

Voice quality scrutinized

Everyone wants higher data speeds in wireless networks, but what about voice quality? Contact explains how Ericsson's new codec can improve system quality. **24**



Japans mobile recycling

As consumers update their old mobile phones with new, the mobile scrap-heap grows and grows. But in a move to protect the environment, Japan has sent 6 million old handsets for recycling in the last year alone. **World Watch, 10**

Iceland hots up

The land famous for its mix of fire and ice is now making its mark in the IT world. With the help of Ericsson, Iceland is not quite as remote anymore. **18-21**

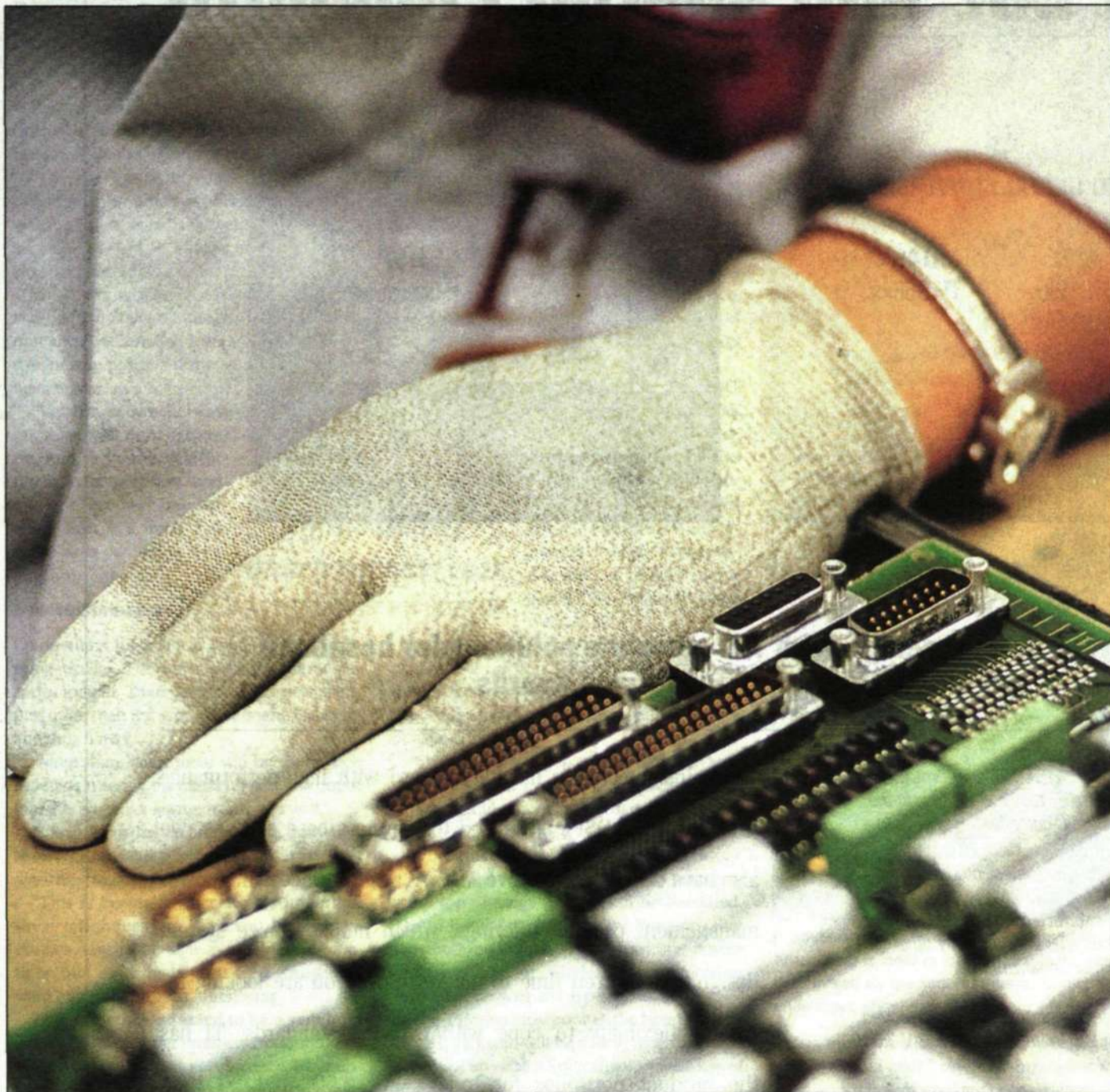
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A new unit at the Visby plant is producing Ericsson's base station for the Japanese PDC system. Quality requirements are stringent, but the plant, which is now owned by Flextronics, is living up to them. Photo: Lars Åström

Visby handles difficult separation

Just over one year ago, the news was received that the Visby plant would be outsourced. In the aftermath, new rules and radical changes led to an identity crisis. Today, the Visby plant is prospering, with more work and new employees, and a brand new unit was recently opened.

Feature, 15-17

Partners present plans

The partnership between Ericsson and Microsoft is now gaining momentum. Last week, the jointly owned company Ericsson Microsoft Mobile Venture, presented its plans. The new company will develop and market e-mail solutions and present its first products at the end of this year. **News, 4**

Mobile Internet helped by fund

Ericsson Venture Partners is a new venture capital fund that will stimulate development of the mobile Internet in Europe and North America. Backing the new fund are Ericsson, Industrivärden, Investor and Merrill Lynch. **News, 5**

Clearer data on RF exposure

Most mobile phones sold in the US now include improved information on electromagnetic fields and radio frequency exposure. Ericsson is working to provide information to mobile phone retailers around the world. **News, 4**

■ INDUSTRY

Ten hopeful applicants but only four 3G licenses. This is the situation as the Swedish Post and Telecommunications Board begins the selection process that will pick the winners to build 3G networks in Sweden. **10-11**

■ TECHNOLOGY

Automatically synchronizing all devices is a vision that is fast gaining acceptance in the IT world. Ericsson's new AirCalendar product, which links calendars between mobile phones and desktop PCs, is a first step. **22-23**

■ COMPETITION

Ericsson employees in Europe have a chance to win tickets to the MTV Europe Music Awards. **31**

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**TEXAS
INSTRUMENTS**

"We're back in business"

By the second quarter of next year, the Consumer Products Division is expected to turn its earnings around and once again post a profit.

"We have a clear plan along with several excellent phone models being introduced this autumn," says Jan Ahrenbring, head of marketing. Since sales of the rugged R310 phone began, many customers have demonstrated a desire to own two mobile phones.

► The past year has seen a remarkable change in Ericsson's mobile phone offerings. Designs have become more daring and the colors bolder.

"There was probably some validity to the criticism of our previous offerings. Design is a very important aspect of development and has a totally different focus now than it used to," says Jan Ahrenbring.

The new, simpler A2618 phone and the rugged R310 are two examples of these developments. Both models have received an overwhelmingly positive response and sales have been brisk.

"The R310 proves that there are many people out there who want to have two mobile phones. One for recreational purposes and outdoor use and one for work. That is a trend that we've been predicting for a long time," he says.

Eventful autumn

Competitors have yet to come up with anything similar. The same goes for the accessories market. There are not many new products other than Ericsson's Chatboard, FM radio and mp3 player.

"More than likely, there will be more such products entering the market. There's no doubt that this is a major segment that sells well."

Utilizing existing technologies in new ways shows the innovative forces at work at Ericsson according to Jan Ahrenbring.

"This is becoming increasingly important since telephones are a personal accessory. Phones have to be able to provide the functions that individuals want in a straightforward manner," says Jan Ahrenbring.

This autumn is expected to be a very busy one for the Consumer Products Division's sales organization. Production volumes will continue to increase incrementally, with new telephone models being introduced.

"We will be seeing a significant increase in volumes compared with last year. And the increase could have been even larger had it not been for the component shortage."

The Consumer Products Division has been

experiencing component problems all year, the result of a fire at a subcontractor's plant in Mexico. While the media played up the incident in conjunction with the division's reported loss in the semi-annual statement, Jan Ahrenbring exudes calm when responding to the issue.

"We have identified our problems and will become profitable by the second quarter of next year," he says.

Even though the Consumer Products Division is now buying more components from Ericsson Microelectronics to supplement its needs, it will not be enough to offset increases in volume over the short term.

"Production will continue to feel the effects of the component shortage through this autumn. It will be the first part of next year before we are caught up," says Jan Ahrenbring.

New flagship models

The Consumer Products Division is focusing heavily on the launch of several new models this autumn. While the T28 was Ericsson's top model last year, three new flagship phones will be introduced this autumn.

First in line is the R380. Opening the lid reveals a display that covers the entire surface of the phone, making it very easy to do things such as send e-mail and view WAP pages.

The model was first presented at the CeBIT trade show back in March 1999 by then president Sven-Christer Nilsson.

"Its introduction has been delayed for numerous reasons. First and foremost was the fact that it is a complicated model, incorporating both a mobile phone and a PDA (Personal Digital Assistant)."

He acknowledges that some people have been of the opinion that products should not be unveiled so far in advance of their launch. Especially since it can give competitors an idea of what is coming.

"Still, it's interesting that we haven't seen anything similar on the market yet. Perhaps that says something about the fact that it is not a very easy model to produce," says Jan Ahrenbring, who believes that the R380 will be a success.

During the fourth quarter of this year, two more top-of-range models will be launched. The tri-band T36 phone will be Ericsson's first Bluetooth-equipped phone, providing it with the capability for wireless communication with other devices and accessories.

The T36 also incorporates the latest version of WAP, 1.2.1, and will be able to receive data at speeds of up to 28.8 kbps, thanks to the use of HSCSD technology (High Speed Circuit Switched Data). At the same time, Ericsson will also be launching one of the market's first GPRS phones, the R520.

"Packet data technology makes it possible to have instantaneous access to e-mail and WAP pages. The technology also facilitates synchro-



Production volumes are increasing and the component shortage is under control. Jan Ahrenbring is looking forward to this autumn, when several new mobile phone models will hit the market. By the second quarter of next year, the Consumer Products Division is expected to once again show a profit.

nizing one's e-mail and calendar with, for example, a PC at work," says Jan Ahrenbring, tallying up a whole host of new services that will be possible with GPRS.

So the future seems promising?

"It looks very bright. We're back in business."

Nils Sundström

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*We'll be profitable
by the second
quarter of next year.*

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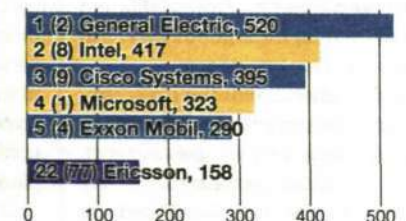
FACTS/MOBILEPHONES

This year, Ericsson's Consumer Products Division experienced second-quarter losses of SEK 2.3 billion, despite a 40 percent increase in sales during the first quarter. Ericsson expects global sales of mobile phones to total 400-440 million units this year.

DID YOU KNOW THAT...

Ericsson is the world's 22nd most valuable company

In Business Week's annual compilation of the world's 2,000 largest companies, Ericsson moved up the list from a 77th place ranking in 1999 to 22nd in 2000.



Rankings were based on market value as of July 2000.



Ericsson CEO Kurt Hellström met recently with the Guangdong Party Secretary Li Changchun.

Photo: Peter Nordahl

China expansion worth millions

Ericsson has signed two general agreements, together valued at USD 550 million, with telephone companies in the southern Chinese province of Guangdong. The agreements call for expansions of both fixed and wireless telephony systems.

"We're very pleased to be able to further strengthen our relationship with Guangdong Province, which is at the forefront of China's telecom revolution," says Ericsson's President Kurt Hellström.

Under the agreement with China Telecom Group Guangdong Corporation, Ericsson will construct a next generation fixed telephone network in the province. According to the other agreement, Ericsson will assist Guangdong Mobile Communications Company in an expansion of the existing GSM network, upgrading it to GPRS. The framework agreement is one of the largest that Ericsson has ever signed in China. Ericsson has been conducting business in Guangdong Province since 1983. Today, the province has 70 million inhabitants.

Ericsson tests GSM in Brazil

The Brazilian telecom authority, Anatel, has decided to award nine GSM 1800 licenses. In order to demonstrate the advantages of GSM and GPRS mobile networks to the country's operators, Ericsson has erected a test network in São Paulo, where the first call was recently made.

"This network maximizes the competitiveness of Brazilian operators, providing new business opportunities," says Gerhard Weise, President of Ericsson in Brazil.

Brazil is Ericsson's seventh largest market.

GPRS contract in Iceland

Ericsson recently signed a contract with the Icelandic operator Islandssimi. The operator is planning to build a GSM network with GPRS functionality, which will involve data traffic at higher speeds than in today's network. The new mobile network will allow Icelanders to gain access to WAP and packet data services via GPRS.

Cash card for the Internet

World Online, one of the UK's biggest Internet operators, has chosen Jaldá as a payment method for Europe's first cash card solution via e-commerce.

With the assistance of the card, consumers gain Internet access and can buy goods and services over the Internet. Jaldá is a system for micropayments over the Internet and was developed by EHPT, a company jointly owned by Ericsson and Hewlett-Packard.

Fruits of the alliance to show this year

As part of an alliance between Ericsson and Microsoft, the two industry leaders are setting up a jointly held company that will play an important role in creating a mass market for mobile Internet.

Ericsson Microsoft Mobile Venture AB, which was launched last week, will develop and market mobile e-mail solutions for operators. The first solutions are expected to reach the market before the end of the year.

"This is a dream team with two global players, each a leader in their respective field," says Ulf Avrin, President of the new company, which will be headquartered in Kista and have regional centers around the world.

A strategic alliance between Ericsson and Microsoft was announced in December 1999. The new company, Ericsson Microsoft Mobile Venture AB, is one part of that alliance and is aimed at stimulating the mobile Internet market.

"E-mail will be a core application for mobile phones. It is also of the utmost importance in creating a mass market for mobile Internet," says Ulf Avrin.

"Sending wireless e-mail should be just as easy as talking on a mobile phone. That is the main thing that we will be helping operators provide to their customers," continues Ulf Avrin.

Easier connection

The solution will integrate Microsoft Windows 2000 Server and Microsoft Exchange platforms with Ericsson's infrastructure and mobile Internet solutions.



Ericsson Microsoft Mobile Venture AB was launched last week. Ericsson holds a 70 percent stake in the company, while Microsoft holds 30 percent. The company will supply mobile e-mail solutions to operators. Pictured right: Ulf Avrin of Ericsson, President of the new company, and left: Paul Gross, head of Microsoft's Mobility Division.

Photo: Anders Arjou

The technique makes it easy for users to remain continuously connected to their e-mail, calendar and to access their business data. The solution also automatically synchronizes data between computers, mobile phones or other mobile terminals.

"The system as a whole – terminals, mobile systems and servers – makes our solution unique on the market," relates Ulf Avrin.

Plans call for selling the solution to operators around the globe. Ericsson and Microsoft are already working together with some of the largest mobile phone operators in

Europe. The first deliveries of the mobile e-mail solution will occur by year-end.

The ideal partner

Microsoft has continued to reinforce its work within the mobility area since the beginning of the year, and has established a special organization to that end.

"Our vision is to work together with mobile phone operators to provide customers with rapid and easy access to e-mail and other mobile data services. As a leader in mobile communications, Ericsson is the ideal partner to help make

that vision a reality," says Paul Gross, head of the Mobility Division at Microsoft.

Also part of the strategic alliance between Ericsson and Microsoft is a plan to incorporate Microsoft Mobile Explorer into Ericsson's mobile phone portfolio, to sell the e-mail program Microsoft Outlook together with Ericsson's mobile phones and to work towards open platforms and standards.

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Improved RF exposure information

Most new mobile phones sold in the US will, as of this autumn, come with improved information about radio frequency exposure levels. Ericsson, along with other mobile phone manufacturers, is now working on also making similar data available in the rest of the world by next year, when a common global SAR measurement standard is adopted.

"Questions about electromagnetic fields and radiation from mobile phones are a concern for a number of consumers," says Mikael Westmark, Ericsson's spokesman for health-related issues.

"Consequently, Ericsson and other manufacturers, are working on ways to provide improved information. Ericsson already provides its customers with consumer information on its website, among other places," says Mikael Westmark.

The debate surrounding potential health effects from mobile phone usage has intensified in re-

cent years. Despite occasional alarming reports, there is no scientific evidence to support a connection between mobile phone usage and health effects.

No health risks shown

Last May, an expert group in the UK issued the so-called Stewart report at the request of the British government, which provided a review of research into how radio waves affect humans.

The report concluded, as have earlier expert group reports, that no health effects from radio frequency exposure generated by mobile phones or base stations could be proven. But the report did recommend improved information and additional research into certain areas.

"As early as last spring, we issued a statement saying that we are prepared to publish, SAR values, Specific Absorption Rate, the measurement unit for radio wave exposure along with government authorities," says Mikael Westmark.

SAR levels have been developed

by independent expert groups and recommended for example by the WHO (World Health Organization) with extremely wide safety margins. However, there is not as yet any universally accepted standard procedure for measuring SAR values of mobile phones. Efforts are underway in Europe and the US to agree standardized measurement techniques shortly so as to enable meaningful comparisons of results.

Effective this autumn, all mobile phones sold in the US, and which are certified by the industry organization CTIA, will be required to provide information about radio wave exposure levels – including information about the maximum SAR value.

Global standard

Ericsson is currently in discussions with other manufacturers within the Mobile Manufacturers Forum (MMF) about how best to present improved information to consumers outside the US.

"We expect that there will be a

common global measurement standard in place by the beginning of next year. In order to be able to meet that, certain changes will be required in the measuring equipment we currently have," says Mikael Westmark.

"We believe that by April we will be able to issue improved information about electromagnetic exposure to all new products. It will be included both on packaging and in more detail in handbooks and on the Web."

He does not believe that manufacturers will make use of the new information as selling point.

"It's a complicated issue and the measurements results need to be put into the appropriate context. For example, low SAR values could mean that a telephone is poorly made, resulting in inferior contact with the base station," says Mikael Westmark.

Nils Sundström

www.ericsson.se/health/

New venture capital fund to focus on mobile Internet

Mobile Internet development in North America and Europe is getting some assistance from a new venture capital fund. Backers of the fund include Ericsson, Industrivärden, Investor and the investment firm Merrill Lynch.

Altogether, the companies will be investing USD 300 million. The fund, Ericsson Venture Partners, will support a broad spectrum of mobile Internet development. In practice, that means the fund will invest in companies involved in everything from infrastructure to terminals and applications.

FACTS/VENTURE CAPITAL COMPANIES

Ericsson will be providing support to new companies through a series of venture capital companies. Together with Investor and Hong Kong-based Hutchison Whampoa, Ericsson invested USD 177 million last spring in the venture capital company imGO Ltd, which is focused on mobile Internet development in Asia.

Ericsson also has a venture capital fund worth USD 50 million in Australia together with Deutsche Bank, as well as the Innova fund, worth USD 2,9 million. Ericsson Business Innovation also supports business concepts and companies both internally and externally.

"By the year 2003, there will be more mobile Internet subscribers than fixed Internet users," says Rolf Eriksson, Ericsson's head of strategic alliances.

"That's why it is so important that we, as a leader in mobile communications, take advantage of every opportunity to support development of the entire industry," says Rolf Eriksson.

Ericsson Venture Partners will invest in companies it considers interesting, acquiring minority holdings of between 10 and 30 percent.

Geographically, the fund is limited to companies located in North America and Europe.

"We believe that there are many investment opportunities in northern Europe and Scandinavia," says Rolf Eriksson.

All of the parties involved in the new fund have the requisite experience for venture fund investments in new startups.

