Space company growing

Saab Ericsson Space is on its way of becoming one of the world's largest space companies. With the acquisition of the Netherlands' Fokker Space, the company is expanding to become Europe's largest supplier of space equipment. 7

Radio waves studied

If your ear becomes warm when you talk on your mobile phone, it's not due to the radio waves, but the fact that the phone components become warm. 23–25

Ericsson awarded

Ericsson was voted Best Supplier of the Year at British Telecom's awards gala. Ericsson won after sucessfully conducting a major ENGINE project. News, 6

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■ NO. 21 · DECEMBER 14 2000

The rapid advance of 3G development in Japan is partly driven by teenage girls' avid use of i-mode services. Photo: Lars Åström

Japanese teenagers lead the way to 3G

In Japan, the J-Phone operator's SMS service became popular among teenagers, especially girls. But the release of i-mode by NTT DoCoMo broke all records in popularity of the service. At Ericsson in Japan, preparations are underway for the next-generation mobile system. 18–20

Ericsson sells 3G to AT&T

North America's largest mobile phone operator, AT&T Wireless, plans to be the first in the US to employ the 3G system. The company has signed a letter of intent to buy 3G equipment from Ericsson. AT&T will be using R520 telephones for the launch of their GPRS website.

News, 4

Working with Juniper

Ericsson is extending its reach within the realm of mobile Internet through a new joint venture with Juniper Networks, which produces IT routers.

"This is yet another advance in Ericsson's overall strategy to become the biggest player in mobile Internet," says Torbjörn Nilsson, Senior Vice President.

News, 5

Bluetooth's subsidiary

Competition within the Bluetooth market is increasing. Ericsson has therefore formed a new subsidiary that will deal directly with the commercial concerns of the company.

This implies the development and sale of licenses for Bluetooth technology.

News, 6

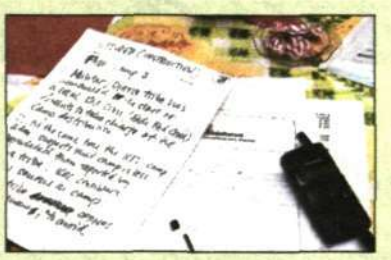
Fighting espionage

Industrial espionage is a growing concern. Increased awareness among employees will help to counteract this problem.

Ericsson has formulated a checklist to facilitate routines when employees resign. It covers everything from keys to secret documents and computer files.

16–17

■ FEATURE



Using the Ericsson Response Program, Ericsson will help to maintain communications in disaster areas. A pilot group within the company was recently trained in international assistance. 12–13

■ WORLD WATCH

The Swedish telecom operators, Telia and Tele2 each secured a 3G license in Norway. The authorities seem to have placed importance on market experience. 8–9

■ TECHNOLOGY

Mobile users are making strong demands on WAP developers. Contact provides advice on how to create a functional interface for WAP. 26–27

■ AT WORK

They are not Ericsson employees, but are often loyal and important to the company. These are the people who give up their own jobs and accompany their partners on long-term foreign assignments. It is frequently more difficult for the accompanying partner than the employee to make a new life in a foreign country. 28–29

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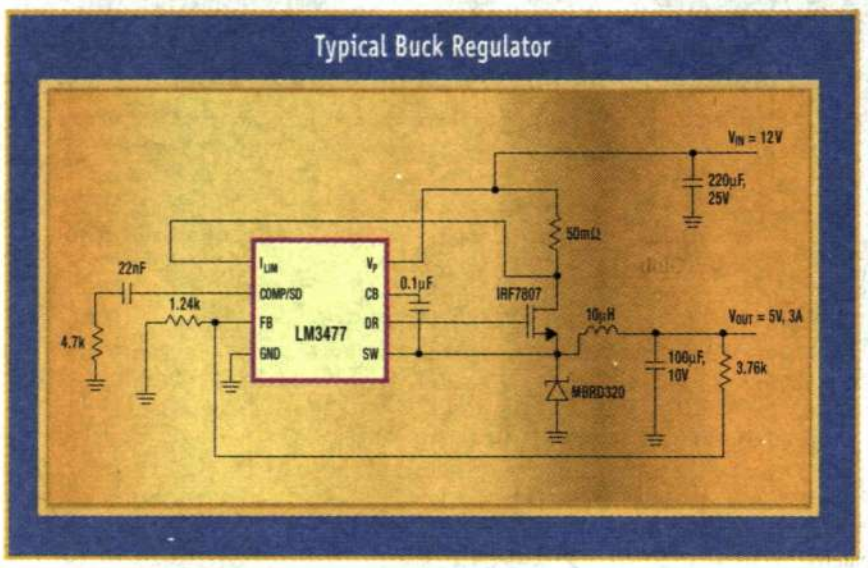

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Global Services for global customers

The launch of a global product portfolio and several outsourcing contracts for installation work. These are just a few of several important news items reported by the Global Services Division during recent months. The division's ultimate goal is to become the telecom industry's largest service provider.

➤ Growing customer demand for more services was one of the main reasons behind Ericsson's decision to establish Global Services as a separate division in conjunction with structural changes in July, when the company's three business segments became six divisions.

"In the past, services were linked to product sales. When we became a separate division, however, it was an expression of Ericsson's belief that service sales represent an area that will assume increasing importance in the future," says Bert Nordberg, division manager.

Approximately 17,000 Ericsson employees work with services. Many of these employees had no direct affiliation with specific units of the company in the past, which they now have after Global Services was established as a separate division.

Dynamic growth characterizes the service sector today and, within three years, Bert Nordberg believes the division will double its sales.

To focus greater attention and energy on their customers, there is growing interest among telecom operators to allow other companies to manage parts of the services they need.

Expansive operations

Bert Nordberg likes to cite a fairly accurate analogy.

"To operate a restaurant, you don't have to own the building," he says.

His analogy refers mainly to operators that do not wish to operate their networks, preferring instead to outsource the operations to other companies.

This offers a growth area for Global Services, and the division already has contracts to operate the systems of 10 operators.

During the autumn, a global product portfolio was launched, highlighted by presentations in Sweden, North America and South America. In December, the portfolio will be presented in Hong Kong.

"Our customers are establishing business operations in a growing number of countries, and it's important that we import their global patterns. A global product portfolio will make it much easier for Ericsson employees in local companies around the world to sell services that otherwise might not be available through their own companies," says Bert Nordberg and continues:

"Ericsson's employees have very comprehensive knowledge and experience, and whatever resources are not available in one company can be accessed and transferred from another Ericsson company. The service needs of different countries also vary, and the ability to transfer resources between different markets is a valuable asset. It provides a source of skills and expertise that is virtually unmatched in the marketplace."

Agreements with subcontractors

Many large business transactions are based on turnkey offers, whereby Ericsson assumes total responsibility for all contract work, from order bookings until the systems are turned over to end-customers. The ability to "roll out" is becoming increasingly important, more clearly defined as the capacity to install and start-up large systems. In addition to personnel already working in this sector of Ericsson's business operations, 40,000 more employees will be added to the installation and start-up workforce by year 2003.

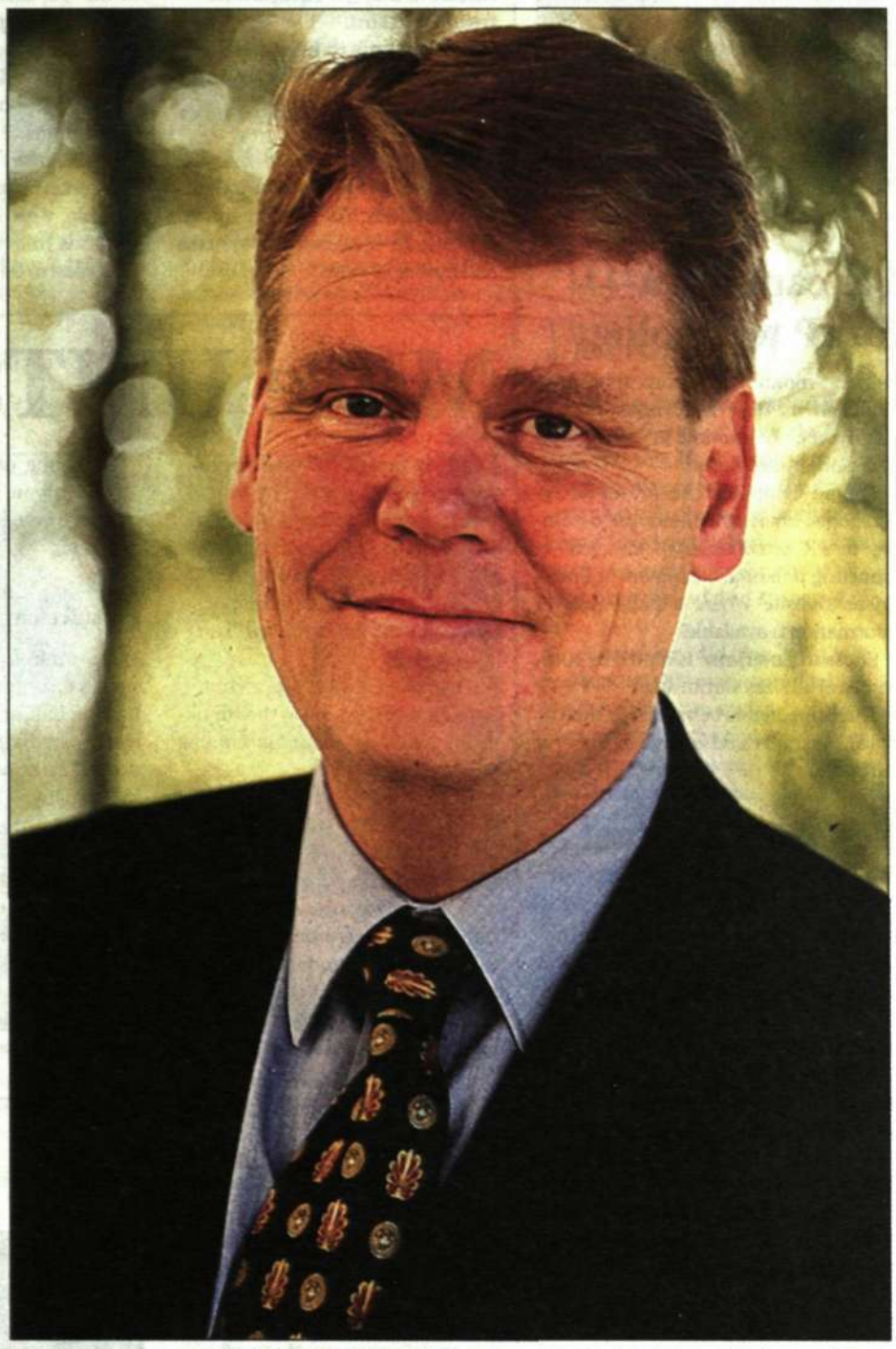
To operate a restaurant, you don't have to own the building

About 50 percent of the work is now handled by subcontractors, and Ericsson hopes to increase this to 75 percent. Important agreements have been signed with NCC, Skanska, Exi Telecoms, ABB and other companies.

"Negotiations are now in progress regarding other contract assignments, and speed is critical, since we are dealing with job assignments for which our personnel's experience and skills are in very strong demand, even from our competitors," says Bert Nordberg.

He also points out that Ericsson's research and development units work with foresight and vision, and new development includes considerations for installation requirements, with special focus on efforts to develop products that are easier to install. What are the division's most important priorities in the immediate future? Bert Nordberg replies with no hesitation.

"To help Ericsson win the 3G-race and strengthen our position in fixed telephony through ENGINE. By establishing fruitful forms of cooperation within Ericsson, we will reap substantial competitive advantages."



"As the service needs of different countries change, we can transfer resources between different markets. This provides a source of expertise that is virtually unmatched in the marketplace," says Bert Nordberg, head of Global Services. Photo: Torbjörn Persson

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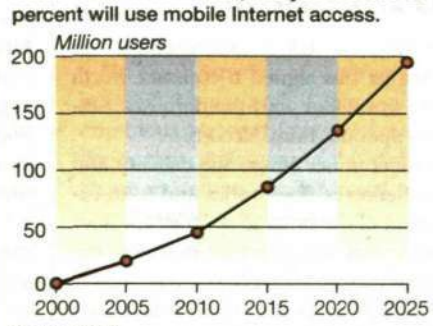
DID YOU KNOW THAT...

...the mobile Internet is expected to have more than 2 billion users by 2025

Of the estimated 2.35 billion users of the World Wide Web in 2025, analysts believe 80 percent will use mobile Internet access.



Source: IDC.

New develoment unit in Montreal

>> On November 1, Network Core Products opened a new development unit at Ericsson's office in Montreal. The unit will be working to develop certain aspects of Ericsson's new server platform for 3G networks.

The platform, known as TSP, is already used in several applications including HLR (Home Location Register), WAP Gateway and SCP (Service Control Point), in conjunction with Ericsson's open development platform for applications known as Jambala.

The unit will also be supporting application development through consulting operations.

Margot Tischbierk Gyllerup will head the new unit, which will expand its operations to include 20 or so designers.

Big campaign for IP technology

>> Last month, Ericsson Enterprise launched its biggest advertising campaign ever, to promote IP technology and mobility products.

The ad campaign consists of advertisements, Internet banners and a number of PR activities, with the goal of attracting potential customers to Enterprise's website where a great deal of information is available.

Ericsson Enterprise is aimed at companies of all sizes worldwide.

The campaign is being run in the US, Brazil, Australia and a large portion of Europe.

New SOS contact during travel

>> Effective January 1, 2001, several companies at Ericsson including those in Sweden, Denmark and the Netherlands, will be changing to a new emergency assistance company.

International SOS (ISOS), headquartered in London, will be taking over from Mondial Assistance and, starting January 1, all calls to Mondial will be forwarded to ISOS.

Reasons for the switch include the fact that ISOS has a larger and more up-to-date database of medical facilities around the world, more doctors available for consultations and the fact that ISOS owns a number of clinics around the world that can provide health care services to Ericsson employees.

One new benefit is that Ericsson employees will have access to the ISOS clinics, located around the world, without having to pay temporary membership fees.

The telephone number to ISOS is:
+46 8-24 10 10

For more information see:

www.internationalsos.com

Large order in Romania

>> Ericsson Telecommunications in Romania has signed a contract worth USD 55 million with the domestic network operator RomTelecom.

The contract covers the delivery and installation of fiber optics and is an extension of the original contract for fiber optics that was reached between the parties in 1995.

The bulk of the fiber optic installations will be carried out by Ericsson next year.

AT&T chooses GPRS in 3G transition

North America's largest mobile phone operator, AT&T Wireless, has signed a letter of intent to buy 3G equipment from Ericsson.

AT&T plans to become the first operator in the US to implement a 3G system.

The contract represents the first time AT&T has invested in a GSM-based system. The agreement includes both equipment for systems and mobile phones.

AT&T will use Ericsson's R520 phones in the launch of its GPRS network, which will occur next year in the US. Ericsson has also been contracted to provide base station systems that include GSM for voice, GPRS for packet data, and Edge and UMTS for higher-speed 3G applications.

"This new agreement further strengthens our longstanding relationship with AT&T Wireless and confirms the companies' parallel strategies: to be leaders in delivering the mobile Internet to consumers as quickly as possible," says Per-Arne Sandström, President and CEO, Ericsson Inc.

"Ericsson has been a key supplier to AT&T Wireless since we rolled out our first analog cellular networks and throughout our 2G deployments," says Mohan Gyani, President and CEO of AT&T Wireless Services.

"We look forward to strengthening our partnership with Ericsson as we migrate to 3G technology."

In addition to Ericsson, AT&T Wireless has selected Nokia, Nortel and Lucent as suppliers of 3G systems equipment. The company will buy phones from Ericsson, Nokia, Siemens and Motorola.

In a press release, AT&T stated that it will continue to offer its subscribers the same service it offers today, since the new network will not replace the existing TDMA network.

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More UMTS network contracts

Leading mobile phone operators in Germany, the Netherlands and Spain have selected Ericsson to supply them with UMTS networks. Combined, the contracts are worth approximately USD 770 million.

Mobile operators in Europe continue to choose Ericsson as the supplier for major 3G efforts in coming years.

Earlier this autumn, Ericsson was named the sole supplier of UMTS networks for German operator Mobilcom. And within the last two weeks Ericsson has secured three more major orders.

Germany's D2 announced that it has chosen Ericsson as one of two suppliers to build and service its future UMTS network.

D2 is one of the world's largest mobile phone operators and was created through the merger of Mannesmann Mobilfunk and Vodafone.

Crystal clear mission

"Ericsson and Siemens have both signed a contract that involves delivering half of the UMTS network each," says Björn Eisner, Vice President of Ericsson's Vodafone Group in Germany.

For Ericsson, the D2 contract is valued at USD 430 million, although it is still unclear what the geographic division between Siemens and Ericsson will look like. Ericsson's mission is crystal clear, however – to ensure that D2 receives equipment and service so that the company can put the network into commercial operation as quickly as possible.

Another multimillion-dollar 3G contract has been reached between Ericsson and Telfort, of the Netherlands. Ericsson will be responsible for delivering a nationwide UMTS network, which will involve hiring quite a few new employees at Ericsson in the Netherlands.

Counting on Ericsson

"In the near future, our workforce will be reinforced with approximately 100 new people," says Jef Keustermans, head of Ericsson in the Netherlands.

Even Spanish mobile phone operator, Telefónica Móviles, is counting on Ericsson for assistance.

Two weeks ago, the company announced that Ericsson will be its primary supplier for their first UMTS network.

The contract, worth about USD 35 million, will involve Ericsson delivering equipment for both the backbone network and wireless network, as well as ready-to-use 3G terminals with accompanying test equipment.

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FACTS/UMTS

UMTS, the Universal Mobile Telecommunications System, is the wireless network that will eventually replace the digital GSM network and make third-generation mobile communication possible.

New version of popular demo center

The new WCDMA demo center at Ericsson Radio Systems in Kista was inaugurated on November 27 with a press viewing and demonstrations of applications such as Mobile Internet Reporter. The center enables visitors to test future wireless multimedia services.

Thomas Fagerholm at the WCDMA demo center, demonstrated how the Mobile Internet Reporter application can be used.
Photo: Eduardo Valenzuela

The demo center first opened in March 1999, and since then it has been visited frequently, primarily by operators, representatives for various authorities and the media.

"Quite a bit has happened since then and we are now able to demonstrate significantly more applications of wireless multimedia," says Mikael Halén, marketing manager at the Wideband Radio Network (WRN) product unit of the Mobile Systems Division.

He adds that, in addition to earlier groups, it is the company's ambition for the center to become a creative meeting place for people who work on developing applications.

"This is where we can demonstrate the possibilities that 3G offers and provide inspiration for new services," he says.

In addition to the fact that a significant number of applications can now be demonstrated, a new three-dimensional film has been developed. As part of the press showing, visitors were also shown a short film about how a young couple, interested in music, can utilize the possibilities that 3G multimedia affords.

Mobile Internet Reporter, which was demonstrated at the press showing, enables reporters to use mobile phones to send live segments without the need for an outside broadcasting truck or a satellite connection.

Gunilla Tamm

Venture with Juniper improves mobile position

Ericsson is extending its reach within the realm of Mobile Internet through a new joint venture with Juniper Networks.

The collaboration will combine Ericsson's leading position in the area of mobility with Juniper's strengths in IP routing.

"This is yet another advance in Ericsson's overall strategy to become the biggest player in mobile Internet through a joint venture with Juniper Networks. Ericsson is a leader when it comes to mobility and Juniper is the unmistakable leader in the field of IP routing. By combining these forces, we will be able to meet the increased demand for IP routers for 3G networks," says Torbjörn Nilsson, Senior Vice President, Marketing and Strategic Business Development at Ericsson.

Ericsson majority owner

There will be joint ownership of the new company, with Ericsson owning 60 percent and Juniper 40 percent. The CEO of the joint venture company will be recruited from Ericsson and the COO will come from Juniper.

Also, Ericsson has sold aproximately 12.4 million shares of its holdings in Juniper, but still holds around two percent of the company.

"The profit is considerable but confidential. It will mainly be invested in further product development on Mobile Internet and IP Backbone networks," says Pia Gideon, Vice President, External Releations.

Over the next year, Juniper and Ericsson will invest approximately USD 50 million in the company. Ericsson has already invested hundreds of millions in its collaboration with Juniper.

"The important investments that Ericsson and Juniper are going to make now involve contributing technical expertise and development skills to the new company," says Torbjörn Nilsson.

It is not yet clear where the company will be located but, according to Torbjörn Nilsson, Boston in the US is a likely choice.

Whole new products

Ericsson and Juniper already collaborate extensively, with Ericsson distributing Juniper's M-series Internet backbone routers.

The combined talent of both companies will now be utilized to develop entirely new products and to bridge the technology boundary between mobile voice networks and IP data networks.

Opportunity for improvement

The new family of products that is being planned will be ready for the new IPv6 Internet protocol. For Ericsson, the joint venture means an opportunity to improve its offerings of wireless and fixed IP router equipment.

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Debated collaboration will soon bear fruit

The collaboration between Ericsson and Microsoft was unveiled a year ago. Since then, all has been quiet. However, the first solution s will appear shortly, according to Ulf Avrin, President of the joint company.

A great deal has happened during the first year. Ericsson Microsoft Mobile Venture's activities have included a business plan and hiring a total of 50 employees. During the year, the EU Competition Authority reached the conclusion that the company's operations do not pose a threat to competitiveness in the marketplace. Ulf Avrin talks enthusiastically about the company's future plans.

"We will have sold our first solution before the end of the year. Currently, we are discussing business opportunities with some 20 different customers, primarily operators in Europe and North America," says Avrin, during our meeting at a barracks-like building in Kista. At the end of the year the company will be moving to a new location in Stockholm, where many IT companies are setting up operations.

Synchronized bookings

Ericsson Microsoft Mobile Venture is developing software that will make mobile phones and mobile services more intelligent. Initially, this will mostly involve further expansion of existing services, such as e-mail and schedulers. With automatic synchronization, a colleague could cancel a meeting using their computer mail program, and the mobile phone's scheduler would simultaneously and automatically be updated. When a positioning service is combined with the scheduler, the user is able to receive information that is relevant for the place where he or she currently is located.

"We want to remain a small, responsive company," says Ulf Avrin, President of Ericsson Microsoft Mobile Venture. The company's first solutions will be arriving soon, a year after the joint venture was first announced.
Photo: Ecke Küller

Simplicity a guideline

Ulf Avrin works according to two key guidelines: simplicity for both the user and the operator. He emphasizes that the company is a mixture of product organization and consulting organization, since it develops the services that customers want.

There are so many IT companies that are talking about GPRS, Edge, 3G and broadband. Most users couldn't care less about the technology itself, which is why we prefer to talk about which kind of services our customers would like," says Ulf Avrin.

"I usually take my mother as an example. If she is out shopping and can't reach her daughter-in-law via mobile phone, she has to have another easy way to communicate with her."

Something that has simplified collaboration between Ericsson and Microsoft has been their very similar visions for the future. "It's almost absurd how similar they are," says Ulf Avrin.

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Sweden leads Europe with help of mobile Internet

Ericsson has reached an agreement with the 2001 Secretariat and the Swedish Ministry for Foreign Affairs.

The company's expertise within the fields of telecommunications and mobile Internet will be available during the period that Sweden will hold the presidency of the EU.

In addition to Ericsson, the Ministry for Foreign Affairs has reached agreements with several other major Swedish companies to serve as official national suppliers.

Olle Wikström oversees public relations at Ericsson and explains that the company will be providing hundreds of telephones for people who are involved in the work of the Swedish EU presidency.

"The idea is for WAP phones to be connected to the presidency website," says Olle Wikström.

Furthermore, FutureComFactory, on the outskirts of Stockholm, will be available for planning meetings and videoconferencing.

During the ministerial meetings in Luleå and Stockholm, Ericsson will be demonstrating current WAP services along with other developments within the field of mobile Internet.

"A large number of experts, decision-makers and media representatives will be visiting Sweden, so we hope to be able to strengthen our image. We want to demonstrate that we are a leader in mobile Internet."

Sweden will assume the presidency on January 1, 2001, and will oversee the work of the Council of Ministers. Sweden will also be representing the EU in the UN and the WTO.

Close to 80 meetings are scheduled to take place in Sweden, including meetings between the EU and the US, Japan and Russia.

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HELLO THERE...

Annika Eriksson

...who has been appointed head of the Multi Service Networks Division (DMN), North America. The division is responsible for products and solutions for both traditional fixed networks, as well as future integrated 3G networks with broadband and Internet.

What position did you hold before you landed this managerial job?
"I worked for two and a half years in Kista as head of the customer group for TDMA's operations in North America, Asia Pacific and Europe."

What are your most important job responsibilities at DMN, North America?
"We've only been in operation there for a couple of months, so the big challenge right now is to lay out the best strategy and find out which customers we should be focusing on and which products and solutions we should offer them. Quite simply, to try and break our way into the market."

What sort of indications are there that you will succeed?
"Over the past two years, DMN has conducted an intensive market investigation among customers regarding their solutions requirements. In North America, as in many other parts of the world, there is great interest in Ericsson's Engine access solution that offers a smooth transition from traditional networks to 3G networks.

"That's why I think that Engine will be a success in North America."

You have also been named acting head of DMN, South America. What is the biggest difference between doing business in North America compared with South America?
"There's a big difference. The division has been established in South America for a long time and there is a broad base of traditional AXE lines. As things currently stand, Brazil is probably our single largest market.

"In North America, we are completely new to the market, but there is also an enormous amount of potential. A study shows that 46 percent of the division's future customers can be found in the US. Today that figure is perhaps only one percent."

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Bluetooth reinforced

A new subsidiary will help Ericsson to develop and sell licenses to major companies in the electronics industry in the increasingly competitive Bluetooth market.

Prior to December 1 this year, the Bluetooth product unit was part of the Ericsson Consumer Division's Research and Development department.

As Bluetooth technology has developed, there has been a growing need for a separate subsidiary, however.

"We have reached a stage when we have to focus exclusively on Bluetooth solutions, and the best way of doing that is to transfer operations and form a new subsidiary," says Anders Edlund, the company's new marketing manager. "This enables us to improve the marketing of our technology to customers."

Reselling licenses

The new company will mainly license Bluetooth technology and then resell it to customers.

The company will also offer customers training and development programs in Bluetooth technology.

"You could say that we are selling the rights to the Bluetooth technology we have already developed," Anders Edlund says. "The customer will have access to our basic-band implementations in the form of a diskette or a drawing showing how a silicon chip is manufactured. Our customers include Lucent, Intel, ST Microelectronics, Philips and Ericsson Microelectronics."

The company conducts purely "business-to-business" operations, employing about 150 people in the start-up phase. Jörgen Neckmar has been appointed acting manager of the company.

Time for an offensive

The new company is based in Lund, as were Ericsson's previous Bluetooth operations. Anders Edlund anticipates expansion outside Sweden, however.

"We started to develop Bluetooth in Lund about three years ago, and now it's time to market the technology more aggressively. As a result, we will be opening two offices in the immediate future – one in Asia and one in the United States. They will be concentrating exclusively on sales and marketing of Bluetooth licenses."

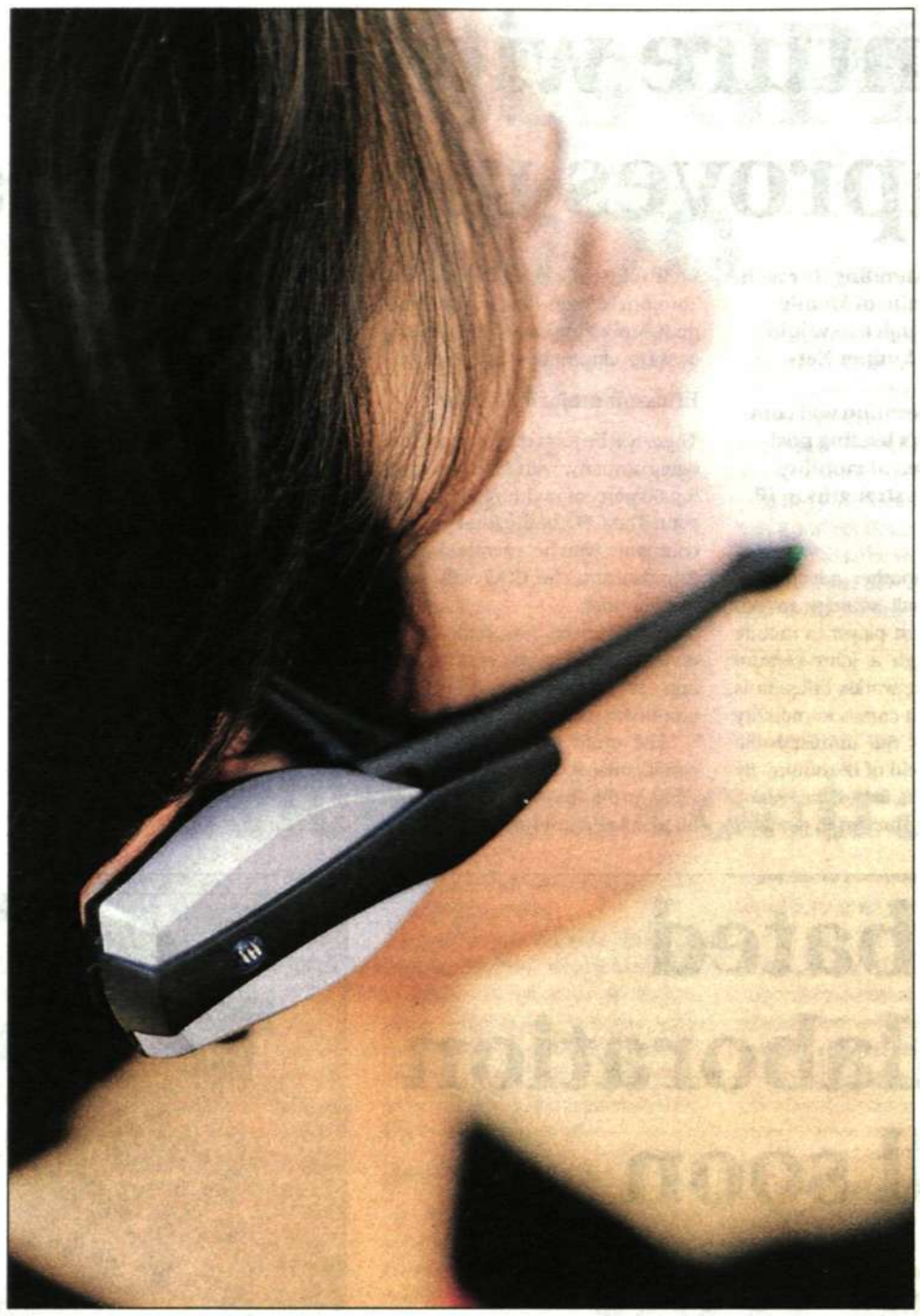
Intel has selected Ericsson to be the supplier of Bluetooth technology for its computer-chip production. Both parties recently signed a license agreement, giving Intel access to Bluetooth technology for both hardware and software.

"We are very happy to be able to supply Bluetooth technology to the largest semiconductor producer in the world," says Jan Ahrenbring, head of marketing at Ericsson's Consumer Products division.

At the same time, the Consumer division announced that, for the first time, it has succeeded in developing a WAP (Wireless Application Protocol) server with services that use Bluetooth technology.

According to Anders Edlund, the formation of the new company will not affect cooperation in the Bluetooth Special Interest Group (SIG), to which almost 2,000 companies belong.

The name of the new company will be announced shortly.



Ericsson is meeting stiff competition in the Bluetooth area by concentrating operations in a new company.

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Ericsson awarded Best Supplier of the Year

UK telecom and datacom operator BT has named Ericsson a winner at its own awards gala, the Investing in Excellence Awards. Ericsson, the only company to be nominated in all five competition categories, won the coveted Best Supplier of the Year award.

Ericsson received the award after successfully conducting a major ENGINE project called Next Generation Switch, NGS.

The project has substantially increased BT's long-distance network capacity by cutting over trunks from about 100 Marconi switches to 57 Ericsson ENGINE technology switches.

More than a supplier

This has been done without disrupting the traffic, by so called hot swaps. By the end of this year 49 swaps will have been carried out, including around 5,000,000 long-distance trunks.

"What Ericsson has achieved is comparable to changing the engines on a Boeing 747 in midair without disrupting the flight," says Richard Newman, General Manager at BT and director of the NGS program.

"We demonstrated that we are the best, not only when it comes to technology and expertise, but also in being able to collaborate with the customer. In the project we have been more of a partner for BT than merely a supplier," says Stefan Feniuk, Key Account Manager for BT.

High stakes

The project has also been a team effort between Ericsson UK and the Multi-Service Networks division.

BT is one of the world's largest operators and failure could have had considerable consequences.

"We've done this sort of disruption-free upgrade before, but never on such a broad scale or with such high stakes," says Gerard Delaney, Business Manager for the UK and Ireland at Multi-Service Networks division.

In addition to being named Best Supplier of the Year, Ericsson also won the Quality of Product and Service award. For Ericsson, the awards imply that there is a major chance that more contracts will be forthcoming from BT.

