline and Wireless networks for Fixed and Mobile telecom networks. Essential skills include; C and C++, use case modelling techniques, Object orientated Analysis and Design techniques, especially UML, RUP (Rational Unified Process). You must have experience in developing on Open Systems (Unix preferably). Some telecom exposure would be of benefit.

## ● Software Quality Engineer

Responsibilities will include; ensuring compliance to ISO9001 and facilitating CMM maturity level progression. You will work proactively with software development projects to capture and implement process improvement Opportunities. You must have up to 3 years working experience in a software development environment. Knowledge of software quality practices and project quality coordination is a must.

## ● Configuration Management Engineer

We have excellent configuration management systems in existence; the challenge is in managing the transition to Open Systems. We need someone who is still involved with daily implementation issues in a multifunctional software environment. Essential skills and experience include; Degree in computing or software engineering. Two to three years working experience in a design environment. Working knowledge of Clearcase as a tool and an understanding of configuration management issues.

## ● Technical Product Manager

As a Technical Product Manager you will take customer requirement for new Telecom Networks, add new functionality and make adaptations to Telecom Systems. You will write the technical specification documents and communicate these to software designers. Some liaison with sales staff will be required. Essential skills include; a degree or equivalent, 2 years experience in SW design in the Telecom industry. Up to 2 years Systems Engineer experience with an understanding of higher level architecture.

## ● Regional Sales Manager (Telecom Management Products)

We are building a sales team comprising of a Regional Sales Manager and International Account Managers who will be working within the Americas regions. This team is responsible for establishing new and maintaining existing business in the 'wire-line operator market', selling Telecom Management Products. As a Regional Sales Manager you must have a proven track record of 'in-direct' selling with a background in the Telecom Industry. You must have between 3-5 years experience as a Sales Manager/Internal Account Manager. Technical knowledge of Switches, Transmissions and Access products are desirable.



Mobile phones are getting smaller all the time, but not at the MTN ScienCentr in Capetown. Ericsson South Africa has sponsored the construction of the world's largest working mobile phone at the center.

Photo: Toby Selander

## A playful discovery of science

► In a colorful room in a newly opened shopping center in Capetown, children and adults alike can partake in scientific experiments in a playful manner. Ericsson has contributed by sponsoring the world's largest working mobile phone and an auditorium.

"South Africa does not have a comprehensive scientific tradition. That's why it is important to disseminate a scientific viewpoint to all levels of society," says Professor Mike Bruton, who previously worked as the educational director at Two Ocean Aquarium, a large marine museum in central Capetown.

He has led the work at Century City, a large commercial area and amusement park in the northern part of the city, to create a modern, interactive center for scientific experimentation. As the name suggests, the main sponsor for the MTN ScienCentr is the telecom operator MTN, although portions of the project have been sponsored by several

other large companies, including Ericsson. In addition to the large mobile phone, Ericsson has paid for the costs for an auditorium.

"ScienCentr is unique, in that it is located in a shopping center," Mike Bruton says.

Can a ritzy shopping area be an appropriate location for such a venture? According to Mike Bruton it can.

"Century City will have 20 million visitors a year, and we anticipate that a couple hundred thousand of them will find their way to ScienCentr. You also have to remember that ScienCentr is one of the few inexpensive amusements available, which will also attract people."

The 3,000 square-meter facility is filled with hands-on experiments that fulfill the goals of the creators. The facility also includes a large Camera Obscura, a gigantic digital camera and an equally large calculator.

"One of the most important goals with

ScienCentr is to disseminate knowledge about mathematics and technology," says Mike Bruton.

A gigantic mobile phone, built by a company in South Africa, is sponsored by Ericsson. The most difficult aspect was creating a functioning screen, says Mike Bruton.

"Inside the shell of the large phone is an ordinary Ericsson 320. What we ended up doing was to simply hook up a video camera to a large computer screen which functions as the oversized phone's display," he says.

A majority of the 600,000 Rand (roughly USD 80,000) that Ericsson has donated, has been used for an auditorium and the technical equipment it contains. A very worthy investment, according to Mike Bruton.

"The auditorium is a fantastic and an important part of ScienCentr," he says.

Mats Lundström

mats.lundstrom@ime.ericsson.se

### UPCOMING

Transportation of the Odin research satellite to its launch site in Russia will begin the week before Christmas. Several Swedish and foreign research groups are collaborating on this project, including Saab Ericsson Space.

The next issue of *Kontakt* will be published on January 18. The next issue of *Contact* will appear on January 25.

January 26: Ericsson's year-end report for 2000 will be presented.

February 20-23: The GSM World Congress 2001 is being arranged in Cannes. As in previous years, Ericsson will be present, with speakers, an exhibition and a major customer seminar. The GSM World Congress grows in importance each year. Last year, 15,500 visitors attended and some 100 countries were represented.

### UPDATES

On - The new world of communication number 6 has been published.

GSM Americas has held its conference in Rio de Janeiro.

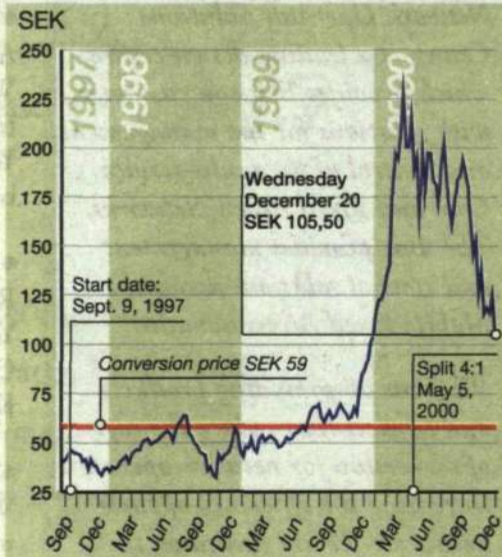
### NEW ASSIGNMENTS

Julio Bran-Melendez has been appointed country manager for Panama and President of Ericsson in Panama. He succeeds Michael Kuhner, who becomes head of New Sales North America at the GSM, TDMA and EDGE Systems business unit.

Gary Dewing will become the new head of the Regional Office/Shared Service Unit in South Africa.

Johan Gyllenswärd has been appointed new head of the Latin America customer group in the Multi-Service Networks division. He assumes this position on February 1.

### THE ERICSSON B SHARE



An Extraordinary General Meeting of shareholders on September 9, 1997, approved a proposed convertible debenture program. The conversion period extends through May 30, 2003. For additional information, access the website: <http://inside.ericsson.se/convertibles>