"We know the customers and the market well. Consequently, we will also be providing support to companies based on our knowledge and expertise," says Rolf Eriksson.

About a dozen people will be employed by the fund, which will initially have offices in Stockholm and New York. Branch offices in Silicon Valley and London are under consideration.

Ericsson Venture Partners will invest in companies for a period of three to four years. Eventually, companies will either be listed on the stock exchange or sold.

"The goal is for the fund, after this period, to provide a return of 25 to 30 percent," says Rolf Eriksson.

Nils Sundström

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Ericsson Venture Partners, a new venture capital fund, will invest in European and North American companies that offer mobile Internet solutions or products.

Premiere for mobile IP telephony

It has now been demonstrated that Internet Protocol (IP) works effectively all the way to the mobile phone.

Ericsson and the operator Japan Telecom have successfully completed the world's first field trials of IP telephony, for both voice and data, over a WCDMA third-generation mobile phone network.

"This opens the door to completely new interactive multimedia ser-

vices, offering both images and voice in real-time," says Håkan Eriksson, Ericsson's research director and head of Ericsson Research.

Clear trend

The technology will, for example, enable users of 3G phones to both see and speak with someone at the other end without any degradation in speech quality.

"The trend in today's telecom industry is towards networks based completely on IP. Operators want to

use the same network for all sorts of services, including data, voice and video," says Håkan Eriksson.

Testing was recently completed using Japan Telecom's WCDMA test network in Chi-ba outside Tokyo. The robust solution is based on Ericsson's ROCCO algorithm. The technique used



Håkan Eriksson

compresses the header information, which describes where every data packet should be transmitted to.

Technical achievement

"Now we'll be able to shrink the size of the header information in every packet from 40 bytes to between 1 and 3 bytes without any degradation in call quality. That is a major technical achievement, since the transmission of speech via radio is much more sensitive than via fixed telephony."

The technology also works with the other 3G techniques, EDGE and cdma2000, and will now be standardized by the Internet Engineering Task Force (IETF) standardization body.

"Ericsson's IP research is at the heart of the new standard. It is a tangible acknowledgement that Ericsson is the leader in the development of the mobile Internet," says Håkan Eriksson.

Nils Sundström

Enterprise Systems to shed sales companies

Ericsson Enterprise Systems is selling off its direct sales operations in some 20 regional companies, primarily in Europe. Enterprise Systems, together with a partner, will create a new jointly owned company in which Ericsson will have a minority share.

"The new sales company will benefit greatly from being more autonomous and will also have the opportunity to sell integrated solutions based on products from various suppliers," says Lars E Svensson, President of Ericsson Enterprise.

"That is often a prerequisite if a company is to



Lars E Svensson

be successful in delivering total solutions that are tailored to meet individual customer specifications."

Negotiations ongoing

Sales negotiations are already under way. The choice of a new partner will depend on who can bring the new company added value in terms of services, data products and other expertise. The new company will be up and running by the beginning of 2001.

The sale is part of the distribution strategy announced earlier by Enterprise Systems.

It is based on Ericsson's goal of reducing its direct sales operations and focusing instead on indirect sales channels.

"We have already concluded agreements with several partners. At present, indirect sales already account for more than 50 percent of

our overall sales. Our aim is to achieve 100 percent," says Lena Hyttsten, press officer for Enterprise Systems.

By offering enterprise solutions through many different sales channels, Ericsson will reach a greater part of the total enterprise solutions market.

Indirect sales channels

Both Ericsson Enterprise's own products and the enterprise products from other Ericsson units will be sold through Enterprise Systems' new indirect sales channels.

In the future, Enterprise Systems' own sales organization will focus on developing and providing support to its own retailers and partners.

Mia Widell Örnung

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Expanding market for space technology

Is there water on Mars? Saab Ericsson Space is one of the companies involved in the new Mars Express space project. In June 2003, the scientific probe will begin its journey to our neighboring planet.

The space industry is growing and Saab Ericsson Space is already a major supplier of computer systems, antennas and microwave equipment for various satellites. The company reported record earnings in 1999 and is now focusing on marketing efforts aimed at strengthening its position in the face of intensifying competition.

In the US, a new market office is to open in Los Angeles, which will complement the company's office in Washington D.C. in the key US market.

Europe is also making substantial efforts in the area of space tech-

nology. The European Space Agency, in collaboration with the European meteorological organization, Eumetsat, is investing USD 680 million in three weather satellites to enable more accurate forecasting of poor weather conditions. Saab Ericsson Space is supplying the central computer for the project. The first satellite is scheduled for launch in April 2003.

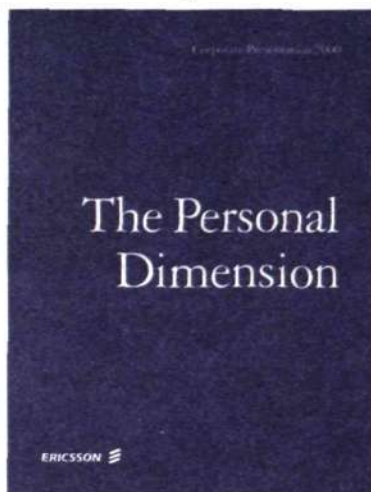
Already next year, it will be time to launch the Astra 1K, a TV satellite, which is the largest communications satellite to date. Saab Ericsson Space is supplying among other functions the computer system, the communications link between the ground and the various parts of the satellite.

Saab Ericsson Space currently has 650 employees, mainly in Gothenburg and Linköping, in Sweden.

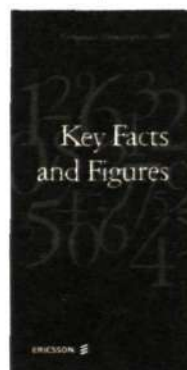
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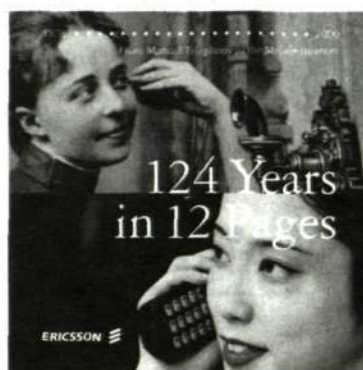
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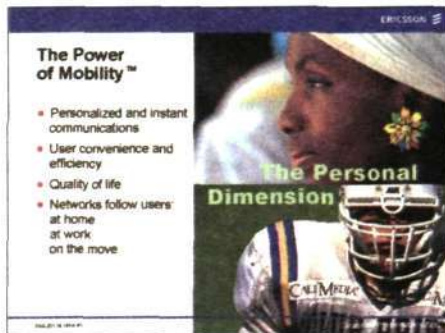
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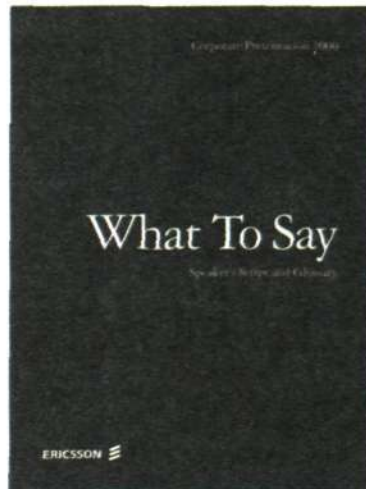
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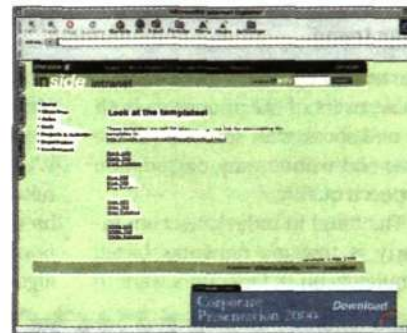
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E-learning a must for e-commerce success

Ericsson is on the cutting edge with respect to global Web learning.

"To succeed in e-commerce, you must be successful in e-learning," says Thomas Jerpseth, manager for the corporate WebLearn program that now offers some 400 courses on the intranet.

Each year, Ericsson invests some SEK three billion in training. The need for skills development is increasing steadily. Ericsson has long been on the leading edge with respect to global courses on the Web.

The concept of e-learning will

now become even more important for the company's success in e-business.

"Ericsson will conduct most of its business via the Net in the future. To be able to quickly introduce new ideas throughout the organization, it is important that we exploit the Web as a development tool," says Thomas Jerpseth, who works at the corporate level with Web-based training via WebLearn.



Thomas Jerpseth

He is supported by Per-Olof Nyquist, who is responsible at the corporate level for competence development.

"In pace with the changes occurring in the industry, we must develop as a company. The skills of individuals are extremely important, and we must naturally use our own technology in skills development," says Per-Olof Nyquist.

Today there are about 400 courses in WebLearn. In the future, we can expect to see courses on cultural differences, for example.

"E-learning is strategically important for Ericsson. Now we also have to link it to business objec-

tives," says Per-Olof Nyquist. He is convinced that the Web in the future will increasingly be used as a tool for information and training.

"It is a cost-effective method of quickly reaching many people all over the world. It also changes the way we work and the way we do business," says Per-Olof Nyquist.

Web courses will not only replace, but also supplement traditional training, he emphasizes.

"The goal is to use time and money effectively," concludes Per-Olof Nyquist.

Nils Sundström

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Universal skills test

Ericsson's largest-ever investment in Web-based skills development is now entering the final phase. Currently, however, only 20,000 employees have been certified in the Web game Competence Shift. Sweden is the country that is furthest behind.

"This is an important training program that gives everyone a common base of knowledge about the market, new technology, new customers, work methods and competitors," says Nils-Gunnar Håkansson, project manager for Competence Shift.

The training program started last spring and has as its goal that 65,000 Ericsson employees should

pass the tests included in the training. To date, 20,000 employees have passed the tests, in which students are guided by the animated figure Mr. E.

"I know that many companies and market units are close to meeting the goal, which is that 80 percent of all employees should pass the test.

The market unit in Slovenia was the first to be certified last spring. Greece, Mexico and Taiwan also implemented the training very quickly.

"All of Latin America and Asia are also well ahead," says Nils-Gunnar Håkansson, who is nonetheless surprised by the results for Sweden.

"The Swedish results are low, yet Sweden has the best infrastructure in terms of data networks.

"This is a management issue that must be prioritized. A common trait in all countries in which participation has been high is that management has supported employees so that everyone can participate in the training. Even those who do not have access to their own computer have been able to participate," says Nils-Gunnar Håkansson.

What comments have you received about the program?

"Many are very positive. Others think that the Web game is a stupid way to test skills. We also had some initial technical difficulties to get everything working properly, but they were quickly rectified," he says.

GLOBETROTTER Mr. E

20,000 Ericsson employees have passed the Competence Shift Web game. The chart shows the percentage of employees per market area who have passed. (Sweden shown separately).



Early next year, the Competence Shift group will report to executive management which units have passed the test.

Nils Sundström

inside.ericsson.se/
competence_shift

3G show on tour

During the spring, the 3G Global Symposium was held in some 20 locations in Asia and the Americas to spread the word about Ericsson's 3G program.

A new tour is now starting. This autumn and early next year, the roadshow will travel to Eastern Europe, Russia, the Middle East and Africa.

The goal for the symposium is to promote the advantages of 3G and to show Ericsson's leading position in the industry.

"The concept with the 'On Air' show, the Ericsson news channel and the Power of Mobility theme will be retained, but the content will be adapted for Europe," says project manager Arvind Sharma.

Ericsson in Poland's Johanna Wlodkowska rehearses for the 3G-show.

Photo: Lars Åström



Invitations to the show are distributed broadly, since 3G customers include not only traditional operators, but many new telecom players.

New for this tour is that local companies visited will be required to train speakers who will participate in the show.

Denmark was the first country on the tour, which will continue with Austria and three other European countries. Early next year, the show will move on to Eastern Europe, Russia, the Middle East and Africa.

Gunilla Tamm

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Rotation program broadens skills

Although they work for one of Ericsson's most unknown companies, they handle invoicing totaling about SEK 180 billion annually for Sweden's largest Ericsson companies. This autumn, Ericsson Shared Services is starting a rotation program to broaden the skills of its employees.

In the first phase of the rotation program, 20 persons will work for two years with various administrative tasks within the company. Four months' work in various departments will be alternated with training between each rotation. The 20 employees will handle everything from invoicing and accounting to travel and purchasing of consulting services.

"We are promoting skills, and this is a way to show what an exciting program Ericsson has in this area," says Gösta Burlin, President of Ericsson Shared Services.

The company was established last year by pooling personnel from

the finance departments of four Ericsson companies. Today there are 500 employees in Hallonbergen, about five kilometers from Kista, who serve all Ericsson employees in Sweden.

"The consolidation of resources resulted in increased cost efficiency, but enhanced skills were the primary objective. We have experts in such areas as foreign sales tax and company tax returns," says Gösta Burlin.

Several international companies, including ABB and Volvo now have shared service units. What makes Ericsson's unit unique is the scope of the services offered. The company not only offers financial services, but also has links to purchasing and personnel services. Travel Management, whose responsibilities include Ericsson's contracts with airlines and hotel chains, is also included in Ericsson Shared Services.

Nils Sundström

esg.ericsson.se

Prestigious award to Jan Uddenfeldt

Ericsson's success is one of the factors behind Sweden's excellence in IT, noted the Royal Institute of Technology in awarding its Gold Medal for 2000 to Ericsson's Senior Vice President for technology, Jan Uddenfeldt.

"I am flattered. This is a great honor for me personally and for Ericsson," says Jan Uddenfeldt, who has managed Ericsson's research and development efforts at the corporate level for many years.



Jan Uddenfeldt

The judges at the Royal Institute of Technology motivated their decision by noting that Uddenfeldt's achievements include "development of the theoretical and practical foundations for digital radio technology, which provides the basis for today's GSM and UMTS communications networks. Jan Uddenfeldt has also conducted successful international standardization work, thus contributing to Ericsson's commercial success."

Ericsson had a test system for GSM in the early 1980s that provided the basis for the GSM standard.

"We developed a pioneering digital equalization technique for error correction in mobile telephone signals. This was decisive for handling the many signal reflections which occur when it bounces back and forth between the mobile terminal and the base station," notes Jan Uddenfeldt.

Since the late 1980s, Ericsson has also led the development of WCDMA technology, which will be used in third-generation systems. Test systems had been developed as early as 1995, and the first commercial networks with fast mobile Internet services will be taken into operation next year.

"This shows how important it is for a world leader not to hesitate to develop new ideas. With GSM, we worked closely with Telia, and with WCDMA, we are working with NTT DoCoMo of Japan."

Ericsson employees have previously been recognized by the Royal Academy of Technology. In 1994, Åke Lundqvist, former President of Ericsson Radio Systems, Östen Mäkitalo of Telia and Professor Sven-Olof Örvik in Lund were honored for their contributions to mobile telephony. In 1980, the prize was awarded to Bengt-Gunnar Magnusson, chief architect of Ericsson's AXE system.

The prize, which is SEK 800,000, will be awarded on November 10.

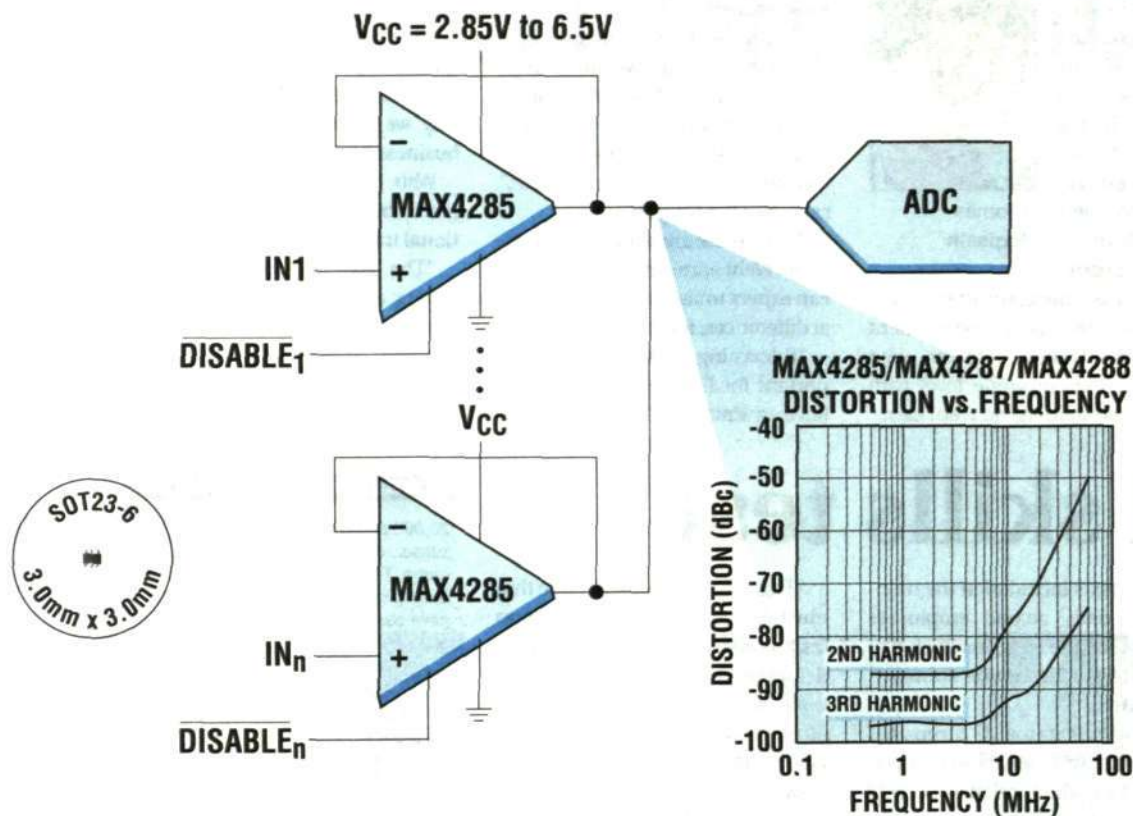
Nils Sundström

FACTS/JAN UDDENFELDT

Jan Uddenfeldt, 50, has been Ericsson's technical director and a member of the corporate executive team since 1998. He received his doctorate from the Royal Institute of Technology in 1978 and began working for Ericsson the same year. He has been responsible for research and development at the corporate level since 1990. Over the years, he has received a number of awards for his contributions to mobile telephony. These include the Eduard Rhein Technology Award for his contributions to GSM.

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New rules for insider trading

Insider trading has become a hot topic. As interest in the stock market increases and more and more people are investing in shares, there is a growing need for clear rules regarding trading ethics. Ericsson has assembled information describing the rules.

Insider trading results when people take advantage of information that is not available to the public and which could affect the value of shares. This can involve shares, options, convertibles or other financial instruments. It is not simply high-level managers or people who are involved in sensitive projects that are affected by the rules.

"The rules pertain to anyone who has access to sensitive information," explains Nina Macpherson of Corporate Legal Affairs.

It is also important to know which kinds of information can have an effect on the stock market.

"If I win some money and happen to hear that Ericsson will soon be acquiring a company listed on the stock exchange, I'm not allowed to buy shares in either company," explains Carl Olof Blomqvist, head of Corporate Legal Affairs. "Nor am I allowed to say anything about the deal to my friends or neighbors."

Both Nina Macpherson and Carl Olof Blomqvist believe that most people have a fairly good understanding about what kinds of news can influence share prices. People who are uncertain should contact Legal Affairs with questions.

The risk of being caught for insider trading is relatively small except for people who are in key positions (i.e. board members, accountants and others who are registered with the Financial Supervisory Authority).