New contract signed

During the week of the awards ceremony, Ericsson signed another contract for an additional eleven hot swaps, valued at approximately USD 45 million.

Moreover, the awards serve as a good reference in relations with other operators.

This is the third time that BT has bestowed its Best Supplier of the Year award.

In making this award, BT wishes to emphasize the importance of innovation, creativity, sensitivity and delivery performance.

Other award categories include Innovation and Responsiveness, Reduced Whole Life Cost and Contribution to Continuous Environmental Improvement.

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Belgian operator buys ERION

Ericsson has signed a contract with Belgium's largest telecom operator for the provision of new infrastructure to link up the backbone networks of the largest Belgian cities. The contract with Belgacom is valued at nearly USD 26 million and applies over a three-year period.

"This is a strategic contract for Ericsson, both in terms of the Belgian market and for our ERION family of optical network solutions," says Dominique Jodoin, President of Ericsson in Belgium.

Based on ERION

The network will be nationwide and based on ERION, Ericsson's solution for optical networks. ERION is based on DWDM, a technology used to maximize the capacity in fiber-optic networks. The capacity of the Belgian network will increase substantially. A single channel will become 32 channels, each of which will be capable of carrying up to ten Gigabits of mixed traffic types, such as the Internet, IP and SDH. The 17 largest cities in Belgium will be connected via the new network, with the aim of meeting the increasing demand for various services and applications.

Internet explosion

"Like many countries, Belgium is facing an explosion of Internet usage. Plans are now being made for the increase in telecom traffic that will result when mobile Internet becomes a reality," says Peter Desmet, account managager, Ericsson Belgium.

"This will put a large amount of pressure on the networks. By enhancing network capacity, we will be able to guarantee an extremely high standard of Internet communications."

Under the terms of the contract, Ericsson will install the network and provide hardware and software support for ten years. To date, Ericsson has installed more than 1,000 ERION systems throughout the world.

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Acquisition of Fokker – a match made in space

Saab Ericsson Space will soon be one of the world's leading aerospace companies. Saab Ericsson Space is acquiring 65 percent of Fokker Space, making it Europe's largest supplier of aerospace equipment on a subcontract basis.

Saab Ericsson Space is buying the Dutch Fokker Space company which specializes in solar panels and robot-controlled instruments.

"This acquisition will enable us to double the scope of our operations in the next five-year period," says Peter Möller, the Vice President of Saab Ericsson Space.

Fokker Space, which will be renamed Dutch Space Industry, is Holland's largest space company, specializing in the manufacture of solar panels and robot-controlled instruments.

Fokker, which has also manufactured structures for the European Ariane launch vehicle program, currently has 400 employees and sales of USD 80 million.

A logical step for Ericsson

"Fokker Space will add strong niche products to our range, making us even more attractive for our partners in the global market. This acquisition is also a logical step in the restructuring process required in the European space industry," says Bengt Mörtberg, President and CEO, Saab Ericsson Space.

The two companies signed a letter of intent last week, and the acquisition will be completed early next year, assuming approval is granted by the competition authorities.

Stork, a Dutch industrial group will purchase the remaining 35 percent of Fokker Space.

"We are already well acquainted with Fokker Space, and we appreciate its skills and businesslike approach. Our corporate cultures are a good match," Bengt Mörtberg says.

Market leader

Saab Ericsson Space is the market leader in several of its product areas. Following the acquisition, Saab Ericsson Space will manufacture and develop digital and analogue electronics, microwave products, mechanical systems, thermal materials, structures, solar panels and robot-controlled instrumentation for launch vehicles and satellites.

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Ketchup effect with Speedy Tomato

Ericsson is supplying the WISE portal solution for Telia's Speedy Tomato international mobile portal. Under the terms of the contract, Ericsson will develop both the technology and the services offered.

During the initial phase, Speedy Tomato will be launched in some 10 European countries.

Ivan Bretan, who is in charge of systems development at Speedy Tomato, says that there has been close cooperation with Ericsson since the summer.

"Ericsson has taken care of the startup of the portal, and we have been responsible for the specifications," Ivan Bretan says.

"This is the first delivery of our portal concept, and it represents a breakthrough which will lead to further business. I believe in the ketchup effect," says Werner Röhri, who is in charge of marketing of the WISE portal.

Speedy Tomato will enable Telia to aim for a substantial share of the mobile Internet market in Europe.

Rapid launch

Users can enter the portal via their PC and build their own personal menu for their WAP phone. The initial launch will take place in Britain in December.

"We are targeting the five largest national markets in the course of the coming year," says Zeth Nyström, Speedy Tomato's President.

"A key aspect of the portal will be that customers will have an opportunity to customize services to meet their requirements. WISE will make an important contribution here."

Local orientation

For the most part, it is essential to find partners if you are going to succeed. Each local market is unique in terms of the demand for services on the mobile Internet.

The WISE portal is a combination of a technical product and business-related consulting services.

"Ericsson will give Speedy Tomato an opportunity to develop a portal which offers a broad range of options. The local markets differ considerably."

"Roughly 80 percent of the content of the portal has a local orientation," Werner Röhri says.

The portal provides services which include a personal calendar, news services and advertising from companies selected on an individual basis.

Ivan Bretan

"Now we will have ongoing contacts concerning ways of using the new technology to improve the portal," Ivan Bretan concludes.

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WISE-portal offers a broader range

WISE – Ericsson's portal for the mobile Internet – helps operators to save time when launching mobile data services.

The WISE portal enables the operator to offer customers a broad range of services and the opportunity to compose a menu of personally customized cellphone services. Mike Slssingar, who is systems manager for the WISE-portal, says that the portal provides a stable platform which protects the operator's investment in the mobile Internet.

Rapid entry

Operators decide what they want the portal to look like when they present it to users.

In addition, Ericsson offers to operate the portal on behalf of the operator.

"This may be an advantage, since the operator can enter the market rapidly," Mike Slssingar says.

The portal is based on three key components. It must be based on scalability, and dimensioned to handle anything from a limited group to a large number of users. Ericsson has decided to work with "best-of-breed" partners who lead their field.

The port is based on modules, which permits Ericsson to offer customers exactly the services and functions they want.

Clear example

The WISE-portal is a clear example of Ericsson's combination of technical products and business-oriented consultation. In the past seven months, Ericsson has developed a portfolio of services which are offered to customers who buy the solution.

Jesper Mott

Helene Birknert is trying to ensure that DIA staff can work with Ericsson's local companies all over the world. Symposiums are a good way of presenting operations.
Photo: Jesper Mott

Mobile Internet symposium

The Internet Applications and Solutions Division (DIA) arranged a symposium on the mobile Internet theme in Kista on November 16–17. It was well attended – more than 400 employees from 35 countries participated.

In the future, similar symposiums will be organized twice a year. The aim is to explain the Division's strategy to other Ericsson units.

Helene Birknert, who arranged the symposium, says that it was primarily addressed to personnel in marketing units. Many of the participants come from regional and local DIA departments.

Since the Division is new, it is important to present its aims and targets.

DIA is developing content and services for the mobile Internet, and is also helping operators to set up satisfactory business operations in this field. The Division also includes Edgecom and Ericsson Microsoft's Mobile Venture.

Stefan Johansson, DIA's manager in Western Europe, was one of the speakers at the symposium. He said that it is essential for DIA to establish local departments all over the world, working side by side with Ericsson's local companies.

"I want to spread our enthusiasm and get people to help build up DIA. This has to take place at the local level. When 3G starts to be built up next year, we have to be there," Stefan Johansson says.

Similar symposiums were held in Kuala Lumpur and Miami during November. Helene Birknert explains why DIA has chosen this way of presenting its operations.

"There is pressure on resources, and this is a highly effective way of reaching people. It is also important for people to meet and make contacts. We video everything, and people who were unable to attend or who want answers to general questions can look at the presentations whenever they like.

Jesper Mott

Information from the symposium:

http://internetapplications.ericsson.se/Marketing/MI-Symposium/sth_pre.html

NTT DoCoMo buys into AT&T

>> NTT DoCoMo of Japan has acquired a 16-percent ownership interest in the AT&T Wireless Group of the US in a transaction valued at nearly USD 10 billion, or about SEK 100 billion.

Rumors about the acquisition had circulated for several weeks, but the official announcement was not made until the end of November. NTT DoCoMo has entered an expansive phase of business development highlighted by a number of international acquisitions.

The Japanese telecom operator is hoping to create widespread utilization of its successful concept for wireless Internet, i-mode. The acquisition provides NTT DoCoMo with a foothold in the important American market, where AT&T is the third largest mobile operator.

Photo: Pressens Bild/Robert Sorbo

Broadband in the air

>> Boeing, the American airplane manufacturer, is hoping to enable airline companies in the US to offer passengers in-flight broadband links within two years.

The technology, which was demonstrated at the Comdex trade fair in Las Vegas in November, functions via a link between the aircraft and a communications satellite. Seats in the aircraft will be equipped with terminal outlets that will enable passengers to connect personal computers equipped with network cards.

Boeing is projecting transmission speeds of several megabits. The service *will eventually be expanded to include* international flights. The system has already been tested in military applications.

IPOs postponed

>> Planned stock market listings by several telecom operators during the autumn have been postponed due to unfavorable stock market conditions.

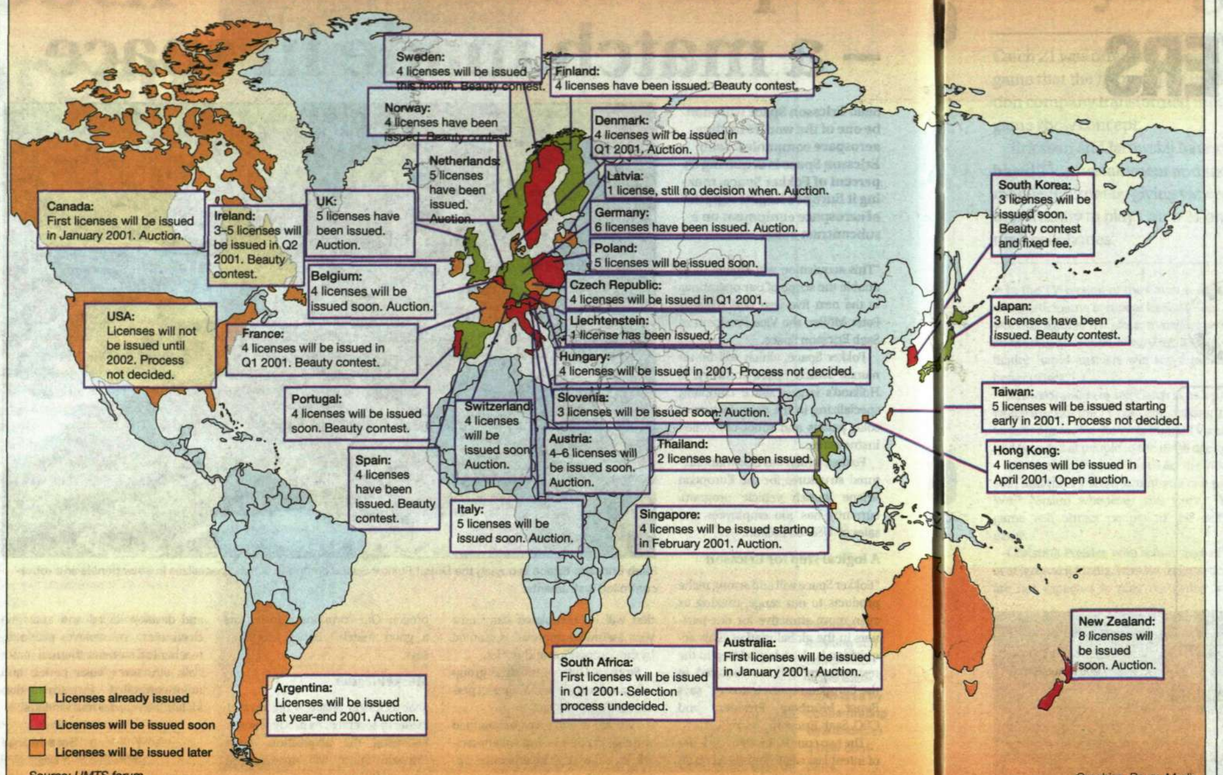
Deutsche Telekom's separate listing of T-Mobil has been shelved, as well as IPO plans for Finantel SGPS of Portugal and France Telecom's listing of Orange's mobile operations in the UK.

Telefónica of Spain recently listed its mobile operations through Moviles on the market, but revenues generated by the issue were much lower than expected. A similar result was noted for Telekom Austria, with the Austrian company's IPO yielding only half of expected revenues.

Telenor of Norway was scheduled to list its shares on the market on December 4, but opposition to the introduction has been voiced.

3G LICENSES ISSUED AROUND THE WORLD

This is how far the 3G licensing process has progressed to date. While some countries have completed the process, others still have a long way to go.



Source: UMTS forum

Graphics: Paues Media

Norway ready for 3G

Swedish telecom operators Telia and Tele2, working through their Norwegian subsidiaries, each won a 3G license in Norway recently.

The announcement was made at the end of November by Terje Moe Gustavsen, Norway's Minister for Communications.

Licenses for 3G telephony were also awarded to Norwegian operator Telenor and Broadband Mobile, a consortium comprising Enitel and Sonera of Finland.

With the possible exception of Tele2, the results of Norway's 3G licensing did not include any surprises.

Lars-Johan Jarnheimer

Lars-Johan Jarnheimer, President of Netcom AB, the Swedish owner of Tele2, was pleased with the results.

"We have established a strong brand in Norway and contributed to price reductions in the Norwegian market," he said to Finanstidningen, a Swedish business publication.

In advance billing for the Norwegian beauty contest, most observers believed one license would be awarded to Orange, an international telecom giant that was part of a consortium also comprising Schibsted, a Norwegian media group and the Swedish web consulting company Framfab. Orange, however, apparently lost in the home stretch.

Ica rejected

A national constellation comprising the Norwegian postal service and Ica, a food wholesaling company, was also rejected, as well as Businessnet, led by Telei Europe of Sweden.

Telia now has licenses both in Norway and Finland. The Swedish operator is also an early favorite to win a license in Sweden later in December. Sonera also has licenses in both Norway and Sweden.

Telenor is contracted to provide coverage in all urban areas of Norway with a minimum of 2,800 residents within three years and all areas with a minimum of 200 residents within five years, according to the Norwegian publication Nettavisen.

Netcom ASA, Telia's subsidiary in Norway, has pledged to cover 76 percent of the country's population within three years.

Start next year

Estimated costs range from USD 220 million to 550 million. Other analysts believe the license holders will be forced to invest USD 500–700 million to meet the requirements imposed on coverage by the Norwegian government authorities.

Telia and Telenor expect to begin network operations during 2001.

Annual fees of SEK 20 M

Norway implemented the beauty contest method for its selection process. The cost of each license was USD 20 million, plus an annual fee of USD 2 million.

The same selection process will be used in Sweden and, although the rules are slightly different, the results in Norway provide some indication of how things could evolve in Sweden. Especially since six of the seven players that applied for licenses in Norway have also entered the Swedish contest.

It should also be noted that Norway's telecom authorities attached special importance to past experience in the Norwegian market. Three of the winners in the 3G contest already have operations in Norway and the fourth, Broadband Mobile, is partly owned by Enitel of Norway.

One license each

If the results in Norway are translated to reflect Swedish conditions, it would appear that Telia, Tele2 and Europolitan will each be granted a license in Sweden. The winner of the fourth license remains open to speculation, however.

On December 16, the Swedish Post and Telecom Agency will announce its decision on which companies will be awarded 3G licenses in Sweden, Norway's closest neighbor.

Increase in virtual operators

Market forces are driving the development of virtual operators, players that offer services without proprietary network ownership. Government deregulation has not been a major factor.

This conclusion emerged during a half-day seminar in Stockholm arranged by Nyhetsbrevet Telekom (Newsletter Telecom) toward the end of November.

Several virtual operators and Internet Service Providers (ISPs) active in the Scandinavian market today discussed their experience during the seminar.

New laws in pipeline

EU legislation governing the rights of operators to own proprietary networks is now being revised. Several member nations are also in the process of introducing new regulations.

New legislation was enacted in Sweden as recently as May of this year. The new law could force mobile operators to allow service providers access to their networks. The law has still not been tested, however.

Current regulations have little or, in some cases, no bearing on the continued emergence of virtual operators, however, according to Johan Ragnevad of Northstream, a consulting company that specializes in the telecom industry.

He says ongoing changes are driven by a combination of market forces and technological development.

"The new mobile networks are creating new types of cut-rate services that are also impacted by pressure from the manner in which services are provided via the Internet. The traditional linear value chain, consisting of subscription sales in proprietary networks, is breaking down into different fragmented segments," he says.

Building loyalty

As a result, the competition will focus on end-customers, and operators with proprietary networks – supported by virtual operators – will expand and broaden their range of services to reach as many end-customers as possible.

The tools employed in their quest will include the development of customer loyalty, strong brands and independent services.

The process represents a major transformation for traditional operators, which regard virtual operators as *competitors for the same end-customers*. According to Johan Ragnevad, their reasoning is flawed.

"Virtual operators actually provide opportunities to increase market shares. Traditional operators also benefit from greater competition for their own operations."

Johan Ragnevad says Swedish operator Telia's strategy for virtual operators shows how new markets are created which have provided Telia with a larger overall market.

"Telia has allowed entry to three virtual operators: Sense Communications, a company focused on private consumers, Tele1, which sells total solutions to corporations, and Maingate, which concentrates on machine-to-machine communications.

Virgin of the UK offers the classic example, however, as the world's largest virtual operator. Virgin leases access to the network operated by Onezone, which is owned by British Telecom.

Supported by a strong brand, revolutionary price models and aggressive marketing, Virgin will reach one million subscribers as quickly as next year, according to information released by the company.

Virgin is also developing a global presence through the establishment of virtual operator activities in Australia (network owner C&W Optus), Hong Kong (New World Mobility), Singapore (Singapore Telecom) and South Korea (TBA).

Small margins

In Sweden, operators such as Tele2 and Europolitan, and Telia in the past, have shown a lack of understanding with regard to the new development. It was not until recently that a number of virtual operators were finally successful in their efforts to reach agreements with the network owners.

"The reason why virtual operators have still not achieved a major breakthrough is the small profit margins in voice telephony. The greatest opportunity for virtual operators will be presented when they are able to offer a differentiated range of services, regardless of network affiliation.

"And that won't happen until the new generation of networks becomes fully established," predicts Johan Ragnevad.

Mats Lundström

3G

The stock market in Sweden showed general indifference to the successful bids of the two Swedish operators in Norway. Shares in the companies traded sharply lower, due to the general decline in global stock markets during this year, and particularly during the autumn.

Limited media coverage

Telia's shares declined by SEK 1 on the last day of November to SEK 58, while shares in Netcom were down SEK 23 on the same day to SEK 333.

Swedish media reported the events in Norway, but the coverage was generally limited.

Mats Lundström

MY VIEW

Auctions under the microscope

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I often receive questions about 3G license auctions. What's actually happening in Europe, with some licenses selling for exorbitant fees and others issued for paltry amounts of money? Why was the auction in Austria a failure? Is it true that some players in the Swiss auction cheated?

➤ It's definitely a bit muddled, but despite the EU n, the European auctions are basically a national concern. And member nations of the EU have exploited this fact to the maximum – no single auction is similar to any other. Unfortunately, I must add, since the telecom industry today is, in every respect, represents a cross-border sector of business operations.

The hysteria surrounding 3G license auctions started in the UK, when the British government raised the staggering sum of SEK 330 billion in April. The interest was still strong in August, when the German government raked in SEK 430 billion. The expensive licenses have stirred up the entire industry. Granted, the potential offered by 3G telephony is enormous, but the monetary merry-go-round is creating very real and substantial risks.

As a result, stock prices have fallen and credit ratings have been reduced. The introduction of 3G will undoubtedly suffer from the exorbitant license costs but, on a more serious plane, the level of costs also seems to be encouraging unscrupulous actions by some market players.

The first signs of possible improprieties in the auction proceedings were detected in the Netherlands. Versatel withdrew from the auction, and bidding stopped at a low level. Dutch telecom authorities suspect that Versatel voluntarily withdrew in exchange for access to a competing company's 3G network.

The suspicions were strengthened when it was discovered that representatives of Versatel and a competing company met the same day Versatel withdrew, which was not allowed under auction regulations. This prompted the Dutch competition authority to initiate an investigation to verify its suspicions of unscrupulous actions, at the beginning of November.

Another indication that 3G auctions were not always functioning as intended surfaced when the Hong Kong-based conglomerate Hutchison Whampoa withdrew from the E-Plus consortium, which was awarded a license in Germany. Before every auction, the bidding companies compute financial simulations to determine how much they can pay for a license. In the German auction, the simulations were based on assumptions that five players would share the frequencies, but when the smoke settled after a heated auction procedure, six players were awarded one license each. As a result, Hutchison's simulations were no longer feasible, which prompted the company to leave the consortium.

Italy has used a unique and rather unusual model, whereby the government selected which companies would be allowed to submit bids. The bidding was over after only three days, following the withdrawal of Blu, one of the operators in the original bid process. The Italian government was furious and accused Blu of fraudulent practices. Blu, in turn, has filed a suit against the Italian government for libeling Blu's brand name.

The results of the Austrian auction have also given rise to certain suspicions. The government originally announced that 12 frequencies would be awarded in the hope that four operators would emerge as winners.

Instead, the six companies that submitted bids shared the frequencies by taking two each. Total revenues garnered by the Austrian government amounted to a paltry SEK 7 billion. In Switzerland, the auction was over in just a few hours after the bidding companies joined forces, which made licenses available to all parties. Not only the costs of 3G licenses have rendered the auction proceedings subject to growing allegations of improprieties. Another factor has been the realization that 3G telephony does not require service providers to own and operate proprietary networks.

Players that have withdrawn from various bidding processes will resurface as virtual operators by leasing network capacity, but only if the EU authorities allow it. There are no regulations today governing the freedom of operators with proprietary networks to lease capacity in their networks. Considering the high price of licenses in the UK and Germany, it seems reasonable to assume that operators will be given that freedom.

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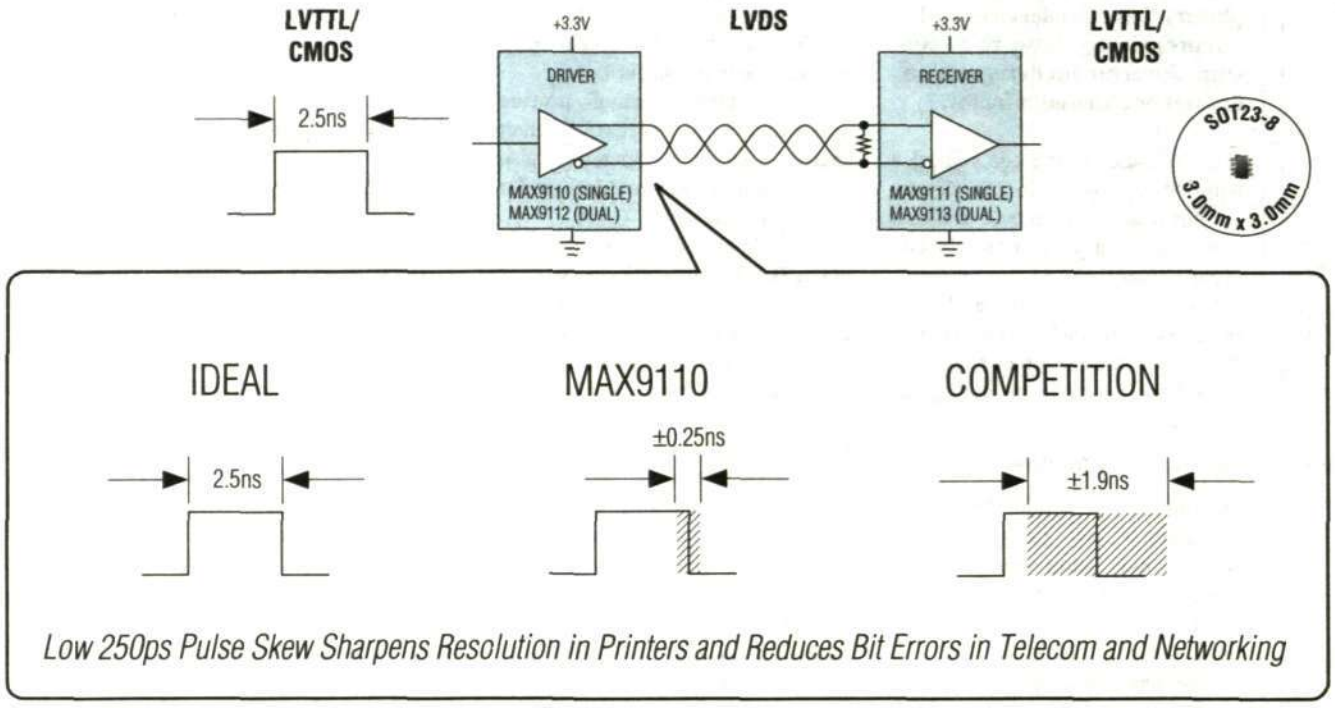

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Playing games with different media

Catch 21 was originally a board game that the Jarowskij TV production company transformed into a game show concept.

Ericsson and Jarowskij have combined TV entertainment and the mobile Internet by giving viewers an opportunity to play Catch 21 on their cellphones.

➤ In the TV version of the Catch 21 quiz show, two participants compete against each other, working against the clock to collect points by answering questions of varying degrees of difficulty. Rapid answers win more points, and better prizes.

Jarowskij wants to sell Catch 21 as a package which extends the TV concept, making it an interactive game for the Web, digital TV and WAP, and targeted at people in the 16–36 age group.

The main difference between the WAP version and the TV show is that you can play the WAP version whenever you want. The TV game will attract people to the cellphone game.

Christina Preisler, who is in charge of Catch 21 at Jarowskij Media, stresses that participants are not expected to play the game on their WAP phones while they sit in front of their TV sets. "The two versions are completely independent," she says. Jarowskij Media, which is part of the Jarowskij production company, is responsible for alternative media channels.

"Mobile services are attractive when you don't have access to a TV, a book or a newspaper," Christina Preisler says.

Jarowskij demonstrated a pilot video of Catch 21 to an enthusiastic audience in October at the trade fair in Cannes.

Ericsson Mobile Business Solutions has put Jarowskij's ideas into practice in record time, although the project will not take final shape until a TV company buys the Catch 21 concept.

Where can money be made, and what's in it for Ericsson?

"Jarowskij makes money selling ideas, and Ericsson will benefit when the market takes off. This will enable us to sell more WAP telephones. It is also important for people to understand what the technology can be used for. You can talk about WAP, GPRS, UMTS and all the rest as much as you like, but the key point is to explain what they mean and what they can actually be used for."

Is it possible to figure out what might be a "killer application"?

"It is difficult to say what might be a successful application, but we have plenty of experience of what people like watching on TV. When we are tossing ideas around, we pretend that everything is feasible. But we don't know what will work until we talk to the technical people."

What are the key features of a successful mobile application?

"It should be fun, useable, simple, and based on interactivity. It should also take the technical limitations into account," says Christina Preisler.

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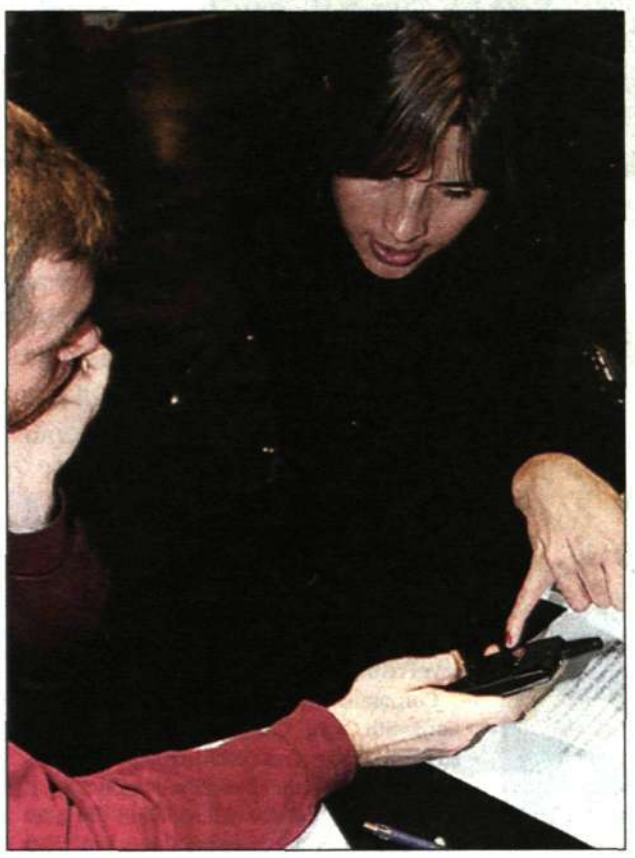


Christina Preisler, who is in charge of the Catch 21 brand at Jarowskij Media, demonstrates how the game works to Contact's reporter.

Photo: Ecke Küller

FACTS/**WAP SERVICES FROM THE ERICSSON STABLE**

- Easy Park – pay parking fees by cellphone. An Easy Park user receives a display panel which can be placed in a visible location in the car. When it is time to park, the user sends an SMS message to the parking system and proof of payment appears on the display. The parking fee is registered on the telephone bill.
- Gula Sidorna Nära Dig (Yellow Pages Near You) – this service enables the user to find the nearest filling station, for example. This service, which Ericsson has developed in cooperation with Telia Mobile and Gula Sidorna, is based on Ericsson's Mobile Positioning System (MPS).
- HQ.se – HQ.se publishes real-time news, stock exchange data, share prices, financial analyses and other information on its mobile website. The user can complete a transaction directly by cellphone.
- Jarowskij – see the accompanying article.
- SJ Bluetooth – rail passengers can use a WAP phone equipped with Bluetooth to confirm seat reservations when they arrive at the station. The user can also hook up to the Internet by cellphone using the network on the train.
- Tasteline. com – Roughly 100,000 food and wine connoisseurs visit the tasteline.com site every month to get recipes and advice about food and wine directly on their cellphones.

Major WAP players targeted

There are plenty of companies that concentrate on developing WAP services. Ericsson is unique, however, because it can back its ideas with a complete product portfolio. Every partnership is based on a clear strategy.

➤ "We are aiming at the top 50 companies – in terms of annual sales – and we are operating in five segments: industry, the public sector, entertainment and the media, travel and transportation, and banking and finance," says Mats Granryd, who is sales manager of Mobile Business Solutions, which is part of the Ericsson Sverige marketing company.

Mats Granryd

WAP services provided by companies like Tasteline, Yellow Pages and HQ.se demonstrate that WAP is here to stay and is already in operation. As the name implies, Mobile Business Solutions develops business applications. Its 150 employees work with operators, service companies and other service developers in the Swedish market.

New WAP services are being developed all the time. Ericsson has a number of partnerships with companies which want to use cellphone technology to reach their customers.

"The hype doesn't start to become real until you can demonstrate actual business advantages," Mats Granryd says.

The five segments you mention would appear to cover virtually everything. What do you concentrate on?

"We lead the world in the mobile Internet sector, and that's quite an achievement. The Swedish market is definitely the toughest, since everyone wants to beat Ericsson in its home market. We take on assignments involving mobile Internet solutions for the Swedish market and, in principle, we turn down jobs that the more traditional network consultants can handle.

"But Ericsson is not the only player. There are plenty of companies offering highly specialized services, and they are very good at it. Mobile Business Solutions will not specialize to this extent," Mats Granryd says.

"Our company is aiming for one percent of the market, and Ericsson will cover ten percent in cooperation with its partners. Other service companies will have the remaining 90 percent. We don't intend to be a wet blanket, smothering the market. The more companies there are out there developing services, the easier it is to get 3G into gear, and it will also mean a greater range of services when it really comes on stream."