Still, the risk is greater than many believe, says Carl Olof Blomqvist. It is relatively simple to detect anomalies in normal trading. Businesses

and individuals are required to submit information to authorities if requested, which has led to the detection of many insider trading rings in the US, for example. Penalties can include fines or imprisonment for up to two years.

Nina Macpherson emphasizes that it is largely a question of morals. It might seem that the only victim of an insider violation is the all-powerful market, but the reality is that whenever someone gets a good deal, there is a buyer or seller on the other end who has suffered a loss.

In order to get a grip on the problem, Sweden, along with the rest of the EU, is working to sharpen the rules surrounding trading, so that they more closely reflect the strict application of insider trading laws in effect in the US.

Corporate Legal Affairs will be monitoring developments and updating employees with information as needed.



Nina Macpherson and Carl Olof Blomqvist advise people who are unsure about insider trading questions. Photo: Lars Åström

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http://inside.ericsson.se/legalaffairs/

HELLO THERE...



Henrik Brehmer...

...the new head of internal communications at the corporate level.

What exactly do you do?

"My area of responsibility involves the company's combined internal communications. Internal communication is just as important as external, and communications issues need to be emphasized at the executive level to an even greater extent. Ultimately, it is all about building up the brand."

Are internal communications at Ericsson inadequate at present?

"We're known for providing good external information, such as to analysts and journalists. We haven't made as much progress internally. We have many good things in the works, and we're going to continue to develop them. Above all, we need to be more consistent in our messages and strike a balance between external and internal communications. Many employees receive news about their own companies through various outside media sources. Our ambition is to provide our own employees with news about Ericsson directly from the company."

Are significant changes to be expected - a revamping of internal newspapers, for example?

"From my background as communications manager at Microwave Systems, I know that the internal newspaper means a great deal. Revamping our news channels is not one of the major issues right now, even though we might see changes in the future."

"What's important now is the messages with which we fill them. We're going to place more emphasis on issues such as how we operate at Ericsson, about Ericsson as an employer and about our corporate culture. That's one of the reasons why we're going to be working much more closely with the personnel departments."

"By emphasizing those issues, we'll hopefully increase a feeling of belonging and a pride in working and growing with Ericsson."

You will be working out of the London office. Why London?

"Roland Klein, Senior Vice President of Communications, and Britt Reigo, Senior Vice President of Human Resources, both work in London. They are two important contact people for me. I will, however, be spending a great deal of time on the road and in Stockholm, where a large number of employees who work on internal communications at the corporate level are located."

Mia Widell Örnung

Recycling is good business

A project involving the plant in Nynäshamn, Sweden, and plants in Beijing and Nanjing, China, has resulted in the reuse of packaging materials. The Nynäshamn plant is the first at Ericsson in Sweden to make use of this new recycling concept. Benefits include significantly lower costs and more environmentally friendly handling.

The Nynäshamn plant manufactures CDU's or Combiner and Distribution Units, which are a component in base stations. They are individually packaged and sent to

Ericsson's assembly plants in Beijing and Nanjing, China, where they are installed in base stations.

"The individual packaging are fairly expensive, on average SEK 30 each," says Gunnar Törning at the Nynäshamn plant, where he oversees import and export administration and related projects.

Gunnar Törning investigated what happened to the packagings once they reached the plants and discovered that only 30 percent were sent on to customer sites. The remaining 70 percent stayed at the plant where the CDU's entered production, and these packagings were discarded.

Gunnar Törning wondered whether it would be possible to ship the packaging materials back to Sweden, rather than discarding them, since they could be reused five or six times.

Using container shipping, it was determined that the return trip was quite profitable, resulting in a savings of 80 percent per container. Such a return solution also fits well with Ericsson's environmental policy. In addition to the plants in Nynäshamn, Beijing and Nanjing, the Gävle plant has now also started to make use of a similar return shipping scheme.

Gunnar Törning's new project

deals with bulk packaging, a solution used to avoid individual packaging for those products that are going directly into production, individual packaging for onward shipment to customer sites is handled in China.

This results in significant savings in terms of cost, the environment, ergonomics and flexibility. Several orders have already been shipped from Nynäshamn to the plant in Beijing using the new model. The Nanjing plant will follow suit in September.

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All base stations to be labeled

EPD, Environmental Product Declaration. In the future, such a label will be found on the housing of every RBS884 Makro radio base station that Ericsson supplies to TDMA system operators.

The label indicates that the base station has been environmentally certified by an independent party and provides a Web address for a complete product declaration.

"This is an objective, scientific, environmental declaration of facts that follows what will become the ISO standard," says project manager Erik Palm.

"The declaration helps operators evaluate future operating costs, such as energy consumption, and to facilitate comparisons with other base stations."

Significant environmental research, involving life cycle assessments of the entire mobile phone system, was conducted prior to the launch of Ericsson's EPD labeling



This is the new environmental label. It will feature on every new Ericsson radio base station.

program. The labeling system will be tested this autumn on RBS884 Makro units, Ericsson's second-generation base stations for TDMA.

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Latin American portal going mobile

Latin America's leading Internet portal, UOL, and Ericsson are creating a Brazilian mobile portal. The contract marks another success for Ericsson's recently established Mobile Internet Institute in São Paulo, which opened its doors in April.

"We've succeeded in setting the tone when it comes to mobile Internet in Brazil, and we are visible in all mobile contexts. Our image has changed," says Kenneth Larsson, head of the Mobile Internet Institute in Brazil.

In addition to the agreement with UOL, the institute has teamed up with TESS, the Telia-owned operator in São Paulo with 600,000 subscribers. Together with TESS, Ericsson is creating a mobile positioning service for the American TDMA standard. Currently, positioning services are only available for GSM.

"We plan on selling the service to other TDMA operators."

The Mobile Internet Institute in Brazil also started up a Mobile Internet Academy this summer. By collaborating with a number of training centers at several locations around the country, operators, government officials, business people, content providers and other interested parties will be able to take courses and become WAP-certified.

"We held the first course at the end of August and there was an incredible amount of interest. We have lists full of people who want to take courses," says Kenneth Larsson.

The mobile Internet is rapidly establishing a foothold in Latin America, even though the emphasis will be on other usage areas than in Europe or the US. Many analysts believe that mobile Internet usage will surpass landline Internet connections in Latin America fairly soon. Personal computers are still too expensive for most Brazilians.

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The model shows the satellites that are orbiting the earth.

Photo: Pressens Bild

Motorola's satellites to crash

>> The bankrupt satellite network Iridium will be destroyed by letting the satellites crash to the earth.

The billion-dollar project was to have been a feather in Motorola's hat. Instead, the US telecom giant is being forced to abandon the idea of a global network of communications satellites offering total coverage.

Attempts to find a buyer failed. Motorola was also not willing to spend several million dollars each month to keep the satellite network operating. The process of burning up the satellites is expected to take nearly a year and cost nearly USD 52 million.

Tough terms for German winners

>> The winners in the German 3G auctions will not only pay record sums. Terms of payment are also tough.

The German Post and Telecommunications Authority demanded payment just two weeks after completion of the auction.

Deutsche Telekom and Mannesmann, however, missed the final payment date. Their payments of some USD 7.3 billion arrived three days late. The operators contended that the invoice was not received on time. The German government, however, demanded USD 5.7 billion in lost interest for the three days during which payment was withheld.

Operators step up borrowing

>> Pricy licenses for next-generation cellular networks and expensive equipment are forcing operators to borrow ever-greater sums to cover their investments, according to news agency Reuters.

As a result, the flow of money between banks in the Western world increased to USD 321 billion during the first three months of the year, which was the highest level since the fourth quarter of 1997, according to figures from the Bank for International Settlements (BIS) in Switzerland, which is a bank for central banks.

Borrowing is expected remain high, since a large number of 3G auctions and beauty contests are still to be held.

Mobile B2B gets own Web service

>> Software manufacturer Broadvision has started a company called B-Mobile to offer services within mobile business-to-business commerce, according to Net magazine Vision. Examples of services to be offered by include solutions for business transaction over wireless networks. B-Mobile's head offices will be located in Tokyo. In addition to Broadvision, owners include the US company H&Q Asia Pacific and Japan's Itochu.

Swedish beauty contest

Ten applicants are fighting for four Swedish 3G licenses. This was the picture that emerged when the deadline for applications ran out on September 1. The winners are expected to be announced in November.

"The selection process is simple, but brutal, since high demands are placed on coverage," says Lennart Axhamn at Netcom Consulting.

Sweden is employing a procedure that is called a beauty contest. This means that the authorities will select the applicants who best fulfill the criteria that have been established.

"In Sweden, the most important criterion is the degree of coverage, which means that the selection process will be fairly one-dimensional," says Lennart Axhamn, who has considerable experience of licensing in the wireless industry, both as a representative for Netcom, but also as an expert employed by the authorities in various countries.

Not just auctions

After the recent spectrum auctions in Germany and Great Britain, it is easy to forget that many European countries have chosen beauty contests as the selection method. In addition to Sweden, these countries include Finland, Spain, Norway, Portugal and Ireland.

A beauty contest is not the opposite of an auction. Instead, the difference is more a matter of promising as much as possible in a beauty contest. In Sweden, this is primarily a question of promising as rapid

and as comprehensive coverage as possible. The Swedish selection process, however, includes several other steps.

"The applications will be evaluated in two phases. The first phase includes an evaluation on the basis of financial, technical and business criteria, as well as experience in the wireless industry," says Katarina Käppe, information manager for the Post and Telecommunications Board.

Questions must be answered

Does the operator or consortium behind the application have sufficient financial strength to deploy a network? Does the company have the technical expertise to purchase and operate a 3G network? Is the business model credible?

A final set of questions in the first-round evaluation concerns knowledge of the wireless industry. Does the operator already operate a cellular network or has knowledge of the wireless industry been gained in some other way?

If the applicant is approved through this phase, the next begins.

"In the second phase, the applicant's ability to build a network with a high degree of coverage is rated on a numerical scale," says Katarina Käppe.

"Applicants who promise 100 percent geographical and population coverage receive the maximum score."

According to Lennart Axhamn, this will have the somewhat remarkable result that Sweden in a few years from now may have 3G coverage that exceeds existing GSM coverage.

"Because 3G requires more base stations and antennas, building a network will be very expensive for the winners. According to one of the applicants, the last base station that will be required to provide full coverage will serve just four households," notes Lennart Axhamn.

Some observers believe that the cost for achieving 100 percent 3G coverage for a new operator without an existing GSM network, a so-called greenfield operator, will be at least SEK 20 billion.

What happens if several applicants receive the same number of points?

Lennart Axhamn believes that it will then be the speed with which the operator is able to commercialize the network that is the deciding factor.

For this reason, many applicants are making ambitious announcements about when they expect to take their networks into operation.

Head start

"Several players are promising that they can launch their 3G networks as early as 2001, although PTB will not actually release the frequencies until January 1, 2002. This means that bolder players may gain a head start," explains Lennart Axhamn.

These promises may mean that Sweden will have a commercial 3G network at almost the same time as Japan, where NTT DoCoMo will take its network into operation in May 2001.

This is well in advance of the time plan that the PTB has set.

Several applicants also promise



to build their networks at a pace much faster than the authorities demand.

"We will check that the license holders are fulfilling their obligation once every three years, starting in December 2003," says Katarina Käppe.

Mats Lundström mats.lundstrom@lme.ericsson.se

gets underway

FACTS/EUROPEAN 3G LICENSES

Austria: Mixed contest, four to six licenses (November 2000)

Belgium: Auction, four licenses (November 2000)

Denmark: Auction, five licenses (beginning of 2001)

Finland: Beauty contest, four licenses (completed)

France: Beauty contest with entry fee, four licenses (autumn 2000)

Germany: Auction, six licenses (completed)

Great Britain: Auction, five licenses (completed)

Greece: No decision, four licenses (no date)

Ireland: Beauty contest, four licenses (April 2001)

Italy: Mixed contest, five licenses (November 2000)

Netherlands: Auction, five licenses (completed)

Norway: Beauty contest, five licenses (in progress)

Portugal: Beauty contest, four licenses (autumn 2000)

Spain: Beauty contest, four licenses (completed)

Sweden: Beauty contest, four licenses (in progress)

Switzerland: Auction, four licenses (November 2000)

Seven applicants for Italian 3G

>> Seven applicants are being allowed to bid for five 3G licenses in Italy after the first round of a selection process. The government has chosen a mixture of beauty contest and auction to select which applicants are the most suitable.

In the second round, the seven applicants will participate in a license auction. Notable among the applicants are the Telecom Italia Group and Omnitel with Vodafone as the largest owner.

The auction also includes the IPSE consortium in which Spain's Telefónica and Finland's Sonera are the largest owners. This is also the same consortium that together with Industri Kapital is seeking a license in the Swedish beauty contest for 3G licenses under the name Reach Out. Hutchison Whampoa is participating in the Italian contest in a consortium named Andala.

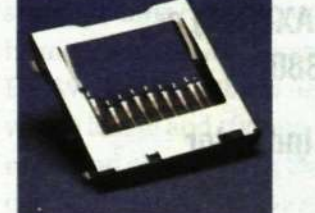
7-Eleven investing in e-commerce

>> The Japanese branch of 7-Eleven stores wants to be a pick-up point for goods ordered over the Internet or a mobile phone. Together with Sony and others, 7-Eleven has started the7dream.com Web services through which Japanese consumers can order goods and purchase tickets, which are then picked up at a 7-Eleven store. An Internet subscription is not required for placing orders. 7-Eleven has installed electronic kiosks in some 8,000 shops around Japan, reports Net magazine Vision.



There was considerable activity outside the offices of the Post and Telecommunications Board in central Stockholm when the ten consortia seeking a Swedish 3G license submitted their applications. Shown here is Uffors' President Jan Werne carrying his company's application. Photo: Janerik Henriksson/Scanpix

YAMAICHI SD Card Connectors already available



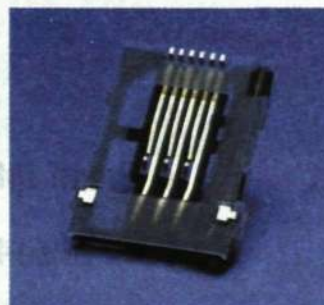
YAMAICHI is at the forefront of developing and manufacturing high-end connector technology for the new industrial standard SD (Secure Digital) Card, and are one of the first companies to invest in fully automated production lines for high volume manufacturing. YAMAICHI already offer a wide range of connectors for this new card standard.

Main features:

- manual version (standard or short body length)
- spring ejector version
- push/push mechanism version
- reversed version (for PCB bottom mounting)
- low profile version (height 2.8 or 3.1 mm) with card locking mechanism
- Backwards compatibility with the MMC Card
- Mating cycles of min. 10,000 times
- All versions available with card detector and/or write protection switch option

SIM Card Connectors

YAMAICHI Electronics now offer a new SIM Card connector featuring a push-in/push-out mechanism. The series also includes a low profile version (2.3 mm height), with body size barely larger than the card itself. Downsizing was made possible through the development of a locking lid which picks up the SIM Card and ensures optimum contact in mobile devices.



Telecom/Datacom Connectors

YAMAICHI Electronics presents its new Mobile Telecom and Datacom connector catalogue. All available Memory and Smart Card connector designs are included. Additionally, YAMAICHI offer mobile I/O connectors such as a GSM System connector as well as miniature connectors for internal use.



Mobile junkyard growing fast

Ever-increasing numbers of consumers are upgrading their handsets. This raises the issue of what to do with all those unloved old mobile phones.

Japan's four cellular mobile phone carriers managed 51 million subscriptions as of April 2000, and there were a further six million subscriptions for PHS services – a digital microcellular technology designed to accommodate high-speed wireless data transmission.

With so many old phones in circulation, it would appear that the nation has a growing mountain of little digital problems on its hands.

Valuable raw materials

However, thanks to recycling efforts, this is not the case.

Asahiko Hagiwara, general manager in TCA's Operations Department, says Japanese carriers have been collecting consumer's old handsets, batteries and chargers for as long as he can remember; last year 6 million old handsets, or 30 percent of the nation's discarded mobile phones, were sent for recycling.

"The operators pass the phones to [waste] processing companies, which melt down the phones and

recover valuable raw materials, such as gold, silver, platinum, lead, mercury, copper, iron, aluminum, nickel and palladium," Asahiko Hagiwara says.

These materials are sold back to the manufacturing sector. After hazardous substances are detoxified, waste material is incinerated.

High return rates

"I've heard that the last thing remaining is like an ash, and even this is used in the construction of new buildings," Asahiko Hagiwara says.

Until now, Japan's high return rates have largely been a consequence of the nation's mobile phone distribution structure. Japan opted for an original equipment manufacturer (OEM) system in which manufacturers produce phones under the auspices of the nation's carriers.

These phones do not contain removable SIM cards, so when consumers want to change their handsets but keep their existing telephone numbers, they must take their old phones back to their retailers. But last year Japan's Ministry of International Trade and Industry (MITI) asked carriers to further investigate recycling.

"Before, there was only one word:

recycle. Now there are words like reuse or reduce," Asahiko Hagiwara says.

In the U.S., Bell Atlantic Mobile-sponsored agencies are collecting old and unused wireless phones and in coordination with non-profit community groups, reissuing them to senior citizens and people with disabilities under the "Wireless at Work" program.

In Japan there is little demand for old phones in Japan. And with the nation having the world's smallest phones and constantly improving technology, Asahiko Hagiwara says it is very difficult to reuse parts.

Interesting initiatives

Instead, he says, carriers were embarking on a round of discussions with phone manufacturers to decrease the use of toxic materials such as lead and mercury in production of phones.

Japan has already opted for lithium-ion batteries and there is almost no use of the more hazardous nickel cadmium or nickel metal hydride in batteries.

Carriers have set their sights on netting those phones belonging to users who do not need to return them because they are quitting their subscription.

Leeroy Betti ON The New World of Communication

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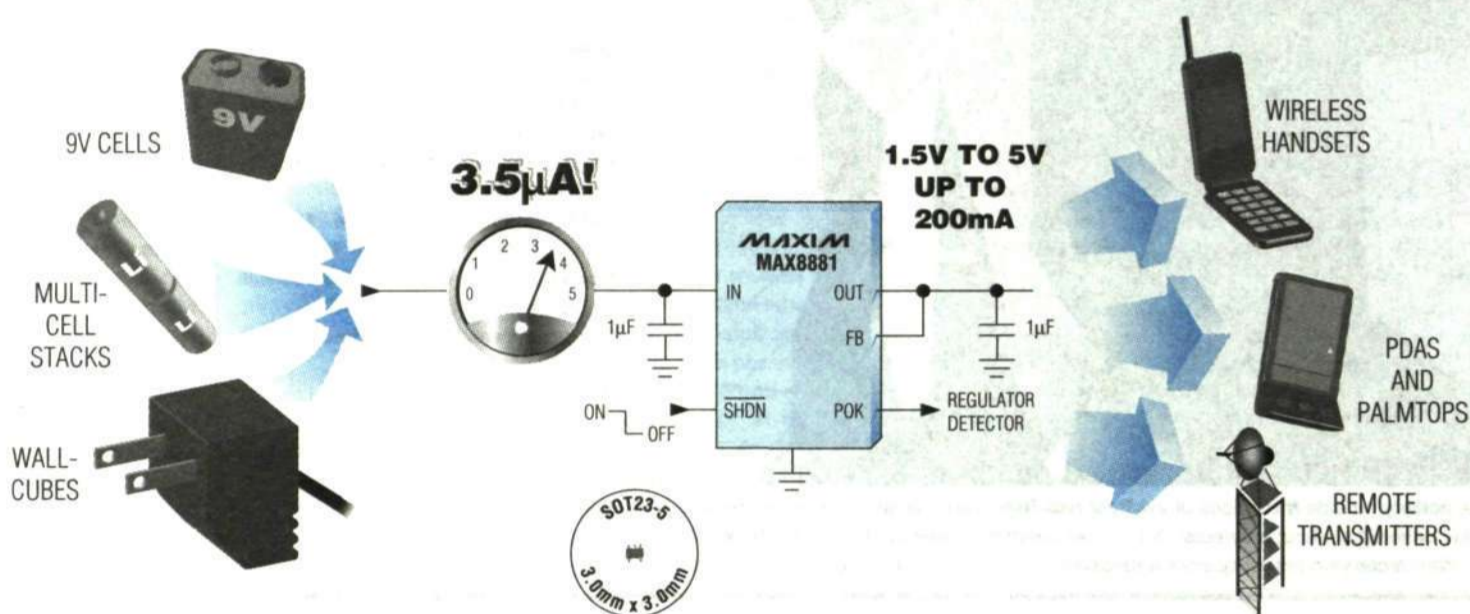
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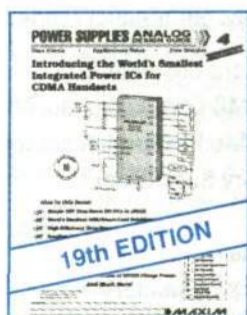
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Prepaid makes inroads in the US



The number of mobile phone users is undergoing strong growth in the US after a sluggish start. With Ericsson's help, Pac Bell Wireless was quickly able to offer prepaid services for mobile phones.

Photo: Tor Måvestrand/GreatShots

What usually takes six months was then to be done in two months. The stringent time requirement came from American GSM operator Pac Bell Wireless and the assignment was to install and start up the equipment and organization for the cash-card – or prepaid – service. Thanks to the efficient cooperation between different Ericsson companies, Ericsson's suppliers and an excellent dialog with the customer, the assignment was completed within the allotted time.

► Ericsson installed its first prepaid card system for South African operator MTN in 1996. Since then, the number of users has grown rapidly in the countries where the system has been introduced.

A number of operators in various countries, including Italy, Egypt and Portugal, have elected to have only prepaid subscriptions, while 70 percent of new subscribers worldwide opt for the prepaid system.

New trend in 1999

Compared with Europe and Asia, the number of mobile telephone users in the US had been relatively modest up until last year.

That was when major operator AT&T introduced what it called its Digital One Rate plan, which, among other features, has halved call charges and imposes no extra charge for roam-

ing within the US. As a result of the plan, large numbers of subscribers signed up and call times increased.

At the beginning of the year, Ericsson received an order for the prepaid service from Pac Bell Wireless, subject to the requirement that the operator would be able to launch the service by about May 1. It was important for the operator to be able to offer the prepaid service without any delay, in order to keep up with the strong growth in subscriber numbers.

"The order was for the latest version of the service," relates Niklas Hallenberg of Ericsson Software Technology, where he is responsible for customer support for the product Prepaid Systems (PPS).

"The extremely short delivery time was a challenge both for the logistics unit in Linköping and for our product unit's internal organization. By reprioritizing part deliveries, we managed to put together a system that matched Pac Bell's specifications."

Faster delivery

Niklas goes on to explain that the product unit's internal work procedures were analyzed to see how they could be improved so as to speed up delivery times even more. Thanks to the Pac Bell Wireless project, the unit's organization can now meet the requirement for rapid deliveries.

"We had previously performed installations of the same version of prepaid," notes Ruud van der Tak, project manager at Ericsson Telecommunicatie B.V. in the Netherlands.



Niklas Hallenberg

"Since the new versions are more difficult to install than the older ones, we were able to help with the experience we possessed. To meet the tough timeline, the prepaid network initially consisted of a mix of equipment; equipment meant for commercial purposes and equipment used in test facilities. In the next phase, the test equipment was replaced by the final version and Pac Bell's test system was finished.

"In order to be sure that the network and distribution system functioned properly, Pac Bell Wireless 'soft-launched' the service with the prepaid card, beginning in San Diego at the beginning of May, followed by Los Angeles and San Francisco," explains Rolfe Philip, account manager for Southwestern Bell Corporation Wireless Regions, which includes Pac Bell Wireless.

The service was officially launched in June. Pac Bell Wireless's target is to have 50,000 prepaid customers by the end of the year.

"Pac Bell Wireless changed its financial targets to more revenue-based goals, which meant that we needed revenue-generating services such as 'prepaid' to be implemented quickly," comments David Williams, Vice President and technical director at Pac Bell Wireless.

He is impressed with Ericsson's rapid delivery of the system and is grateful for the help the operator received.

"We have always partnered well with Ericsson," he adds. "I feel that the team spirit has benefits for both vendor and operator. The prepaid project worked very well as a team

effort. Most of our projects have the same success rate, but not the exposure that prepaid has had."

Instructive assignment

Ruud van der Tak agrees that it has been a highly successful project, in which the customer relied on Ericsson and the collaboration functioned smoothly.

The team from the Netherlands also learned a lot from the Pac Bell Wireless project. The US telecom market and the way of working is different to that in Europe. It has helped the team to better understand global requirements and processes.

"It has been an instructive assignment for us, yielding valuable knowledge for us at a time when demand for the prepaid service is increasing all the time. The Pac Bell Wireless project will serve as a valuable reference for other prepaid assignments," is Ruud van der Tak's summation.

Today, Ericsson is the world leader in terms of deliveries of prepaid systems, and the company hopes to maintain this position when 3G is fully implemented.

"When that happens, the system will become even more complex, so we are continuing our efforts to make our work methods even more efficient," says Niklas Hallenberg in conclusion.



Ruud van der Tak

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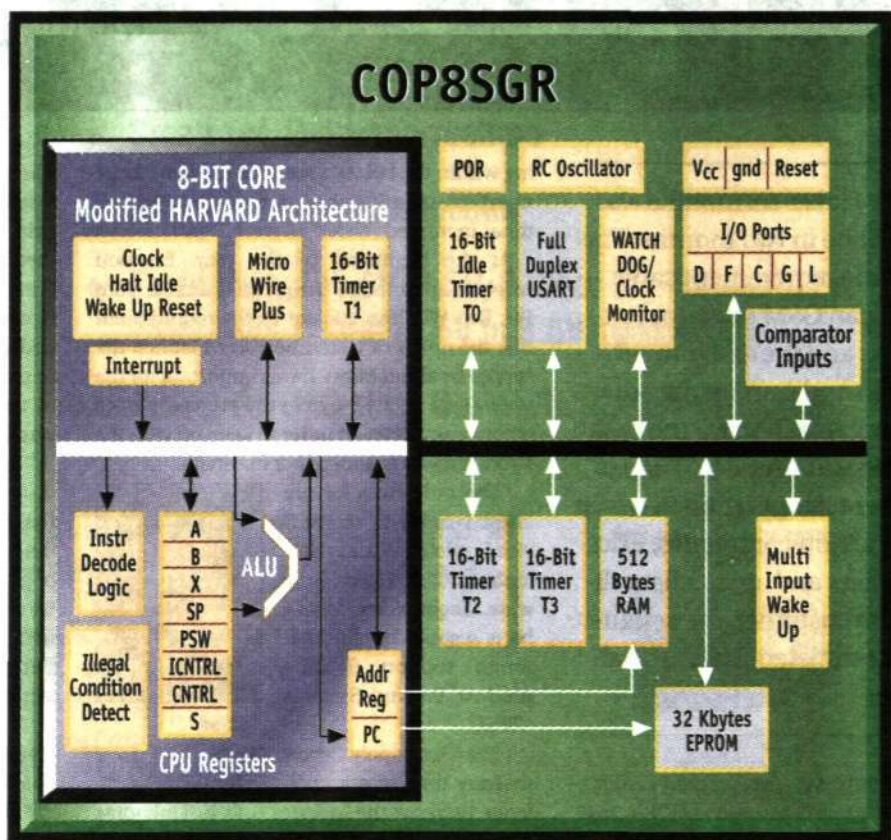
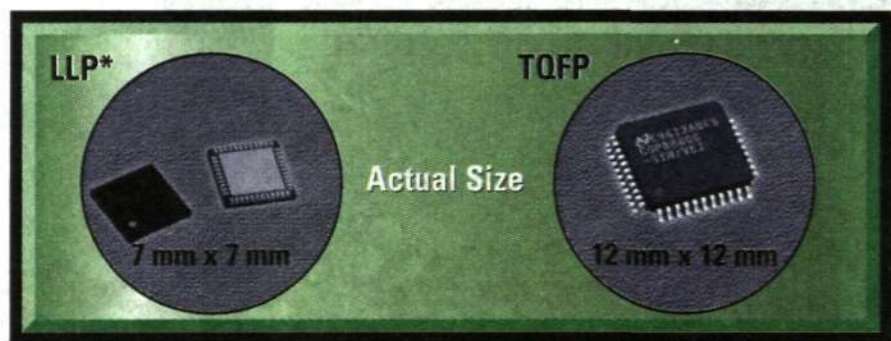
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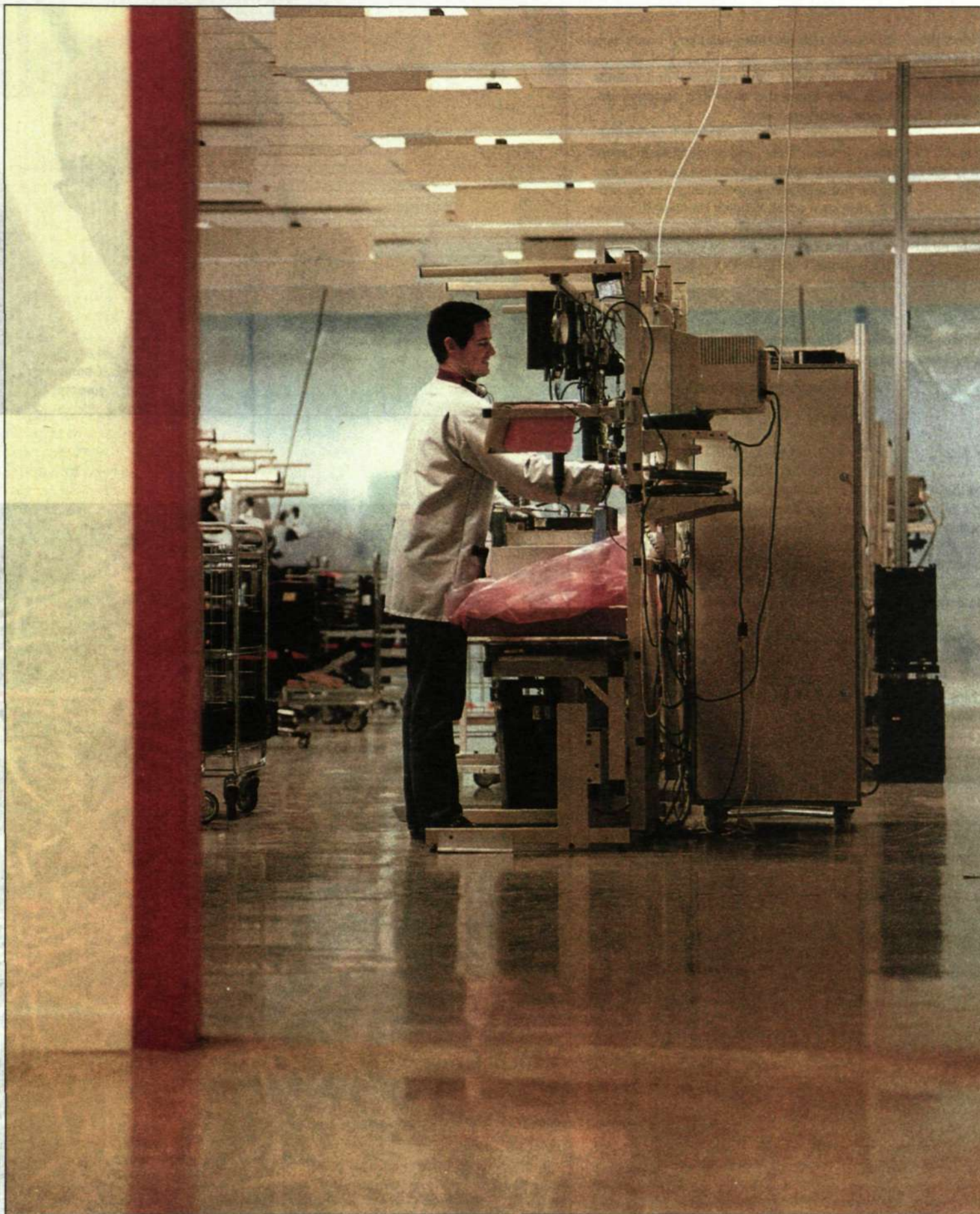


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The Visby plant is using up all the expertise on Gotland. Douglas Pearson from New Zealand is currently employed in the Japan workshop, but in the autumn he will move to London and work as a freelance photographer.

Photo: Lars Åström

Shiny floors and major plans

The rumors were rife – Ericsson intended to make people redundant or perhaps even close the plant completely. But then came the news that the Visby plant, on the Swedish island of Gotland, was to be outsourced to Flextronics of America and all of the employees could stay.

It was certainly a relief, but also a little worrying. What did Flextronics want? Would the good citizens of Visby become Americanized?

► Nobody could have predicted that, just one year down the line, the plant would have more employees, a larger amount of product responsibility and one entirely new production section.

The newly polished floor shines. The white ceiling stops dust and dirt from falling from pipes under the roof. The machines that have been installed to date stand as straight as soldiers in rows on the shiny floor.

It is a different kind of production premises

that we encounter as we walk through the air ducts, as yet only half-finished, into the Japan workshop at the Visby plant. Olof Berglund, head of the Japan workshop and previously employed by Ericsson in Japan, shows us around the premises, where radio base stations are to be produced for the PDC standard.

"The air filter is better. It has positive pressure, so that foreign particles are excluded. Temperature and humidity are strictly controlled. Cardboard boxes and wooden pallets,

which can cause untidiness, are not taken into the production premises.

"Out there," he says, pointing toward a large storage room, "We transfer all the material to plastic boxes before we bring it into the workshop."

Quality in a broader sense

The idea of having a Japanese-style workshop was not hatched in Visby or at Flextronics. The demand came from Ericsson, or rather, from Ericsson's customers in Japan. This shows how much customers have to say in today's telecom world.

"Production is important to the Japanese. They want to see it with their own eyes. If a high level of quality is maintained in the production process, it bodes well for the actual products," says Bo Sjunnesson, who is responsible for Ericsson's deliveries of mobile systems in accordance with the Japanese PDC stan-

dard. He lived and worked in Japan for several years.

In 1992, Ericsson secured its first Japanese mobile contract. This was the start of a period full of meetings, reports and excuses about quality and the production environment. Ericsson has always been praised by its customers for its high level of quality and its robust products. In this case, however, it was a matter of adapting to another culture.

"I can remember one visit, in particular. It was shortly before Christmas and there were Christmas trees in the plant. That was nice and not something that I had thought about, until our Japanese customer discreetly pointed out that the needles from the trees could get into the products," Bo Sjunnesson relates.

Over time and after a large number of improvements, the complaints have declined.

continues overleaf

However, when the company decided that PDC production had to leave the plant in Gävle in northern Sweden, in order to make way for 3G production, Bo Sjunnesson took the opportunity to build up something completely new. He contacted Flextronics' Visby plant.

"I wondered if Flextronics was interested in building a Japanese-style plant. To my great pleasure, the response was positive."

Japanese words of honor

During the winter and spring, Flextronics and Ericsson established Sweden's first Japanese plant. The words of honor became Kaizen – continuous improvement in Japanese – and Muda – which loosely translates as "nothing done needlessly." Flextronics was also to have master responsibility, which meant that the company would be responsible for the industrialization of the products, in addition to the actual production.

"It's not common for suppliers to be given master responsibility. But, after outsourcing production units and establishing close cooperation with some suppliers, I believe that this will become more common in future," says Filippa Sjöstrand, who is responsible for the transfer of PDC production to Visby.

"It's a matter of moving know-how from Gävle to Visby, from Ericsson to Flextronics. This requires long-term cooperation and mutual trust."

Encouraging presentations

Now, the plant section is as good as finished. During the autumn, all 100 members of the workforce, which will number 180 by New Year, are attending courses in Kaizen and have become even more involved in the new concept. In addition, Olof Berglund, head of the Japan workshop, gives encouraging presentations some-

times and tells his colleagues about production in Japan.

"It's important that everyone understands why we're doing this and what customer demands are like in Japan."

An important element of Kaizen is the cooperation between design and production. In Japan, there is really no barrier between these two functions and designers are often found in the production area, which is called Gemba – the place of truth.

The first Kaizen course was conducted during the summer, together with a group of designers from Gävle.

"Working in combination, the designers and production staff managed to prepare a list of 60 points of improvement. These included poor fittings and excessive scrapping."

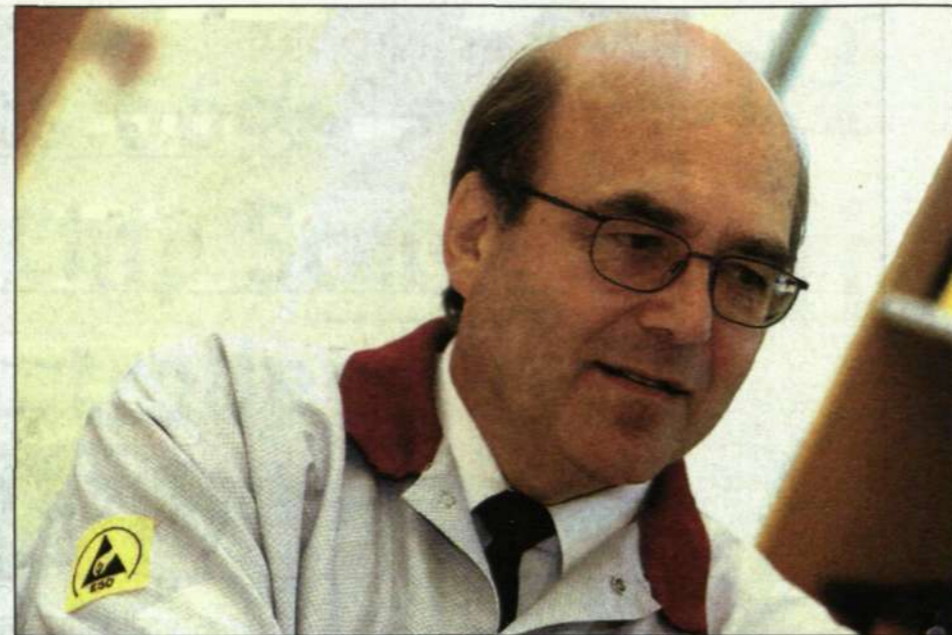
Facilitating improvements

The classic "suggestion box" no longer exists. Making joint efforts to suggest improvements, which are acted on immediately, is more satisfactory, according to Olof Berglund.