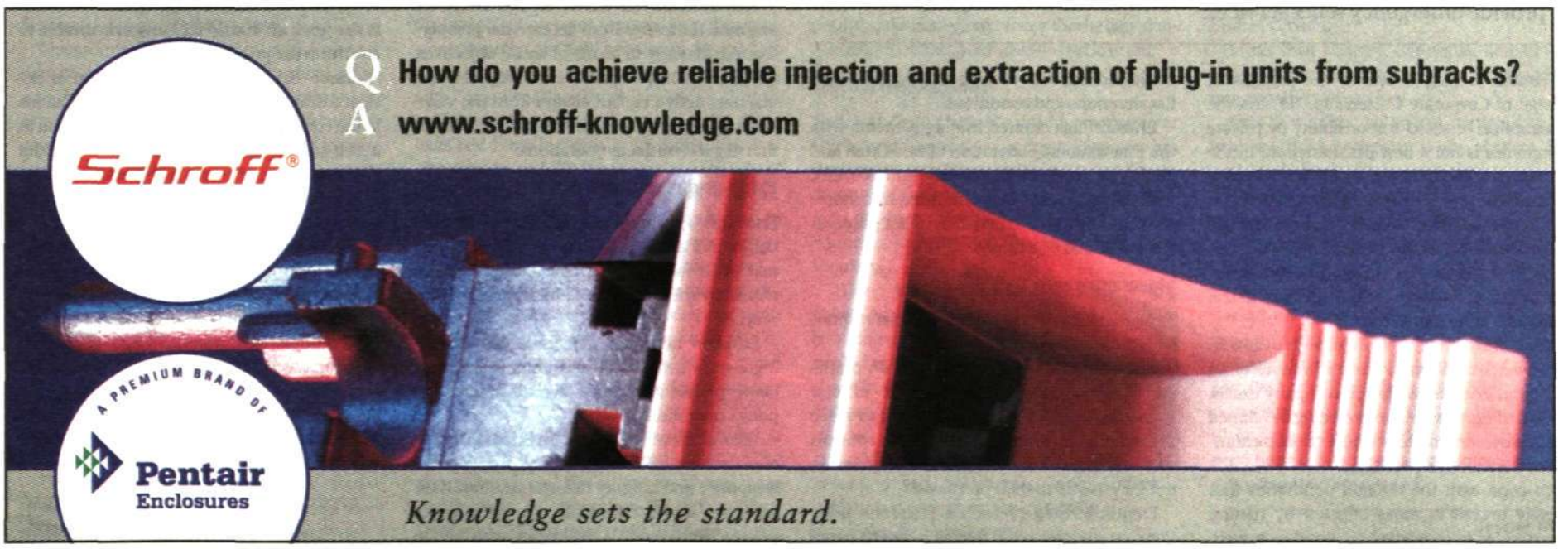
Is WAP just a gimmick which will be a thing of the past when 3G gets going?

"No, WAP is a lever to get 3G started. But the applications – in other words the services – will still be valid in the future, although they will be faster, simpler and further refined."

Are you actively looking for partnerships?

"So far, it's been like selling hamburgers – the customers come to us."

Jesper Mott



Fredrik Jonsteg participated recently in a panel debate on Corporate Citizenship. Members of the panel also included Sakiko Fukunda-Parr of UNDP, Under-Secretary of State Lotta Fogde of the Swedish Ministry for Foreign Affairs, and Carl Söderbergh, Secretary General of the Swedish chapter of Amnesty International. Photo: Lars Åström

Global cooperation helps disaster victims

According to the UN's annual Human Development Report, half of the world's largest economies today are corporations, with countries comprising the other half. Considering the vast knowledge and resources of multinational companies, shouldn't they assume a certain degree of social responsibility?

Ericsson believes they should. The company pursues a policy of Corporate Citizenship, which includes Ericsson Response, a program established to provide emergency relief services.

➤ Fredrik Jonsteg is one of the persons in charge of Corporate Citizenship. He says the assumption of social responsibility by private companies is not a new phenomenon. In the US, corporations have been actively involved in social issues on a local level for many years.

"Companies are focusing more strongly today on global issues, reflecting a new element of corporate citizenship. Ericsson is trying to utilize its unique expertise and global network," says Fredrik Jonsteg.

The management staff of Corporate Citizenship wants Ericsson to concentrate all of its strengths in areas where the company excels. A team of experts is therefore being developed for deployment in areas where telecommunications are sorely needed.

To cope with the difficult conditions that usually prevail in areas affected by natural disasters, it is important to develop a well-organized unit with years of experience in similar situations and conditions.

Ericsson has entered into agreements with the International Federation of Red Cross and Red Crescent Societies (IFRC) and the UN, whereby all parties are committed to cooperate in the areas of emergency relief preparations and field operations.

Many purposes

The phenomenon of corporate social responsibility raises many questions.

Why should a company focused on profits get involved in emergency relief efforts? Does the general public have a right to place demands on private companies? Who controls what companies actually do and whether or not they live up to their promises?

Fredrik Jonsteg presented Ericsson's positions on disaster relief during a recent panel debate to discuss these issues. The United Nations Development Program (UNDP) arranged and participated in the debate with representatives of the Swedish Ministry for Foreign Affairs and Amnesty International.

Humanitarian efforts are concentrated first and foremost on helping people in need. This is also the mission of Ericsson Response, but Fredrik Jonsteg also cites several other reasons why Ericsson wants to be involved:

"We evaluate our efforts on two levels. We examine the issues from an external perspective, particularly in terms of social objectives, and an internal perspective, with regard to our business activities. But always from the viewpoint that functional societies are the foundation of good business operations."

Pride and recruitment

Ericsson's commitment to society provides the company's employees with another reason to take pride in their company. It also facilitates efforts by the company to recruit skilled employees.

Ericsson Response reflects Ericsson's willingness to accept full accountability. It also allows people to examine all parts of the company's operations.

"Demands will be placed on Ericsson to disclose aspects of our operations that include weaponry and military defense systems. If we are open and accountable, it's up to other parties who enter agreements with us to decide what they think is right and wrong," says Fredrik Jonsteg.

Corporate Citizenship also includes operations with Global Compact, an initiative started by the UN to create ethical rules and guidelines for multinational companies. Ericsson is committed to full compliance with the rules and guidelines for business ethics, environmental concerns and labour legislation. Transparency is also a critical element in this area.

Is the work all in vain if Ericsson is unable to continue the program?

"Ericsson Response is a program that is designed to function independently of fluctuations in the company's earnings. It was established as a self-sustaining concept. Ericsson provides global relief organizations with personal knowledge about alternative techniques within telecommunications, says Fredrik Jonsteg.

"If, contrary to all expectations, Ericsson is unable to continue the program, the organizations involved will have learned something on which they can build for the future."

He compares Corporate Citizenship with the progress that has been achieved in terms of demands on environmental labeling. He believes that a sense of social commitment will become a necessary responsibility for all major companies.

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Knowledge is the key to relief

Ericsson Response will answer the call when disaster strikes in the form of earthquakes, floods and other natural disasters. Members of the Response team must therefore receive comprehensive training in international relief efforts. During a recent one-week course at a Red Cross training center in Sweden, experts shared their knowledge with course participants.

➤ The first participants in the training program comprise a pilot group, and the course offered an opportunity for them to discuss how the program should be shaped.

"Knowledge about regulations and principles that apply in disaster relief efforts is essential for the creation of advanced cooperation with the Red Cross," says Per Allan Olsson, course director.

Per Allan Olsson

Dag Nielsen, who manages Ericsson Response, nods in agreement.

"It's extremely important to establish rules and regulations for all humanitarian work," he says.

Representatives of the UN, the International Red Cross in Geneva and the Swedish Red Cross participated in various phases of the course. Dag Nielsen also brought his own comprehensive knowledge in international relief efforts from many years of employment for both organizations. He also explaines that he had contacted most of the participants himself, through his network of colleagues in all parts of the world.

Most of the members of Ericsson Response will be technicians with many years of experience from international relief efforts. Some have also been handpicked, since they come from countries where the risk of earthquakes and other natural disasters is particularly prevalent.

More participants

Some 20 Ericsson employees are participating in the program. To achieve the degree of development envisioned by Dag Nielsen, more participants will be needed.

"Ideally, we would like to have 150 to 200 persons in all parts of the world, poised and ready to respond when disaster strikes. In some cases, perhaps only one person will be sent into the field with a UN or Red Cross team; at other times, our relief efforts may require an entire team with full telecommunications equipment," says Dag Nielsen.

Ericsson Response will be divided into local departments ranging in size and areas of responsibility. They will all have equipment kits that are fully tested and ready when relief efforts are needed. The equipment will include technologies required to establish transmission stations for communications.

"We're focusing on mobile GSM and TDMA networks. The people who are here today could easily go into field and set up the equipment," says Dag Nielsen.

Ericsson Response will be based on local and international cooperation with emergency relief organizations. The development of a technical reference group comprises a third leg in the program. The reference group will manage all technical development of relief work in parallel with efforts to increase field safety. Per Allan Olsson says the most important aspects of the work conducted by Ericsson Response will not be conducted during natural disasters.

The most critical element will lie in efforts by Ericsson's reference group to develop mobile radio base stations and GSM networks, for example. These will be used to complement or, at some point in the future, replace the older radio equipment now used in the field. Ericsson's personnel will work during and after earthquakes, storms, floods and other difficult conditions, but their services will not be available in war-torn areas of the world. Only the UN's peacekeeping forces are deployed for these purposes.

Ethics on the agenda

Per Allan Olsson is highly optimistic about programs of cooperation between the Red Cross and private companies.

"I believe that Ericsson has a genuine interest in humanitarian relief work. It also enhances the company's image, but what's wrong with that? This cooperation also provides us with greater insights into private companies. If we work closely with companies, this will give us opportunities to discuss ethical issues. If we keep them at a distance, this will not be possible."

An important objective of the program is to attract and retain skilled personnel. Dag Nielsen believes Ericsson Response will mean a great deal to the individual employees' impression of their company, thus making a contribution to job attractiveness that has nothing to do with salary levels.

Jesper Mott

Simulated crisis hones skills

Nimgara is a country in dire need of help. After a long drought and crop failure, starvation is wreaking havoc across the country. People have left their homes to seek food and water elsewhere. The risk of civil war looms larger with each passing day.

More than 200,000 refugees are living in overcrowded conditions in camps situated in different parts of the country. The International Federation of the Red Cross and Red Crescent has reached out to secure the flow of food and medicine.

Åsa Aronsson, Kaj Helander, Dag Nielsen and Henry Joakim follow developments in crisis-torn Nimgara with intense interest. The participants took their roles in the simulated disaster very seriously.

➤ This is the scenario in a simulated emergency relief effort in the Red Cross course for members of Ericsson Response. The participants are divided into different groups working in separate rooms at a training center in Sweden. Each room represents a part of the fictional country called Nimgara.

The groups represent real players. Some are part of the local Red Cross and others represent the International Red Cross, while another group assumes the role of Nimgara's military government. All parties are instructed to communicate via radio.

Improvisation

Per Allan Olsson has arranged this part of the course. He walks from one room to another, watching and listening as each group negotiates for the limited resources available under emergency conditions in Nimgara. Occasionally, he announces "news" to the participants, driving the continuous flow of events in the simulated field exercise. The participants are forced to improvise in their efforts to solve new problems that arise at regular intervals.

"We have certain templates for the simulations, but we also vary them based on different situations that may arise. This is what we call a complex disaster, with both political and logistical ramifications, not to mention safety considerations for our field personnel. It's a rather typical situation in the type of disaster we deal with." says Per Allan Olsson.

Henry Joakim works as a representative of the local Red Cross in Botsu, the logistics center of Nimgara. In real life, he works as manager of communications and legal transactions for Ericsson's operations in Iran. He was invited to join the program as a result of his personal experience in the aftermath of earthquakes in Iran.

"Iran is occasionally afflicted by natural disasters, and I was very pleased when Ericsson decided to get involved in this type of work. I'm also very proud that the United Nations and Red Cross/Red Crescent selected Ericsson as a partner."

According to Henry Joakim, the course is extremely valuable. It is focused totally on the task at hand, and the course instructors have many years of experience in international relief work. The course is held in a remote area, with no TVs in the rooms to distract the course participants. Henry Joakim says that he had plenty of time to think about what he had learned.

Devastated regions

Carlos Andres Urrutia is a product manager for Ericsson in Guatemala. Ericsson Response has designated certain countries in Central America as pilot countries, where disaster relief efforts will be particularly intensive. Other pilot countries include Iran, Turkey, Thailand and Vietnam.

"The initiative was based on volunteer contributions, and that appealed to me. I like to feel that I'm making a contribution. Many efforts are needed in Central America. We have suffered several natural disasters, and the region is also characterized by poverty and accessibility is extremely difficult," says Carlos Andres Urrutia.

Carlos Andres Urrutia

In his own country, Columbia, he has witnessed how natural disasters can totally devastate certain regions.

Only two of the 20 course participants are women. Ulrika Andersson is one of them. She explains that only a few women work in network installation assignments, and that's why so few women are involved in Ericsson Response.

"Representatives of the Red Cross and the United Nations who were here as lecturers really knew what they are talking about, and they passed on many of their experiences from trouble spots around the world," she says.

Appointment of all of the members of Ericsson Response, and the availability of emergency equipment kits, will not be finalized until next year. Ericsson Response is prepared now, however, to send people into the field if and when they are needed.

Jesper Mott

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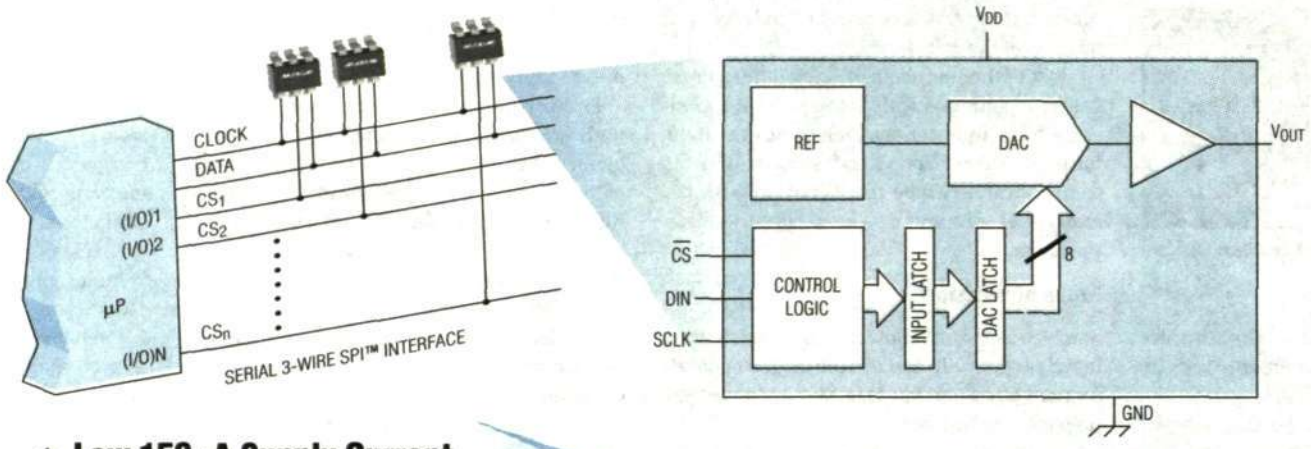

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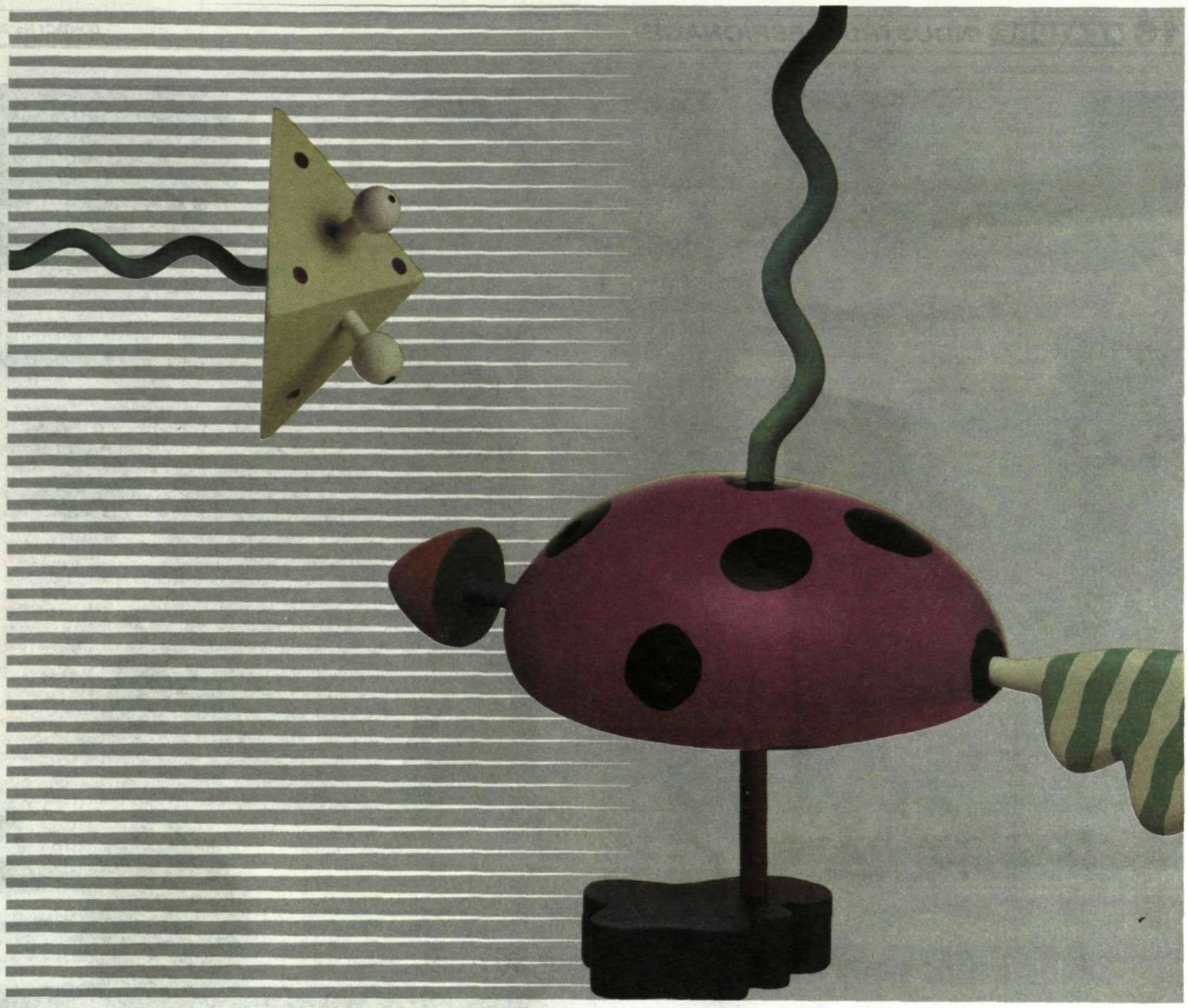

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These days, developments are taking place so rapidly that many companies forget to enact rules and routines to prevent industrial espionage. Security consultant Tommy Lindström says that companies need to follow established routines when key employees quit their jobs. He also stresses the importance of not providing consultants with access to any more information than they need.

Photo: Lars Åström

Helping companies fight espionage

Industrial espionage is a growing problem. It is not easy to protect oneself in a constantly changing market where a company's arch rival can become its closest partner overnight.

➤ Increased awareness among employees and caution in not providing consultants with more information than they need are two examples of solutions.

Industrial espionage has been on the rise in recent years. While this assertion cannot be backed up by statistics, it can by those who work to prevent it.

Recently, for example, software giant Microsoft took a hit when a hacker managed to break in and copy a code from one of its programs. In the past, Microsoft has proudly announced that nobody had managed to penetrate its firewalls. The primary reason for an increase in industrial espionage is increasingly stiff competition. In order to survive in a continually changing market, companies need to know in which direction developments are headed and what their main competitors are working on.

Suspicions kept secret

The boundary between intelligence gathering and industrial espionage is a very fine line.

"Today, a company president that does not focus on intelligence gathering is almost committing a breach of duty," says Tommy Lindström. Lindström served as the head of Sweden's National Criminal Investigation Department for twelve years and currently works as a security consultant.

His most common assignment is to investigate other companies, potential partners for instance, and determine their reliability: Who is in management and what sort of backgrounds do they have? He explains why so many companies refrain from reporting industrial espionage problems.

New opportunities to spy

"Companies that have been compromised do not necessarily want to discuss the problem, for a variety of reasons. They don't want to name a suspect or they believe that the company could be damaged by making the information public."

The Internet has opened up new opportunities for many companies, but it has also made them more vulnerable.

Developments within the telecom industry, for example, are moving at an incredibly fast pace – companies that are competitors one day become partners the next. Nobody can afford to build their walls of defense too high.

The number of consultants working at multiple companies and taking with them a wealth of knowledge and information has increased in almost every field.

In recent years, industrial espionage methods have become increasingly sophisticated. Being a talented programmer is one way to gain access to a company. Having worked within a national intelligence service is another.

"When the threat situation between the US and Russia changed, for example, many people within the intelligence services lost their jobs. They were forced to seek out other employment, and industrial espionage was one of the routes for those who decided to work outside the limits of the law," says Tommy Lindström.

Spies get hired as consultants while personnel departments, which are short on time, do not always conduct background checks on new recruits. There is a fine line between openness and security.

Establish routines

One solution to the problem is to increase awareness among employees, according to Tommy Lindström.

"You can't become paranoid and see spies everywhere either, however. If an unauthorized person starts asking pointed questions you should ask yourself: Why does he or she want to know this? Does he or she need this information? If you are uncertain, respond with a question. Think about your own intrinsic value. As an Ericsson employee you hold information that is unique and important."

There are many examples of measures that companies can take to reduce the risk of industrial espionage.

Managers need to talk more with their employees about the importance of loyalty and the consequences of not remaining loyal.

Companies also need to establish good routines when employees, and especially key employees, quit their jobs.

Personnel departments should also devote more time to checking on the backgrounds of people who are employed there.

And consultants should never be given access to more information than they need, says Tommy Lindström.

Ulrika Nybäck
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Stricter routines protect secrets

Computer files that end up in the wrong hands and the dissemination of confidential company information. All major companies struggle with the difficulty of protecting confidential information and Ericsson is no exception.

➤ The larger and more international the company, the greater the risk that confidential information will end up in the wrong hands.

Carl Olof Blomqvist

"Companies that operate in industries where new developments are rapidly occurring, such as IT, are especially vulnerable," says Carl Olof Blomqvist, chief legal advisor at Ericsson.

Conflicts arise when employees do not respect the fact that the results of their work belong to their employer.

Recently, an Ericsson employee copied large portions of his hard drive in order to take it with him to his new job outside the company.

A colleague who had suspicions reported the incident to one of the company's security managers. When the security manager intervened, the employee reacted with surprise, saying that he was not aware that what he had done was illegal.

No easy solution

There is no simple solution to the problem of protecting confidential company information, but there are routines that can be improved upon, according to Carl Olof Blomqvist.

Line managers need to assume greater responsibility, together with personnel units, when it comes to employees starting or leaving their jobs.

In the case of new recruits, personnel departments should make greater efforts to investigate the backgrounds of job applicants.

When key people leave their jobs, they should no longer be allowed to attend certain meetings. In some instances, they may even be forced to work from home or only be on call for the employer for the duration of their notice period.

Thomas Petersson

"We should develop a checklist that would simplify routines to be followed when an employee quits. It could include everything from returning keys and confidential documents to having someone go through an employee's computer to ensure that nothing is copied," says Thomas Petersson, head of company security with responsibility for personal safety at Ericsson.

"We should also discuss in greater detail what happens when someone is guilty of disseminating confidential information. While it obviously damages the company, it also creates a difficult work situation for fellow employees," says Carl Olof Blomqvist.

Regulated information

Two examples in which there is an increased risk of information leaks are the use of consultants and collaboration in joint ventures.

"We have to get better at limiting the assignments we contract out. And make sure that we're not providing access to the whole intranet environment," says Thomas Petersson. "The employer should be able to announce the degree to which users have access."

In the latter case, it is important to have good contracts in place that regulate how information is utilized and what happens to that information once a collaboration ends.

Swedish companies are relatively inexperienced at dealing with problems such as the dissemination of confidential information, which have been fairly uncommon.

"Many large international companies have been struggling with these kinds of problems for a long time, and have made greater inroads in their internal routines. In many countries, laws also provide companies with better tools to protect themselves. For Ericsson, however, our primary goal is to crack down on our own routines," concludes Carl Olof Blomqvist.

Ulrika Nybäck

Safeguards essential

➤ "We need to be able to protect ourselves against unauthorized access if the company is to survive."

This is what Ericsson President Kurt Hellström said when he spoke at Ericsson's first major security convention.

Protecting the company against various forms of infringement is becoming increasingly important. A study shows that a total of USD 45 billion in value disappears each year from the 150 largest American companies.

High-tech companies are most vulnerable. For Ericsson, a high degree of security consciousness is the most important way to reduce its risk. That is why one of the goals is for every employee to have completed a basic security training session. Over 160 participants from throughout the Nordic region participated in the security conference held on November 9–10.

Kurt Hellström emphasized the importance of a system that allows Ericsson to maintain good security.

"Our customers demand guarantees that we can protect ourselves and our company secrets if they are going to do business with us. But we also have to figure out how to strike a balance, since financial markets also demand that we be open with our information," he said.

This was the first time that Ericsson organized such a large gathering of security personnel. Seminar speakers included representatives from the Swedish Security Service, Microsoft and Securitas.

"The best thing about the convention is that I was able to establish contacts with my colleagues. At times it feels as if you are the only person involved in what you're doing," says Marie Linder, security coordinator at Ericsson Radio Access.

Lars-Magnus Kihlström

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Man on the street making history

The year 2001 is one that should go down in telecommunications history. This is the year when 3G will become reality. The technology will première in Japan, where NTT DoCoMo will be the first to provide it, followed by J-Phone. At Ericsson in Japan, preparations for this important event are in full swing.

➤ You can see that mobile Internet has truly made a breakthrough in Japan, not just on the street. Everyone is talking about it, particularly "i-mode." Mobile Internet seems to be a common denominator in all the interviews conducted at Ericsson in Japan.

Mats Köhlmark

"Here, people are already used to surfing and viewing images on their cellphone. There are now high hopes that this is going to be cheaper, faster and offer better content. In Japan, the 3G market is already mature."

These are the words of Mats Köhlmark, Vice President of Nippon Ericsson K.K. and in charge of market support and R&D for second- and third-generation mobile systems.

Armed with experience

When Mats Köhlmark relocated from Kista to Tokyo in June this year, he took along his extensive experience of working with 3G. He was previously project manager of the major WCDMA development project and has also been in charge of both the GSM and the PDC projects.

"The WCDMA project is different. It involves a global standard, more complex than its forerunners, where the market is simply exploding. There is also less tolerance of mistakes than with earlier introductions. Since Japan is about to be first in the world, there is an enormous interest in what is happening here," he explains.

"Important parts of the IMT 2000 organization are in place, and several employees are currently in Sweden to learn more," he relates.

IMT 2000 is the standard that the ITU – the International Telecommunications Union – has established for 3G.

With regards to FOA (First Office Application), the Nippon office cooperates closely with Ericsson in Guildford. Cooperation is already intensive, but will increase further early in the new year, with beta testing and increasing numbers of customer installations.

Ericsson's new premises in Tokyo are quite uncrowded when Contact pays a call. So far, only the IMT 2000 program staff are here, and there are moving boxes everywhere.

"We are the first ones here, but eventually, employees of Ericsson's three other offices in Tokyo will also move in," explains Erik Ehrenfors, manager of the program office.

Rapid changes

Today, there are a hundred or so people involved in the Japan project, but there will soon be double that number. Even if J-Phone is the only customer, in practice it will be like working with three operators in different parts of the country.

"Since the traffic situation in a 3G network can change very rapidly, we must have a support organization that covers the entire country, and are currently in the process of building one," says Erik Ehrenfors.

The largest portion of the core network of Ericsson's 3G system will be built from November to February next year in Japan.

Greg Atkinson

"The first site operations for the WCDMA system are in progress in Osaka, and this will be followed by Tokyo in December and Nagoya in January," explains Greg Atkinson, manager of the FOA project.

For him, it is fascinating to be involved in building something up from scratch.

"However," he says, "Everything is new, both for us and for the customer. This applies not only to products, but also to processes. Now is the time we get to see how everything we developed works in reality."

About 140 people, plus several consultants, are taking part in the work. Of the Ericsson employees, 60 percent are Japanese. And of the Japanese employees, 40 percent were recently recruited, many with experience from other telecommunications companies.

Direct customer contact

"Finding highly skilled Japanese engineers is not difficult. It is not that important that they do not all speak perfect English, since their language skills are generally quite sufficient to cope with technical issues. Many of the engineers have direct contact with customers, and for that, Japanese is the language they need," says Greg Atkinson.

He feels the project has enough staff, and that the important thing now is to build up expertise regarding everything that is new.

A key person for IMT 2000 in other parts of the country is Hiroshi Yasumori. He has been with Ericsson for six years, working with both mobile and fixed telephony. When he moves into the Ericsson office at Nagoya, he will be drawing primarily on his experience of working with PDC.

Hiroshi Yasumori

"J-Phone has high expectations on its supplier, and it is therefore important that we listen to customers, here in Tokyo and in the outlying regions. At the same time, we must remain sensitive to end-users, since they are the ones who create the market," says Hiroshi Yasumori.

It is important for J-Phone to be quick to the market with 3G. Granted, its competitor, NTT DoCoMo, will be first, but J-Phone's advantage is that they can offer 3G services in several locations in Japan, not just Tokyo.

Lars Sandström, new account manager in charge of new customers, sees several business opportunities. Ericsson has sold consulting services, optimization of Motorola networks, planning tools and the like, to operator KDDI, which currently operates a CDMA One system, thus establishing a business relationship.

"As a result, we have now submitted a tender for CDMA 2000," he says, "and, clearly, our chance of obtaining a favorable contract at the moment is excellent."

He also mentions Bluetooth for local networks, which offers the option of locally adapted information, as an attractive solution for new players.

The NTT team at Ericsson in Japan includes slightly more than 70 people, half of whom are based in Tokyo and half at other locations throughout the country.

"Previously, we only worked with DoCoMo, but for a little over a month, this focus has been broadened to include all of NTT," explains Sven Eriksson, who is responsible for this customer group.

Solid relationship

Within the NTT Group, with its 200,000 employees, cooperation between the parent company and NTT has increased.

Since DoCoMo is proactive with regard to globalization and seeks partners with international experience, the development taking place within the operator is of interest to Ericsson.

"We have a favorable position, since we are the only foreign supplier that already has a strong business relationship with DoCoMo," Sven Eriksson points out.

DoCoMo is an old Ericsson customer. The first MDE unit, which is part of the PDC system, was delivered as early as 1991. Every year, this has appeared in a new version, but a generational shift will take place next year, with the arrival of WCDMA.

"It is interesting to work with DoCoMo, which is truly in the forefront in applications. The golden rule is to look to the users first, and DoCoMo's successful 'i-mode' is a good example of that," says Sven Eriksson.

Gunilla Tamm
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J-Phone prepares for 3G debut

Ericsson's largest customer in Japan, J-Phone, commands 16.5 percent of a mobile telephony market dominated by NTT DoCoMo, with 58 percent of the market, and KDDI, the second-largest mobile operator.

➤ J-Phone currently has approximately 9.2 million subscribers and is gaining 100,000 to 200,000 new subscribers monthly, according to Michael Mattisson, customer account manager for J-Phone.

"The growth rate fluctuates considerably depending on the season, with the greatest flow of new customers usually occurring in the spring."

Japan's Internet scene is clearly dominated by NTT DoCoMo's i-mode. However, it was J-Phone that lay the foundation for consumers' enormous interest.

J-Phone got the ball rolling by launching SMS services, which then became incredibly popular and really stimulated the market.

Cork pops next October

J-Sky, with 3.5 million Internet users, is J-Phone's answer to i-mode. In terms of technology, i-mode uses packet data whereas J-Sky is still using circuit-switched transmission. J-Phone, however, is poised to change over to packet data technology delivered by Ericsson in the middle of 2001.

With J-Phone's PDC system performing very well and growing steadily, the operator is preparing for the launch of 3G, scheduled for October 1 next year.

"We have an enormous challenge ahead of us, and preparations, which involve building up resources and expertise in Japan, are in full swing," says Michael Mattisson.

Despite having long-standing experience of drafting contracts with Japanese operators, Tetsuo Kato, whose position involves responsibility for preparing contracts, says that the 3G contract with Japan Telecom is one of the most complicated agreements he has ever been involved in.

Work on the contract started in spring 1999. A tender was submitted at the end of August 1999 and Ericsson was selected as the supplier two months later.

Nokia and NEC will also deliver parts to the network. A letter of intent was signed in spring 2000 and in September Ericsson and J-Phone concluded an agreement covering the commercial launch. A definitive contract will probably be signed very shortly.

Tetsuo Kato

"One of the reasons for the protracted negotiations is that the matter involves a completely new technology and translation work has been extremely complicated," Tetsuo Kato explains.

Tetsuo Kato has cooperated intensively with colleagues in Sweden and has spent a considerable amount of time in Kista.

Gunilla Tamm

Junko finds Sweden best

She has been to Sweden several times as a tourist, on business trips and with a travel scholarship. Junko Kubota is a secretary at Ericsson in Japan, and has been a team player ever since Ericsson's first mobile system was installed in the country seven years ago.

➤ Junko joined Ericsson Toshiba Telecommunications in 1993, one year after the joint-venture company was formed. She had previously worked for two years in Canada. Today, she is a secretary at the newly established project office for IMT 2000.

"I've enjoyed being part of the fast-paced developments here and am looking forward to entering a new phase with our big 3G project," she says. In addition to her secretarial duties, she is responsible for internal information on the company's website. She finds this to be an interesting challenge, but adds that she needs to learn more.

Junko Kubota

Junko likes working at Ericsson and appreciates both the international atmosphere and the emphasis on equality. "Ericsson also allows for greater individual freedom than at Japanese companies."

Three years ago, Junko received a corporate travel scholarship and visited Ericsson in Sweden, and Kista in particular, to meet with colleagues. Sweden has become one of her favorite countries, as well as a vacation destination and a place where she has many friends.