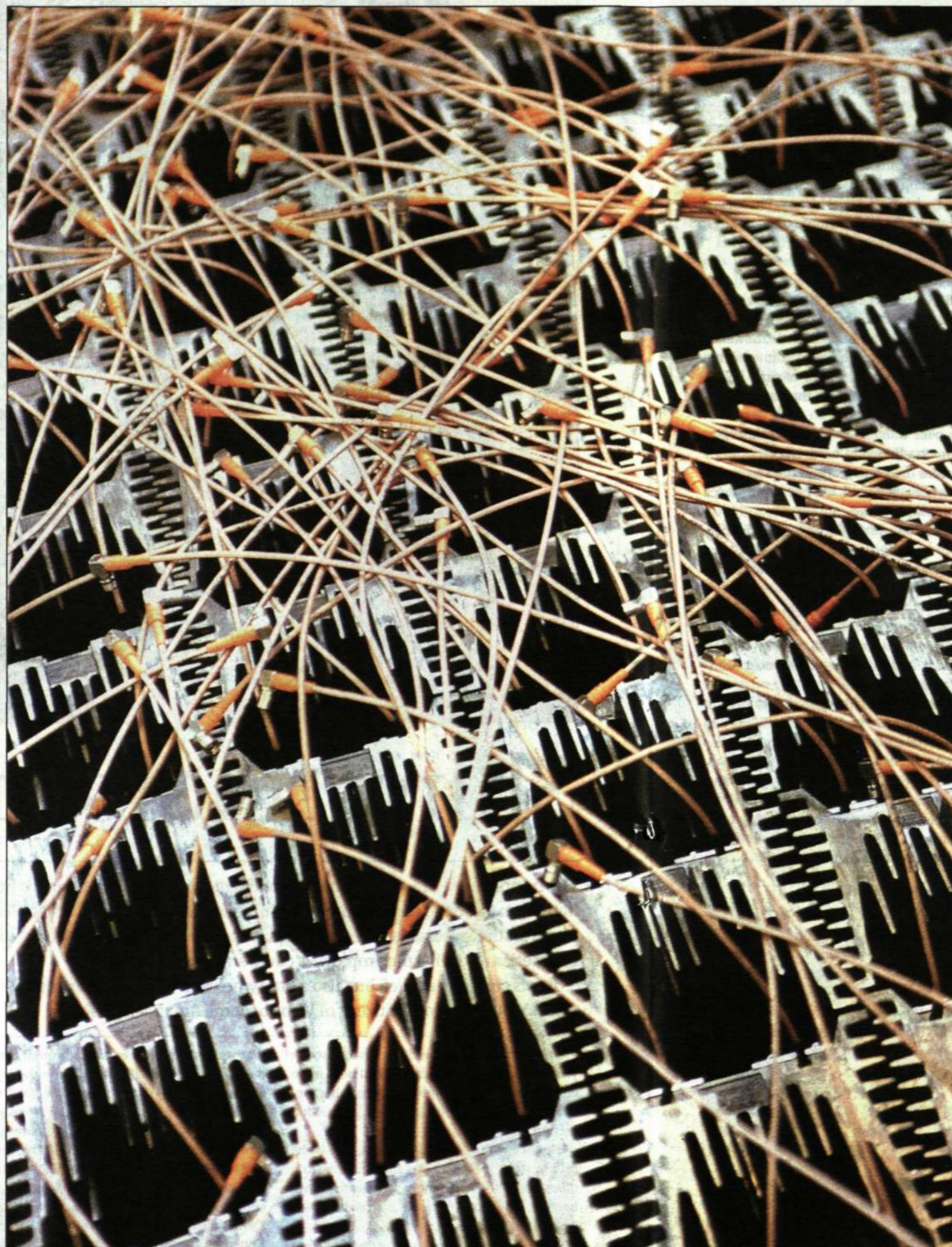
"There's always someone who listens to me when I make a suggestion and this also facilitates improvements to our work."

In a year's time, the entire process of transferring the production of radio base stations for PDC will be complete. However, both Olof Berglund and Bo Sjunnesson believe that the workshop in Visby is only the beginning.

"I consider this to be a pilot project, a precursor for the rest of the plant and perhaps even other Flextronics plants. What we're talking about is achieving world-class production," says Olof Berglund.



Olof Berglund manages the Japan production unit created in response to pressure from Ericsson's Japanese customers.



"Naturally, having a lot of new work is sometimes stressful, but the work environment is better – it's quieter and not so noisy," Teresa Larsson says about the new plant.

A Christmas tree in the workplace can be very pleasant, but a little troublesome if needles get into the components. New methods of tidiness following Japanese standards have been established in the Japanese workshop.

Photo: Lars Åström



"Things have gone well. I think that we have done a great job in handling the transition, and management has acknowledged this, as well," says Tomas Bohman, whose position involves resource management for the Japan unit.

Identity crisis with new opportunities

"Changes this rapid would have been almost impossible, if we were still a part of Ericsson. The change of owners meant that we could no longer say we'd never done this before," says Benny Jacobsson, who is now resource manager at Flextronics in Visby, following 16 years working for Ericsson.

After 38 years as an Ericsson unit, the plant in Visby was sold to the Americans. All of the Ericsson signs – familiarly referred to in Sweden as the "three hotdogs" – were taken down and replaced by Flextronics' logo, which most of the plant's 900 workers had never seen before.

For many, the decision came as a relief. Jobs would be retained. At the same time, the ownership switch entailed many changes.

"It's not easy. We're working in the same building, making the same products with the same co-workers and bosses. Yet we still have to change our attitudes and thinking," explains plant manager Per Lagerlöf.

Tougher demands, lots of work, optimism, development and pride. The Visby plant presents a mixed yet vital picture, one year after the sale. In the middle of it all, signs of an identity crisis and not a little nostalgia are apparent.

"The worst thing about being outsourced is that you lose an extremely valuable contact network. After a 16-year investment of time, it's suddenly gone," notes Benny Jacobsson.

World-leaders at Ericsson

Nonetheless, Benny Jacobsson is largely positive. "Before, we were at the end of the chain. Now we're on the forefront and acknowledged as production professionals," he says.

This is not as strange as it sounds. Ericsson is a world-leader in communications systems. Production is only a part – and a shrinking part, in terms of the number of employees in production. At Flextronics, the situation is different. Production is everything. This is the core expertise that the company sells.

The Visby plant has received more work over the past year. The number of employees is now at the same level as the peak noted during the



Inga-Lill Hansson is one of nearly 1,100 employees at the Visby plant.

1970s. In addition to Ericsson, the plant now performs contract work for Algon and, for some time, it has been helping its sister plant in Helsinki with deliveries to Nokia.

"That's a positive development, but the new work makes things difficult, too. It's almost too much," says Oddbjörn Solberg, chairman of the employees' association.

Scouring the island

He heads a group responsible for quality inspections and has just sent a job offer to a woman from Gotland living on the mainland.

"We're scouring the entire island looking for skilled workers and advertising on the mainland for people who want to come home," adds Oddbjörn Solberg.

A high workload, as well as the transition itself, has put considerable strain on employees on many occasions.

"The transition has been difficult," says Ronny Sundström, chairman of the Metal Workers' union, adding that demands from Ericsson have become tougher.

"People are not yet comfortable with the new organization. It sometimes feels like we're being controlled from above," says Ronny Sundström. What cannot be doubted, however, is that Flextronics, like Ericsson before it, is very important for Gotland.

On the other hand, Gotland is special. The

FACTS/FLEXTRONICS

Flextronics: Production and design company with head offices in San Jose, California. Number of employees: 51,000 of whom about 4,000 in Sweden. Market position: Fourth largest in the world and the European leader. Major customers: Ericsson, Alcatel, Nokia, Siemens, ABB, Atlas Copco

Visby plant has a very low employee turnover rate.

The islanders are true local patriots, who also want companies to succeed on Gotland. If change is necessary for survival, then so be it.

Tougher demands

An important change is the new relationship to Ericsson. Ericsson is now a customer in the formal sense and bound by contract. "We have established a business interface now, and customer requirements are clearer," says Lars Bladh, quality manager at Flextronics.

"But we still haven't quite found our new roles. Perhaps that's because Ericsson still hasn't quite understood that we're no longer a part of Ericsson," he says with a laugh.

Mia Widell Örnung

Hot springs and cool

It's not just the volcanic springs that make Iceland hot. A high level of technical expertise in combination with intellectual curiosity has put Iceland on the map again. Thanks to IT and a well-developed cellular network supplied by Ericsson, distance to the rest of the world has shrunk.



Geothermal stream in Reykadalur. Far from civilization, a mobile phone is often the only way to keep in touch. Photo: Anna Rehnberg

► "Iceland is one of the most technology-oriented countries I have ever seen," says Eric Figueras, project manager for mobile telephone development at the Landssímmin GSM section in Reykjavik.

Eric Figueras is a Spaniard who has landed in Viking territory. Accompanied by the roar of the majestic Gullfoss waterfall in the background, he explains how mobile telephony is being developed and will be used in the near future.

Landssímmin, or Síminn as it is usually called, is one of Iceland's largest companies, with about 1,300 employees. Today the company has about 70 percent of the GSM market, but competition is tough. Despite a population of only 278,000, Iceland has no fewer than six GSM operators.

Working with Ericsson, Iceland has put in place an NMT network providing full geographic coverage and GSM coverage serving 95 percent of the population. Virtually all of the infrastructure for GSM was supplied by Ericsson.

Iceland is without a doubt a complex society, where nature is ever-present and demanding. Technical development, however, is proceeding at full speed in a society with a relatively short industrial history. These contrasts are perhaps the source of Icelanders' creativity and innovation.

Cool and trendy

Virtually every Icelandic home now has a computer, and broadband is more prevalent than in Sweden. Iceland's income, however, is still primarily derived from fishing, although it is only a matter of time before tourism and IT move into the passing lane and take the lead.

The pace of life is fast in Iceland. Icelanders are traditionally hard workers. Many have more than one job, and disposable income is high. Reykjavik has become a Mecca for the new economy.

The streets are filled with shining new cars, and young people wearing the latest fashions and talking on mobile phones are seen everywhere.

The style is cool and trendy, with many influences from the US and the UK. Many young people complete all or part of their university studies overseas, but most eventually return to Iceland.

More than half of the population lives in the Reykjavik area, and migration to the city is considerable. A shortage of housing has driven up prices of condos and houses.

When they need to relax, Icelanders have their warm springs and what are called hot pots. These warm baths, with varying temperatures up to about 40° C, are found in public baths all over Iceland.

Eyeing export markets

Technical development has been rapid, and mobile telephony is no exception. Like many other Icelandic companies, Landssímmin is experiencing growing pains and continuously recruiting new staff. Because unemployment is extremely low in Iceland, particularly in Reykjavik, competition between employers to attract skilled workers is fierce.

With the help of IT and mobile telephony, Landssímmin's GSM team VAS (Value-Added Services) aims to make life simpler by providing access to useful information and services.

About ten people are working with GSM services. The challenge lies in developing services that work not only in the city, but also out in the wilderness.

techies

"When a small group of experts works on so many projects, it's possible to achieve fast results in all areas," says Eric Figueras.

Several projects are already in progress, primarily for the Icelandic market, but the company clearly has its eye on the export market.

"We are at a much more advanced level technically than other GSM operators in the world, and we are naturally both pleased and proud to be able to export our solutions to other operators," says Eric Figueras.

SMS for movie tickets

For some time, Icelanders have been able to check flight times and catch up on the news with the SMS Toolkit.

This service allows users to access the Internet and choose five menus from a selection of 25 and download them to their mobile phone.

Examples include banking with the GSM Bank service and booking movie tickets with the Pick a Movie service, which are both available on GSM phones. The booking service for movie tickets sends a booking number via SMS to the phone, which is then keyed in on a machine at the movie theater. The cost of the tickets is then added to the subscriber's phone bill.

One of Eric Figueras' projects in Iceland was Freisi, which is Icelandic for freedom. The principle was to reduce the need for cash and to simplify payment for various services with a prepaid telephone card, which can be refilled by a simple transfer from a bank account.

Iceland is evolving towards a cashless society in which everything is paid with a debit card, even if it is nothing more than a cup of coffee or a pack of chewing gum.

Of Iceland's 120,000 GSM subscribers, 35,000 now use the Freisi prepaid card.

Additional services, including payment for parking and ordering and paying for pizzas, will be introduced before the end of the year.

SMS for rescue services

In collaboration with the government and the police, Landssímmin has developed a system for sending secure SMS messages.

Work is also in progress to develop a better system for notifying volunteer rescue workers when a serious incident occurs. In this case, it is important to be able to determine who received the message.

For the police, ambulance and fire services, a system has already been developed that allows the emergency center to identify the location from which a message was sent, so that help can be dispatched in the quickest possible manner.

Landssímmin is state-owned, but will prob-

ably be privatized next year. Eric Figueras believes that only part of the company will be sold in the first round, but that it will gradually be totally privatized.

Private ownership does not worry Eric Figueras. Comparing with other countries, such as Sweden, he sees it as an opportunity for the company to develop and to remain competitive.

Hungry for technology

Although Landssímmin is a small organization, compared with its many operator colleagues around the world, it offers virtually the same technologies, which include ISDN, ADSL, ATM, GSM, NMT, Paging and Internet.

"Iceland is hungry for technology, which makes it a great place to test new technology, including the financial aspects," notes Eric Figueras.

Iceland's advantage, and an advantage in working for a small company, is that it is possible to move quickly from an idea to practical implementation, according to Eric Figueras.

In a large company, the decision process can be protracted before a project gets the go-ahead. This is costly in terms of both time and resources. Eric Figueras does not have these problems. The response from customers is also more direct.

"Icelanders are very knowledgeable and therefore demanding, so you can expect quick feedback on what works and what doesn't," he says.

Breathtaking nature

Despite his Nordic first name, Eric Figueras does not have any relatives with Icelandic roots.

He grew up in Barcelona, where he studied telecommunications. He has lived for long periods in Germany, the US and France, where he worked for Siemens and Philips on GSM phones and infrastructure.

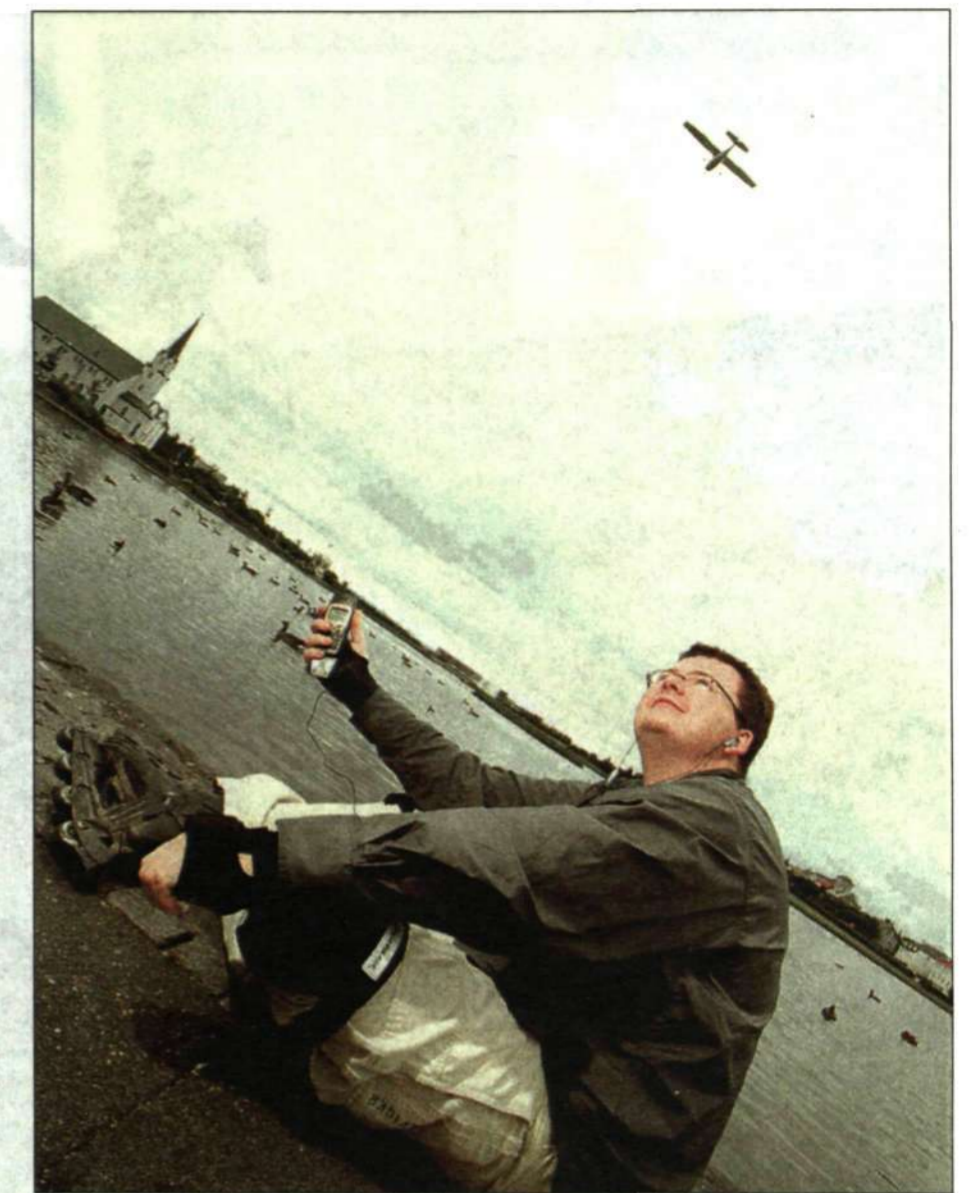
Iceland could not find a better ambassador for the country than Eric Figueras. In just a few short years, he has adopted many aspects of the Icelandic traditions and way of life, naturally with the able assistance of his colleagues and his Icelandic wife. Now, like any native Icelandic, he can jump in the saddle and round up the sheep or take a ride in the mountains on his mountain bike.

He speaks warmly of the breathtaking nature that is never far away, emphasizing that for the high-tech development work that he does, this is the perfect setting.

Ina Larsson
freelance journalist



Eric Figueras is responsible for developing mobile services at Landssímmin. He enjoys Iceland's breathtaking nature, especially the majestic waterfall at Gullfoss.



Gudjon Petursson knows everything about the latest technology. Of course, he works at a Landssímmin retail store. "Young people are our most demanding customers," he says. When he is not working, he likes to skate on his rollerblades and listen to music that he downloads to his WAP phone with mp3.

WAP now standard fare for Icelanders

The question for Icelanders is not whether to use WAP, but how to use it. Functionality combined with speed are important for Icelanders, who have an enormous thirst for information. WAP is already well established and used by both professionals and consumers.

The mobile phones sold by Síminn now automatically include an application that allows users to check arrival and departure times for all domestic and international flights.

In addition, subscribers can read daily newspapers, follow the stock market, receive weather reports and do their banking via WAP.

"The greatest disadvantage is speed. WAP services must become faster. Cost is naturally also important," says Gudjon Petursson.

The speed issue may be resolved by the end of the year, when GPRS is put into service. This is yet another example of the cooperation between Ericsson and Landssímmin.

Gudjon Petursson believes that more accessories and a greater number of applications will increase interest in mobile phones among young people.

The introduction of Ericsson's mp3 player is already in progress in Iceland, but interest depends a lot on the price, according to Gudjon Petursson.

He is already an mp3 enthusiast. He has already downloaded a collection of songs with a fast tempo on his mp3 player.

"They're great when I go rollerblading after work," explains Gudjon Petursson.

Ina Larsson

► Skepticism surrounding a new technology or product is minimal in Iceland, which welcomes any solution that works well under both Icelandic and international conditions.

"Most WAP users are between 20 and 30, familiar with the Internet and knowledgeable about how the technology works," says Gudjon Petursson, who works in Landssímmin's GSM marketing department in Reykjavik.

The introductory phase for WAP is over. Now more and more services are being added.