"I've made five trips so far, which have included skiing in Åre and berry-picking in Dalarna," she concludes.

Gunilla Tamm

FACTS/ERICSSON IN JAPAN

In 1985, Ericsson opened an office in Japan. Five years later, the Nippon Ericsson K.K. company was formed. Today, there are three offices in the Tokyo area. Regional offices are located in Nagoya, Osaka, Fukuoka, Sapporo and Kanazawa.

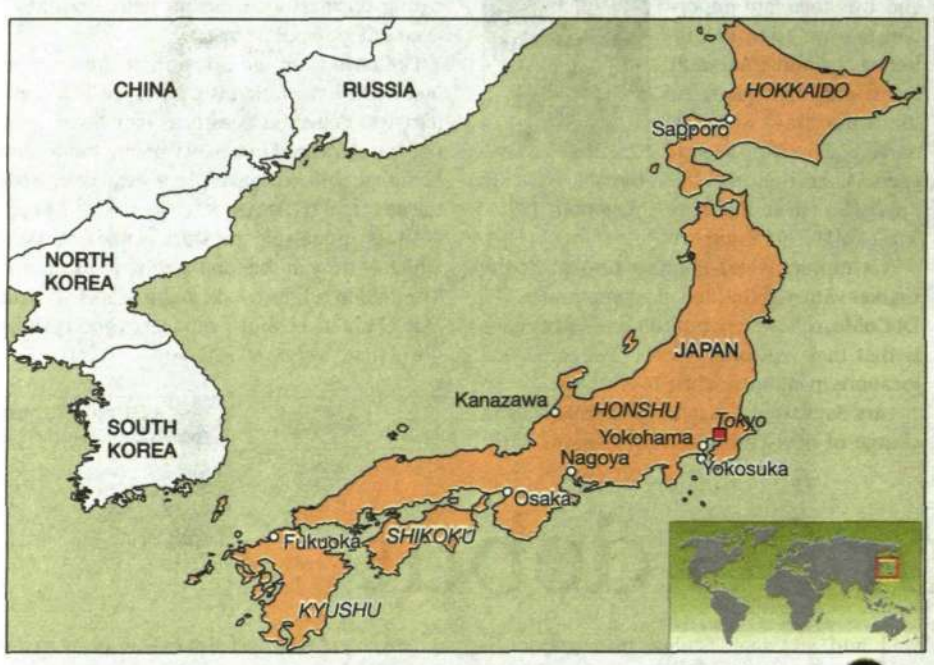
Nippon Ericsson K.K. has about 1,100 employees and is headed by President Morgan Bengtsson.The J-Phone mobile operator accounts for most of Nippon Ericsson's sales. More than 800 of the company's employees are involved with J-Phone.

FACTS/MOBILE TELEPHONY IN JAPAN

Japan has a total of 61 million mobile users, or a penetration of 48 percent.

The PDC system, which is only used in Japan, was placed in operation in 1994. The system now has a penetration level of 40 percent, or 49 million users.

Last year, the CDMA system was introduced to Japan, and it has a 5-percent penetration rate, or slightly more than 6 million users.



First mobile a collector's item

➤ The first Ericsson cellphone to be introduced in Japan, launched three years ago, has become a favorite collectors' item. Its second-hand value is now as much as JPY 250,000, or USD 2,500.

The first telephone, the ER205, was produced in very small numbers. Its successor, the ER207, was also produced in a limited series and commands a rather hefty price among collectors. Both models have won prizes for their design.

All of Ericsson's Japanese mobile telephones are sold by NTT DoCoMo.

"Having been in this market for a number of years, we have developed distribution channels and learned how the market works," explains Søren Just-Pedersen, marketing manager for mobile phones in Japan.

"Japan is a key market for us, and Ericsson intends to participate actively here," he says.

Gunilla Tamm

MY VIEW

A schoolgirl's must-have

Gunilla Tamm
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It's saturday morning in Yoriko, a shopping district in Tokyo. I came here by subway to have a close-up look at the primary users of "i-mode," Japanese operator NTT DoCoMo's version of mobile Internet.

➤ And sure enough, here they are, the young girls who are the most avid users of i-mode and who are driving its development.

Many of them have dyed hair and white makeup around their eyes. They congregate in groups at the subway entrance to wait for their friends, and pass the time energetically pressing buttons on their cellphones, which are either silver or pastel-colored.

The phone itself is not the only fashion item. The strap that they all seem to have apparently must have some little charm hanging from it.

As I enter one of the shops a little further down the street, I see rows of display counters full of cellphone straps in plastic, leather or beads, the cheapest costing about USD 9. Later – back in Sweden – I read about the launch of Ericsson's T90 mobile phone and discover that cellphone straps have become a must-own accessory in Sweden, too.

In Japan, it is not at all common to have a computer at home. No doubt this is one explanation of the great popularity of i-mode. Another could be that operator J-Phone launched the highly successful SMS, which created interest in mobile Internet.

A third, important explanation might be that i-mode is incredibly easy to use. I need only press a few buttons to arrive at the website of the Swedish tabloid Aftonbladet, where I read that it is raining in Stockholm and the temperature is eight degrees.

Using i-mode is not just easy, but inexpensive, as well, and the content is very broad.

Content, in fact, has been a focus of NTT DoCoMo's work. As for the technology supporting all the services – the young female users could not care less.

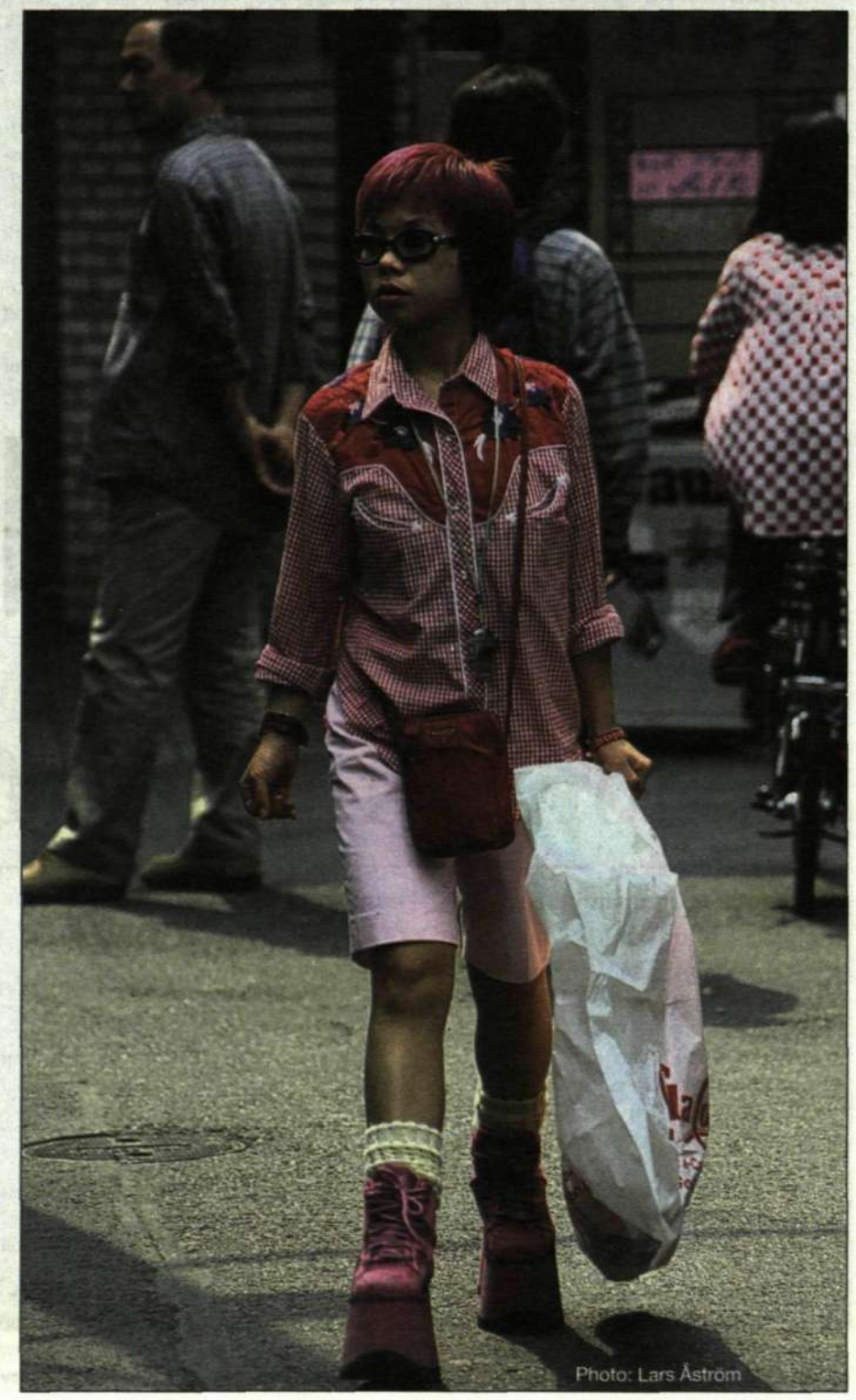

Photo: Lars Åström

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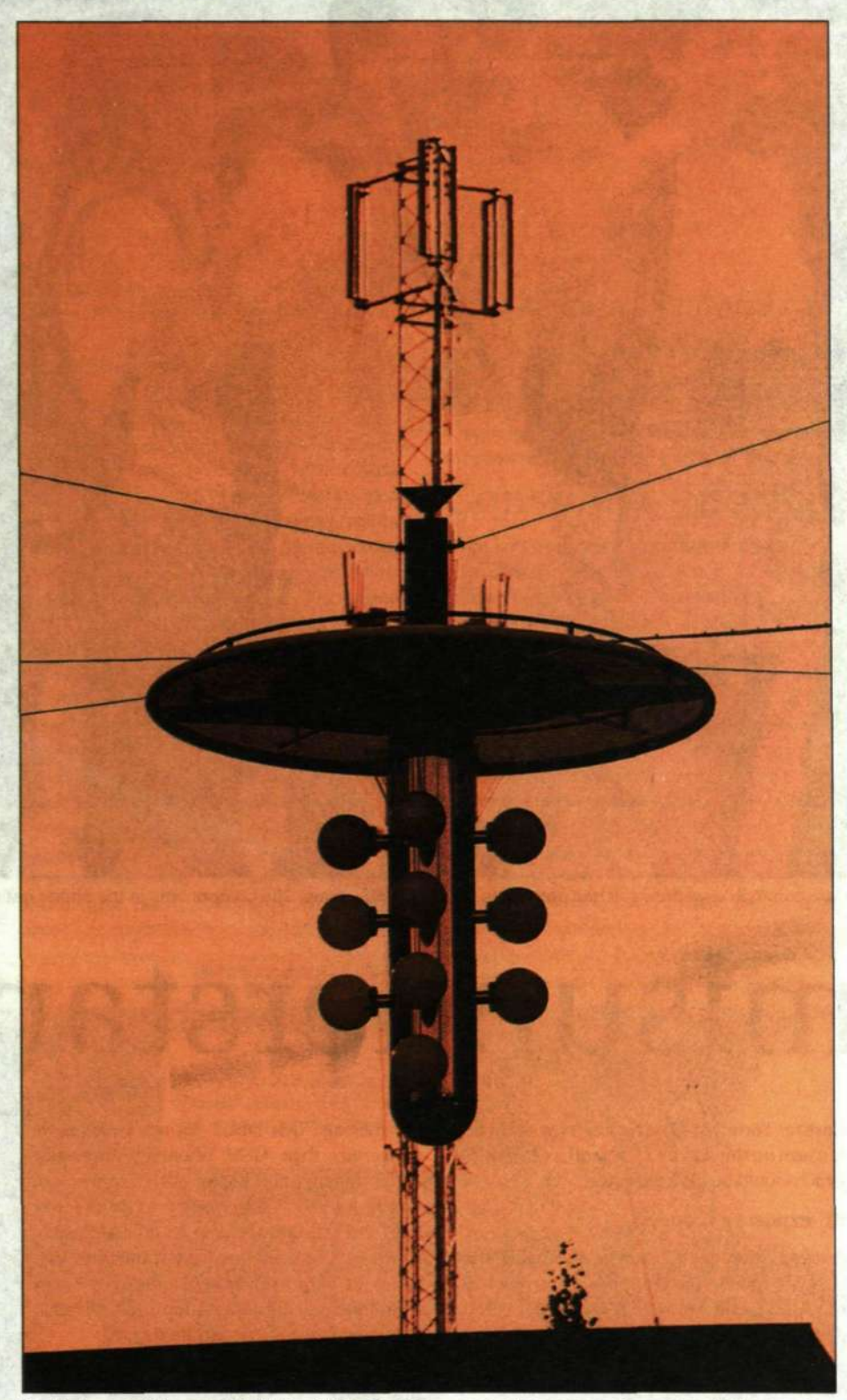
Research quells alarm

Careful! Danger! Panic headlines on newspaper billboards regularly churn out claims about how mobile phones can affect your health. But what is the real situation? The effects of radio waves on people have been studied in thousands of research reports during the past few decades. Ericsson has been actively studying the issue for many years.



Radio base stations may look like UFOs. But how much electromagnetic energy do they emit and are the electromagnetic fields harmful to humans? Contact has the answers.

➤ Health effects of radio waves a well-researched area. The important thing to realize is that radio-frequency radiation in itself is nothing new; it is the manner in which it is used that is a new phenomenon: the fact that people have an – admittedly weak – radio transmitter close to their body. This is the view expressed by Gert Anger, a physicist and researcher at The Swedish Radiation Protection Institute.

"It doesn't seem strange to me that people are asking whether there are any risks, or that researchers are going over the research results again," says Gert Anger.

"Mobile telephony has become an extremely widespread technology and it is important that we continue with our research in order to extend our knowledge."

The debate about the possible risks of mobile phone use has intensified in the past few years. However, the concern about exposure to radio-frequency electromagnetic fields (also known as EMF, RF exposure, radio waves and radio-frequency radiation) is nothing new. The effects of radio waves on health have been discussed since the 1940s and thousands of studies have been carried out to date.

The most recent study was commissioned this spring by the British government. It took the form of a review of the research status by an independent group of experts, the Independent Expert Group on Mobile Phones (IEGMP). The group published its results in the Stewart Report, named after the group's chairman, Sir William Stewart.

The conclusion reached in the report is that the balance of evidence does not suggest that any health risks are caused by exposure to radio waves below the established limits, that is, at the exposure levels from mobile phones and radio base stations. On the other hand, there are some scientific studies that indicate that there could be biological effects.

"But such effects do not necessarily cause damage or illness, so it is important to differentiate between biological effects and health effects," says Gert Anger.

Separate research area

Ericsson began its own research into exposure to radio waves from mobile telephony equipment in the early 1990s. The research was originally conducted within the Access Technologies & Signal Processing department at Ericsson Research, but as from this autumn EMF Health and Safety has become a separate research area. Six people are working full-time in Kista, Sweden on EMF-related issues.

"EMF is an important parameter in research relating to the design of future products," explains Christer Törnevik, who is in charge of Ericsson's EMF research.

"Ericsson's products must comply with the existing limits regarding health and safety. This principle governs the entire process, from the initial concept to the testing of finished products."

The department's efforts can be divided into four main areas.

"Firstly, we monitor medical research on possible health effects and are responsible for the company's sponsorship of independent research," says Christer Törnevik. "We also develop testing methods and use measurements and calculations to verify that our products comply with the established limits. In certain countries, including the US, Canada, Australia and the EU member states, these limits now have regulatory status."

"We are also involved in the development of standards for measuring RF exposure from mobile products and we represent Ericsson in various standardization bodies. Finally, we draw up policies and strategies to govern Ericsson's work in the EMF area, and we are responsible for keeping people informed internally."

As Ericsson's external spokesman on health and safety issues, Mikael Westmark often faces questions from the general public and the media about RF exposure from mobile phones, but he also hears from Ericsson employees.

"We tend to receive an extra large number of calls when the newspapers carry an EMF-related article," he says.

Mikael Westmark and Christer Törnevik are currently endeavoring to improve the dissemination of information, for example, by simplifying and clarifying the situation so that people can understand it better.

"EMF is not the exclusive concern of experts. If we are incapable of keeping our own employees properly informed, leaving them instead to draw their own conclusions based on articles in the evening papers, then we cannot expect to succeed externally either," says Mikael Westmark, who now trains other communications personnel in health and safety issues.

"We plan to use our communications personnel to disseminate information about this issue – it is not an area on which we will only be working in Stockholm. It goes without saying that the people working in external communications for Ericsson in, say, Djakarta or Shanghai, also need to be able to answer questions of this nature."

Another method of spreading information within the organization is via the network of experts within research units that Christer Törnevik has set up. These experts help, for example, with the training of designers in basic EMF requirements – a key element in telephone design.

"We also perform computerized calculations of how various design solutions affect the telephone's performance in regard to RF exposure," says Christer Törnevik, emphasizing that he does not see this as minimizing a risk or eliminating an undesirable feature.

"We cannot eliminate the radio waves, since the mobile phone is a radio transmitter," he explains. "But we have an obligation to ensure that the levels of exposure are below the limits established by the relevant authorities and by international organizations, such as the WHO. The maximum exposure levels recommended in Europe and internationally are set with a large safety margin towards the threshold of established health effects."

Alarm based on incomplete picture

The research carried out up to now does not indicate that there are any risks associated with using mobile phones, given the low levels of radiation from the phones, explains Gert Anger.

"What is known is that very high exposure levels can affect health. Below the established thresholds, the biological effects are so small that there are no grounds for talking about health effects," he says.

"You cannot assess the level of knowledge based on a single research report, as the media like to do. You have to be able to see the complete picture and decide whether it agrees with other research in the area, for example. It is always difficult to draw conclusions from research conducted on biological materials. The connections are complex and the studies must be repeated by independent groups to see if they lead to the same results. Only then is it possible to say whether the model one has established is correct."

According to Gert Anger, one of the most important questions for research at present is whether there is a link between mobile telephony and cancer. To date, no such correlation has been shown. A research project, which has Ericsson's active involvement and support, is currently in progress in 13 countries.

As regards other frequently discussed effects, such as headaches or heat sensations, it is important to keep track of cause and effect.

"It is vital to establish whether a given response is in fact caused by radio-frequency fields," says Gert Anger.

At the same time, it is important to take people's concerns seriously, explains Christer Törnevik.

"To date, research has not been able to demonstrate any health risk," he continues. "Further research in areas where more knowledge is needed may enable us to successively discount hypotheses concerning various possible effects on health. However, it will never be possible to prove scientifically that mobile phones are totally harmless as it is logically impossible to prove a negative."

"It is important that we inform consumers even more clearly about radio waves and health in manuals and brochures and on the web. To be self-critical, it is true that we could have avoided some of the debate by issuing better information at an earlier stage. Now we are trying to remedy the situation."

Henrika Lavonius-Norén
freelance journalist

The National Radiation Protection Institute (SSI) is the authority that supervises and regulates radiation in Sweden. Read more about EMF:

http://inside.ericsson.se/health

www.who.int/peh-emf

A warm ear after a lengthy talk on a mobile phone is a common experience. It has nothing to do with radio waves. The components in the phone get warm just like with a flashlight.

Photo: Lars Åström

Many misunderstandings

"Your mobile phone will scramble your brains." Does the claim sound familiar? Alarming reports in the media have opened the way for many misunderstandings regarding mobile telephony and electromagnetic fields.

➤ If your ear feels warm after a conversation on your mobile phone, it is not because it has been "cooked" by radio waves, since radio waves are not the source of the heat.

"It is simply the components in the telephone that get warm, in just the same way as a flashlight or any other electrical appliance becomes warm when it is used," says EMF expert Christer Törnevik. "The radio waves could only warm up the skin by a few tenths of a degree, which would be too little to feel."

RF-exposure reduced

Another misapprehension is the belief that portable hands-free equipment increases RF exposure around the ear. Alarming reports to this effect appeared in the press earlier this year after a British study claimed that measurements showed that exposure from the earpiece was higher than from the telephone. In actual fact, the claim is baseless. A number of other laboratory tests – some of them conducted at Ericsson – have shown the opposite: that using hands-free equipment substantially reduces RF exposure around the ear.

In addition to earpieces, DECT telephones have also been the subject of discussion . Once again, it was newspaper articles that spread the message that DECT phones were "more dangerous than GSM phones," since they could transmit at a higher power. In fact, the power of a DECT telephone is 25 times lower than the maximum power of a GSM phone. However, GSM phones have a function that varies the output power according to how near the phone is to the base station and how much information is to be transmitted.

Incorrect claim

DECT telephones, for their part, do not regulate their output power but always transmit at a constant level that is somewhat higher than a GSM phone's lowest level. The claims made about DECT telephones are therefore incorrect. Both DECT and GSM phones have SAR values that are below the exposure limits.

People also find new technology disquieting, and Bluetooth has also encountered its share of suspicion. Bluetooth uses the same frequency range as the microwaves in a microwave oven, which has led a number of people to view Bluetooth with skepticism. It is true that the frequency range is the same, but there is a crucial difference: the output power is far lower.

So while the power output of a microwave oven is around 1,000 watts, that of Bluetooth is only one thousandth of a watt.

"There is a common misconception that radio waves in the frequency range used by both Bluetooth and microwave ovens have especially 'dangerous' properties. The fact that you can heat food in a microwave oven is due to the high power output, not to the frequency," asserts Christer Törnevik.

Henrika Lavonius-Norén

Electromagnetic fields are measured at the Ericsson EMF research laboratory in Kista. Research Engineer Martin Siegbahn places a mobile phone in a holder behind a plastic shell filled with a liquid with the same electrical properties as the tissue in the human head.

Ericsson supports independent R&D

➤ Ericsson does not conduct any medical research of its own concerning electromagnetic fields; nor does the company sponsor any such research directly. It is a matter of credibility, explains Christer Törnevik. There is a dilemma in this regard: companies are criticized if they do not carry out research, but if they do, they face a credibility problem. To circumvent this problem, Ericsson supports research that is coordinated by independent research organizations.

"Our policy is to sponsor independent research recommended by the World Health Organization (WHO). The WHO has established a research agenda with prioritized EMF studies. The research in question is intended to enhance knowledge in the right areas and provide answers to the most important questions," says Christer Törnevik.

Christer Törnevik

The sponsorship is mainly arranged through the international industry organization, the Mobile Manufacturers Forum, MMF.

The following are some examples of research that is supported by Ericsson:

- INTERPHONE: international epidemiological case study of the links between cancer and the use of mobile phones. Thirteen countries are involved.
- PERFORM-A: a program of animal studies of possible health effects related to mobile phones and base stations. Research institutions in six European countries are involved.
- PERFORM-B: animal studies of possible effects on memory. Laboratories in France, the UK and Italy are involved.

Henrika Lavonius-Norén

International standard on the way

Radio waves are electromagnetic fields (EMF) that propagate at the speed of light. Field characteristics and application areas vary with the frequency, that is, the number of cycles per second.

➤ EMF is a part of everyday life. Electromagnetic fields are created wherever there is electric voltage and current. All electrical appliances – computers, toasters, power lines and mobile telephones – are surrounded by electromagnetic fields. Even sunshine is electromagnetic energy. In mobile telephones and other radio transmitting devices, the fields are intentionally generated to enable communication.

One characteristic of radio frequency energy is that it can penetrate biological material, where it is absorbed and converted to heat. To protect people from the adverse heating effects international organizations, such as WHO, and national authorities have established recommendations and regulations which specify maximum levels of RF field exposure. The RF exposure limits in these norms are science-based and include a large safety margin.

Ericsson and other mobile telephone manufacturers follow these norms.

The norms for exposure to electromagnetic energy from a mobile telephone are given in SAR (Specific Absorption Rate, W/kg), which is a measure of how much of the transmitted power is absorbed by the body.

The ability of radio waves to heat tissue is the basis for SAR. The internationally recommended norm for mobile telephones is 2 W/kg for a tissue mass of 10 grams. This means that at most 0.02 watts may be absorbed per 10 grams of body tissue.

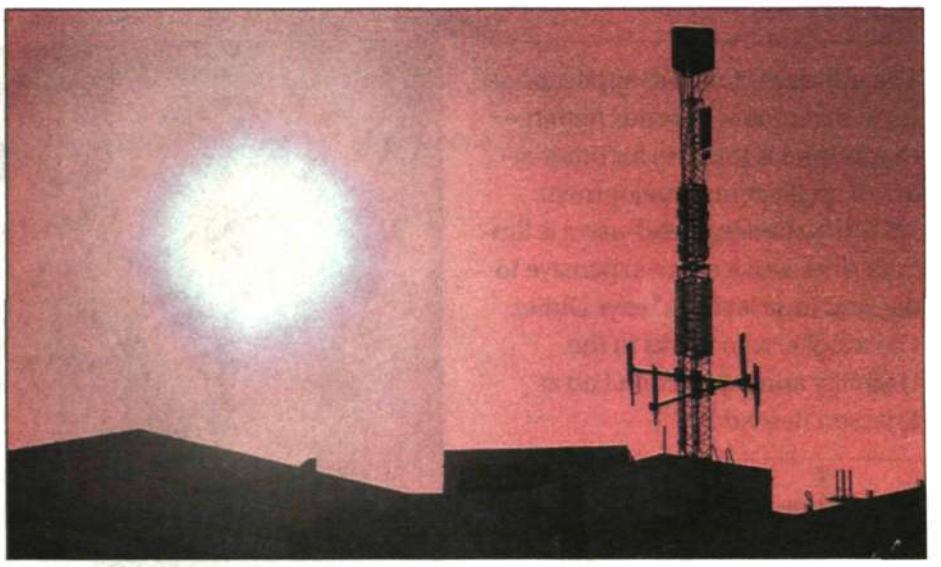
The SAR value for mobile telephones is measured in special testing laboratories. Ericsson has three such labs – in Kista and Lund in Sweden, and in Raleigh, NC, in the US. Testing employs an artificial head filled with fluid that has the same electrical characteristics as human tissue. By moving a sensing probe, the point in the head where maximum absorption is determined and measured in a volume of ten grams. The result of the measurement is the SAR value.

The measured SAR value, however, is a measure of the maximum RF exposure when the radio transmitter is operating at maximum power. This is like measuring fuel consumption for a car that is climbing a hill in first gear, which uses much more fuel than when it is being driven on a highway. This means that a mobile phone in normal use operates far below its measured maximum SAR value.

Starting this autumn, certain mobile phones sold in the US will be supplied with information about RF exposure, including the maximum SAR value. Ericsson is working together with other mobile telephone manufacturers and government authorities to ensure that this information is available for all new phones. This will probably be achieved next year, when international measurement standards for SAR are finalized.

Like mobile phones, the antennas of radio base stations emit radio waves. The electromagnetic exposure to which people are subjected, however, is far below the established norms, since the strength of the radio waves quickly decreases with distance from the antenna. A distance of just one meter from a typical outdoor base station or a few centimeters from an indoor base station is enough to reduce exposure to below the recommended level.

Henrika Lavonius-Norén



A radio base station transmits radio waves in a focused beam. This means that exposure on the ground is below recommended levels.

Consumer information misinterpreted

➤ For some time, British authorities have been preparing a new brochure aimed at informing consumers about the health-related aspects of mobile telephony. The contents of the brochure, which is to be issued to coincide with the Christmas shopping season, has generated a flurry of news headlines citing "Christmas warnings" and "warning labels on mobile phones."

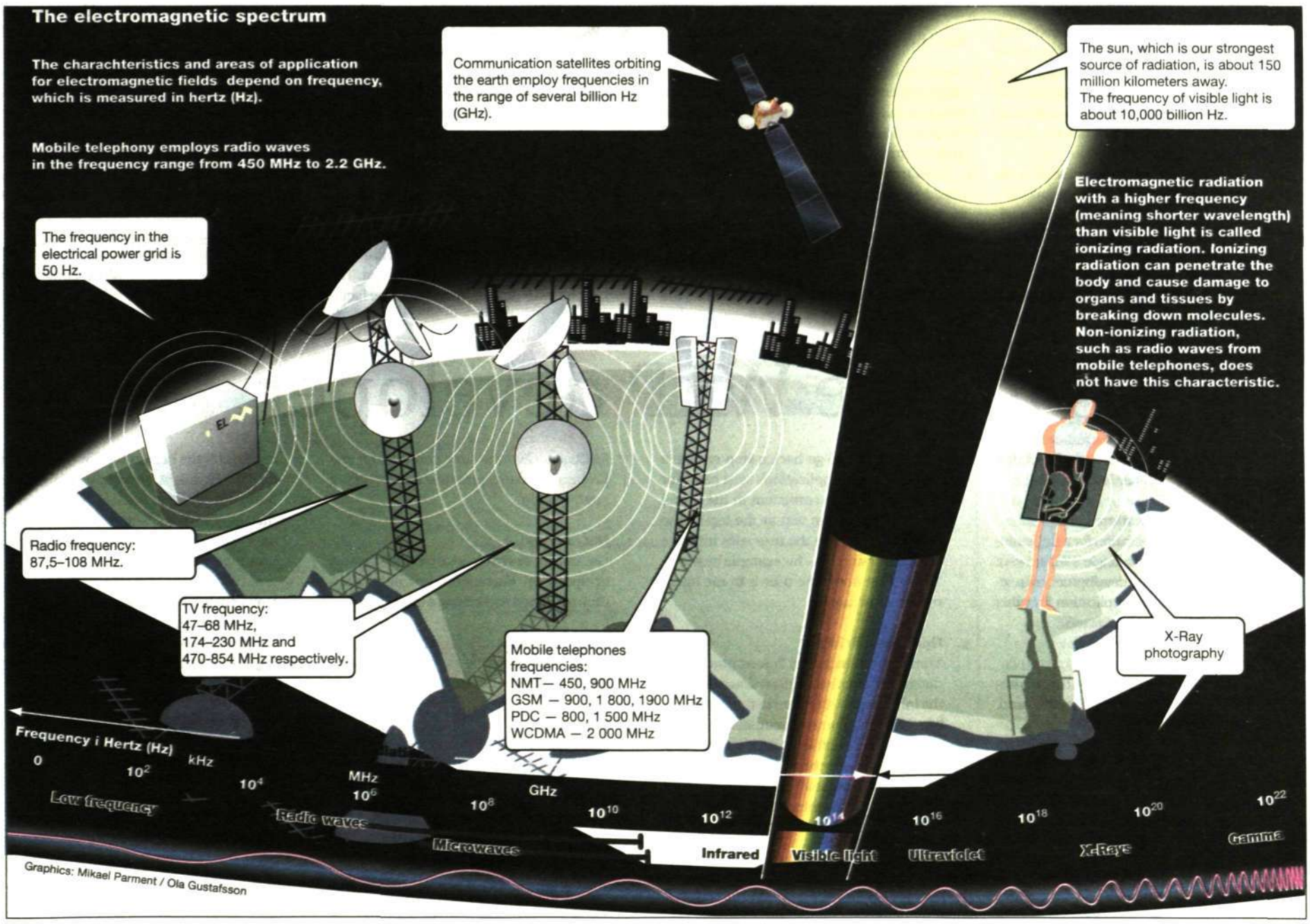
The brochure was produced as a result of recommendations contained in the British Stewart Report on mobile telephony and health.

According to the media, the "warning texts" are aimed especially at children. However, there is no scientific evidence that mobile phones are harmful to children, and the Stewart report does not contain any general advice not to allow children to use mobile phones.

In an interview with business publication "Vision," Lars-Erik Paulsson of the Swedish Radiation Protection Institute (SSI) says, "The only thing that was contained in the Stewart Report was a general recommendation to the industry to avoid actively developing services and features that are aimed directly at children."

Providing information about mobile phones and radio-frequency fields is nothing new, nor is it a phenomenon unique to the UK. Ericsson and other manufacturers are working to provide better information to consumers all over the world. That decision had been made before the British report with its recommendations was published.

Henrika Lavonius-Norén



The art of interface design

The interfaces for WAP applications must meet more rigorous requirements than is the case for other areas of application development.

"The patience of end-users is limited, since services are expensive to use and time is short," says Didier Chincholle, who works in the Usability and Interaction Lab at Ericsson Research.

Didier Chincholle previously worked with ergonomics for astronauts in the Hermes European space program. Now he is focusing on WAP interfaces. Photo: Lars Åström

➤ The development of WAP technology is still in its infancy, which means that a number of difficult hurdles must still be overcome. Nevertheless, the expectations that end-users place on WAP applications are on a par with what they demand from their PCs.

"But a mobile phone is a far cry from a PC, and WAP services are used in entirely different situations than applications designed for PCs," explains Didier Chincholle.

It could seem like stating the obvious, but the limitations of a WAP interface make its functionality even more important – more important even than for other types of application development, such as Web applications.

Totally different philosophy.

"While WAP and Web application development have certain features in common, WAP involves a totally different philosophy. Information and interaction must be formulated differently. Mobile applications must be designed for mobile use," continues Didier Chincholle, who does not believe in filtering or compressing Web pages to force them into a mobile format.

"For Web services to work in a mobile context, you need to devise different interface metaphors and streamline the functioning of the Web service. For example, the search criteria cannot be anywhere near as advanced when a mobile phone is used to access a database on the World Wide Web."

"Focus on the end-user" is the usability experts' mantra. Several factors are unique in a wireless context, compared with other application areas.

"The greatest difference is that WAP services have to function in whatever situation the user happens to be in – driving a car, sitting on the beach or hiking in the forest, for example. This means that the length of the session, that is, the time available to the user to execute a service, tends to be much shorter than a corresponding session on a PC.

"When working on a WAP application, you have to begin by asking such questions as who the end-user is and in what situations the user will be interacting with the service."

Just three clicks

The other crucial difference is the physical and visual limitations of a mobile phone: the display is small and has a low resolution, while the scope for inputting information is limited by the numerical keyboard and the small keys.

"This means that interaction must be optimized. Ideally, information should not be more than three clicks away, and text entry must be kept to a minimum".

A third limitation that has to be accepted by WAP service developers is that the design of the application interface must be based on the various models in the mobile phone manufacturer's range.

"The differences between mobile phone models are a key factor in the design of the interface. The screen size varies, and different models use different WAP browsers."

From phones to terminals

Ericsson and Nokia have each developed their own Web browser, while Motorola, for example, uses a Web browser developed by phone.com.

"WAP browsers function differently from each other in terms of commands, menus, date entry and scroll-down lists. There is also no guarantee that a WAP application will behave in the same way in different WAP browsers."

However, many of these problems will be solved as telephones evolve into terminals, with larger screens, improved resolution and better ways of entering commands or text. The work of the WAP developers will also be facilitated by the advent of newer and faster generations of mobile networks, such as GPRS and the forthcoming UMTS.

"As terminals are developed further, the telephone as a metaphor will cease to exist. Moreover, greater speed in the networks will resolve many of the problems with interface limitations, though not all of them. But we are only in the first phase of development, and the key factor is to be able to come up with different ways of communicating. That's our job after all," concludes Didier Chincholle.

Mats Lundström
mats.lundstrom@lme.ericsson.se

13 tips for the WAP developer

➤ Didier Chincholle has compiled a list of tips, presented here in summary form.

1. **Optimize the application**
   First develop the application for a single mobile phone model and a single WAP browser. Then proceed with the development of a series of versions of the application for other phone models and Web browsers.

2. **Simplify the application**
   Develop a mobile application that is simple, straightforward, fast, effective and, above all, intuitive.

3. **Structure**
   An application should always begin with the most important activity. It is best to use a broad and flat information structure rather than a deep one.

4. **Navigation**
   Give the user navigation support – by making it possible to go back a step or take a shortcut to the application's start page, for example. Also, be consistent in the use of page headings (the text at the top of the page). And provide the user with intuitive navigation support – for example by showing how far down the user is in the information structure.

5. **Optimize efficiency**
   Minimize unnecessary interaction by reducing the number of steps down through the information structure to three, if possible. Use well-known metaphors such as tabs, folders or soft keys. Where necessary, use general symbols and informative icons. Avoid unusual characters, such as !"†%&/. Also, minimize text input as far as possible.

6. **Feedback**
   The worst thing that can happen is if the user becomes frustrated due to a lack of feedback. Give the user control over the process by asking questions and providing confirmation.

7. **Not only text...**
   Use images or symbols to reinforce the text or speed up interaction, but only when they really add something useful.

8. **Not only images...**
   Images and symbols must be clear and must not substitute for text.

9. **Design**
   Optimize the graphics and page layout to match the screen size of a specific telephone model. Avoid confusing or excessively detailed images.

10. **Text**
    Keep the text brief and concise and avoid difficult words. Also avoid jokes and witticisms. Use lower-case letters, reserving capitals for the beginning of words, except for OK. Highlight important information by bolding the text, in those WAP browsers that support this function. Make sure you are consistent in your wording of menus, headings, etc.

11. **Don't shrink it, redo it**
    When designing a web application for WAP, select only the most relevant functions or objectives. Many metaphors from the Web do not function in a WAP environment.

12. **Keep WAP addresses short**
    In view of the difficulty of entering text, WAP addresses should be kept as short as possible.

13. **Test, test and test again**
    Perform usability tests before the service is placed in operation. Don't be afraid to change the design if the tests show that this is necessary.

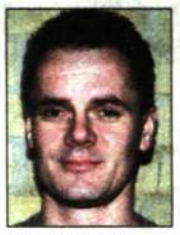
Ericsson's hardware seminar held in October by Applied Technologies in Stockholm was based on the theme "First to market," and how hardware producers can contribute substantially to shortening lead times for new products.

One very interesting speech was on the subject of high-level design – that is, how executable models can be used to generate code automatically for various platforms, and how this makes it possible to postpone deciding how to distribute functions between software and hardware, and gain considerable lead time. Contact interviewed the man behind the Ericsson solution, Toni Siljamäki.

Other routes to shorter lead times include working with platforms and modularity, and recycling as much as possible. These will be highlighted in upcoming issues.

Bridging the hardware–software divide

➤ "At Ericsson, we build entire systems, not hardware and software separately," says Toni Siljamäki.


Toni Siljamäki

Toni Siljamäki is a systems developer who is involved with technology that can be used in all Ericsson products, from tiny mobile phones to large switching systems involving millions of lines of code.

He has developed a method whereby the boundaries between hard- and software are erased and code for any platform can be generated automatically. The method makes it possible to reduce new-product development time by almost 50 percent.

Smaller projects

Toni Siljamäki has lobbied for his ideas for three years – ever since he began working at Ericsson after twelve years at Celsius Tech spent working on defense products. The pattern there was to work in smaller projects, and the hardware people and software people interacted frequently, and solved many problems together.

At Ericsson, on the other hand, the two disciplines have been separated in project work, since it was decided very early on (specifically, at the TollGate milestone in Ericsson's project model) what would be done in hardware and what in software.

This distribution has generally prevailed, regardless of whether it has been optimal in a particular situation.

Possible errors are not detected until laboratory testing and verification is conducted, and at this late stage, it is only possible to correct the most significant errors, since correction usually requires manual recoding.

"This could be better. Our aim has been to postpone the decision of what is to be done in hardware and what in software. Instead, we should focus on what is to be achieved, and spend a much longer period working together on the system level, regardless of plans for subsequent implementation. This would enable us to find the optimal distribution," says Toni Siljamäki.

Graphic models

"What we have now established has produced excellent results and demonstrated several advantages. We have an environment for working with graphic models, and have shown that using internally developed model compilers can automatically generate code for any platform – for languages like Plex, Java, Erlang, and so forth," he continues.

About 80 percent of traditional errors are detected right at the model stage, and entire problem domains and architectures can be reused, saving considerable time. When code is generated automatically, all the code is of the same high quality and need not be checked. A major advantage of the technique is that it provides methodic support for upscaling system size and makes it possible to reconfigure the implementation completely for the next version.

To good to be true

"When I tell people about our method, they often say it's too good to be true. But the only catch, as I see it, is that people don't work this way."

When Toni Siljamäki and his colleagues looked for a joint design environment that would permit a late-stage allocation to hardware and software, they looked for a common notation and found one in UML – Unified Modeling Language – which was gaining ground and had become something of a standard for software.

"The problem with UML is that is lacks precise action semantics – that is, it does not provide a formal description of the actual work in the systems modeled. In UML tools, this is usually done by means of a software language such as C++. We, however, wanted to work with models that were independent of platform."

Therefore, the team began studying open-code translation early on, which is supported by the BridgePoint tool. Here, code is generated entirely from executable UML models through an open acess to the models stored in the tool.

The technique is based on the Shlaer-Mellor method for object-oriented analysis and recursive design of large-scale real-time systems, which separates the definition of a problem from its implementation. The models are created entirely without details about their implementation, regardless of platform, and may be used to generate both hardware and software.

Three pilot projects

In cooperation with tool manufacturers and customers – that is, Ericsson design centers – the team has carried out three pilot projects to date, all of them successful. They used an open-code generator and their own model compiler. Consequently, the code-generating directives are not incorporated in the tool itself, but rather are owned by Ericsson.

A prototype compiler for generating Erlang was developed in a first project and was completed in only a few months. A subsequent project, carried out jointly with the tool manufacturer, tested simultaneous generation of C++ and a hardware language, VHDL, from a UML model. Most recently, they succeeded in generating Plex-C code, which is equally effective as handwritten code for AXE-10 on Ericsson UAB.

Full control

"We have not encountered any obstacles anywhere, but that is also because we have complete control over the code generation," says Toni.

In the model compiler, the team's own experts detail the process of translating the UML models into software code.

The model compilers are Ericsson's own, and are available neither to tool manufacturers nor competitors. They can also be fully reused, making ordinary coding totally superfluous. By combining several model compilers, Ericsson can also generate several languages simultaneously from the same UML model.

Toni Siljamäki and his colleagues are currently involved in disseminating the technique to the various Ericsson design centers, with the aim of providing help toward self-help. All information and all results can be downloaded from the internal network.

"The only difficulty you can encounter in problem analysis and model design is that of avoiding thinking in terms of implementation," says Toni Siljamäki.

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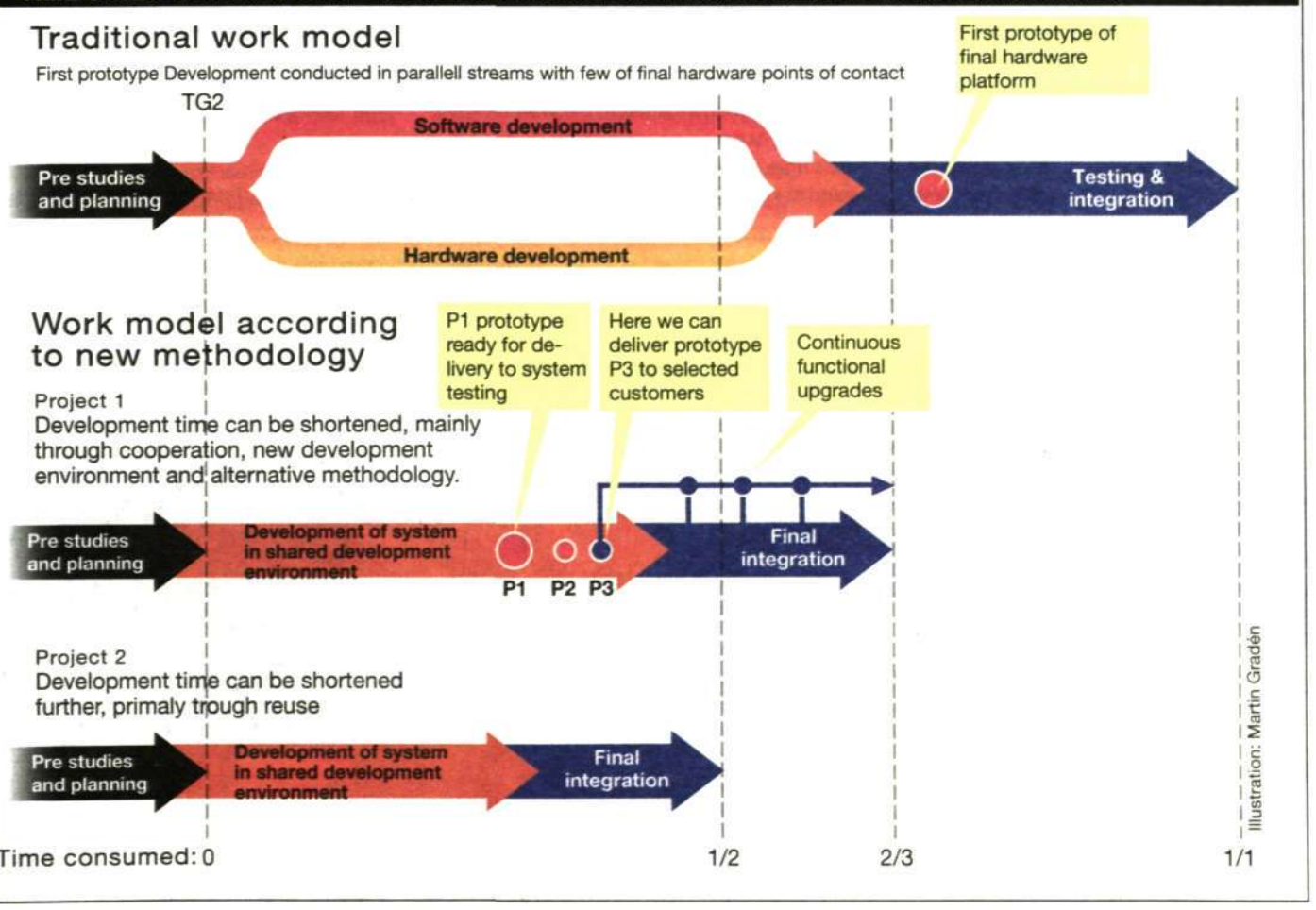
http://systech.ericsson.se/hwdev/codesign

TIME SAVED THROUGH COOPERATION AND REUSE IN COMMON DEVELOPMENT ENVIRONMENT



The Sjöberg family has many plans for their stay in Japan. But first they have to deal with their big move.

Photo: Alexander Farnsworth

Ericsson has approximately 3,650 employees working on long-term contracts in 90 countries. Most of them have a partner who has accompanied them, leaving behind family, a job and the comforts of home. While these companions are not employees of Ericsson, they are still ambassadors for the company. What is it that attracts or scares an accompanying partner? And what is it like to create a new existence in a foreign place?

Living overseas

➤ About a dozen employees and their partners are taking a preparatory course prior to service overseas. They are on their way to all corners of the globe to work on long-term contracts. For most of them, including Anne and Leif Sjöberg, it is their first time.

"It is harder to be accompanying partner than being the person employed," says course leader Madeleine Samuelsson.

Partners loose their identity. Back at home, one's identity is strongly tied to what one does for a living. Suddenly, that identity has changed to "Mrs. Ericsson."

Made own plans

Madeleine Samuelsson has two days to prepare them for the great adventure that will involve leaving behind everything and establishing a new existence in a foreign country.

Contracts, insurance, health care and schools are some of the topics discussed. But it is also important to discuss the psychological aspects of preparation.

The course is aimed largely at the accompanying partners. Ericsson has come to realize that their role as a coach for the employee plays a large part in how well the employee gets along during the time abroad, especially since employees are often hired on contract.

"Contract employees are expensive for Ericsson," says Madeleine Samuelsson. "They have high expectations to achieve. There is a different level of quality in the time you're able to spend with each other when you provide the support needed at home. It enables you to keep the weekends open for free time."

That statement causes Anne to react. She has her own plans for her time in Japan.

"Can the employee really expect to have everything taken care of at home?" she wonders. "I've planned to develop myself as a person, learn some new things. I don't want to be responsible for all the housework for the next two years."

Previously, she had been focusing on her career as a project manager in the marketing department of an international company; a job that included a great deal of travel. If the Japan opportunity had not come along, the family would have probably received an offer for an overseas contract through her job.

"But it was Leif's turn this time," says Anne. "If both people want to have a career, then there has to be some interplay. This was a good opportunity for us to get away and I encouraged him to apply for the job."

For the next year and a half, Leif will be working as a technical trainer in Yokohama outside of Tokyo.

Initially, Anne was determined to work in Japan herself. Now she has decided to try staying at home for the first six months. If she does not like it, she plans to look for a job.

"I'm worried about not having the personal development that I expect, and that I will instead be stuck at home with my children. I'm worried that I won't succeed in creating the existence that I had hoped for."

Take initiative

"The most important thing is that you are part of making the decision to go. That you decide what you want and then stand by it," says consultant Gunilla Svantesson to the participants.

She, herself, has lived overseas on a foreign assignment and later interviewed other accompanying partners and experts for her book entitled *The Journey is Worth the Trouble.*

Gunilla Svantesson suggests to document one's time abroad. This is something that will stand out on a CV.

In order to avoid becoming isolated, it is important to establish a network of contacts on-site.

One way of doing that is to become active in various associations. Or, if one has children, to call up all the parents in your child's new class and say, "Hi, here we are, come on over and play." You have to dare to take the initiative.

Like the other course participants, Anne and Leif think it will be exciting to live in a new culture and meet new friends, as well as have more time for their children and for their own personal reflection. They expect to grow as individuals.

Three-year old Carl wonders how his toys will get there and if there will be any children living in their house while they are gone.

"He has become more and more aware of the fact that we're actually moving," says Anne. "And just the other day he asked me, 'Mommy, which direction is Japan?'"

Ulrika Ottoson
freelance journalist

inside.ericsson/internationalassignments

Wives speak out

Living far away from family and friends can be both difficult and educational. On that point, Rosela, Marlene, Tania and Kim are all in agreement. All four left their respective homes in Australia, the Netherlands, Mexico and the US in order to accompany their husbands on assignments to work for Ericsson in Sweden.

Name: Tania Bisset
Occupation: Nurse
Comes from: Melbourne, Australia
Family: Husband, 14 year-old son and two daughters, 9 and 13

Name: Marlene van Luijk
Occupation: Marketing communications manager
Comes from: Eindhoven, Netherlands
Family: Husband, three sons, ages 1, 4 and 7

Name: Rosela Fernàndez
Occupation: Computer programmer
Comes from: Mexico City, Mexico
Family: Husband and a 3 year-old daughter

Name: Kim Matsil
Occupation: Computer programmer
Comes from: Plano, Texas, USA
Family: Husband, 2 1/2 year-old son.

➤ During a lunch gathering, the four discussed the importance of being brave enough to take the initiative when arriving in a new country.

What was your first impression of Sweden?
Tania: I thought it would be cold and mountainous, but when we arrived it was 30° C. I had no idea it could be so hot. And I thought we would be living together with all the other immigrants in an "Ericsson village," which proved not to be the case. It was a shock to live in an apartment – and to have to share the laundry room.

Marlene: The first weekend I was here it snowed, and on Sunday morning we took a walk along an inlet where we live and everything was absolutely white – just like in a fairy tale. In that moment, it really felt like we had made the right decision.

What sort of expectations did you have for the stay abroad?
Marlene: I was pregnant and completely focused on a comfortable and warm environment for my family. But now I'm looking for a job.

Kim: We were open to new ideas and had really no direct expectations, partly because we didn't know what we were getting ourselves into. I thought that I would enjoy being a stay-at-home mother, but discovered that was not for either me or my son. You don't have very good chances of meeting other people if you stay at home with a child.

How did you make contact with others?
Kim: Through my son's daycare and by getting involved with the American Women's Club.

Tania: I've been very involved in my children's school and found friends through that.

Rosela: I had a few friends here from previous trips, and that I found some new ones through Ericsson.

Marlene: For me, it was also through school as well as through Guest Support at Ericsson.

Guest support is a department at Ericsson in Sweden that assists contract employees who come here. They can help with anything from finding good schools to providing information about drinking tap water or how to find a doctor. Moreover,

Guest Support organizes parties, trips and various social events.

Tania: Guest Support has been wonderful! I really like their dinners for mothers.

Rosela: They were especially useful in the beginning when they helped out with all kinds of practical matters that I was forced to deal with.

Kim: I still stay in contact with them now and then, even if I am fairly independent now.

What has been difficult about moving to a different country?
Rosela: That we are so very far away from family and friends.

Kim: Not keeping up with the news and gossip from home. And to be missing the World Series two years in a row – GO YANKEES!!

Marlene: You're also very vulnerable when you live in another country. One of my sons did not like school at all and was very sad. After a week, we decided to pull him out. At times like that you feel very confused and just want to go home.

What has been positive about your stay?
Marlene: Discovering so many new things. They can be small, like shopping, or bigger things like cultural differences. You learn an awful lot.

Kim: You learn to take care of yourself. We are stronger as a family now. The feeling of succeeding at living in a foreign country! We now have new friends and an active social life.

Marlene: The climate! Wonderful, cold winters, and summers with a clear skies. The nature is wonderful and there is so much space! We're outside much more often.

What have you learned?
Rosela: To survive in a foreign culture, with a new language and with people from around the world. My husband and I decided to take this opportunity for two reasons: In order to discover a new environment and to expand our way of looking at things. We've become much more broadminded.

Kim: To think globally instead of locally.

Marlene: As a foreigner, you learn to become more humble.

What kind of advice would you give to those who are on their way?
Marlene: It only works if both partners have been involved in making the decision. Don't make your plans too grand. Instead, take the days one at a time.

Rosela: Really take advantage of your time. Don't miss out on the opportunities of a lifetime.

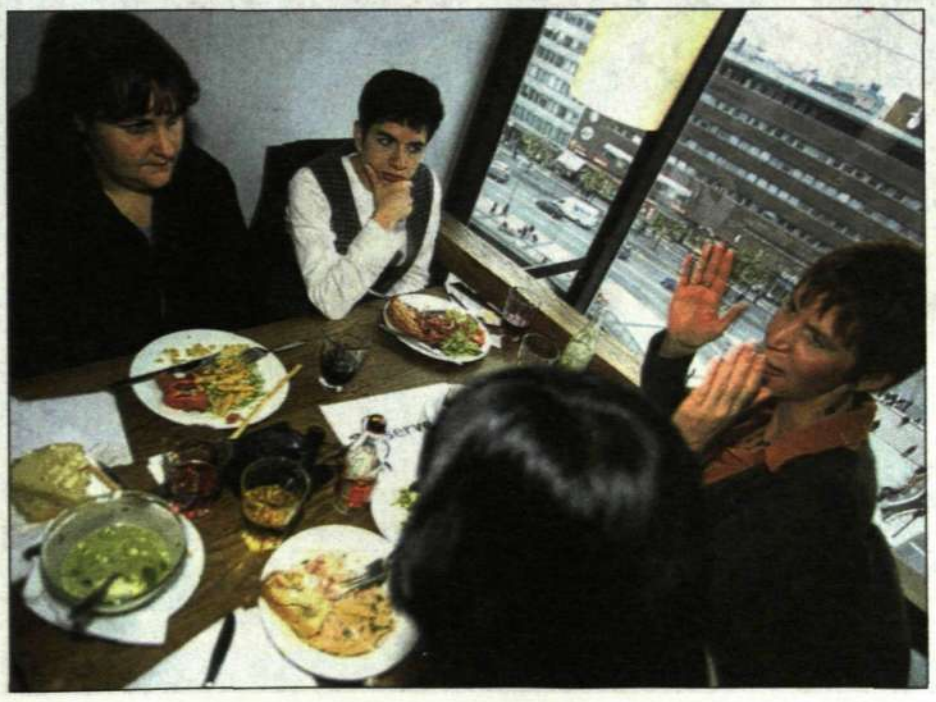
Tania: You need to take the initiative in order to meet people. A good way for me was to be very active in the children's school activities. It was there that I met most of my new friends.

Kim: I agree. You will never be content if you don't have the courage to stick your neck out and meet people!

Tania: And plan fun trips so that you have time to see everything!

Marlene: And finally – accept that which is good from the new culture you encounter and combine it with that which is good from your own. Don't dwell over the things you don't like.

Ulrika Ottoson



Four Ericsson spouses recount their experiences in Sweden over lunch. They have been here between one and three years. Several have small children but otherwise they had not made plans for Sweden other than that they wanted to try to see as much of the country and of the rest of Europe as possible.

Photo: Alexander Farnsworth

FACTS/GUEST SUPPORT

Guest Support is a department at Ericsson in Sweden that employs about a dozen people. Every year they are responsible for approximately 650 contract employees who arrive here from other parts of the world. Including their families, the department is responsible for registering and bringing roughly 2,000 people into Swedish society.

http://hrsverige.ericsson.se/guestsupport

Half quit Internet courses

» Only 53 percent of American students who study business courses over the Internet complete their courses. A shortage of time is the most common reason cited for quitting their studies.

A study, which was implemented by Corporate University Xchange, concludes that more flexible schedules would reduce the number of dropouts.

The average online student in the US is a 38-year-old man who works 45 hours a week, is married and has two children.

Interviews are too controlling

» Frequently, it is managers who control development and performance interviews. The role of the employee is to answer questions and discuss subjects that the manager is interested in. This is the conclusion that Maria Lindgren has reached after having closely studied a number of development interviews between managers and employees in schools, industry and county council.

She does not believe that managers are consciously manipulating employees, but still maintains that the conversations have an air of sham democracy. One way of making the discussions more equitable could be for both participants to come prepared and to allow some conflict.

Photo: Pressens Bild

Right clothes good for career

» How you dress is important both when you apply for a job and for your career. At least according to participants of a study conducted by recruiting firm Jobline over their website. Only 5 percent of those who voted didn't think that clothing had any significance to one's career.

Some 42 percent absolutely believed that clothing is significant, while 53 percent felt that the importance of the clothing depended on the company. Ten percent replied that they chose jobs based on the company's dress code.

Stress can be creative

» Sure, a person can be both stressed and satisfied. At a time when both stock prices and autumn rain are falling and the Christmas stress is upon is, Vision/Demoskop Barometern demonstrates that Internet users are satisfied, happy and feel happy about work. The study also showed that those who were the most stressed are the ones who are most pleased about their jobs.

Out of the 540 people who participated in the study, 76 percent responded that they felt satisfied and almost just as happy to be home.

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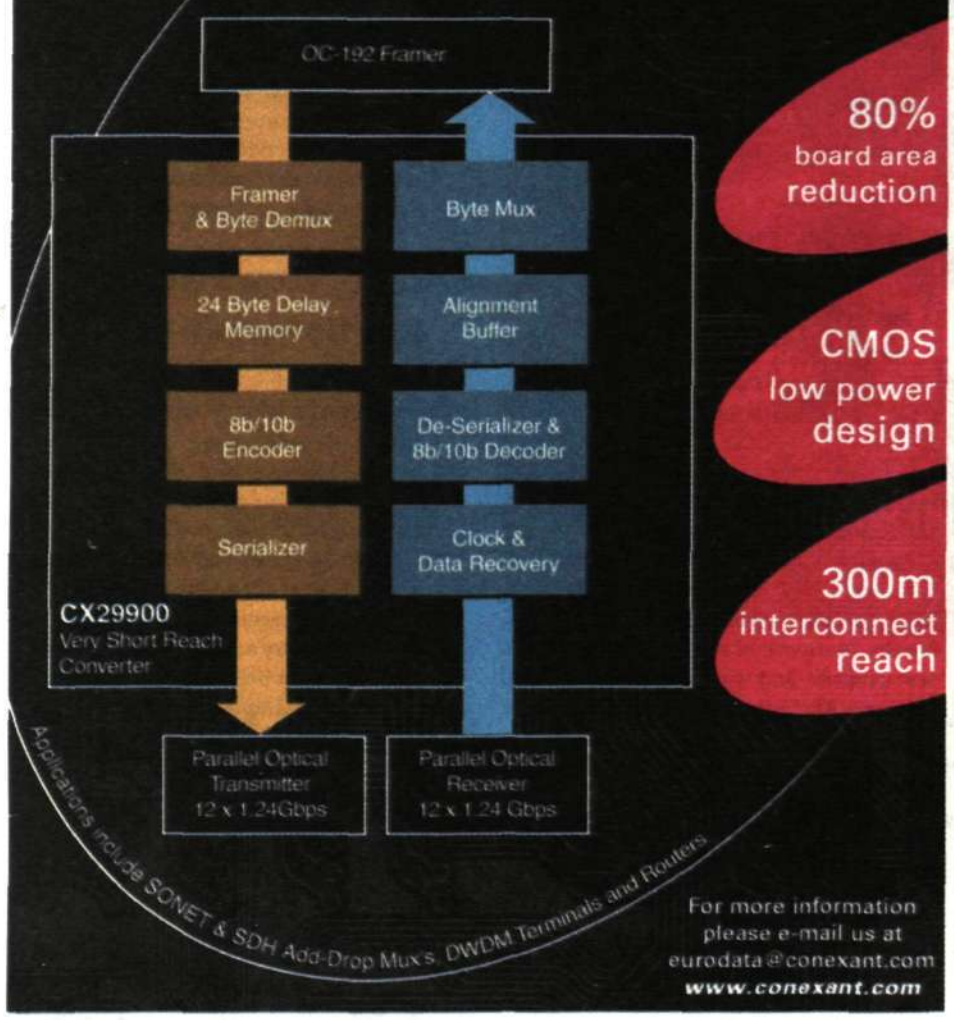

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Norse king inspired Bluetooth

Two men and a good idea are enough to create a legend, especially when it comes to telecom legends. Take, for example, the men behind the "Bluetooth" name – Sven Mattison and Jaan Haartsen.

➤ They met at Ericsson in Lund. Sven Mattison came to Ericsson in 1995 from Lund University and Jaan Haartsen had transferred to Sweden from Ericsson in the US two years earlier.

"From the start, we were looking for inexpensive, low-energy radio interfaces that would make it possible for various electronic appliances to communicate with each other. The ensuing project was dubbed 'MC-Link'," says Jaan Haartsen.

In order to ensure that the technology that developed out of MC-Link would take hold in the marketplace once it was introduced, Ericsson formed a special interest group (SIG) in collaboration with IBM, Intel and Nokia, among others.

"With the formation of the SIG, we realized that we needed a project name. An acquaintance at Intel in the US was interested in history, so I gave him a book about Vikings. When he read about the 10th century Danish king, Harald Blåtand, he thought, 'That's it! Bluetooth!'," says Sven Mattison.

The name became a favorite internally. As the launch date approached and nobody had come up with anything better, the official name became Bluetooth.

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ERIC & SON

Phone survives the elements

»» Dropping one's mobile phone into the sea is hardly something to be recommended. Nevertheless, Ericsson recently received e letter from a customers who told how his phone met just such a fate and survived:

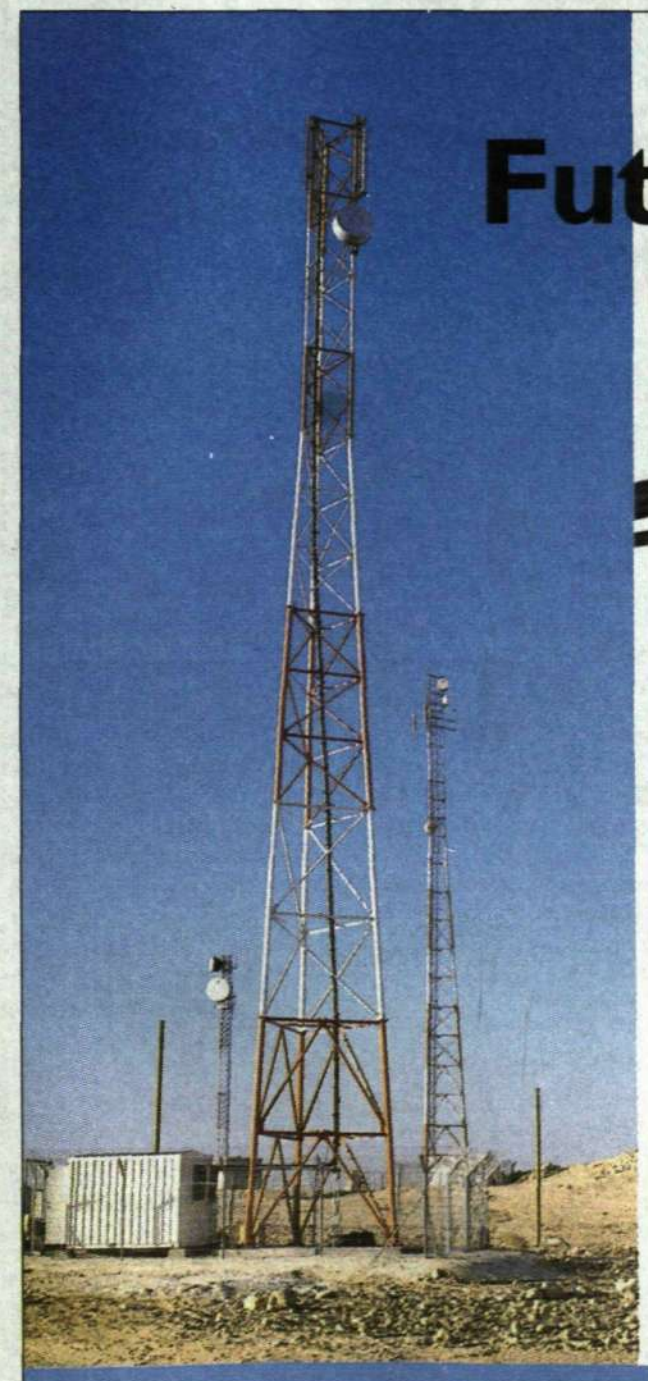
Chris Hyde is a sales manager for C&H Aquaculture near Edinburgh, Scotland. Part of his job involves working at fish farms.

One day, after working at a fish farm all day, he threw his R310s into what he thought was the front seat of his car and drove off. Later he discovered that the phone was missing.

"I thought the phone was turned off and probably lying somewhere in my car, so I decided to continue looking once I got home, but without success."

Later, Chris Hyde called the fish farmer and inquired about his mobile phone, but nobody there had seen it. Finally he called up his own phone and heard his site manager's voice in the receiver. The phone had bounced out of the car, down onto the pier, coming to a rest in the sea. where it lay all night. The water had receded with the ebb of the tide and the phone was once again able to receive signals.

"When I got my phone back, there was water behind the display screen, but otherwise the phone worked as it should. I took out the battery and let it dry out. Now the phone works just fine, " he says.