Iceland Air, for example, was the first airline in the world to offer a ticketing service via WAP, and Landssímmin has its own portal that provides access to such services as the telephone directory.



The Icelandic landscape is deceptively enticing, but fluctuating weather and unstable ground can quickly create a life-threatening situation in which communication is vital.

Greater security with cell phones

Beaming tourists moving across the skyline on galloping horses are a common sight in Iceland. In such a moveable setting, a mobile phone is an indispensable tool.

► Katarina Ehne needs her cellphone in her work and views the development of WAP positively. A little more than two years ago, Katarina left Stockholm to move to Iceland.

She works for Eldhestar in Hveragerdi, about half an hour's drive from Reykjavik. Here she is responsible for about 150 horses that are used by tourists starting from different locations all over the country.

When Katarina leads guided tours for companies and tourists from around the world, she always brings her mobile phone, regardless of whether it is a day trip or a week's cross-country pony-trekking.

On longer trips far from settled areas, she also carries an NMT phone as a precaution, since NMT offers complete geographic coverage. Weather conditions can change quickly, and obtaining frequent weather reports and maintaining direct contact with the riding center is imperative for safety, if the unexpected should occur.

"Earlier in the season, a Norwegian woman, despite several warnings, got too close to a hot spring, where she sank down in a marsh and suffered severe burns," relates Katarina Ehne.

In such a situation, it is important to be able to contact the rescue services, which thanks to the network's Location Based Services, can see the location of the caller and quickly dispatch a medical team to the accident scene.

Ina Larsson

Katarina Ehne rides Siv, an Iceland pony, through the countryside. When she is guiding tourists on horseback, a mobile phone is a vital tool for emergency situations.

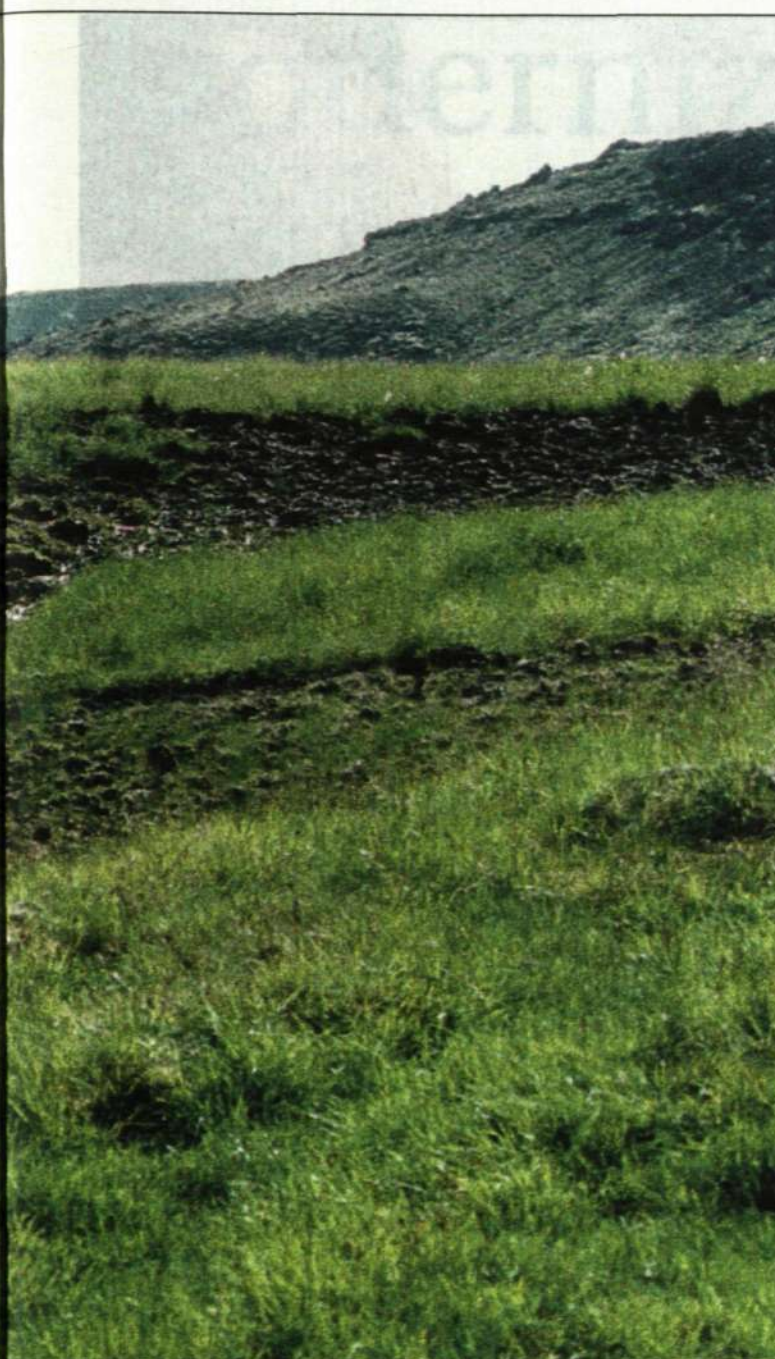


Photo: Anna Rehnberg



Iceland's National Traffic Administration uses the latest technology to provide information about road conditions. Jóhanna Thorgilsdóttir, assistant director, is one of those working with the system.

Jóhanna and the SUVs

SUVs and more SUVs. It doesn't take long to realize that Iceland must be the promised land for manufacturers of Sport/Utility Vehicles (SUVs). Of course, driving around in a huge SUV is slightly absurd in a city like Reykjavik, where an SUV looks more like a macho symbol than a utilitarian toy. The odd male will also admit, albeit in guarded terms, that one of the joys of Iceland is being able to drive an SUV.

FACTS/ICELAND

Iceland has one of world's highest penetration rates for mobile phones. More than 70 percent of the population have mobile phones.

Operators: Landssíminn is Iceland's largest operator and has been an Ericsson customer since 1932. The operator has a national GSM network, an NMT network and a fixed network and is also an Internet service provider.

Islandssími is a new operator that entered the market after deregulation and has purchased a multi-service network from Ericsson. On September 6, Ericsson also received a contract for a GSM network, including GPRS, which will offer constant connection to the mobile Internet and higher speeds than the GSM network.

Linanet is a smaller operator that is focusing on deploying broadband to the home. Ericsson is supplying the fiber-optic Ribonet. In addition, there is TAL, an American operator with Nortel as its primary supplier, and several other smaller operators.

Ericsson: Iceland is not an independent marketing unit, but belongs to Ericsson in Denmark. Iceland is one of the Ericsson Denmark's largest customers this year, with several important contracts. Ericsson is the clearly dominant supplier in the Icelandic telecommunications market.

"We can see that more people are going out on the Internet and beginning to use WAP. We don't get as many calls now," says Jóhanna.

Her department tracks road conditions on all major roads in Iceland.

There are a total of about 6,500 kilometers of roads, which are divided into 260 sections of varying lengths.

Measurement stations

Measurement stations along the roads register air temperature, humidity, wind speed, wind direction, precipitation and road temperature once an hour.

Traffic sensors register traffic volume, size and weight to determine loads on particular roads. Traffic accidents, prevailing restrictions, road repairs and ferry schedules are also stored in the system.

This information is then processed automatically in a database before being forwarded and made available via WAP and other media for motorists, traffic controllers and Vegagerdin's own operations.

In the next phase, plans call for GPS positioning of snow removal vehicles and a graphic meteorological mapping system.

How important are SUVs?

Jóhanna Thorgilsdóttir laughs. "You can do fine in Iceland with an ordinary four-wheel drive vehicle," she says.

Ina Larsson

► A visit to Vegagerdin, Iceland's National Highway Authority, provides another, more practical explanation for Icelanders' car preferences. Large monitors in the control room show the roads that demand four-wheel drive even in the summer. These are all marked with the symbol 4x4.

It is thus not just a status symbol to have four-wheel drive when you leave the main roads.

Winter can arrive early, making conditions tough on roads outside the cities. It is no coincidence that there is a warm jacket and a blanket in nearly every vehicle.

Weather checks essential

Icelanders know that the weather can quickly change character and that it is foolish to go out without proper equipment and the latest weather information. In Sweden, this would be like going out sailing without listening to the marine weather forecast.

Jóhanna Thorgilsdóttir, assistant director of Vegagerdin's service department, can tell stories about days when the department has been overwhelmed by calls from motorists inquiring about road conditions.

Summer is relatively calm, but there is much to do during the rest of the year.

WAP and the Internet have made information about the weather and road conditions more accessible.



SUVs are fun, but a normal car is fine, too, as long as it has four-wheel drive.

Johan Ditmar awarded prize

» The prestigious Michal Servit Memorial Award was received by Johan Ditmar during the tenth annual FPL 2000 conference in Austria. He received the prize for his work "A dynamically reconfigurable FPGA-based content addressable memory for the Internet protocol."



Johan Ditmar

Johan Ditmar will also present his work at the Hardware Design Seminar in Stockholm at the end of October.

Ericsson cables best for broadband

» Ericsson's cable plant in Hudiksvall, Sweden is the world-leader in the production of the fiber-optic cables needed for broadband networks. Ericsson Cables previously produced complete optic cables but has increasingly focused its efforts on packing fiber into the cables. Both this, and joining cables so that optic signals are not distorted, are sciences in their own right.

Source: Ny teknik

MCPA power amp gets it right

» MCPA, the Multi-Carrier Power Amplifier developed by Ericsson, is going to play an important role in tomorrow's 3G networks. Recently the MCPA achieved an important milestone.

On August 11, MCPAs were installed in a commercial system for the first time in a TDMA network operated by BellSouth in Memphis. The installation consisted of 318 MCPAs, which were installed in new base stations in parallel with the old amplifiers. With a single cut-over during the night, they replaced the old products.

Ericsson's MCPA, which was developed by Ericsson Radio Access, is primarily competing in the US market.

Panasonic to phase out lead...

» In the previous issue of Contact, we reported that Ericsson has started a major environmental project in which lead and bromide will be phased out of products and processes.

The Panasonic Group will also eliminate lead in soldering for all consumer electronics and IT products. This change will be completed by the end of 2002.

...and Sony chrome

» Sony's PC and video products currently include zinc-plated steel that contains chrome. These components will be replaced by 2002 with chrome-free steel.

Plastic monitors on the way

» The technical evolution just cannot be stopped. In the future, computers may be made of paper, and now there is a monitor made entirely from plastic materials. The monitor, being developed by Philips, is still at a prototype stage. It measures a mere 35 by 35 millimeters, or 64 pixels each way. Plastic monitors are much cheaper, require less energy and are extremely flexible.

Source: Ny teknik



"The Internet will become mobile just once, and it is happening now," says Anders Håkans, demonstrating the new product AirCalendar, which supports daily and weekly calendars, joint project meetings with shared information, personal information, SMS notifications for changes and reminders, address lists and more. All this information is constantly updated and synchronized and available over the Internet. Photo: Lars Åström

First step toward total synchronization

"This is the first step towards something that may be really big," says Anders Håkans, product manager for Ericsson's AirCalendar, which synchronizes information between a mobile and a desktop computer.

» Synchronization is becoming a buzzword in the IT industry. The vision is to continuously update different terminals wirelessly and keep them totally synchronized.

Ericsson's forthcoming AirCalendar for mobile terminals is one of the first products of its kind. It consists of a server with a synchronization engine and terminals that support the service.

"This is the result of a joint development effort between network and terminal product units," says Anders Håkans.

"It started about a year ago, when Lars Novak, who works with terminals, and I were exchanging ideas about how to implement over-the-air synchronization for personal calendars."

Back to work

As a result of this meeting, Anders Håkans went back to work and created a server, while Lars Novak, working within the 3GPP (Third Generation Partnership Project), contributed to creating the TS 27.103 standard, which is one of two for wide-area network synchronization.

The other standard, which is now being finalized, is SyncML.

The result is a fast synchronization process that takes no more than 35 to 50 seconds and which the user selects from a sub-menu in the calendar.

"The learning curve for the end user is low,

and the cost is reasonable in relation to the value," says Anders Håkans, who believes that this will contribute to rapid acceptance of synchronization in the marketplace.

With AirCalendar, the user's calendar is constantly updated, regardless of whether it is accessed from an office PC or a WAP terminal.

This is because the calendar information is stored on a Web server that is accessed over the Internet from the office PC and via a WAP gateway from the mobile.

When the user of a GSM or GPRS phone makes a change in the calendar, the contact list or the to-do list, the changes can be sent to the server and forwarded to the fixed PC. This task, which only takes a few seconds, is handled by the synchronization engine.

Service for public networks

AirCalendar is a global service. This means that it can be used by anyone who has access to the Internet and a mobile terminal that supports WAP and synchronization. Two of Eric-

son's forthcoming mobile phones, the R520 GPRS phone and the T36 Bluetooth phone, will both offer the AirCalendar service.

Excellent position

"We are in an excellent position," says Anders Håkans. "Ericsson is first to offer a synchronization solution for both terminals and servers for GSM and GPRS. AirCalendar is thus a service for public networks, but we are also developing an enterprise product. The next step will be to offer a SyncML solution."

Customers for the AirCalendar server will be network operators or ISPs (Internet Service Providers), who may choose between a complete server including synchronization and the Web-based calendar or just the synchronization engine.

Lars Cederquist

lars.cederquist@lme.ericsson.se

 www.ericsson.com/aircalendar

FACTS/SYNCHRONIZATION VISION

Synchronizing data between a PC and a mobile phone today requires a cable or an IR (infrared) link. With a synchronization engine, information and data can be transferred between devices via the wireless network. There is no need to be close to the device with which data will be synchronized. When Bluetooth becomes more prevalent, Bluetooth-enabled devices and systems can be integrated in the synchronization solution.

Currently a number of companies are working exclusively with synchronization and developing synchronization engines and servers. A

vision for the future within the industry is that we will be able to store all information and data in one location. This server will then communicate with all our devices, operating systems and software, keeping them synchronized automatically. All devices will then have access to the latest version as soon as they are activated, regardless of whether we are sitting at home at a PC, in the office, out shopping or traveling abroad.

This will not only apply to calendar, contact and to-do information. Even e-mail, documents and data files will be synchronized.

Modernizing the world's AXE networks

About 10,000 classic AXE switches, some of them from the early 1980s, are still in operation in networks around the world. Ericsson is now readying plans for expanding these systems or replacing them with a new compact building practice that increases performance.

► Ericsson is now working on a plan for how the older building practice BYB 202, which is also called AXE Classic, will be handled in the future.

The plan, which will be finalized by year-end, applies to all systems, both fixed and wireless.

According to a corporate directive, it will no longer be possible after the end of this year to order BYB 202 hardware for AXE Classic nodes. Over the next two years, however, it will also be possible to expand an existing AXE Classic with new products employing the BYB 501 building practice.

"The first BYB 501 nodes were delivered as early as the summer of 1998," relates Jan Hans-

son, project manager for the migration to the new hardware.

"Now we want to speed things up and assure migration to the new products, since the older AXE equipment is now being phased out of production."

Responsibility to customers

Ericsson is offering customers three alternative paths. Either they can replace entire nodes, which some customers have already begun to do. Or they can mix old and new technology in a single node.

Finally, they can use old and new nodes in the same network during a transition period, since replacing all nodes in a larger network can take more than a year.

Ericsson's key account managers (KAMs) are responsible for the migration in each market. Local conferences for Ericsson employees in the Asia Pacific region, Europe/Africa and China are being organized to support local marketing companies.

"This is going to have a major impact on our bottom line, and it is therefore essential that all



"Modernization of older AXE switches has many benefits for customers and for Ericsson," says Jan Hansson.

KAMs ensure that the migration process proceeds according to plan," says Einar Lindquist, manager of the Multi-Service Networks division. "A modern network not only provides benefits in a short-term perspective, but also facilitates migration to tomorrow's integrated systems."

Jan Hansson is quick to emphasize that migration is not only a question of scrapping old AXE nodes, but also about upgrading the network.

No more kits for assembly

The new building practice has a number of advantages. It is more compact – three cabinets can replace ten – and uses only a fraction of the power.

It also consists of a smaller number of products, which are more reliable and more powerful, with a larger group switch that allows more efficient network planning.

The new building practice will also result in significantly short TTC, time to customer, and more rapid installation, since entire nodes or add-on packages are delivered, rather than assembly kits.

"This is a project that delivers significant benefits for both the customer and for Ericsson," observes Jan Hansson, adding that he is pleased that all Ericsson units working with AXE are now working towards the same goals.

Lars Cederquist

http://switchingplatform.ericsson.se/hwmigration/

Advanced Features for Mobile Phones and Accessories



The **MP3 decoder-on-chip** allows to playback music files and record voice messages performing the best figures in power consumption.



The **Euterpe chip**, a high performance DSP for voice technologies, provides ease of use by enabling you to:

- make calls via voice commands
- turn incoming SMS into speech
- have a handsfree phone by using the intelligent microphone capability and a loudspeaker system.



The **CMOS sensor chip** captures high quality images with ultra low power consumption and compact size.



The **finger print recognition chip** ensures that only authorized users can perform business transactions on your phone and protects it against theft.

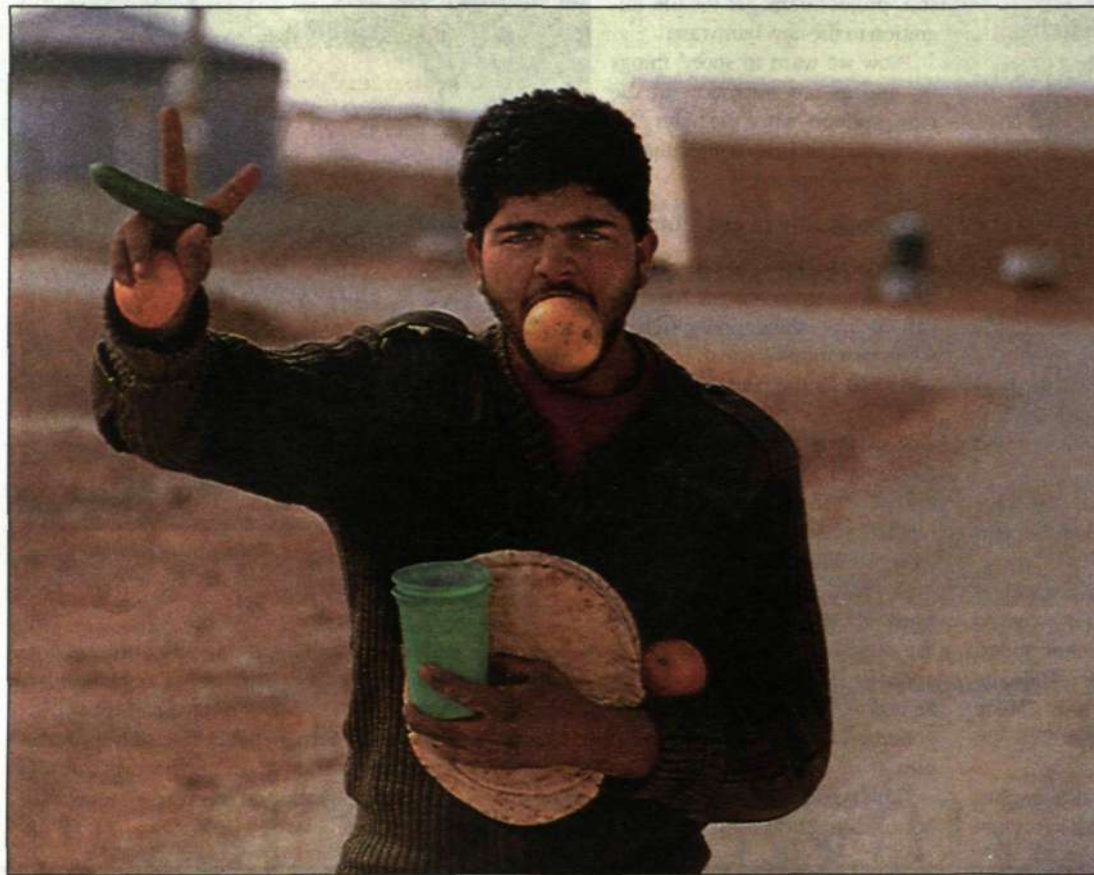
For more information, contact our sales office on +46 8 58 77 44 66 or see our website at www.st.com

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THE PEOPLE WHO MAKE SYSTEMS-ON-SILICON WORK FOR YOU



Natural speech with broadband voice



Even compulsive talkers can enjoy improved voice quality. The development of standardized codecs, real-time multimedia and recognition of different voices will be possible.