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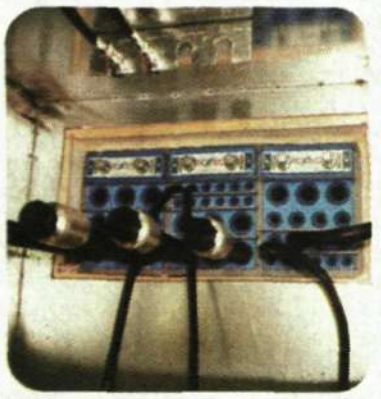

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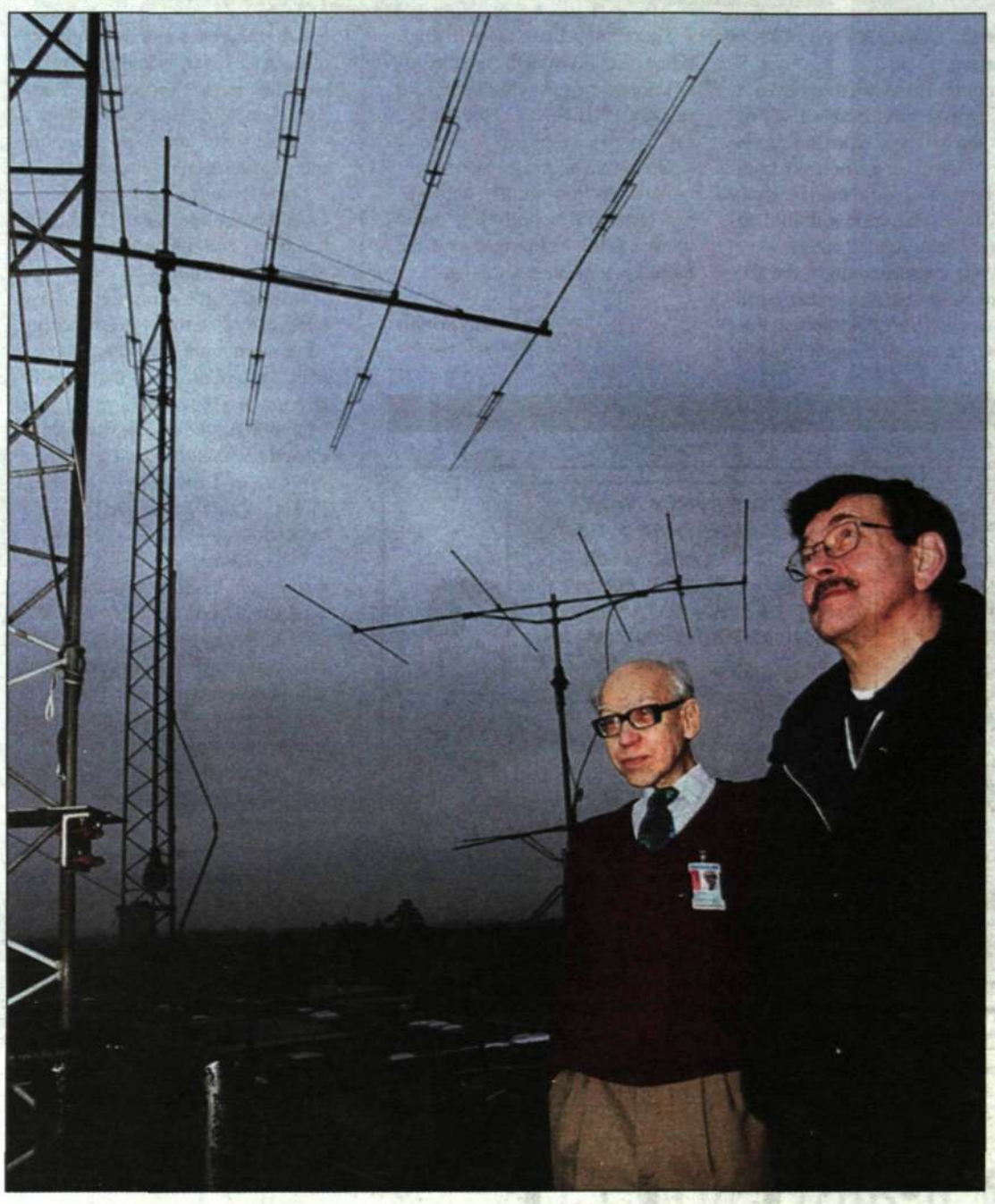


Lars Nordgren and Kurt Lundgren are amateur radio operators. At the Ericsson radio club in Kista, members are very proud of the signal they send out.
Photo: Ecke Küller

Amateurs are real pros

They trump the competition during transmission competitions. And they're pioneers at really high frequencies. Ericsson's first amateur radio club is known as SK0CT and is located in Kista.

➤ "Amateur radio operators are a little like freemasons. When I travel abroad, I can identify colleagues at once by the pin on their lapel. Then we immediately become friends," says Lars Nordgren, chairman of the amateur radio club in Kista, otherwise known as Sierra Kilo Zero Charlie Tango, the club's call letters.

When Contact met with Lars in the club's transmission room in Kista on a rainy Tuesday in November, club founder and its first chairman, Kurt Lundgren, was also on hand. While Kurt is now retired, he remains an active amateur radio operator.

200 members

"The club was established in 1971 at SRA which, at that time, was located elsewhere in Stockholm. It was the first radio club at Ericsson. The company's President, Åke Lundqvist, was one of the early members and he provided significant support to the club," says Kurt Lundgren.

Today the club has approximately 200 members, about one-quarter of whom are active. Anyone who is involved in radio and works in Kista can become a member. There are several affiliate clubs in various locations around the world including Kumla, Gothenburg and Dallas.

The club transmits on traditional short-wave frequencies – which provide opportunities to chat with other amateur radio operators around the world – as well as on VHF, UHF and microwave frequencies within Scandinavia. Much is in the form of Morse code, but they also transmit data and voice. The club has a special interest in very high frequency microwaves.

"We transmit at 25 GHz. Compare that with WCDMA which 'only' transmits at 2.1 GHz," says Lars Nordgren.

Competitions with other clubs

Every Tuesday, competitions are held against other clubs. The goal is to reach as many people as far away as possible. The club has won numerous times over the years – the walls of the studio are covered with award certificates.

"While it may be an exaggeration to say that these competitions serve as the national championships for club stations, a case could probably be made that we are the best radio club in Sweden," says Lars Nordgren proudly.

Both Lars and Kurt are confirmed radio enthusiasts. Lars began when he was eleven years old. He tuned in to an amateur radio operator in Visby, Sweden, using his equipment and later accompanied that person to the local club. Kurt, for his part, is an old telegrapher and has had an interest in radio since 1938, when his family got their first short-wave radio.

"I sat there and listened to Morse code transmissions. My mother couldn't stand the beeping and squealing, but it was music to my ears," says Kurt Lundgren.

Lars Nordgren meets his friends via short-wave every Sunday, at a special predetermined time and frequency.

A different chatroom

Other Ericsson employees around the world sometimes turn up there as well. It is a little like today's Internet chatrooms.

Knowledge of radio waves and how they disperse has contributed to expertise at Ericsson Radio, according to Lars Nordgren. Moreover, the club spreads the Ericsson name to radio enthusiasts around the world, forming contacts.

"Once they called from the PR department. They had a Japanese client visiting. He was an old amateur radio operator and had served as the technical director for Nissan Motor Company, and was now the head of a large Japanese telecom company. We invited him to transmit as much as he wanted and he was very enthusiastic. Radio is a way to form relationships," says Lars Nordgren.

Henrika Lavonius-Norén
freelance journalist

UPDATES

The Western Europe business area has established a Business Support Center (BSC) for Shared Services in the areas of financial, IS/IT and purchasing.

Issue 4/2000 of the Ericsson Review is now available. One of the articles discusses experiences with the "live" WCDMA network that Ericsson and Telia have in Stockholm.

NEW ASSIGNMENTS

Anders Runevad has been named head of Marketing, Sales and Business Management for the WCDMA, PDC Systems business unit. He is currently President of Ericsson Telecommunications Pte Ltd, Singapore.

Claes Ödman will become the new head of the Singapore market unit and President of Ericsson in Singapore on February 1. Currently, he is a sales representative for FarEasTone in Taiwan.

Thomas Östman, Ericsson Radio Systems, has been named an Expert in the field of applied radio and antenna algorithms.

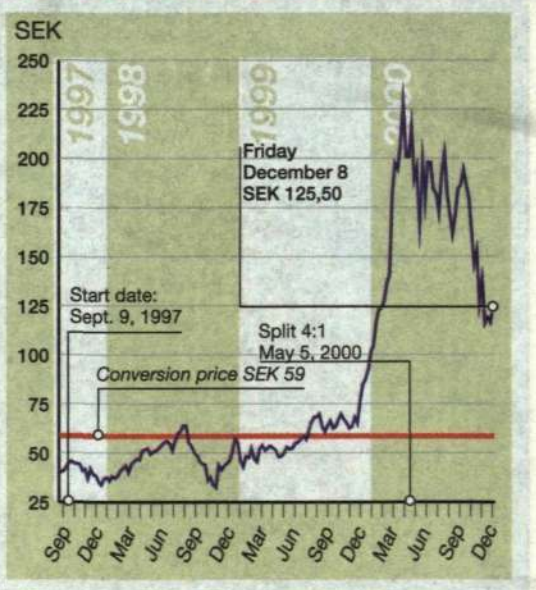
Eva Albinsson will be leaving TDMA Systems to become the Press Manager at the Mobile Systems Division Press Office, with responsibility for the trade press.

Göran Reuterdahl has been named head of strategic business development at the Multi Service Networks Division.

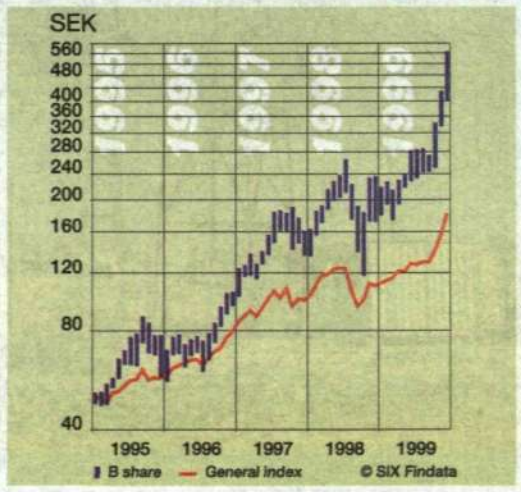
Anna Vikström Persson has been appointed head of Human Resources within Ericsson Business Innovation. She is presently based in the London office where she works as Competence Manager for Market Area Western Europe and Market Area Central & Eastern Europe, Middle East, and Africa (CEMA).

Mike Casey has been named head of operations and a member of the management team for the Western Europe market area.

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



vacancies AT ERICSSON

■ This is a selection of vacancies within the Ericsson corporation. They are also published on http://www.ericsson.se/jobs/international.shtml, International Openings, updated every second week.

To advertise: mail your adverts to: employment. adverts@lme.ericsson.se.

Contact No. 20 2000 **Updated December 1**

ERICSSON TELECOMUNICAOES LDA. LISBON/PORTUGAL

SS System Support Engineer

Ericsson Telecomunicacoes Lda in Portugal is looking for a SS system support engineer to join the SS support team in our Customer Services Division, based in Lisbon. We offer you a long term assignment in a warm and nice country.

Ericsson in Portugal is supplier of AXE equipment for all three GSM operators and two wireline operators. Our support organisation is established since 1992.

● Main responsibilities: You have to be involved in all main FSC customer support processes: CSR Handling (TR and Consultation), Emergency service, SW update/upgrade. A very important role is to transfer competence to the local staff.

Requirements: At least 4 years technical experience working with GSM SS system, preferably with system support. Good system knowledge and SW troubleshooting skills. Knowledge of support processes and tools. Good english and communication skills. Experience with OSS applications and remote loading techniques are appreciated.

We will only consider candidates employed by Ericsson.

Application: Vasco Alpalho, vasco.alpalhao@sep.ericsson.se, +351 214466253 or Luiz Ofner, luiz.ofner@sep.ericsson.se, +351 214466288, Ericsson TelecomunicaÃoes, Lda. Edificio Infante D. Henrique, Quinta da Fonte - Porto Salvo, 2780 - 730 PaÃo de Arcos, PORTUGAL

ERICSSON LTD, PRODUCT UNIT OPTICAL NETWORKS, HORSHAM, UK

Product Managers

Today, there are three places you want to be; Mobile, IP and Optics.And Optical Networks are right in the centre of them all. Today's hottest technologies all converge on the Optical Networks that will enable next generation mobile, data, and broadband to the home services.The optical network market is currently undergoing massive market growth as well as constant changes with new technologies and fierce competition. It is our goal and mission in Product Unit Optical Networks to provide Ericsson with competitive products and solutions for Ericsson mobile, fixed and datacomm applications. We do that by own developed products as well as by strategic partnerships.

● We are looking for enthusiastic people to be part of our hardworking team, who wants to be at the forefront and drive the development in this changing and challenging world of Optical Networks. We have open positions as product managers in both the network element and network management systems area. Our office in Horsham is located conveniently between London and Brighton, within excellent opportunities for recreation and family life in West Sussex.

As product manager your main responsibilities will be to maintain and define the evolution of our competitive product portfolio, based on the input and feedback from customers and the market. Thus you will need to have 'one leg' in development, defining product evolution roadmaps and main requirements, and the other leg supporting our business managers and solutions teams with promoting the products towards customers.

If you feel that product management is something for you, and you have some experience in transmission, optical technology, management systems or similar roles within Ericsson, don't hesitate to contact us!

Contact: +44-1403-277424, Tor.Hammarstrom@etl.ericsson.se, +44-1403-277416, Mark.Kneeshaw@etl.ericsson.se, HR: +44-1403-277550, Teresa.Calrk@etl.ericsson.se

Project Manager

The NPN Business sector is responsible for software supply and integration of new products for new operators in the UK. Currently, work for 24 customers is supported by this area with approximately 40 assignments ongoing at any stage. Projects have an approximate length of three to 6 months. Assignments are very diverse from integration of full network solutions with third party suppliers to co-ordination of new functionality development or upgrading of a single switch software build. Current projects include 1st UK Engine Delivery, IN trials and Upgrades, AXE upgrades and integration and IN and AXE software design.

● We are looking for 2 proactive Project Managers to join us on a local contract. Integrating into a small team the Project Manager will be expected to manage projects from initial assignment to customer product acceptance. This challenging position requires a self motivated person to establish and maintain an excellent relationship with the customer facing unit, key internal contacts and the end customer. You will be responsible for planning, tracking and followup for one or more projects according to time, cost and quality objectives. A key part of this role is to manage day to day problems and issues and to escalate matters as appropriate.

In order to perform this role, we expect you to be able to demonstrate a proven track record of managing projects or have held a line management position within the last 3 years. You will have a minimum of three years experience within the telecoms / datacoms industry. Good communication skills, a technical and commercial awareness and necessary skills developed to deliver results are prerequisites.Finally, you will poses the drive to ensure we meet our goal of delivering 100% customer satisfaction.

Contact: Recr. Mgr, A. Fuller, adrian.fuller@etl.ericcsson.se, +44 1444 234771, HR, Suzi Cooper, suzi.cooper@etl.ericsson.se, +44 1444 234018, Telecommunications Centre, Burgess Hill. **Application:** myfuture@etl.ericsson.se quoting reference 487.

BASED TELECOMMUNICATIONS CENTRE, BURGESS HILL

Senior Test Build Engineer

Build Handling is part of Test Configuration Management and is responsible for providing test beds for the development and evaluation of new products for Wireline, Mobile and Datacoms. The Test Build Support groups build and maintain the software dumps, undertaking fault finding and emergency corrections as required.

● Test Configuration Management are looking for a Senior Test Build Engineer to build and maintain software dumps (CP/SP); locate corrections and assembling blocks required for testbeds; register, test and send Primary and Market corrections and desk check corrections.

Other key responsibilities require the Senior Test Build Engineer to undertake special projects/responsibilities as and when required, actively contribute to the development of technical competence and continuous improvement process of TCM. It is essential that suitable candidates have a minimum of 4 years experience of Test Build Support in AXE10 environment or other proven testing/TCM ability and have completed Testing 1, Testing 2 and Testing 3 or equivalent. Proven fault finding abilities, as well as a thorough knowledge of all correction handling and mapping and knowledge of assembly of dumps and change messages are also essential to the role. The ideal candidate will also need to be familiar with UNIX and IBM mainframe applications.

Contact: Shona Petrie, shona.petrie@etl.ericcsson.se, +44 1444 234473, HR, Suzi Cooper, suzi.cooper@etl.ericsson.se, +44 1444 234018, Telecommunications Centre, Burgess Hill. **Application:** myfuture@etl.ericsson.se quoting reference 466.

UMTS Supply & Support Engineer

● This role has the responsibility to provide expertise for the supply and support activities involved with UMTS, such as system verification / integration activities and UMTS product support.

Supply related project activities may be e.g. initial installation at a new site, active system upgrades, provision of expertise for customer demonstration and integration testing, execution of market adaptation and verification activities, e.g. node testing on involved platforms, or assisting customers with integration of their IT systems. Support is carried out in a local test environment, as well as at the customer sites, involving software faulting and resolution, which may involve interaction with other parties within the organisation to solve technical issues. Participation in the emergency rota for the relevant products may be available. Assisting Sales Managers in technical presentations is another aspect of this role. The candidate must expect a certain amount of travelling in this role.

This role requires basic understanding of mobile telephony systems and its components, ideally from a supply and support point of view, including test and fault finding. Solid technical knowledge, gained from working with AXE, mobile systems or Datacoms products, is essential. Advantageous knowledge is general understanding of the Ericsson's UMTS product architecture, basic WCDMA, general data communication, UNIX (Solaris), as well as experience in any of the following areas: Internetworking, VoIP, TCP/IP protocol suite, Ethernet, x.25, ATM, Frame Relay, Java. Product specific training will be provided, which may involve some travelling.

Contact: Sue Collett, +44-1483- 305776, sue.collett@etl.ericsson.se or J. Martensson, +44-1483-407250, johan.martensson@-etl.ericsson.se. Application: myfuture@-etl.ericsson.se quote UMTS Engineer (404) ccd to johan.martennson and sue.collett

MOBILE SYSTEMS & MULTI SERVICE NETWORKS

2 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 Guildford, UK, is part of the global WorldCom account. WorldCom is a key strategic customer for Ericsson, considering their market leading role in global data

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

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 wouldOwn the requirements capture process between WorldCom and EricssonBe the main point of contact for any technical queries from the customer.Present detailed roll-out plans and future evolution outlook, perform upgrade planningPrepare technical parts of offers

Multil-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 quoting the reference number as above. Recruiting Manager: David Lindblom.

Customer Solutions Manager X 3

● Supporting the Account Manager, you will be the main NPN technical point of contact towards the customer. You will develop and promote Ericsson solutions and also provide responses to technical customer enquiries which will include RFI's (Request for Information) RFQ's (Request for Quotations) and ITT's (Invitation to Tender)

Having the ability to identify, establish and interpret customer technical requirements, you will sign off the technical content of offers and orders as feasible and achievable. You will develop and present technical solutions to both customers and prospective customers, identifing new product opportunities and proactively gather market intelligence and feedback towards Marketing and Product Units. You must have a thorough understanding of Public Telecommunications Networks, methods of service deployment including 'Network Intelligence' products and internodal signalling systems, an appreciation of system characteristics is essential and understanding of Internet access delivery will be a distinct advantage.

In addition, you must be articulate, and have excellent verbal and written communication skills, be presentable to potential customers, inspiring confidence in New Public Networks and Ericsson as a whole. Candidates should be educated to degree level in a technical subject, with at least five years in a comparable technical.

Application: myfuture@etl.ericsson.se quoting Ref: 410. Recruiting Manager: John Bancroft

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ERICSSON INDIA

DO YOU KNOW WHICH COUNTRY CONTRIBUTES EVERY THIRD SOFTWARE PROFESSIONAL, GLOBALLY? WOULD YOU LIKE TO WORK IN SUCH AN INTELECTUALLY STIMULATING ENVIRONMENT? LOG ON TO DESTINATION INDIA

Ericsson has been associated with Indian telecom for over 100 years, since introducing its first product in 1903. Today, Ericsson's digital switching systems handle over 75% of the international calls made through VSNL gateway. Ericsson has installed over 1.2 million lines in India besides supplying telecom infrastructure equipment in the area of switching and transmission to DOT, MTNL and Indian Railways. Out of the 41 GSM networks in India 19 have been established by Ericsson thereby commanding more than 45% of the market share and 80% of Geographic spread of GSM coverage in India. Ericsson's R&D centres in Bangalore and Hyderabad create software for mobile systems, 3G and new technologies as well as internet/IP for use internationally. All these make Ericsson the leader in the Indian telecom Industry.

The market in India is expanding rapidly thus offering tremendous professional challenges. Most of the global leaders amongst cellular operators like BT, Hutchison, AT&T, Singtel etc have their presence in India in ventures with the local operators. You will work with a set of highly competent and committed professionals.

Additionally Indian sub-continent offers opportunities to experience the cultural diversity, long history, a lot of natural beauty, which you will hate to miss. To top it up people here are warm and friendly; English is spoken widely; social acceptability is high, thus making living in India a pleasant experience. And make sure you have a chance to marvel at the beauty of TAJ MAHAL, a wonder of the world. For our expanding business in India we are looking for:

IN Expert

● Main responsibility of this position will be to manage co-ordinate and participate in investigations and trouble shooting at the highest technical level for a major market of IN services. Services like PPS, PPL, MVPN are currently/will be running in the market. This position requires the person to provide technical assistance to transfer knowledge to engineers. The job will also involve travelling in India.

Competence requirements: Minimum two years working experience on IN systems, experience on AXE 10,SMAS, SDP & PPS is highly desirable. The candidate should have good English skills (both spoken/written) and be highly customer oriented.

SS CME20 System Support Expert

● Main responsibility will be to manage coordinate and participate in investigation and troubleshooting activities in the SS area at highest technical level and to address customer's expectations/needs. Provide technical advice, assistance and transfer knowledge to the engineers.You also need to participate in 24-hour emergency support periodically. IN and pre-paid experience is desirable. The job also involves travelling in India.

Competence requirements: Minimum four years working experience on AXE 10 Application systems plus minimum 2-3 years CME20 and or CMS40 systems, preferably verification/support and you have excellent trouble shooting skills. The candidate should have good English skills (both spoken/written) and be highly customer oriented.

Contact: Neelam Kataria, Officer-Recruitment, People and Culture, +91-11-6701538, Fax no+91-11-6187878, neelam.kataria@eci.ericsson.se

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ERICSSON UNITED STATES (GLOBAL SERVICES ORGANIZATION)

US ATLANTA

Technical Solutions Manager

● The Global Services, SBC Key Account Management Team. Ericsson is looking for a motivated, highly technical, sales oriented individual to assist US customers in developing new wireless solutions and products for their customers. These solutions will span across traditional telecommunications and data (internet) network boundaries.

As a Technical Solutions Manager, you will work as a partner with the customer to understand their market, their customers and where they want to take their business in the future. This is a great opportunity to develop new product solutions and new business opportunities with a very large customer. In this role, you will be the technical lead in the RFI/RFP/RFQ process, and support the sales team in communicating product requirements out to the customers.

Candidates for these positions must have a strong background in wireless networks in order to work closely with customers to develop the next generation of network switching applications and solutions.

Other requirements include: Bachelors degree in Engineering, Computer Science or Business Management/marketing. Minimum of 5 years working in telecommunications with a focus on wireless networks, along with min. of 5 year experience in switching; prefer pre-paid experience. This is a very visible position with lots of opportunity! A seasoned marketing professional with motivation and customer focus will be highly successful in this role. If you have the technical expertise, along with the drive to exceed the customers expectations, please submit your resume along with salary requirements. Ericsson offers an exceptional compensation and benefits package, as well as full relocation benefits. Position available in Atlanta.

CHICAGO ILLINOIS, US

Customer Support Engineer

● The Ericsson Global Services group is expanding in the Chicago Illinois (United States) area and we need Customer Support Engineers to support the Illinois, New York, Oklahoma and Texas markets. We are looking for an experienced Engineer to support the switching systems and additional peripherals by providing first tiered assistance to the customer.

The Customer Support Engineer will support the operations, maintenance and improvements to the Switches and the HLR applications for a major customers' wireless mobile systems.

Primary responsibilities include: Analyzing customer business requirements/systems and recommending actions to correct or modify hardware, software applications and business processes, as well as work methodology. Will also plan testing phases of a project, pre-screen and dispatch trouble reports and implement corrections to system issues. Specific responsibilities will include supporting the Cellular System Jambala and AP equipment with occasional exposure to AXE, OSS and radio issues, which includes technical support, trouble report generation and call log resolution, as well as assisting with Jambala and AP upgrades.

Position requires: BS in technical discipline or equivalent experience. Must have experience with UNIX and NT systems and a good understanding of switching and mobile telephony. Experience with networking and hardware is a must. Prefer experience with JAMBALA or Tandem HLR equipment, and AXE or other switching equipment. Previous customer support experience preferred. Must have knowledge of wireless systems and a strong background in UNIX troubleshooting. Great opportunity to work closely with a major customer. We offer many opportunities for advancement and a team environment. Travel is required within the US, and possibly some international travel. Position location is Chicago Illinois.

NETWORK PLANNING, SEATTLE, US

Technical Solutions Manager

● The Ericsson Global Services Key Account Management team is currently recruiting a Technical Solutions Manager in the Seattle, Washington area.This critical position includes technical support for all new and expansion tenders for proposed node or network elements.

This manager will work closely with customers (at the executive level) in determining Network planning products needed to further expand their current wireless infrastructure solutions. In addition, the Manager will work very closely with the client to determine the various dimensioning products needed on their wireless networks. This manager will work closely with sales, as well as product marketing on creating new products, developing Technical proposals and providing presentations to the customer.

This manager will be a key player in driving new and competitive solutions out to the Wireless provider (customer). The scope of the position includes all the AXE nodes and non AXE nodes that Ericsson offers/sells to a major wireless provider in Washington.We require a BSCS or BSEE with at least 8 years experience within a relevant technical field in telecom or wireless industry. GSM/UMTS and KAM experience is a plus. Some travel is required. Position in Seattle Washington, United States

MESSAGING/POSITIONING PRODUCTS, SEATTLE, WASHINGTON

Technical Solutions Manager

● Ericsson offers total end-to-end solutions for both mobile and fixed networks, including a range of services. Ericsson also offers solutions for the emerging markets created by the important trends of convergence of telecom and datacom, and of fixed and mobile services. Ericsson combines its unique position in wireless and its competence in building robust and reliable networks with a strong commitment to IP technology.

Key elements of this position include responsibility for Ericsson's Positioning and messaging products/solutions in the Voicestream KAM, including: collection, analysis and communication of customer requirements to the Ericsson product units; responding to customer's technical questions; technical sales support (MND role in Core3 process), including product presentations, contract negotiations, and technical content in offers; establish a communication channel between the SPM and the customer, through which the new and planned products are presented to the customers and the customers long term needs/demands are discussed, or conveyed to the Product Units; Maintain and expand your knowledge base in technologies, standards, and market trends to continuously create and drive new and competitive solutions that meet the customers business need in a multi-vendor network and to contribute to Ericsson's profitability goals; Establish long term relationships with the strategic key customer contacts and maintain an efficient contact network within Ericsson worldwide, specifically the Deutsche Telecom GAM organization and PU SPM/OPM; Participate in relevant external and internal product seminars and exhibitions.

This position requires a Bachelors degree in Science or Engineering discipline or equivalent experience. At least 8 years progressive experience in telecommunications industry, preferably in technical sales support within GSM. Knowledge of telecommunications networks and specifically Ericsson positioning and messaging products. Some international and national travel required.

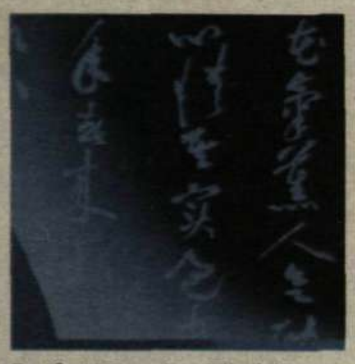
CLIENT SERVER APPLICATIONS - SEATTLE WASHINGTON U.S.

Technical Solutions Manager

● Our Global Services Key Account Management team is actively looking for a motivated, sales oriented engineer for a Technical Solutions Management position. This exciting position will consist of sole responsibility for Ericsson's or third party computer platform based products/solutions (BGW, SOG, OSS, SMAS, SDP, and Unix/Windows NT,) in the VoiceStream KAM, including: collection, analysis and communication of customer requirements to the Ericsson product units. Responding to customer 's technical questions, technical sales support (MND role in Core 3 process), including product presentations, contract negotiations, and technical content in offers are other key responsibilities. Establishing a communication channel between the SRM and the customer, through which the new and planned products are presented to the customers and the customers long-term needs/demands are discussed, or conveyed to the Product Units.

You will also maintain and expand your knowledge base in technologies, standards, and market trends to continuously create and drive new and competitive solutions that meet the customers business need in a multi-vendor relationships with the strategic key customer contacts and maintain an efficient contact network within Ericsson worldwide, specifically the Deutsche

Do you want to work in one of the most challenging and interesting countries within the field of telecommunication?



Taiwan Network Design and Performance Services is now looking for interested professionals to work within the following teams:

- *Radio Network Design*
- *Radio Performance Improvement*
- *Core Network Design and Performance Improvement*
- *Transmission Network Design and Performance Improvement*

Taiwan Network Design and Performance Services is a new service delivery unit being built in the Asia Pacific (AP) region. The delivery area will primarily be Taiwan but alsothe AP region if necessary, in order to maintain competence and to support other markets in need. The design teams will be largely involved in supporting KAM's and NAM's in the 3G/WCDMA license bids and tenders. The performance teams will deliver services in the field of both 2G and 3G. We have a challenging but also very interesting task ahead of us to build up the service delivery organization and we are now looking for interested professionals to join us. Ericsson Taiwan wants expertise in both team management and related Network Design engineering. Emphasis will be put on knowledge transfer and to coach the teams to become high-end service providers.

We are located in Taipei and are working with one of the most rapidly expanding markets in the Asia-Pacific region. Taiwan has leading edge operators on a deregulated market competing with the latest applications and services. FOA trials are common and pre-releases of software and demo solutions are seen as a necessity from our customers to enable them to stand up to the competition. A WCDMA container demonstration has just concluded that enabled all current and prospective customers to get a "taste" of the New Telecoms World just around the corner. In short, it's all happening in Taiwan !

For Ericsson Taiwan to be able to meet these challenges we are now searching for expertise in the following positions:

Radio Network Design Manager

You will co-ordinate and handle competence build up of a group of 10 to 15 Radio Network Design engineers. The team will specialize on radio network design of 3G/WCDMA systems but will also deliver high-end services within the GSM design field such as high capacity design solutions and methodologies. Services will cover design activities for pre-sale, implementation and post-sale. We are now looking for a candidate with skills in management and knowledge transfer and who has expertise in radio network design to lead this team.

Radio Network Design Engineers

You will work in a team with 10-15 Radio Network Design engineers. The team will specialize on radio network design of 3G/WCDMA systems but will also deliver high-end services within the GSM design field such as high capacity design solutions and methodologies. Services will cover design activities for pre-sale, implementation and post-sale. We are now looking for candidates with skills in know-ledge transfer and who have expertise in radio network design to act as mentors in the team.

Radio Network Performance Improvement Manager

You will co-ordinate and handle competence build up of a Team of around 4 Radio Network Performance Improvement engineers. The team will deliver Radio Network Performance Improvement services for GSM and, in not too distant future, 3G/WCDMA networks. The task will consist of making/delivering presentations of our services, coordinating employee training paths, transfer of knowledge and on the job training. Emphasis will be put on building the competence within the Team. We are now looking for a candidate with skills in management and knowledge transfer and who has expertise in radio network performance improvement to lead this team.

Radio Network Performance Improvement Engineers

You will work in a team of around 4 Radio Network Performance Improvement engineers. The team will deliver Radio Network Performance Improvement services for GSM and, in the not too distant future, 3G/WCDMA networks. The task will besides delivering services, consist of being a mentor for the team, making/delivering presentations of our services, transfer of knowledge. Emphasis will be put on building the competence within the team. We are now looking for candidates with skills in knowledge transfer and who have expertise in radio network performance improvement to act as mentors in the team.

Core Network Design and Performance Improvement Manager

You will co-ordinate and handle competence build up of a Team of 8 to 10 Core Network Design and Performance Improvement engineers. The design work will include new designs for new 3G/WCDMA license operators as well as helping GSM operators to migrate to 3G/WCDMA solutions and to expand their current GSM systems. Services will cover design activities for pre-sale, implementation and post-sale. The performance improvement services will be delivered to our GSM operators and, in the not too distant future, 3G/WCDMA operators. The task will consist of making/delivering presentations of our services, coordinating employee training paths, transfer of knowledge and on the job training. Emphasis will be put on building the competence within the team. We are now looking for a candidate with skills in management and knowledge transfer and who has expertise in core network design and performance improvement to lead this team.