Photo: Lars Åström

Broadband and 3G. Data speeds up to 2 megabits per second. Talk about data speeds continues to intensify, but few people seem to be concerned about audio and image quality. Contact decided to find out what Ericsson is doing to improve voice quality.

► "Sorry! I can't hear what you're saying." "Do you have a Nokia or are you phoning from the moon?" These voices heard recently on a Stockholm subway are good examples of how tolerance for poor voice quality has declined recently.

Today it is sometimes difficult to hear who is phoning when you answer a call on a mobile phone. The voice on the other end sounds different. Coverage, meaning how far you are located from the nearest base station is an important factor. But voice quality also depends on other factors.

Sound waves

Speech consists of sound waves. When transmitted over a mobile network, it is digitized, coded and compressed by the voice codec (coder-decoder) in the phone.

Coding means that speech is converted into a stream of codec parameters based on a model of human speech. These parameters contain information about the speech signal's fundamental frequency and spectral characteristics.

Transmitting these parameters across the network requires significantly lower bit rates – between 7 and 13 kilobits per second – than sending an exact analogue of the speech signal.

When voice is switched over from the wireless network to the fixed network, it is re-coded using the coding format employed in the fixed network, which has a bit speed of 64 kbps. This operation is performed by transcoders in the mobile switching centers.

The codec, finally, unpacks the speech signal again and reconstructs the sound waves on the basis of the received parameters. To ensure the highest possible quality, it is important that the parameters are accurate. Which parameters are used and how they are coded are what distinguishes different codecs.

Trade-off between quality and capacity

Ericsson has developed a codec called AMR (Adaptive Multi-Rate), which has been standardized for GSM and 3G systems.

Ericsson's codec allows the operator to increase either voice quality or network capacity. Transparently to the user, the AMR codec constantly changes the bit rate during a call. This product can be used in both wireless and fixed networks and in 3G systems.

Today's GSM systems support three codecs: EFR (Enhanced Full Rate), which gives the best voice quality, FR (Full Rate), which is the original codec, and HR (Half Rate), which is used to increase network capacity.

Ericsson's AMR codec delivers quality comparable to EFR, while increasing capacity for the operator.

The trade-off occurs when the distance to the base station increases or signal strength declines, in an elevator, for example. The codec then switches to a higher bit rate, which increases the capacity for error correction on the radio channel, thus resulting in more robust performance.

Subjective listening tests performed by

Ericsson in Kista are an important part of the development of a new codec. It is important to let human listeners judge quality, since speech and sound are perceived differently.

New possibilities with broadband

In each test, between 25 and 50 subjects evaluate voice quality. As an additional step in improving voice quality in tomorrow's GSM and 3G systems, codecs are now being developed that handle a broader range of the audio spectrum, up to 7 kHz, compared with today's 3.5 kHz.

ETSI, the European Telecommunications Standards Institute, is now evaluating various proposals for broadband codecs and is expected to announce a standard by year-end.

Quality will increase with broadband voice, since voices will have a more distinct identity and naturalness that will create a greater sense of presence.

However, even when 3G networks are in

place, operators will face a trade-off between price, quality and capacity. When bit rates increase in the network, and the transmission of rich information is speeded up, real-time multimedia, such as video-telephony, will be possible.

Ericsson Research is working in three locations to develop new codecs and improve voice quality.

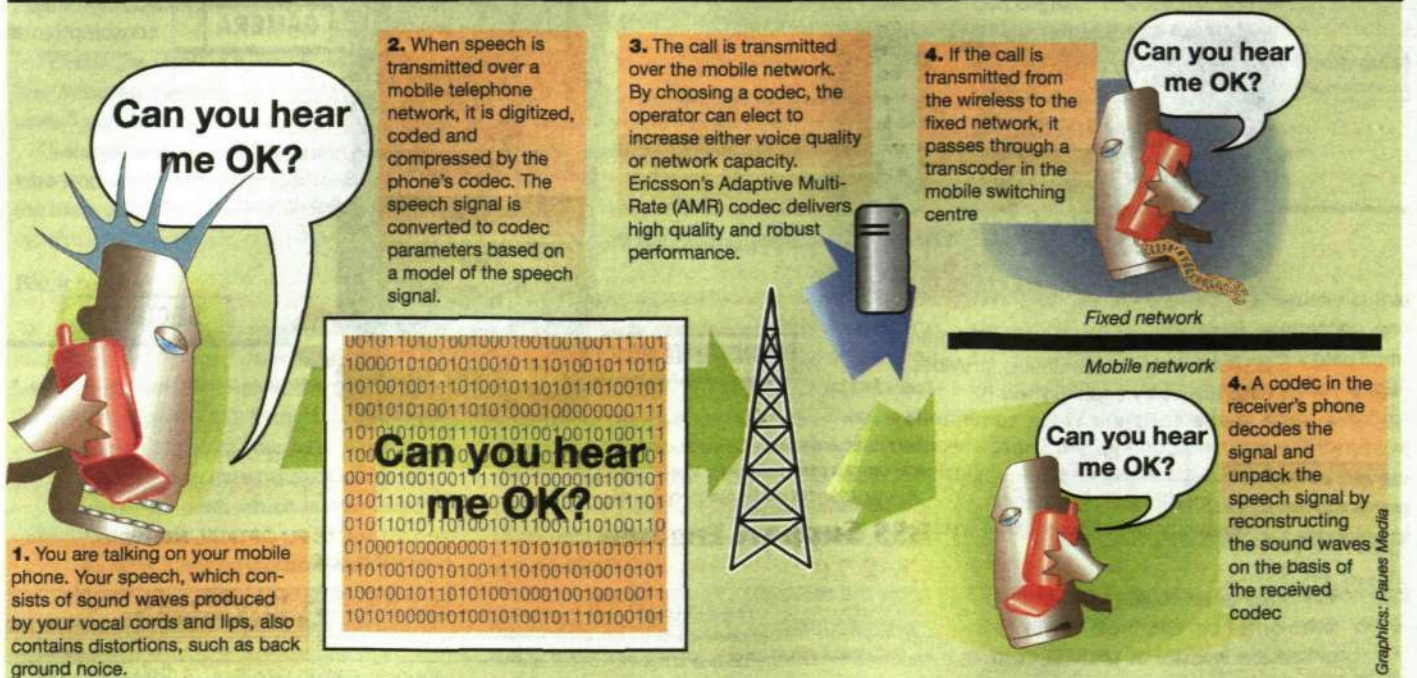
One group in Luleå, Sweden, is working with speech coding, transport media and measurement systems that will allow operators to measure voice quality in their networks.

In Nürnberg, Germany, the focus is on speech recognition, while efforts in Kista are being devoted to standardizing voice and sound coders. The group in Kista is also working with streaming audio and video for real-time multimedia.

Ulrika Nybäck

ulrika.nybäck@ime.ericsson.se

HOW CODES WORK



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. 14 2000

Updated September 8

LM ERICSSON ISRAEL LTD (EOI)

We are providing support and supply to the GSM operator in Israel and to the GSM operator in the Palestinian territories. Our customers' networks are growing rapidly, with a wish to implement new features, they put high value on good support. You will be joining an enthusiastic team in a dynamic working environment. Our office is located just outside Tel Aviv, walking distance from our main customer premises. To live here, in this Mediterranean climate, with many great beaches, great variety of restaurants and lots of historical places to visit is an interesting experience.

New Features Support Engineer, CME 20 (NFS)

● The main responsibilities for this position will be to manage, co-ordinate and participate in the new features investigation, adaptation and implementation on highest technical level and to address customers expectations/needs. Provide technical advice and assistance to engineers, managers and product marketing. Transfer knowledge to less experienced team members. Curiosity, interest and the ability to learn new features/functions is important.

The competence requirements are: Minimum 4 years working experience on AXE 10 application systems, of which at least 2 years experience should be on CME20/CMS40 systems preferably design and verification. Radio network features knowledge is desired. Candidates need to have excellent trouble shooting skills, experience on other mobile application systems/product lines will also be considered advantageous for this position. The candidate must have good English skills, both spoken and written. Driving license is an advantage. The initial contract period will be for 1 year. Only applications from Ericsson employees will be considered for this position.

Contact: Dmitry Filkovsky, Complementary Products - FSC, +972 3 9006057 (ext. 217), Dmitry.Filkovskiy@eoi.ericsson.se or Kevin Murphy, Manager Customer Services, +972 3 900 6016, Kevin.Murphy@eoi.ericsson.se

New GSM & UMTS licenses will be issued and we need to prepare by securing key positions for the future. We expect to be successful and to be supporting at least one of the new operators that will emerge here. Rapid growth is expected, with a wish to implement new features in a market where support is highly valued.

Customer Field Support Center Manager

● Initially in this role your responsibilities will involve the building up of the support section to a specific customer. This will involve the recruitment and training of key competence, the implementation of the latest state of the art procedures and processes to run an FSC and to comply with ISO. The establishment of all necessary interfaces internally and externally and to secure the necessary requirements towards 2nd line support. You will be responsible for the establishment and future handling of Emergency Support, CSR processes and handling, TR handling, Helpdesk requests and the monitoring of ISP data. The use of Extranet will be encouraged.

Eventually you will be responsible for the quality of the network and the provisioning of the highest possible support. Focus on customer satisfaction will be high. You will have full line and budget responsibility for the unit as well as full responsibility for the competence development within the unit. You will also be responsible for service delivery towards the customer. A strong customer focus is needed in this demanding market, where reaction times to problems are immediate.

The competence requirements are: Minimum of 5 years working on AXES 10 application systems. Experience in CME 20 is preferable. Candidates need to have excellent human, inter-personal and multicultural skills, experience from a previous line management or team leader position is a benefit. The candidate must have good English, both written and spoken. Driving license is an advantage. The initial contract period will be for 1 - 2 years (neg.). The position will report to the Ericsson Local Support Manager.

Contact: Kevin Murphy, Local Support Manager, +972 3 9006016, Kevin.Murphy@eoi.ericsson.se. Application: Dalia Levy, Secretary, +972 3 9006016, Dalia.Levy@eoi.ericsson.se.

GSM Switch Network Design Engineer

Ericsson Israel - Customer Services is putting more focus on Switch Network Design in our current work in cooperation with our customer Orange/Partner. The objective is to provide

SND consultation at the customer Network Planning Center. The following are key tasks required: Provide SND (switch network design) senior expertise consultation to the customer staff, as a member of the customer NPC Team. Perform SND (switch network design) activities, with an emphasis on AXE hardware dimensioning. Perform all AXE hardware dimensioning, including extensions on existing nodes, as well as, new nodes. Plan and execute the knowledge transfer required for a seamless 'hand-over' of responsibilities to the customer organisation.

● As a Network Design engineer with a few years experience you will be familiar with the SND activities required in expanding GSM networks. You need to be dedicated towards SND but have a general understanding of the ND area as a whole. You will need to be dedicated, self-motivated and able to take on the role as a team-leader when required. We seek someone who enjoys working together with others in project teams and has an ambition to share their competence and knowledge. Proficiency in CANDI, CMEX, customer communication is required.

RND Engineer

● Radio Network Design includes planning and optimization of the radio network. The objective is to provide RND consultation at the Customer Network Planning Center (NPC) in Israel. A number of positions available. Start and Duration: ASAP. Duration: 6 months with possibilities for extension.

The following are key tasks required: Provide RND expertise consultation to the customer staff, as a member of the customer NPC Team. Perform RND activities, such as frequency/cell planning, site surveys, traffic capacity analysis, tuning of features/parameters, consistency checks and trouble shooting of problem areas. Knowledge about how to analyse radio statistics using STS, MRR etc for performance monitoring. Plan and execute the knowledge transfer required for a seamless 'hand-over' of responsibilities to the customer organisation. In addition to the above tasks there is an opening for a RND Senior Consultant with all the above capabilities. This person should be able to make Feature Presentations, and provide strategically advice for Network Planning.

As a Radio Network Design engineer with a few years experience you are familiar with the RND activities required in expanding GSM networks. You know how to use Ericsson's Radio Network features to get the best performance out of the network. You are dedicated towards RND but have a general understanding of the Network Design area as a whole. You are self motivated and can take the role as a team or project leader on occasion. You enjoy working together with others in project teams and have an ambition to share your competence. Proficiency in using OSS applications, TEMS classic, TEMS Cell Planner, customer communication is required. It's important to have at least some experience with the following OSS applications: RNO (MRR and NCS), SRP(STS), CNA and PMR.

Contact: Kevin Murphy - Customer Services Manager, +972 3 900 6016, Kevin.Murphy@eoi.ericsson.se

SS Support Engineer, CME 20

● The main responsibilities for this position will be to manage co-ordinate and participate in network investigations and trouble-shooting activities on highest technical level and to address customers expectations/needs. Provide technical competence for resolving complex problems in the networks. Provide technical advice and assistance to engineers and managers. Transfer knowledge to less experienced team members. Curiosity, interest and the ability to learn new features/functions is important. You would also need to participate, periodically, in the 24-h emergency support.

The competence requirements are: Minimum 4 years working experience on AXE 10 application systems, of which at least 2 years experience should be on CME20/CMS40 systems preferably verification and/or support/supply. Experience on IN is desirable. Candidates need to have excellent trouble shooting skills, experience on other mobile application systems/product lines will also be considered advantageous for this position. The candidate must have good English skills, both spoken and written. Driving license is an advantage. The initial contract period will be for 1 year. Only applications from Ericsson employees will be considered for this position.

BSS Support Engineer, CME 20

● The main responsibilities for this position will be to manage, co-ordinate and participate in investigations and trouble-shooting activities in the BSS area at highest technical level

and to address customers expectations/needs. Provide technical competence for resolving complex problems in the radio networks. Provide technical advice and assistance to engineers and managers. Transfer knowledge to less experienced team members. Curiosity, interest and the ability to learn new features/functions is important. You also need to participate in the 24-h emergency support periodically.

The competence requirements are: Minimum 4 years working experience on AXE 10 application systems, of which at least 2 years experience should be on CME20/CMS40 systems preferably verification and/or support/supply. Candidates with excellent trouble shooting skills and experience on other mobile application systems/product lines will also be considered for this position. The candidate must have good English skills, both spoken and written. Driving license is an advantage. The initial contract period will be for 1 year.

Contact: Yuval Shoshani, Core Products, FSC, +972 3 900 60 22, Yuval.Shoshani@eoi.ericsson.se, K. Murphy, Customer Services Mgr, +972 3 900 6016, Kevin.Murphy@eoi.ericsson.se.

Account Manager in Israel

● You will lead the account management team working with the new and only GSM Operator in the areas belonging to the Palestinian Authority. The job demands to proactively: create business opportunities, initiate and drive marketing activities, build the account strategy into a sellable and understandable message, in a core 4 culture lead the preparation of proposals, build and maintain customer relationship, contract management, and of course be challenged by the financial targets. To promote and a coordinate activities within the rest of the organization is also an integral part of the job.

We are looking for a person with people management skills, experience with GSM marketing and sales, high level of interpersonal and communication skills, the ability to drive and motivate a young team of professionals. A person with self drive and highly motivated to take on the challenges of an expanding market. Furthermore, we seek a person with excellent presentation skills, as well as, fluent English and a relevant university degree or equivalent. The position reports to the KAM and it is a long-term contract.

Contact: Edvard Gavelfalk, KAM, +972-3-900-6013, Edvard.Gavelfalk@eoi.ericsson.se or Nurit Feldman-Uziely, HR, +972-3-90060 45, Nurit.feldman-uziely@eoi.ericsson.se. Application to all the above: Ericsson Israel Ltd. ATT: Irene Snir, 17 Amal St, Afek Industrial Park, Rosh Haayin 48092, ISRAEL, Fax: +972-3-903 10 19, Irene.snir@eoi.ericsson.se.

ERICSSON TELECOMUNICAÇÕES 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. GPRS knowledge is most welcome. We will only consider candidates employed by Ericsson.

Contact: vasco.alphalho@sep.ericsson.se, +351 214466253 or luiz.ofner@sep.ericsson.se, +351 214466288. Application: Ericsson Telecomunicacoes, Lda. Ed. Infante D. Henrique, Quinta da Fonte, Porto Salvo-2780, 730 Paço de Arcos, PORTUGAL.

ERICSSON LTD, PU OPTICAL NETWORKS, HORSHAM, UK

8 Support Engineers

● KEY RESPONSIBILITIES: Within the Customer Support Services team you will be providing a first class support service to

our customers based around the world. This service includes providing emergency and day to day support to Optical Networks customers. Technically knowledgeable you will be required to support networks/products, diagnose problems, communicate and investigate solutions with customers. The role interfaces with internal and external customers and knowledge of third party supplier products is required.

The role requires travelling both in the UK and overseas and sometimes working outside normal office hours. The role will require a pro-active approach to ensure that specifications, time, quality and cost objectives are met. The same approach is required to provide support to other members of the team in cascading expertise and also to seek advice from other specialists in order to resolve technical issues.

You will also attend customer meetings, produce progress reports, maintain records, implement corrective actions, upgrades and carry out product maintenance tasks.

COMPETENCIES, QUALIFICATIONS AND EXPERIENCE: Ideally you will have highly developed skills in Unix & PC Administration and good technical knowledge of telecommunications and SDH. The role also requires: A degree or equivalent qualification in telecommunications, electronics or computer sciences. Previous experience in the management/maintenance of transmission systems. Customer service skills and knowledge. Clear and concise communication style- both written and oral. A continuous learning style, learning from experience and taking responsibility for identifying and addressing personal development needs.

Contact: Shavak Madon +44 1403 277290, shavak.madon@etl.ericsson.se, HR, Lynor Rathbone, +44 1403 277557, lynor.rathbone@etl.ericsson.se.

2 Verification Engineers

● KEY RESPONSIBILITIES: Within the Verification team your main responsibility would be conducting validation and verification activities on Optical Networks products. You will be liaising with customers and internal colleagues to ensure that each piece of work is completed to the customers' specification. Travel to customer sites (UK & overseas) is required for meetings, testing, customer demonstrations and acceptance tests etc

The role will require a pro-active approach to ensure that specifications, time, quality and cost objectives are met. The same approach is required to provide support to other members of the team in cascading expertise and also to seek advice from other specialists in order to resolve technical issues. The responsibilities will also include the production of trouble reports, test documentation and internal testing processes.

COMPETENCIES, QUALIFICATIONS AND EXPERIENCE: Ideally you will have a background in the installation, testing or commissioning of transmission products. Familiarity with the Product Unit Optical Networks' product portfolio (eg SMA, MSH, Marconi SDH, datacomms, DWDM etc) would be an advantage - see web page: <http://on.ericsson.se/>. The role also requires: Higher technical qualification in telecommunications or telecommunication related subject and/or at least 2 years experience of testing or commissioning in a relevant product area familiarity with UNIX/Windows NT. Strong analytical skills with a proactive approach for problem solving. Clear and concise communication style- both written and oral. Continual learning style, learning from experience and taking responsibility for identifying and addressing personal development needs.