Core Network Design Engineers

You will work in a team of 8 to 10 Core Network Design and Performance Improvement engineers. The design work will include new designs for new 3G/WCDMA license operators as well as helping GSM operators to migrate to 3G/WCDMA solutions and to expand their current GSM systems. Services will cover design activities for pre-sale, implementation and post-sale. The task will besides delivering services, consist of being a mentor for the group, making/delivering presentations of our services, transfer of knowledge. Emphasis will be put on building the competence within the team. We are now looking for candidates with skills in knowledge transfer and who have expertise in core network design to act as mentors in the team.

Core Performance Improvement Engineers

You will work in a team of around 8 to 10 Core Network Design and Performance Improvement engineers. The performance improvement services will be delivered to our GSM operators and, in the not too distant future, 3G/WCDMA operators. The task will besides delivering services, consist of being a mentor for the group and transfer of know-ledge. Emphasis will be put on building the competence within the team. We are now looking for candidates with skills in knowledge transfer and who have expertise in core performance improvement to act as mentors in the team.

Transmission Network Design and Performance Improvement Manager

You will co-ordinate and handle competence build up of a group of 8 to 10 Transmission Network Design and Performance Improvement engineers. The design work will include new designs for access and backbone network for new 3G/WCDMA license operators as well as helping GSM operators to migrate to 3G/WCDMA solutions and to expand their current GSM systems. Services will cover design activities for pre-sale, implementation and post-sale. The performance improvement services will be delivered to our GSM operators and in the not too distant future, 3G/WCDMA operators. The task will consist of making/delivering presentations of our services, coordinating employee training paths, transfer of knowledge and on the job training. Emphasis will be put on building the competence within the team. We are now looking for a candidate with skills in management and knowledge transfer and who has expertise in transmission network design and performance improvement to lead this team.

Transmission Network Design and Performance Improvement Engineers

You will work in a team of around 8 to 10 Transmission Network Design and Performance Improvement engineers. The design work will include new designs for access and backbone network for new 3G/WCDMA license operators as well as helping GSM operators to migrate to 3G/WCDMA solutions and to expand their current GSM systems. Services will cover design activities for pre-sale, implementation and post-sale. The performance improvement services will be delivered to our GSM operators and in the not too distant future, 3G/WCDMA operators. The task will besides delivering services, consist of being a mentor for the group and transfer of know-ledge. Emphasis will be put on building the competence within the team. We are now looking for candidates with skills in knowledge transfer and who have expertise in transmission network design and performance improvement to act as mentors in the team.

Are you interested to take the challenge?
Mark your CV with the wanted position and send it to:
Joanna Peng, joanna.peng@ert.ericsson.se, Phone +886 27461729, +886 916 937 180

Information about the positions can be given by Jonas Eriksson,
jonas.eriksson@ert.ericsson.se, +886 931 385 063

For more information about ERT and Taiwan, please visit :
http://www.ert.ericsson.se
http://www.lonelyplanet.com
http://www.sinica.edu.tw/tit/

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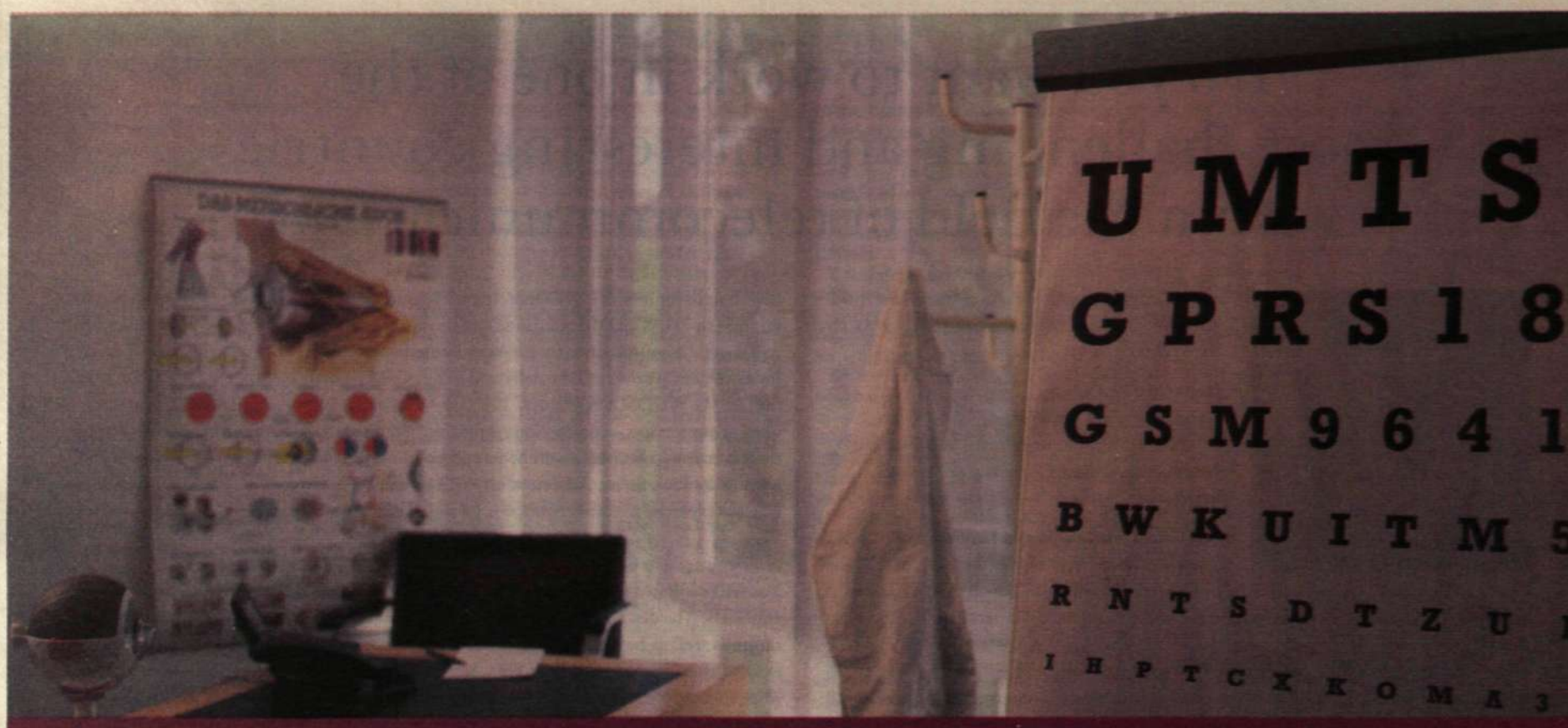

Ericsson in Germany – We see Mobile Internet. What about you?

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. We would like to inform you of our additional and various social welfare benefits in a personal conversation.

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

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. Specifictly 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 proactive 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.

Turnkey Project Manager

This challenging position involves project management of the activities, site acquisition, civil works, aerial erection and system installation. You will monitor and supervise the erection and organization of telecommunication sites of the second and third mobile radio generation (UMTS/PMP). You will be involved in the selection of sub-contractors and contract formulation, preparation of project plans and the observance of deadlines and quality assurance.

For this position, the ideal candidate has a degree in structural engineering and several years experience as a manager of telecommunications equipment projects with an emphasis on mobile radio. You are familiar with current safety regulations and have experience in dealing with the authorities and energy suppliers. We are looking for a highly motivated and team-orientated candidate who is a good communicator and builds trust in customer/supplier 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/Datacom 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.

Test Engineer

You are responsible for test and integration of new network elements and extensions as well as for bringing them into service. This applies for areas with future prospects such as fix-, mobile- (GSM/UMTS) and data networks within our regions Düsseldorf, Hannover, Frankfurt, Berlin, Stuttagart, Munich etc.

You are responsible for testing of network elements as well as for bringing them into service, which will be done together with the customer. You will also eliminate trouble reports and solve hardware, software and configuration problems on site. You act as an interface between customer and back office. You will also participate in implementation of new hardware and software products in "live" networks (rollout). Additional tasks could be the development of technical instructions for implementation as well as support of and introduction to the customer on site. You should also feel responsible for careful handling of all administrative processes.

You will fit in our young and international team if you have finished one of the following training: you are a technician in the area of telecommunications or you have served an apprenticeship as an electronics engineer in telecommunication with several years of experience or you have gained a university degree as a telecommunication engineer. The ideal candidate shows commitment, the ability to work in a team as well as under pressure. You have no problems with travelling around and your working time being according to the customers' timeframes. You should be familiar with Microsoft Office applications. After having gained sufficient experience in all areas, you integrate and support new employees as well as - external supporters to our team.

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 configurate 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 extentions (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. Therefor, 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 Datacom

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

Telecom GAM organizational and PU SPM/ OPM. Participate in relevant external and internal product seminars and exhibitions.

REQUIREMENTS: A Bachelor's degree in Science or Engineering discipline or equivalent experience is required along with at least 8 years progressive experience in telecommunications industry, preferably in technical sales support within GSM OSS, SOG, BGW, or other Unix based applications or platforms. Knowledge of telecommunications networks and specifically computer platforms used by Ericsson. Some international and national travel required.

Position located in Seattle Washington.

Contact: Julie.Anderson@-ericsson.com, EUSJAW@am1.ericsson.se, +1804-592-3379

DALLAS, TEXAS

Engineering Manager II Systems

● KEY RESPONSIBILITIES: Manage a resource team of technical consultants in Professional Services, responsible for the deployment of core network systems. Responsible for ensuring that the competence to support the emerging technologies is available to meet customer expectation.

Establishes goals, objectives and competence development plans for team. Provide leadership to achieve expected business results. Provide training and guidance to team. Ensure that job growth opportunities are made available to group members. Interview and hire technical consultants. Establish technical review procedures to ensure the quality of system design, performance and optimization sessions, on-site documentation and implementation of new technologies. This position is primarily a people managers position that serves as a coach and mentor for their employees, and is also responsible for P&Ls and cost center budget. The primary focus is on employee development, resource planning, operational planning and communications. Also serve as an escalation point for issue resolution.

COMPETENCIES, QUALIFICATIONS AND EXPERIENCE: Education required; Bachelor equivalent degree in science or equivalent work experience. Seven or more years experience in core network (switch, transmission and datacom) implementation, design or consulting. Excellent communication skills, both oral and written. Good knowledge of core network testing, design or applications. Knowledge of software tools and equipment utilized in the network industry. Previous management experience required. Ability to travel.

RF Manager

● KEY RESPONSIBILITIES: Manages a resource team of technical consultants responsible for the deployment of mobile internet systems. Responsible for ensuring that the competence to support the emerging technologies is available to meet customer expectations. Establishes goals and objectives and competence development plans for the team. Identify System Technology group tasks required to achieve goals and objectives. Provide leadership, training and guidance to employees. Ensure that job growth opportunities are made available to group members. Interview and hire technical consultants. Establish technical review procedures to ensure the quality of System Design, System Performance and Parameter Optimization sessions, on-site documentation and implementation of new technologies. Excellent knowledge and skills in use of MS Office computer applications.

COMPETENCIES, QUALIFICATIONS AND EXPERIENCE: BACHELOR, BSEE or equivalent degree in science. Seven or more years experience in wireless implementation and/or design. Excellent communications skills, both oral and written. Good knowledge of wireless testing and design and wireless application. Knowledge of software tools and equipment utilized in the wireless industry. Previous management experience preferred. Ability to travel. We offer competitive salaries and an excellent benefits package.

Contact: trey.reed@ericsson.com

ERICSSON LMF, FINLAND

Ericsson LMF, Finland stands out for advanced R&D level. Ericsson Finland operates one of the Ericsson Group's most important R&D centers. Some 600 people are working in product development, which is targeted mainly at the global market. In addition, the unit conducts basic and applied telecommunications research, often in cooperation with customers.

Product Area INFOWARE is focusing on the product of packaging- and browsing-systems for Customer Product Information. Our products are already globally in use and are for the moment entering the future UMTS networks as well. We are looking for

Senior and Junior Software Designers

● Our expectations are: suitable education (B.Sc. or M.Sc.), good knowledge in English; both oral and written, knowledge in Windows NT- or Unix-operating systems, WEB-technology, C/C++ or Java-programming languages, initiative, capability to do teamwork.

We appreciate: willingness to advance and improve in your work,international communication ability, organization ability, knowledge in GUI-design, knowledge in UML-language, knowledge in XML

Product Program Manager

● Product Area INFOWARE is focusing on Internet- and e-business solutions to facilitate the handling of Ericsson's Product Information both for operators and inside the company. We are looking for Product Program Manager to handle integration of Ericsson's Product Information into the concern's global e-businessportal. Our expectations are: suitable education (M.Sc. or Master of Arts), good knowledge in English; both oral and written, experience of Project planning according to iterative project process, knowledge in Internet protocols and –techniques.

We appreciate: experience of the Rational Unified Process Area, experienceof Management Team work, willingness to travel, persistence, knowledge in Open System platforms (Unix, NT).

We offer: a responsible and versatile task domain, unique developmentalpotential, modern, nice working environment, a lookout spot in the future information society, chances to act over the concern's traditional organizational borders, possibility to influence on Ericsson's future e-business solutions

Project Manager

● We are looking for a Project Manager to handle the international SW-development project in the area of CPI packaging and browsing process.. The design process is based on object oriented programming with C/C++ and Java on Unix- and NT-platforms. SGML, XML and HTML notations are used. The publishing rhythm varies between 3 and 6 months. Depending on experience and interest the project Manager can also participate in the SW-design or system design.

Expectations: good knowledge in English; both oral and written, experienceof Project planning according to iterative project process. We appreciate: experience of the Rational Unified Process Area, experienceof Management Team work, willingness to travel, persistence, knowledge in Open System platforms (Unix, NT).

We offer: a responsible and versatile task domain, unique developmentalpotential, modern, nice working environment, a lookout spot in the future information society, chances to become aquainted with global R & D, chances to act over the concern's traditional organizational borders, possibility to influence on Ericsson's future e-business solutions

Contact: Merja Hotti, merja.hotti@lmf.ericsson.se, +358 9 2992042, Ari Pietikäinen, ari.pietikainen@lmf.ericsson.se, +358 9 299 2293 **Application:** merja.hotti@lmf.ericsson.se no later than January 2, 2001

ERICSSON SYSTEMS EXPERTISE LIMITED, DUBLIN, IRELAND

AXE10 Integration and Verification Engineer

Our section within the GSM department of Dublin's Radio Network Solutions Centre (EEI/R), have exciting opportunities for engineers who would like to work in leading BSC/BSS development. With the department's RTS subsystem responsibility, of the BSC, we see a never-ending challenge to handle the verification of new software releases. We are also responsible for Aernet, Europe's only live test network and there we join forces with other nodes to supply expertise, advanced network verification and customer demos.

● Job Specification: The AXE10 Integration and Verification Engineer is primarily required to provide test expertise in the BSC function and system test during network integration, and to the BSS system and feature test.

The position will later on involve coaching and developing of new testers in verification skills (and if it's applicable, trouble shooting and test plant handling skills).

The Basic Requirements: The basic requirements are minimum three years of experience in AXE10 platform testing. Knowledge of GSM BSS, BSC and BTS is a plus. Experience could include testing at System Verification level. Customer Support, RP trouble-shooting skills and previous experience with Test Tools such as protocol analyzers and debuggers are a clear advantage. Welcome on board!

Application: Recruitment.Process@eei.ericsson.se

CIA. ERICSSON S.A. PERU

NAM

● NAM responsible for strengthening DMS in CEP. Win a GSM Contract with Telefonica Móviles by the end of 2001. Focus on business case studies for GSM 1800 –UMTS and also sales of terminals and services to Telefonica Móviles.

Qualifications: M.sc, good GSM background, 5 – 7 years business experience. Must speak Spanish fluently. Good communication and relation skills, ability to interpret customer requirements and market trends, high level of personal initiative, passion to win, good team working ability.

SAM

● Responsible for all services provided by local company with focus on AXE support. Drive a motivated group of 40 engineers to rapidly increase sales of services with strong customer focus.

Qualifications: Degree in Engineering, an MBA is preferable, 8 – 12 years business experience. Must speak Spanish fluently. Good communication and relation skills, dedication to customer success, ability to interpret market trends, high level of personal initiative, passion to win, result oriented, good team working ability.

Product Manager DMS & Marketing

● Responsible for 3G and Mobile Internet related activities. Focus on building up know-how both internally and externally and drive the Ericsson marketing message. Promote sales of 3G and Mobile Internet to key customers. Work closely with players in the market to understand business opportunities.

Qualifications: University Degree, an MBA is an advantage, 5 – 10 years business experience, good commercial skills. Must speak Spanish fluently. Very good communication and relation skills, self motivated, analytical and business minded, dedication to customer success, ability to interpret market trends, high level of personal innitiative, passion to win, engine, good team working ability.

Contact: +51 1 2156112, peder.asplund@-cep.ericsson.se or Milagros Pedreros, +51 1 2156130, cepmpc@am2.ericsson.se

ERICSSON CZECH REPUBLIC

Job opportunities at Ericsson Czech Republic! Ericsson Czech Republic has well-established Market Unit with headquarters in Prague. The company has a good name in the market.

We have about 250 employees and need to extend our team within mobile operators sector. Take that challenge and join our team in the beautiful city in the heart of Europe! The following positions are open now:

Project Manager

● We need a person for our Network platform implementation project who will work within operations in rollout of all GSM network platform nodes, upgrades and updates. The platform nodes include are MSC, BSC, Pre-Paid, SMS/VMS, OSS, GPRS together with migration to UMTS. As Project Manager you should have at least 2-3 years project management experience together with broad technical experience in the areas indicated above.

Contact: Malcolm Triggs, Customer Services Manager, +420 608 010 930 or Solveig Vallentin, HR Manager, +420 606 712 945.

OSS Expert and IN Expert

● We need experts to strengthen our Field Support organisation. The unit is responsible for support activities to our customers. This involves trouble report handling, emergency support, implementation of new releases and consultation handling.

As OSS/IN Expert you should possess strong customer orientation and broad technical experience as well as good English skills. Following skills is an advantage: UNIX, Solaris, SUN hardware and/or VMS.

Contact: Tamas Koczka, FSO Manager, +420 606 706 245 or Solveig Vallentin, HR Manager, +420 606 712 945. **Application:** solveig.vallentin@ecz.ericsson.se

ERICSSON EGYPT

Ericsson Egypt is headquartered in the multicultural and exotic town of Cairo, Egypt and has more than 200 employees. We are a modern and fast growing company and already now the Internet becomes Mobil Internet, the world will change and we are, together with our customer, pushing these changes. Therefore we need people who are innovative and professional, think and react unconventional in line with our company values.

We offer you exciting opportunities in a variety of fields, a new and challenging business for Ericsson. The position requires 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 cultural skill is desirable.

FSC Engineers

● Cairo GSM Network today consists of 8 MSCs, 9 BSCs and 3 SCPs and more than 1 million subscribers. During year 2001 there will be a huge expansion with a minimum of 30 new nodes, an aggressive expansion that will continue for several years.

The support of the system is today done from a central location at Ericsson premises in Cairo although will expand in to a regional support during the year. Due to the rapid expansion of the network and the introduction of the mobile internet, WAP and GPRS, we need to strengthen our FSC team with a few members.

We are looking for 2-3 experienced FSC engineers for a fully featured and advanced GSM network with an operator from the Vodafone group. You will be responsible for supporting this customer by providing highly technical professional services in trouble shooting, analysis and resolution of problem in the GSM system, you will ensure that the necessary information is gathered for resolution of system problems, making independent judgements using extensive technical knowledge. You are familiar with the MHS, MSS, TR handling.

Main work task is: Customer request, CSR, handling and follow up. SW packages handling, co-ordination with to customer and rollouts. SW upgrades and HW (IOG and APZ) upgrades. Some trouble shooting at site and support to the customer during disturbances. Emergency support. Interface with second line ASO support

A successful candidate shall have: Bachelor degree in computer science or electrical engineering, or equivalent experience.

Minimum 4 years experience working with AXE switches with extensive working knowledge and understanding of GSM system support. Excellent written and oral communication skills in English with Arabic skills as an advantage.

Very good knowledge in one or more of the following areas, OSS, APZ, IOG. Good experience in BSC/MSC; PPS, SMS, VMS is considered as a plus.

Contact: FSC manager, Nagi Soliman, nagi.soliman@eel.ericsson.se +20-10-1610024, or Dir. of Operations, Lars Erik Lindberg, lars.e.lindberg@eel.ericsson.se +20-2-5229110. Application latest 001231

FSC Manager

● We are looking for an experienced and technically skilled manager to our GSM FSC, an FSC that supports a fully featured and advanced GSM network with a customer from the Vodafone group. You will be responsible for a group of 15-20 staff that by provides highly skilled services in the form of system support, emergency support, CSR handling, software updates and upgrades to the GSM system. You shall ensure that the work is done in a highly professional manner, to the highest service level and according to customer requirements and demands. The position reports directly to the Operations Director.

Main work task is:Ensure that the FSC have sufficient competence and staff Be in charge of support meetings with the customerInitiate and drive disturbance investigations and task groupsEnsure service contract fulfilmentTarget setting and follow upResponsibility for the support budgetCo-ordinating the work with second and third line support

A successful candidate shall have:Bachelor degree in computer science or electrical engineering, or equivalent experience.Minimum 4 years experience with GSM support and previous management experience, it also requires extensive working experience plus very good understanding of GSM system support.Excellent written and oral communication skills in English with Arabic skills as an advantage. Experienced in one or more of the following areas, OSS, APZ, IOG, BSC, MSC and PPS; SMS, VMS is considered as a plus.

Contact: Director of Operations: Lars Erik Lindberg, lars.e.lindberg@eel.ericsson.se +20-2-5229110. Application latest 001231

Experienced GSM Trouble-shooter/Specialist

● We are looking for a couple of experienced GSM trouble-shooters/specialists for a fully featured and advanced GSM network with an operator from the Vodafone group. You will be responsible for back office support to our FSC engineers with the main focus on advanced trouble shooting, analysis and resolution of problem in the GSM network. At complex system problems you shall take the initiative and control our common support activities, analyse the situation, ensure that the appropriate actions are taken and that a solution found and introduced. This requires extensive technical knowledge and requires the ability to make an independent judgements under stressful conditions.

Main work task is:SW packages handling, co-ordination with the customer for the rolloutsVerify SW upgrade procedures to ensure that upgrades are implemented with no impact on network performanceAdvanced trouble shooting of CSRs and support to the customer during emergenciesInterface with second line support-Transfer of knowledge to colleagues

A successful candidate shall have:Bachelor degree in computer science or electrical engineering, or equivalent experience.Minimum 5 years experience working with AXE software, with expert knowledge of GSM system support and trouble-shooting.Excellent written and oral communication skills in English with Arabic skills as an advantage. Expert knowledge in one or more of the following areas, OSS, APZ, IOG, BSC, MSC or PPS. Experience in SMS, VMS is considered as a plus.

Contact: FSC manager: Nagi Soliman, nagi.soliman@eel.ericsson.se +20-10-1610024, or Dir. of Operations: Lars Erik Lindberg, lars.e.lindberg@eel.ericsson.se +20-2-5229110. Application latest 001231

ERICSSON TELECOMUNICACOES S/A, SAO PAULO, BRAZIL

GSM – Solution, Brazil. Just a few months ago Anatel, the telecom regulator in Brazil, decided to issue 1800 MHz licenses for PCS in Brazil. The business potential for Ericsson GSM & WCDMA Systems is enormous. The work ahead is demanding and challenging.

For a giant market such as Brazil without previous GSM experience, there is a lot to do in terms of building up the expertise and procedures required to get the work done. EDB (Ericsson in Brazil) is currently recruiting key staff with GSM experience, contact network and perseverance to work as market product managers in the technical sales support organisation for new GSM accounts

Technical Manager

● You have the overall technical responsibility in our Core-3 sales team towards the potential customers. You will communicate everything from visions about mobile internet solutions to complex infrastructure questions.

The Technical Manager is responsible for technical activities regarding marketing, sales and negotiations. This will cover all issues in providing a full turnkey solution to our potential customers, as well as communicating our visions of the future development. Experience from similar positions will be an advantage.

Switching System, Core Network

● You will provide knowledge in Ericsson GSM Core Networks. This will include product packaging, feature content, interfaces and other questions that will be raised by our clients. An important task is also keeping track of the future product releases and migration to next generation systems.

General Packet Radio Services (GPRS)

● GPRS will be deployed early in the proposed networks and is a main differentiator for our customers. In order to make GSM and GPRS successful we need a person focusing on providing solutions that will ensure a smooth and successful launch of GPRS in Brazil.

Switch Network Design

● For the New Account Management we need you to be the connecting link to our design teams in order to ensure consistent offering to our customers. You have a deep understanding TN telecommunication an in design of GSM networks.

Mediation Devices

● Our solutions will include mediation solutions based BGw/BMP and SOG. You will serve as the local specialist in ensuring that these products are properly sold and implemented to ensure a fast a trouble free connection to our customers Customer Care and Billing Solutions.

Base Station System, Radio Base Station

● In order for us to achieve high quality network we need you with a deep Radio Network Knowledge to provide competence in providing solutions that will be beneficial in our strive to win business. This will include Features/Solutions, Product Packaging and suitable additional solutions covering the full range of RBS 2000 products, as well as being the interface towards Radio Network Planning.

Transmission

● To provide the Transmission Network for our Networks in Brazil, we will need help from you with a broad Transmission product/solution knowledge. The Brazilian conditions will call for Backbone/Access Networks based on a mixture of own products, leased lines and dark fibre. This will require the usage of a broad range of Transmission equipment like MiniLink, Digital Cross Connects, STM, Satellite etc.

Operational Support Systems

● You will be the main contact in providing our customers with suitable solutions for an effective implementation and operation of GSM Networks in Brazil. OSS will be the base but we will also provide connecting solutions to other management systems via agents, and depending on our customers possibly higher order Management Systems as well.

Value Added Services, Intelligent Networks (IN)

● Our customers will focus on service offerings in order to increase their market share.

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.

A vital component in this strategy will be Intelligent Network Solutions. You will be our specialist in the area ensuring that we are proposing competitive and attractive services and solutions as part of our total solution offering.

Prepaid

● Prepaid will amount for a large share of the new operators subscriber intake. The prepaid solutions will be based on the PPS product line. You have a deep knowledge of PPS and you know what it will take to make a successful introduction of PPS in a new market.

Datacom

● Datacom will be an important element in winning business. You will be our specialist and coordinator in this are ensuring that we are proposing solutions that will be attractive to the operators on the Brazilian market.

3rd Party Products

● We will need to supply a large range of Third Party Products as part of our total offering. You will be our main contact towards third party suppliers, this might be both Brazilian and international suppliers. It will require experience in negotiation and being able to quickly understand the different solutions.

Application: annelie.gustafsson@edb.ericsson.se +55 11 6224 8685, katia.burri@edb.ericsson.se + 55 11 6224 1301, renato.mello@edb.ericsson.se + 55 11 6224 1101

ERICSSON AS, GRIMSTAD, NORWAY

Customer Services in Grimstad works within the Network Operator Segment. We have started to build competence to face the next generation of telecom systems, such as GPRS/ UMTS/ WAP/ IP/Broadband. First of all we work with support and consultancy services for the Norwegian market. In addition we are a part of the Nordic co-operation within Customer Services (NSU). We are now looking for

Support Personnel

● To our department for Customer Services. Work description: Communicate with customers about operation and maintenance related inquieries. Test and implementation of system update and upgrade packages. Work with problem solving using remote connection to systems in service. Work out solutions to SW problems. Participate in 24h emergency service (optional). Consultant services.

Technical Qualifications: Engineer or similar. Experience from SW problem solving. Preferably experience from working with AXE, UNIX and GSM systems.

Personal qualifications: You like to work with demanding customers. You like to cooperate with others as well as working in teams. You are open-minded with a positive personality. Fluent in English, and preferably fluent in Norwegian or similar.

We can offer: Work with the latest technique within telecommunication. Challenging tasks in an international environment, with a high degree of co-operation with other Ericsson units. High possibilities for personal development in a highly competent technical environment. Competence building through internal and external training centers as well as participation in projects. Competitive economical compensation. Working location is our brand new office building in Grimstad, Norway.

Contact: +47 37293710, Lars.Hansen@eto.ericsson.se or +47 37293724, Bjarne.Trovag@eto.ericsson.se or +47 37293443, Johan.Morten.Tetlie@eto.ericsson.se. **Application latest 001231:** HR, Postuttak, N-4898 Grimstad, Norway. Mark your application: Customer Services

GPRS SYSTEM HOUSE

GPRS System House at ETO is a major part of Node Product Unit GSN having the responsibility of running the GPRS main projects securing a fully working SGSN and GGSN solution to the GPRS market and develop common software parts between PU-GSN GPRS and WCDMA solutions. In order to further strengthen the GPRS System House at ETO we are looking for:

SYSTEM MANAGERS

The system manager will run Quick Studies, participate in Prestudies, and in general be responsible for the GSN nodes behavior related to his/her specific area of responsibility.

In addition some system managers will also take on the responsibility of a technical manager for a specific product release. The latter includes being the GPRS System Management representative in higher level (e.g. Core Network) technical coordination forums. The following are areas we want to further strengthen:

Mobility & Session Management

Internet Access and IP Infrastructure

Services (VLR, Charging, Lawful Interception)

Security and Characteristics (including dimensioning)

Node Handling (O&M)

We are also looking to further strenghten our GSN standardization team.

SYSTEM DEVELOPERS

The system Developers will participate in Feasibility and SW Design of SGSN (GPRS) and Common SW application (WCDMA/ GPRS) development. Their main responsibility will be Design, implementation and Use Case testing of features. In addition some system developers may also take on the responsibility of a subsystem. The following are areas we want to further strengthen:

Mobility Management

Middleware

Characteristics User Plane Vx-works Streams

Tracing

UML & Modelling

System Testers

● The system Testers will participate in the build up of the System Test area (Integration & verification) in GPRS at ETO. Our main task is to integrate, analyse, characterize and verify system components as a packet core network solution for the GPRS mobile systems.

We work in close contact with expertise from different areas, where our role is

We are moving Fast Forward and therefore are looking for talented Solution Managers

ERA/FN is the newly established Marketing, Sales and Business Management Unit within WCDMA, PDC Systems (BMOR). FN is responsible for all markets and handles sales of WCDMA and PDC infrastructure to both existing and to new accounts. The unit mission is to support BMOR's market-share and financial objectives in a focused and efficient way. The primary interfaces are the KAM and NAM teams in the Market Units and the Global Account teams.

Solution Manager

As a Solution Manager you will focus on new solutions, never done before!

This job involves responsibility to ensure that our network offerings are based on the latest technology ready for the demands of Mobile Internet.

This means creating and integrating business cases, presentation packages and solutions for customers including sales arguments and technical support.

An important part of the job is to help Marketing Units worldwide to understand the world of Mobile Internet and datacom. Your "workplace" will be in Kista, in the heart of Mobile Internet Technology.

In order to enjoy and be successful in this job, we think you need a combination of good knowledge of mobile and/or datacom network technologies and following personal qualifications:

- Desire to have a deep understanding of customer needs for future data-and telecom solutions
- Strong drive to obtain a leading position as a generalist or specialist within this innovative and world changing datacom technology
- Passion for sharing knowledge and experience with others
- Well developed communication skills
- Experience or interest in pre-sales and bid processes
- Creativity and curiosity to enable new business opportunities
- Fluent in English, other languages also preferred
- Enjoy physical and virtual teamwork

We already have a Challenging and Creative Environment for personal and professional development.

Our culture provides an exciting background if you have a passion for reaching still unknown–opportunities and strong professional aspirations. We have managed to attract the most talented coworkers with specific experience from major operators and vendors with frontline technology. Working together across different divisions and units with this already existing and creative team is extremely interesting. The main values for employment at Ericsson includes respect for individual lifestyle including drive for a balance in life. Therefore we also are able to offer attractive career paths, competence development and individual benefits.

We know that this opportunity is exciting so let us here from you. Please, talk with Martin Ljungberg about the business, phone +46 8 508 78 489, mobile +46 70 986 09 04 or Mai Lundell, Human Resources, phone +46 8 422 27 81, mobile +46 70 682 08 05, mail: mai.lundell@etx.ericsson.se

If you send your application by mail, please send a copy to Mai Lundell.

Please send your application and CV to:

Ericsson Telecom AB
NA/ETX/D/H Marie Nordin
131 89 STOCKHOLM
marie.nordin@etx.ericsson.se

Make yourself heard.

ERICSSON

rather to be the system experts, to enhance our system so that it lives up to our customers high expectations. Most of this work is performed in our system labs equipped with tools such as traffic generators, protocol analysers etc. As our products approach commercial launch we are involved in pre-commercial activities and the first customer installation, as system experts. The following are areas we want to further strengthen:

Design of test-cases and traffic scenarios, both theoretically and the practical execution. Perform an analysis of the system behavior and, together with design experts, correct, enhance and/or optimise the behavior. Take part in integrating new features(functionality) into the GPRS system, verifying solutions onallready released systems, and FOA support.

SW MANAGEMENT

Software management is responsible for Design Tools, SW Build, Test Node Configuration, Test Tools and Configuration Management. Relating to increased activities in GPRS R2 we are in short of competencies in the following areas:

Expert in ClearCase

● Support projects setting up structures and VOB's. Daily follow-up and supporting users. Operations and planning ETO/S CC servers and requirements for back-up.

Expert in TTCN/ ITEX

● TTCN user support and overall TTCN modules ('SW unit') responsible. Improvements with automation/ methods/ quality/tools. SCS test environment admin back-up and second line test environment debugging/support and providing TTCN guidelines for projects.

Administrative TR Handling

● Follow-up that un-necessary delays occur for TR's within the project. Move/transfer and promote TR's to right instance/person for handling. Be super-user in the tools used, i.e. coaching users and administrators. Be main interface between user groups and tool handler/ tool vendor.

C-Binary Handler

● Keep track of C-binaries for each build and productifying C-binaries and version controlled. Logging C-binaries and storing for regenerating.Super-user for tool-package used and main interface between user-groups and tool handler (C).

General for all positions: We are looking for engineers with experience in one or more of the following areas: GSM Systems, GPRS, IP / IP infrastructure in addition to specific knowledge related to the areas in question (see above).

Contact: Syste.Management: GPRS Systems Mgr, +47 37293770, Joran.Boch@-ericsson.no, System Development: Area Mgr GSN SW Application, +47 37293695, Per.Gunnar.Riber@-ericsson.no or System Development: Area Mgr Common SW Application, +47 37293095, Eivind.Madsen@ericsson.no or System; System House Mgr, +47 37293456, Bjorn.K.Tellefsen@ericsson.no or Mgr System Test, +47 37293599, Roar.Walderhaug@ericsson.no.
Application latest 001231: HR with ref. "GSN@ETO", Ericsson AS Grimstad, Televeien 1, Postuttak, N-4898 GRIMSTAD, NORWAY

NIPPON ERICSSON K.K. JAPAN

3 rd Generation WCDMA/IMT-2000 OPPORTUNITIES IN JAPAN. In order to meet the challenges presented by the deployment of a 3rd Generation UMTS/IMT-2000 Network in Japan the IMT-2000 Integration Unit (NRJ/SW/I) within Nippon Ericsson is looking for a number of highly motivated and talented engineering personnel. The majority of these positions are based in Shin Yokohama, however some positions may be based in other locations within Japan.All positions require a strong customer focus and the successful candidate should be able to work well within a team environment and be able to work with people from a large range of cultural backgrounds. English fluency is essential. For further details regarding Nippon Ericsson K.K please visit the web-page at: http://inside.jp.ao.ericsson.se

System Support Engineers (Radio Network and Applications)

● The successful candidates shall be responsible for providing integration, configuration and software system support during the deployment of the IMT-2000/UMTS network and then provide first line software technical support for the network whence it is in service. The applicant is required to have at least 3-5 years experience in integration, system support, verification or design role in the mobile telecommunications, preferably in the radio networks, Radio Base Stations and Controllers or/and in the Datacom arena (like TCP/IP networking and Router configuration, ATM, GPRS Support nodes). These positions offer an excellent opportunity for engineers wishing to move into the IMT-2000/UMTS, WCDMA field and a number of vacant positions are now open.

Training as required will be provided and some overseas and domestic travel may be necessary. There may also be a requirement for some engineers to be available at times on an emergency support/on call roster.

Contact: kasem.mohamed@nrj.ericsson.se, +81 45 475 4482, Fax: +81 45 475 4350

We are currently expanding our business in Network Design, and we need to strengthen our support to the customers. There are several big challenges that we are working on already; PPDC, WCDMA and cdma2000.

ND/NPI Service Manager

● We are looking for a person who will act as interface between our customers and our service providing organisation. Your task is to find out the customer's needs and desires and then arrange the available services and resources from our organisation to provide the customer with the best solution.

You must have great skills in communicating with customers and you are experienced enough so that you know what kind of services that we can offer. It will then be your job to put together the necessary team and then drive the service. You will work with both PDC and IMT-2000 for Core and Packet/IP Networks. You have a good knowledge of Ericsson and the service portfolio we have. Personal relations with the customer are very important so you should find it easy to adapt and have an open mind.

PCND Engineer

● We need a Packet Core Network Design Engineer, if you have experience designing packet or IP based networks you should apply! Your job will be to design and evolve the networks so that they can handle the traffic without problems. You will also help us to set up the right procedures and tools so that we can manage our business at all times. We are today working with PPDC (the PDC version of GPRS) and IMT-2000 for our customer J-Phone. We are looking to expand our business to include cdma2000 as well.

cdma2000 Core Network Designer

● We have offered a complete cdma2000 network to one of the operators here in Japan. We need someone to lead our Network Design work for the core network. You should have a lot of experience with Network Design for 2G mobile networks and any experience with GPRS or other Packet Networks is an advantage.

This is a new customer so you have work actively with our Marketing and Product Management organisations to establish interfaces with the customer. You will also be responsible for training our local engineers.

Contact: Martin Krook, +81-45-475 4563, Martin.Krook@nrj.ericsson.se

ERICSSON EUROLAB NETHERLANDS

Technical Writer

Within The Netherlands, the Charging Competence Centre @ ELN is one of the R&D departments of the newly formed ELN (Ericsson EuroLab Netherlands). This R&D organization has a broad variety in products, varying from terminals for home communications to network software and applications The Charging Competence Centre @ ELN hosts three Product Areas connected to the CAPC Sub Core Product Units Transit and FCAPS. We have charging as domain knowledge in wireline and wireless systems. The Charging Competence Centre @ ELN is responsible for the development of software applications made in C++ and JAVA. Within a worldwide operating product unit, we are responsible for developing applications on the Adjunct Processor (AP) that format charging data and provide it to post-processing systems. We are also responsible for setting-up an "application platform" on the AP based on software reuse. We use Object-Oriented development practices and a proprietary (home made) development process (IDIOM).

We are organised in self-steering teams, because we believe that eventually that is the most efficient, but also providing a working atmosphere. Teams are besides developing products also responsible for the detailed planning, for competence build-up and for developing as a team. Within the team every individual performs several tasks, what leads to a varied work package. Also contacts outside the team are of a crucial importance. The Charging Competence Centre @ ELN guarantees a pleasantly open working environment, focus on personal development and challenging innovative work. We are looking for people who prefer to perform in a professional team.

● As Technical Writer you bridge the gap between technique and the end user. Since you have the ability to look at our products from a user's point of view, you are able to explain the features of our software in a structured and user friendly way. You obtain the knowledge of these features by a close contact with the software (test) designers.

In order to realise this achievement, your have a higher technical education. On top of that you can speak and write english very well. Preferably you have experience in a similar position working for a vendor of technologically advanced products. You have a strong ambition to strengthen your knowledge in the field of information and communication technology. Finally you are characterised by a pro-active attitude and excellent communication skills.

Contact: Erwin Sponselee, Competence Manager. +31 161 249553. Erwin.Sponselee@eln.ericsson.se. Charging Competence Centre@ELN, Rijen.

EED, HERZOGENRATH/AACHEN, GERMANY

EED in Herzogenrath/Aachen, Germany, 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. CAPC Systems Management is responsible for system studies in early phases of product development of the next generation of mobile (3G, UMTS) and fixed network solutions (Engine). An important aspect is to find synergies and to identify core application solutions between mobile and fixed systems.

Source System Designer

● We are looking for a Source System Designer, who would like to secure the quality, the profitability and the consistencies of the products in next generation solutions. Next generation solutions are based on packet switching (IP and/or ATM), hence this will provide an opportunity to build competence in those future based technologies.

Since it is essential to discuss and investigate the system architecture in the early phases of a project, one Source System Designer is always appointed as team leader for one of our ongoing projects. You would have to take the responsibility for all tasks related to the Source System Handling and co-ordinate those tasks towards the project. Experience with AXE AM based design and the AXE10 platform is essential. A good knowledge of System 108 is a strong advantage, but not a requirement. Some travelling is expected.

Ericsson Systems Expertise Ltd. Dublin, Ireland

Systems Engineers

As the Product Owner of the Mobile Radio Subsystems for both TDMA, PDC and with responsibility for the Radio Network Manager Applications developed for the PDC market the challenges and opportunities are many within the EEI/RJ department.

Self-Regulating algorithms being planned in the PDC system with impacts to both the AXE and the RNM SW, the Radio Network Solutions Centre in Dublin, Ireland, providing the full solution.

TDMA with the challenge of transferring the Product Responsibility to the LMC organisation over the medium term period at the same time as the work with introducing new radio network applications continues to impact the subsystem.

These challenges has made it interesting for our department to look outside the organisational boundaries for experienced, initiative taking, self-going people with at least 5 years experience in AXE development.

Your tasks as a part of the Systems Section would be in one of the two PDC products and would mainly consist of part taking in one of the Product Committees as a regular member together with Pre Study, Feasibility Study, system level investigations and maintenance support activities.

Experience from one or both of the systems (TDMA or PDC) in Operation and Maintenance, Radio Network Signalling and Connection Handling, Performance Handling and/or Protocol Handling for signalling to external platforms will be considered as positive. Also Object Oriented development and JAVA, C++, UNIX knowledge would be positive for the RNM Application position.

A Role as Set of Parts Responsible would be considered if it suits both parties, description can be found through the RNSCs IntraNet @: http://rnsc.eei.ericsson.se/index.shtml

Any questions will be answered by: System Manager, Peter Ostrup +353 1 207 70 76, e-mail – peter.ostrup@eei.ericsson.se

If you would like to apply for the position, please send your CV to Lorna.Mulvihill@eei.ericsson.se +353 1 207 7986 before 22nd December 2000.

PC-Chairman, 3G Core Networks

● We are looking for an experienced engineer, which together with other teams of chairman would like to secure the quality, the profitability and the consistencies of the products in next generation solutions. Next generation solutions are based on packet switching (IP and/or ATM), hence this will provide an opportunity to build competence in those future based technologies.

Experience with AXE AM based design and the AXE10 platform is essential. A good knowledge of System 108 is a strong advantage, but not a requirement. Some travelling is expected.

PC-Chairman Trainee, 3G Core Networks

● We are looking for an engineer, which together which together with more experienced chairman would like to secure the quality, the profitability and the consistencies of the products in next generation solutions. Next generation solutions are based on packet switching (IP and/or ATM), hence this will provide an opportunity to build competence in those future based technologies.

Experience with AXE AM based design and the AXE10 platform is essential. A good knowledge of System 108 is a strong advantage, but not a requirement. Some travelling is expected.

Contact: CAPC Systems Management, Robert.Ivarsson@eed.ericsson.se, +49 2407 575 704, HR, Simon.Seebass@eed.ericsson.se, +49 2407 575 163

EED/X/R department at EED has the overall project responsibilities for the complete node deliveries. We are about to embark on one of the most exciting and challenging projects within Ericsson. GSM R9 project, and our first UMTS delivery, have been combined together in order to maintain our strong market presence and ensure that we are FIRST-TO-MARKET with the UMTS package. We now need strong and experienced individuals to support our project and department team. The following positions are now open: The NPU-MSC Project Office EED/X/R is looking for a

MSC (SS Node) CN1.5 Product Introduction Manager

Proj.No 183/E00

● The NPU-MSC Project Office EED/X/R at EED has the project management responsibility for the Switching System (SS) from TG0 to phase out. The MSC node responsibility include all GAS software delivered from NPU-MSC, CAPC, CNCP, CSPP, SCSA (GDB) and RDS.

The responsibilities include planning and execution of MSC related product introduction activities for Acceptance and Primary Consolidation. You would manage the MSC PI team and be responsible for having the appropriate enablers (resources, tools etc.) in place for the project execution. In this position, you as a project manager would interface to the MSC CN1.5 Indus project and report directly to the Core Network 1.5 Product Introduction Manager.

As a suitable candidate you have several years of Ericsson experience with good competence in the area of AXE software verification and supply process. You possibly have Project or Line management experience.

MSC (SS Node) Support Project Managers

Proj.No 184/E00

● We now need Support Project Managers to overlook all 3rd Line Support aspects of the SS Node. In this position, you as a project manager would interface to the various supplying organisations and report directly to the Core Network level Support projects.

As a suitable candidate you have several years of Ericsson experience with good competence in the area of Maintenance and Modification Handling, AXE Support. You possibly have project or line management experience and are familiar with SW Support processes. You should have experience in Configuration, Product and/or System Management in AXE. The work involves continuous contact with various internal Ericsson functions. Close cooperation with PLM, System Management and Core Network Support Project Office is required. The activities span from issuing assignments, planning, managing and following-up on all related support activities such as Correction packages, Software handling (packages), ISP, etc. In any of these positions you will need good planning, communication and co-operation skills. There are plenty of opportunities for travelling, networking, personal and technical development.

Contact: +49 2407 575 7869, Andreas.Westh@eed.ericsson.se, Christina Schneidawind, +49 2407 575 7814, eedcsch@eed.ericsson.se

Configuration Manager

Proj.No 205/E00

● The main tasks and objectives will be: Development of necessary CM processes and documents, manage Change Control (Chair CCB meetings etc.), handle Project CM Audits, identify and manage Baselines. In this position you will gain a lot of insight in how NPU-MSC plans, organizes and runs projects. You will learn which organizations are involved in decision making and how their roles and interfaces are defined, acquiring valuable competence and knowledge for future career opportunities.

One of our main Configuration Management tools is Ericsson ClearCase, so knowledgeof this would be an advantage. As a configuration manager you will need strong initiative, good planning, co-ordination and communication skills and the nature to never give up.

Total Project Manager

Proj.No 185/E00

for the UMTS 3.0 / GSM R10 MSC Project

● As Total Project Manager your primary task will be to set-up and coordinate the planning activities for the GSM R10 MSC release, combined with the UMTS 3.0 features, in parallel with the ongoing UMTS 1.5/2.0 and the coming UMTS 4.0 projects. You will be working closely together with the project management teams for the other UMTS projects, as well as with the Core Network Total project.

The main tasks and objectives will be: Support and steer the UMTS 3.0 / R10 Feasibility Study teams, planning of the UMTS 3.0 / R10 execution phase, Follow up and report progress, time, costs and quality, coordinate UMTS 3.0 / GSM R10 needs with the other ongoing projects, ensure fulfilment of the project goals, interface to the Core Network total project and the Project Steering Group. For this key position we are looking for a Senior Project Manager, with several years of project management experience within international organizations. Line management experience would be an asset.

Assistant Total Project Manager

Proj.No 186/E00

for the UMTS 3.0 / GSM R10 MSC Project

● As Assistant Total Project Manager your primary task will be to, together with the Total Project Manager, set up and coordinate the planning activities for the GSM R10 MSC release, combined with the UMTS 3.0 features, in parallel with the ongoing UMTS 1.5/2.0 and the coming UMTS 4.0 projects. You will be working closely together with the project management teams for the other UMTS projects, as well as with the Core Network Total project.

The main tasks and objectives will be: Support and steer the UMTS 3.0 / R10 Feasibility Study teams, planning of the UMTS 3.0 / R10 execution phase, follow up and report progress, time, costs and quality, coordinate UMTS 3.0 / GSM R10 needs with the other ongoing projects, ensure fulfilment of the project goals, interface to the Core Network total project and the Project Steering Group.

For this position we are looking for a skilled Project Manager with several years of experience from project work within an international organization. The Total Project Manager and the Assistant Total Project Manager will work as a team, and independently divide tasks between each other.

UGM (MSC 1/APT) Project Manager

Proj.No 187/E00

● UGM is the acronym for UMTS GSM Mobile applications. As Project Manager your primary task will be to set up and coordinate the MSC/Application part of the GSM R10 MSC release, combined with the UMTS 3.0 features. You will be working closely together with the project management teams for UMTS 1.5/2.0 and later UMTS 4.0, which will be running in parallel, both on MSC total and MSC/Application level.

The main tasks and objectives of the UGM team will be: Support and steer the Feasibility Study teams and the subprojects, planning and execution of the UGM 3.0, follow up and report progress, time, costs and quality, coordinate between UMTS 3.0 and the parallel projects, ensure fulfilment of the project goals, interface to the MSC total project and the Project Steering Group.

For this position we are looking for a skilled Project Manager with several years of experience from project work within an international organization. Experience of AXE SW and mobile systems would be an advantage.

UGM (MSC 1/APT) Assistant Project Manager

Proj.No 188/E00

for the UMTS 3.0 / GSM R10 Project

● UGM is the acronym for UMTS GSM Mobile applications. As Assistant Project Manager your primary task will be to, together with the Project Manager, set up and coordinate the MSC/Application part of the GSM R10 MSC release, combined with the UMTS 3.0 features.

You will be working closely together with the project management teams for UMTS 1.5/2.0 and later UMTS 4.0, which will be running in parallel, both on MSC total and MSC/Application level.

The main tasks and objectives of the UGM team will be: support and steer the Feasibility Study teams and the subprojects, planning and execution of the UGM 3.0, follow up and report progress, time, costs and quality, coordinate between UMTS 3.0 and the parallel projects, ensure fulfilment of the project goals, interface to the MSC total project and the Project Steering Group.

For this position we are looking for a Project Manager with several years of experience from project work within an international organization. Experience of AXE SW and/or Mobile Systems would be a clear advantage.

Overall UMTS/MSC/VLR Test Leader

Proj.No 189/E00

for the UMTS CN 1.5/2.0

● As Overall Test Leader your main tasks are: definition of overall test strategy, to coordinate the test planning of subprojects, coordinate all test related problems, supervision of the test execution phase, be the contact person towards TCM, progress reporting to the GMSC/MSC/VLR project manager . You will be part of the MSC node project team and work together with the test leaders of the subprojects and associated projects.

Your main responsibility is to make sure that all new features are successfully verified until MS8 (end of Function Test). You should have several years of experience in Function Test. You need to establish a good contact network, be very self-driven and cooperative, and have excellent communication skills. Previous experience as a project or team leader would be an asset.

We offer a possibility to join a dynamic, truly international organization, and work in the forefront of the mobile systems development, facing a tremendous resonance from the competition and thus a real challenge ahead.

Contact: Robert Mellberg, +49 2407 575-98155, Robert.Mellberg@eed.ericsson.se; HR, Christina Schneidawind, +49 2407 575 7814, eedcsch@eed.ericsson.se

EED/X/P is responsible for the development of the applied mobile source system (1/APT) and the Mobile Switching Subsystem (MSS) within the 2nd and 3rd generation Mobile Switching Center (MSC). We work from pre-pre studies through execution until product phase out. Next years the challenge will be to migrate to a new core network architecture satisfying both the GSM and UMTS customer requirements. We are a growing organization and will expand from 85 to ca. 120 people in the next years. As a result of this we need to strengthen our core competence in all technical areas. We have job opportunities for:

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 whenworking 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 our software testing possibilities for futureproducts. 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.

Experts in Remote Function Change 3rd Generation, UMTS

Proj.No 193/E00

● Remote are the mandatory methodes for upgrading and updating of AXE based nodes. All future UMTS nodes have the same requirement on remote update and upgrade facilities.

CN Maintenance and Support in EED has set up a team that is responsible for the Subroutines and Main Script developement, verification, maintenance, TR Handling and Data Base Maintenance of Subroutines, WWW, Documentation, Process and Competence development, On Site Support for Remote Upgrades and coordination of activities with BSS, CMS88 and Wireline. To cope with these new tasks we need you and your expertise. We need Remote Scripting experts that know about AXE from FSC and customer point of view and that know about Function Change and package loading. We offer the possibility to prepare the future UMTS nodes in respect to their upgrade and update handling in the field. If you see your future in improving the Remote Idea in Ericsson, then come to the Core Network Upgrading and Remote team.

Contact: Johann Boettcher, +49 2407 575-89420, Johann.Boettcher@eed.ericsson.se; HR, Markus Helfrich, +49-2407-575-89447, Markus.Helfrich@eed.ericsson.se

The Core Networks Configuration Management Department (EED/S/O) is part of the Core Networks Verification and Integration Centre (CNIC). The department is responsible for test configuration management

Ericsson welcomes you to join the exciting telecommunication market of Taiwan.

Taiwan continues to be one of the fastest growing markets in Asia Pacific. With a mobile user base approaching 10 million subscribers or 45% penetration, Taiwan will be one of the leading countries to enter into the next generation of broadband wireless access.

Ericsson Taiwan welcomes you to join the exciting telecommunication market of Taiwan. The FarEasTone (FET) customer account is one of three mobile accounts at Ericsson Taiwan and supports the Northern region dual band GSM network. The customer is part owned by AT&T and is one of the biggest network (3 million customers today) in Asia. Far EasTone's core network is entirely supplied by Ericsson, and includes MSCs, TSCs, BSCs, HLRs, As well, FET have successfully launched ISP, Portal, and WAP services to the market, and have implemented a GPRS test system, with a commercial GPRS system planned for this year. They are pursuing 3G and are today investigating and investing in wireless Internet applications, mobile positioning, e-commerce, and enterprise services such as GSM on the Net.

Network Engineer for the Mobile Core Network

Job Description

With the wave of new applications that are being connected to the core network (e.g. WAP, GPRS, MPS), you will be responsible to calculate and communicate the impact to FET. While detailed network planning is generally not required, knowledge of network planning principles is necessary, as there are occasions when some network planning is required.

At times it is required to support Tenders/proposals that are being submitted to FET. Generally this is network impacts and dimensioning of the nodes/system being offered.

With FET looking at migration options for 3G, Ericsson is part of assisting them with the best way how to do this. So the role has developed into some sort of "an expert" regarding the core network, being able to guide FET in the right direction, especially with all the new services.

You have good interpersonal skills, as frequent communication with FET is necessary. English skills are necessary, and Mandarin Chinese is a very good plus. Ideally you will also have knowledge of Ericsson's core network products, and knowledge in datacom related areas (such as ATM, IP).

Contact

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Jonas Ericson, Network Quality and Performance Mgr, +886 931 385 063,
E-mail: jonas.eriksson@ert.ericsson.se

GSN Product Manager

Job Description

As the GSN product manager, you will be responsible for the GPRS product management. The main tasks include product presentations, Marketing and Sales support, GPRS product dimensioning, strategy and solutions. You will work closely with our local business and project managers.

You should be proactive and take initiative on your own. Fluent speaking and writing in English is a must, and Mandarin Chinese is a plus. You should have at least 2-4 years of relevant experience in product management. 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 is an advantage.

Contact

Nihar Chand, Office: +886 2 2746 1669, Mobile: +886 931 162 539,
E-mail: nihar.chand@ert.ericsson.se

Product Manager, Wireless Internet Application

Job Description

You will be part of BM Applications & Servers team to identify customer needs and potential opportunities and to be responsible for promoting and managing products and solutions in the area of wireless Internet applications. Examples of solutions we are working on now are the emode portal, WAP, Positioning applications, Mobile Epay, GSM on the Net, GSM Pro, iPulse, etc. You will enjoy and continue to build the close relationship with the customer of one of the world's biggest dualband (GSM900 and GSM1800) systems solely supplied by Ericsson. You will further on develop the business and product knowledge at both the customer and at Ericsson Taiwan.

Profile

You have at least 3 years of experience in telecommunications or datacom. GSM knowledge is preferred. You have at least 1 year of experience in relevant end-user applications within Ericsson. You have experience of customer relations in both pre- and post-sales. You are independent, self-motivated, analytical and business minded. You have excellent communication skills and English speaking and writing skills. Mandarin Chinese is a plus.

Contact

Ryan Chen, Director of BM Applications & Servers, Mobile: +886 916 261 798,
ECN: 888 1798, E-mail: ryan.chen@ert.ericsson.se

3G Product Manager

As part of the Business Development unit in Ericsson Taiwan, your responsibilities will include managing and tracking the development of technologies leading up to 3G systems, including, GPRS, GSM on the Net, EDGE, WCDMA and CDMA2000. You will also provide all technical and marketing support related to 3G activities including standardization, bids and proposals in Taiwan. Your job will also entail giving presentations towards Ericsson and non-Ericsson accounts, government bodies and other institution on the merits of Ericsson 3G solutions.

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

Contact

Young Lin, Sr. Director, Mobile: +886 930 887 037,
E-mail: young.lin@ert.ericsson.se

Business Manager – Services

To manage and coordinate the business development activities of the Services towards major customer in order to achieve the Services Business sales and orders objectives. Develop and manage the business relationship with the key decision makers in customer organisation relevant to the services business. Manage the relationship towards the internal Services Supply Units and towards Customer Services in the DGS and DIA organisations. Participate in the development of the Services business strategies and plans for the next 3 to 5 years. To provide value-added services solution toward operator customers. To develop and execute the entire sales projects, including market planning. Transfer knowledge and competence to local staff. University graduated or above, majors in Telecom., EE, CS or related fields. MBA is preferred. Min. 3-year sales experience in IT, Datacom, Telecom. or related field.

Contact

Ravi Kumar Makani-Chandra, Senior manager - Customer services, +886 931 162521,
E-mail: ravi.kumar.makani-chandra@ert.ericsson.se

WAC Manager

Ericsson Taiwan has recently launched an initiative to develop and promote the widespread use of Mobile Internet Application in Taiwan. The Wireless Application Center (WAC) will host all of Ericsson's local and global initiatives regarding the next generation range of services. A small test and verification laboratory has been set up, which consists of GATEs, IP routers, ATM switch, Wireless LAN and WAP system in WAC.

As the WAC Technical Manager you will be responsible for the overall technical issues including technical consultanting to the WAC members. You will lead a small team in problem-solving and project management with local application developer.

You should have at least 2-4 years of relevant experience in application development and project management with very strong communication skills and an open mind. Experience of working with Ericsson Development Zone is a plus. General knowledge of Ericsson products and strategic direction is required.

Contact

Kevin Shao, Sr. Manager, +886-2-27461749, +886-931 162 555
E-mail : kevin.shao@ert.ericsson.se

Engineer, CME20 System Support

Taiwan is a fast growing market, where the operators are competing with new services. This put an extra effort on the support department, we have to gain the knowledge of new products at the same time as supporting the core AXE network. What we are looking for is an experienced CME20 troubleshooter, willingly to work both with AXE and newer products.

As a part of the network support group, you will work closely with the customers and support them with SW trouble shooting, both as an individual and as a team member. APZ/IOG recovery, trouble report handling and transfer of know-how to local engineers and customers are also part of the work.

We would like to see that you have a good AXE knowledge and have at least 3 years AXE SW experience in CME20 SS, additional knowledge of CME20 BSC is seen as a big advantage. You have preferable worked in a support environment before with customer contacts. The position requires a good customer orientation, teamwork and good English knowledge.

Contact

Johan Asplund, +886-931 162 526, E-mail: johan.asplund@ert.ericsson.se

Make yourself heard.

ERICSSON

(TCM) for Core Networks verification projects and NPU-MSC function test (FT) and verification projects.

We are presently seeking candidates to assume the duties of:

INDUS & TCM Project Manager

Proj.No 104/E00

for the UMTS CN 1.5 / 2.0

● Your main tasks are planning and coordinating all TCM activities for the function test and CN verification projects.

These activities include completing the TCM Feasibility Study, and coordinating the TCM/CM activities of Data Transcript, Dump Assembly and Test Network Configuration, GAS Specification, Program Production, Parameter Administration, MHO Administration, Library Specification and Production, and Ericsson ClearCase configuration, alignment and support throughout the project. Coordination with other CN TCM organizations is required to secure accurate deliveries to CN verification.

You will work closely with the SS Node and CAPC design, function test and verification project leaders as well as the overall UMTS CN project manager. You will be responsible to guide the TCM project from the start of FT through to GA of the release.

You have competence as designer, tester, or in TCM, have previous line or project management experience (desirable), have strong organization, planning, coordination, and communication skills, can actively drive requirements and seek solutions to complex problems.

Contact: Charles D. Grinstead, +49 2407 575 341, eedcgr@eed.ericsson.se; HR, Markus Helfrich, +49.2407.575-89447, Markus.Helfrich@eed.ericsson.se

System Test Plant Account Manager

Proj.No 195/E00

● As a System Test Plant (STP) Account Manager you will report directly to the department manager. You will be responsible for the tracking, follow-up, and status reporting for the largest cost center budget at EED.

You will need a good understanding of the distribution of EED STP's to our development, verification and support projects. Test or project support experience within EED project is desired. Proactive problem solving skills, good organization and communication skills and the ability to comprehend, formulate and follow up budgets and purchases is required.

Your tasks will be, to schedule the STP's to our ordering projects, host the HW Coordination Forum where STP customers (project&line) meet to review and align STP HW requirements.

You will also prepare budget input for estimated STP hours to be invoiced, HW to be purchase and expenses incurred in the operation of the STP. Follow up and report monthly the status of the budget with respect to fixed asset purchases, expenses, STP use and invoiced STP hours - follow up and make visible the status of prototype STP hardware ordered through the development and verification projects for use in the EED STP's.

To get more information or to express your interest in this position please contact us.

Contact: Charles D. Grinstead, +49 2407 575 341, eedcgr@eed.ericsson.se; HR, Markus Helfrich, +49.2407.575-89447, Markus.Helfrich@eed.ericsson.se

Test Coordination CAPC8 (Delivery to NGS 3.3 project/43-Line)

● The work means to support the main project and the Test Coordinator for CAPC 8.0 (UMTS 2.0 delivery) in setting up the strategies and goals for Function Test. You will also be part of the Project Management Team. Very good knowledge of Function test is required.

The job as Test Coordinator includes test project planning, coordinating and follow-up according to the existing CAPC/AMC Projects directives and regulations.

To realize assigned activities within approved cost, time and quality. To continuous improve test methods and quality. To perform coordination and follow-up on all subprojects related to the main project and to ensure test involvement in early design phases.

As a suitable candidate you have good knowledge of mobile or fixed telephony systems, you are flexible, show initiative and have good communication and cooperation skills.

The ability to work under pressure is also an important personal quality. Experiences from Function Test Leading, TCM or Project Leading is a clear advantage.

Test Technical Coordination CAPC8 (Delivery to UMTS2.0 project)

● The work means to support the main project and the Test Coordinator in setting up the strategies and goal for Function Test.

You will also be part of the Project Management Team. Very good knowledge of Function test/System Verification and CAPC/MSC-switching products is required. As a suitable candidate you are flexible, show initiative and have good communication and cooperation skills. The ability to work under pressure is also an important personal quality. Experience from Function Testing, Trouble Shooting, TCM or Technical Coordination is a clear advantage.

Basic Test Coordination CAPC8 (Delivery to UMTS2.0 project)

● The Basic Test Coordinator supports the main project and the test Coordinator in setting up the strategies and goals for Basic Test.

You will also be part of the Project Management Team. Very good knowledge of Basic test is required. As a suitable candidate you have good knowledge of mobile or fixed telephony systems, you are flexible, show initiative and have good communication and cooperation skills.

The ability to work under pressure is also an important personal quality. Good understanding of design processes related to MS7 is important. Experiences from Basic Test Leading, TCM and/or Function test are a clear advantage. More information regarding the CAPC 8 project can be found at. http://capc.ericsson.se/projmgmt/proj/capc8/Welcome.html

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We are moving Fast Forward and are therefore looking for talented Systems Engineers

The Business Division Data Backbone and Optical Networking is responsible for data and optical communications and IP services. We are working with a number of exciting products and new network solutions that are dramatically changing the way data and telecom networks are implemented.

Systems Engineer

The positions will be in the Solution Development & Network Engineering Group within Cross Business Division Solutions/World Wide Sales, Division Data Backbone and Optical Networking (DBO), working across both Division Mobile Systems (DMS) and Division Multi-Services Network (DMN). Its primary function is to ensure that Ericsson succeeds in providing our customers with complete end-to-end Ericsson solutions in the Future Datacom World of converged technologies, IP networks and new IP services. DBO, lead by Mike Thurk, is headquartered in Boston.

As a Systems Engineer you will focus on new solutions, never done before!

This job involves responsibility to ensure that our datacom products will be an essential part of offers within DMS and DMN solutions.

This means creating and integrating business cases, presentation packages and solutions for customers including sales arguments and technical support.

An important part of the job is to help Marketing Units worldwide to understand the future world of datacom.

In order to enjoy and be successful in this job, we think you need a combination of experience and/or excellent knowledge of VoIP, IP access and/or IP/ATM Backbone technologies and following personal qualifications:

- Desire to have a deep understanding of customer needs for future data-and telecom solutions
- Strong drive to obtain a leading position as a generalist or specialist within this innovative and world changing datacom technology
- Passion for sharing knowledge and experience with others
- Well developed communication skills
- Experience or interest in pre-sales and bid processes
- Creativity and curiosity to enable new business opportunities
- Fluent in English, other languages also preferred
- Enjoy physical and virtual teamwork

We already have a Challenging and Creative Environment for personal and professional development.

DBO culture provides an exciting background if you have a passion for reaching still unknown–opportunities and strong professional aspirations. We have managed to attract the most talented coworkers with specific experience from major operators and vendors with frontline technology. Working together within this already existing creative team will satisfy all your needs of challenges and flexibility. The main values for employment at Ericsson includes respect for individual lifestyle including drive for a balance in life. Therefore we also are able to offer attractive career paths, competence development and individual benefits.

We wish to hear from you soon and if you have any questions about our exciting business unit, please contact
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mail: mai.lundell@etx.ericsson.se

If you send your application by mail, please send a copy to Mai Lundell.

Please send your application and CV to:

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Make yourself heard.

ERICSSON