Contact: Simon Cooper, +44 1403 277460, simon.j.cooper@etl.ericsson.se HR: Lynor Rathbone, +44 01403 277557, lynor.rathbone@etl.ericsson.se

ERICSSON RADIO SYSTEMS AB, KISTA

Project Manager- Responsible for Release

Ref nr:R/H1612

● You will be working as assistant project manager with the main task to drive the release work of all SW for the new radio base station. The job contains planning and release tracking and you will also be part of creating the process for release. This job is a very good step towards being responsible for larger project management tasks.

Experience of release of SW, ClearCase and Configuration Management is valuable, good sense of order and driving force are skills valuable for this job.

Contact: Martin Götze, +46 8 585 308 09, martin.gotze@era.ericsson.se. Application marked R/H 1612: Ericsson Radio Systems AB, KI/ERA/R/HS, Inger Holmgren, 164 80 STOCKHOLM, ansokan.PU-WRN@era.ericsson.se.

ERICSSON DOMINICAN REPUBLIC

Local Product Manager

Market Unit Caribbean covers an area of 15 countries and 15 dependencies with some 27 million people. The telecom market is growing strongly with tough competition between operators. Several large global operators are present in the region.

We are now looking for an experienced product manager for a new GSM client in Dominican Republic who can support the KAM in driving the sales and marketing activities, provide product strategic information and system proposals to offerings to the assigned client.

● The candidate should have a good technical knowledge of cellular systems with a successful track record. Knowledge of 3G Mobile technology and Ericsson's datacom solutions is a

ARE YOU HARD ENOUGH TO STAND THE CHALLENGE? BUT SOFT ENOUGH TO SEE PAST THE TECHNOLOGY?

Forget engineering for a moment. Suddenly, one day, your thoughts are connected to your surroundings. Time and distance are irrelevant. Everything is here and now.

The same moment a thought is born and takes form in words it reaches the person you are thinking of. Wherever you find yourself, regardless of time, independent of technology. Suddenly Mobile Internet is a reality.

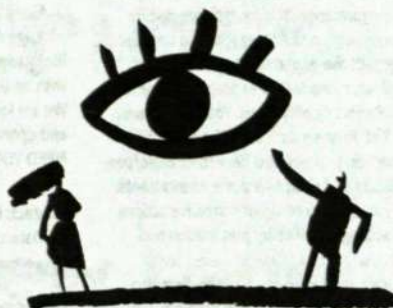
We live with this vision everyday, every minute. It is our calling. All the supporting technology is only the first step.

We exist to place the next generation's e-mail in every person's pocket. A mobile mailbox to revolutionize how we interact, both privately and at work.

This ambition already colors our company. It sets our tone and culture. But culture is borne up and moved forward by people – by talent, experience, will and joy.

We now open the doors of our new company. You'll find us in Kista, Sweden – Mobile Valley – and at the regional centers we will establish around the world.

Would you like to join us in the building of this open and unique enterprise? We are very interested in meeting people with experience in the following areas:



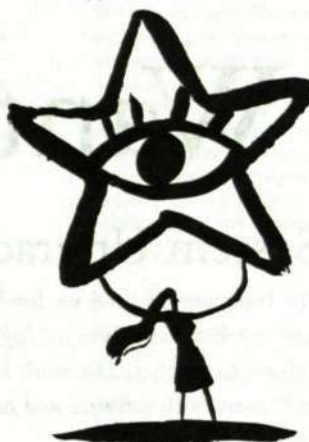
CLIENT DEVELOPMENT

Here lies the overarching commercial responsibility for our business. Together with our net-operator customers we are determined to realize our vision of a mobile society.

We will pluck future opportunities from the many challenges of the technology. You will be a key player with the world as your arena. You will work in cross-functional teams in close cooperation with leading mobile operators. This position requires talent, experience and deep engagement – from the first customer contact to a successful result.

You have probably developed your competence in one or more of the following roles:

Key Account Manager
Marketing Manager
Sales Manager
Marketing Support
Application Support Engineer



TECHNOLOGY

Here lies the responsibility for our technical solutions with their focus on end-users and the benefits they will enjoy from Mobile Internet.

Our success naturally depends on the quality of the technologies we choose to develop. You will find yourself working in cross-functional teams in close cooperation with leading mobile operators. The world is your arena. You will be deeply involved in the entire chain, from innovative prototypes to completed customer solu-

tions. This demands talent and experience. You are most likely to have gained your competence in one or more of the following roles:

Solutions Manager
Systems Architect
Systems Developer
Telecom- and IP Management Architect
Operative Systems for Mobile Phones and PDA's

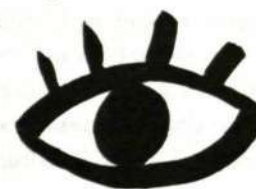


OPERATIONS

Here lies the responsibility for customizing, integrating and continually improving our solutions in the operator's network. Focus is on end-users and the benefits they will enjoy from Mobile Internet. You will work in cross-functional teams cooperating closely with leading mobile operators. The world is your arena. You will be deeply involved in the entire chain, from concept, through the technical practicalities, to reality. That is to say, acknowledgment of customer satisfaction among end-users.

This requires talent and experience. You are likely to have gained your expertise in one or more of the following roles:

General Manager Operations
Integration Project Manager
Service Engineer
Sourcing Manager
Logistics



AN OPEN INVITATION

Even if you do not recognize yourself in the areas and competencies we describe, we still encourage you to send your resume or curriculum vitae. It is important to include a description of the role you imagine yourself assuming in our organization.

Submit your application at www.em-mobileventure.com under the link "Join us!". Please direct your questions to Per Svahn, +46 8 404 4013, or Suzanne Olsson, +46 8 508 797 04, People and Culture.

ERICSSON MICROSOFT MOBILE VENTURE AB

www.em-mobileventure.com

erators' business growth. To strengthen the leading position of Ericsson in the new telecom world in Russia we are currently looking for

2 Key Account Managers

● One of the Key Account Managers is to work with Moscow-based cellular operator - the biggest in Russia - holding both TDMA and GSM licenses.

Together with constant upgrading existing TDMA network, the customer is continuously expanding its GSM network and also looks toward 3G solutions.

The other position is to be the interface to a new operator, which has been recently awarded the license to build the 3rd GSM network in Moscow and Moscow region - the area with the highest mobile phones penetration in Russia.

Key Account Managers' role is to maintain and build up excellent relationships with the customer, promote Ericsson's 2G and 3G solutions, coordinate offer preparation and ensuing negotiations, keeping strong focus on the account profitability. The positions report directly to Market Unit Management Team, whereas operational activities are coordinated by the Vice President, Network Operators.

Qualifications: minimum 3 years experience in cellular Key-account management, business and customer focused attitude, strong leadership abilities, experience of managing complex major projects, solid foundation in telecommunications, Ericsson knowledge, fluent English. "New Telecom World" Manager The head of "New Telecom World" group within Market Unit Russia is the role of highest strategic importance, thus the member of MU management team.

The mission of the "New Telecom World" group is to enable Ericsson becoming preferred New Telecom Solutions supplier for targeted operators in the growing Russian market.

To achieve this challenging goal, the group has to take the leading role in New Telecom solutions and products marketing within Market Unit Russia, support account managers in pursuing business opportunities in the New Telecom area, develop local core datacom competence and drive the Competence Shift of sales executives.

Qualifications: solid experience in Business and Product management both in telecom and datacom areas, business and result-oriented manager with excellent leadership skills, strategic prospective and broad knowledge of Ericsson solutions and products, extensive professional contact network, strong academic background in the field of communications, fluent English.

Contact: Eddie Ahman, eddie.ahman@ecr.ericsson.se, +7 095 763 1546 or Dmitry Chikhachev, dmitry.chikhachev@ecr.ericsson.se, +7 095 233 0342

ERICSSON EUROLAB IN NUREMBERG

Quality Coordinator/Engineer

Project Nr. 74300

● In achieving our goals with high performance, our Quality Department seeks for a Co-Ordinator/Engineer to support the projects and to establish and implement a suitable quality assurance environment performance. You co-ordinate quality activities for the line-organisation to implement and improve the Management System of the department.

As a Quality Co-Ordinator your task is to prepare, communicate and implement Project Quality Plans. You are responsible for the support in Risk Analysis as well as the inspection planning and the inspection process. You have to arrange/perform Project Quality Audits and chair Milestone assessments. Furthermore you take care for follow-Up of corrective actions and assist in problem solving activities by preparation and moderation of workshops.

Required competencies for this position are Moderation and Presentation skills as well as analysis and problem solving skills. Quality Auditing skills are preferable. As a suitable candidate you should have basic knowledge about project management acquired through training, project management and ISO 9001 knowledge. We are looking for an open-minded and team-oriented person with good co-operation and communication skills.

Contact: Department Manager, Harm de Roo, +49 911 52 17 130 or Manager HR, Norbert.Lechner@eed.ericsson.se

ERICSSON INC. NETWORK ROLLOUT AND INTEGRATION, REGIONAL INTEGRATION CENTRE, AMERICAS

The Regional Intergration Center (RIC) for Datacom within EUS has responsibility for regional supply of Datacom services in the area of Network Rollout & Integration. We are looking to strengthen our team in the following key competence areas

Datacom Network Integration Engineers

● We have the mandate for Installation, Configuration and Integration of Datacom products in the Americas region. Our role is to support the market units in their effort to deliver Datacom solutions to their customers.

We are looking for dynamic, creative individuals with high technical skills. The ideal candidate would possess an excellent view of the product lines within Datacom as well as an

overall concept of the technology. We are seeking the best technically business minded engineers for an extremely challenging and rewarding career with the RIC Americas - Datacom located in Dallas, Texas, USA.

We are seeking people with some of the following knowledge and experience: Mobile Telephony Systems (TDMA, and GSM)TCP/IP, Frame Relay, or ATM backbone. Unix (SUN Solaris) at a System Administrator level. SUN hardware at the Installation, Integration, and Troubleshooting level. Access products (AXI products, Cisco). GPRS technology.

Along with an comprehensive and attractive compensation package we also offer a great environment with vast opportunity to contribute to Ericsson's success. ONLY individuals with an uncommon sense of duty and pride NEED applying. We are looking for character...We are looking for a positive, and optimistic attitude. If you fit the above description...WE NEED YOU.

Contact: Ericsson inc., USA, Recruiter Liz Janace, RIC Americas for Datacom, Liz.Janace@ericsson.com

ERICSSON TELECOMMUNICATIONS LANKA PVT. LTD, SRI LANKA

GSM System Support Expert

● We have an interesting challenge for you within our new GSM Contract in Sri Lanka which includes new MSC, BSC, SCP, CGSN, WAP with PPL, SMAS, VPN, I&B and BGW.

The main responsibilities for this position will be to provide technical competence for resolving complex problems at highest technical level and provide technical advice and assistance to Support Engineers. Also transfer trouble shooting skills and competence to Support Engineers. The responsibility will also include TR/CSR handling and being on emergency service.

The competence requirements are: Minimum of 6 years working experience on AXE (mainly MSC), RBS 2000 in verification and/or Support environment. The experience in IN, WAP and GPRS is would be added advantages.

Candidate should also have good English Communication skills. Qualification: Degree in Computer Science, Electronics or Telecommunication Engineering. The initial contract will be for 6 months.

Contact: saman.gunasekara@esl.ericsson.se

ERICSSON TELECOMMUNICATIONS ROMANIA

Ericsson Telecommunications Romania SRL was established in 1994 and has today over 140 employees working with all Ericsson products. In 1997 ETR signed a contract with Mobifon dominated by Airtouch and TIW, one of the mobile opera-

tors. In 1999 we signed another contract with Cosmorum. The tempo is very high and our customers are in a tough competitive situation. Now we are looking for:

BSS Expert Support Engineer, CME20

● The main responsibility for this position will be to manage, co-ordinate and participate in investigations and troubleshooting activities in the BSS area at highest technical level and to address customers expectations/needs. Provide technical advice, assistance and transfer knowledge to less experienced local staff.

You also need to participate in 24-h emergency support periodically. Provide technical competence for resolving complex problems in the Radio Networks.

Competence requirements: Minimum 4 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 must have good English skills both spoken/written and be customer oriented. Only applications from Ericsson employees will be considered for this position.

SS Expert Support Engineer, CME20

● The main responsibility for this position will be to manage, co-ordinate and participate in investigations and troubleshooting activities in the SS area at highest technical level and to address customers expectations/ needs. Provide technical advice, assistance and transfer knowledge to less experienced local staff.

You also need to participate in 24-h emergency support periodically. IN a Pre-Paid experience is desirable.

Competence requirements: Minimum 4 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 must have good English skills both spoken/written and customer oriented. Only applications from Ericsson employees will be considered for this position.

Contact: Adem Sumertas, Technical Director, + 40 1 40 10 162, adem.sumertas@etr.ericsson.se or Simona Zinca, HR Manager, + 40 1 40 10 122, simona.zinca@etr.ericsson.se

Wanted!

AXE System upgrade expertise

The core product unit Network Core Products, CNCP (UAB) is primarily working with both packet and circuit switched systems for both mobile and fixed networks for Business segment Network Operators and Service Providers. CNCP is working with both traditional AXE systems as well as broadband and IP based systems.

UAB has around 1200 employees in Sweden, mainly located in Älvsjö, Stockholm. UAB works with several local design centers all over the world, making the total workforce at CNCP close to 2000 persons.

Our unit within CNCP is working in the interface between CNCP and our customers among the Business Units. We focus on how our products should be delivered in order to fulfill the customers needs in terms of timing, contents, handling, implementation and maintenance.

We are today roughly twenty people involved in our activities, but we need to strengthen up our organization further why we are no looking for You who feel that the described area sounds interesting.

System Upgrade Support

The most urgent need we have, is to strengthen our team working with System Upgrades from one System Release to another. The work is technically advanced and covers both software and hardware aspects of the Systems.

Typically the work includes to develop the methodology for a System Upgrade, preparation of required tools and support software as well as verification.

As the work includes configuration management aspects, we see that you are well organized. We believe that you speak and write English fluently and have a well developed social ability as the work includes many contacts with other people. Experience from AXE handling and system upgrades in the field is a strong advantage.

If you find it more suitable, a long term contract from an other Ericsson organization can be considered.

WHAT CAN WE OFFER ASIDE FROM WORK?
Our small and young unit is a tight group of people of various ages, both female and male. We are located in Älvsjö, Stockholm and have customers spread all over the world, which opens up the possibilities for international contacts and work abroad.

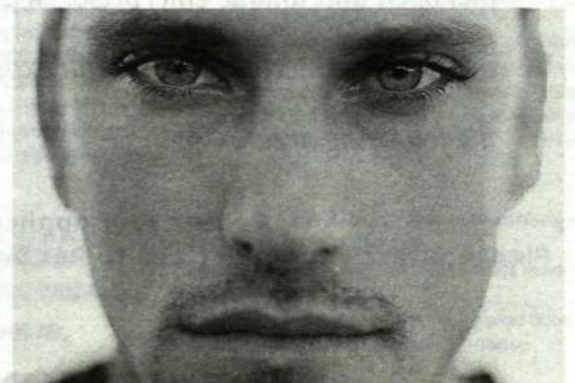
If you have read this far and it sounds interesting, you should definitely contact one of us:

Henric Trolme, phone +46 8 727 36 48 (office)
+46 70 549 24 82 (mobile)
Mail: henric.trolme@uab.ericsson.se

Roger Engblom, phone +46 8 727 31 44 (office)
Mail: roger.engblom@uab.ericsson.se

Send your application marked O/VX Wanted! to:

Ericsson Utveckling AB
Birgitta Friis, ÄL/UAB/P
Box 1505, 125 25 Älvsjö
birgitta.friis@uab.ericsson.se



Make yourself heard.

ERICSSON 



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Ericsson Paris

Your new rendez-vous
with the **UMTS** challenge

Ericsson France has very high objectives in terms of development of the radio business (Wireless Local Loop, Transmission, UMTS). Radio UMTS is the objective n°1 of the company.

WITHIN THE TECHNICAL DIVISION, THE CORE NETWORK DEPARTMENT IS LOOKING FOR:

• UMTS Architect and Systems Engineers

You will be part of a group of 6-8 systems engineers, working for existing operators and the future new UMTS operators. The activities covered are UMTS network architecture and dimensioning including systems expertise on Ericsson Core Network products (Support to sale and project execution). You will have to develop the cooperation with the same organisations in other markets units and Sweden. Suitable candidates have proven experience in one or more of the following areas: GSM systems, ATM and IP Protocols, IN Networks, UMTS knowledge is a plus. For these opportunities, please contact: Jean Reysset, + 33-1-40-83-42-20, mobile + 33-6-83-83-81-84 jean.reysset@esf.ericsson.se • Cécile Sardet, + 33-1-40-83-42-84, cecile.sardet@esf.ericsson.se

WITHIN THE TECHNICAL DIVISION, THE WIRELESS ACCESS DEPARTMENT IS LOOKING FOR DIFFERENT PROFILES HAVING A RADIO BACKGROUND:

• Cell Planning Section Managers

You will have to coordinate the activity of a group of 10 Cell Planners (some experienced and some trainees), working mainly for WLL, UMTS, and GSM export., for the existing operators and the future new UMTS operators. The activities covered by the section are support to sales, nominal planning, measurements, radio survey, network optimisation. You will have to develop the cooperation with the same organisations in other market units and in Sweden. We are looking for a person with management skills and experience (as Section Manager and/or Project Manager), and with a cell planning technical experience. Speaking/reading/writing French is definitely a bonus, but not mandatory.

• Cell Planners

You will be part of a group of 10 Cell Planners (some experienced and some trainees), working mainly for WLL, UMTS, and GSM export., for the existing operators and the future new UMTS operators. The activities covered are support to sales, nominal planning, measurements, radio survey, network optimisation. We are looking for senior cell planners (3 years of experience as a minimum) that could lead RND projects and coach trainees. UMTS knowledge is a plus. Speaking/reading/writing French is definitely a bonus, but not mandatory.

• Test Section Managers

You will have to coordinate the activity of a group of 10-15 testers (some experienced and some trainees), working mainly for WLL, UMTS, and GSM export., for the existing operators and the future new UMTS operators. The activities covered by the section are test preparation, system tests, interworking tests, and acceptance tests, for turnkey solutions in the technologies presented above. You will have to develop the cooperation with the same organisations in other market units and in Sweden. We are looking for a person with management skills and experience (as Section Manager and/or Project Manager), and with a testing technical experience. Speaking/reading/writing French is definitely a bonus, but not mandatory.

• Test and Verification Experts

You will be part of a group of 10-15 testers (some experienced and some trainees), working mainly for WLL, UMTS, and GSM export., for the existing operators and the future new UMTS operators. The activities covered are test preparation, system tests, interworking tests, and acceptance tests, for turnkey solutions in the technologies presented above. We are preferably looking for senior testers (3 years of experience as a minimum) that could lead test projects and coach trainees. UMTS knowledge is a plus. Speaking/reading/writing French is definitely a bonus, but not mandatory.

For these opportunities, please contact: Patrick Orsini, +33-1-43-50-42-50, mobile +33-6-84-52-52-62, patrick.orsini@esf.ericsson.se

WE ARE ALSO LOOKING FOR:

• Switch Implementation Supervisors

As a responsible for supervising switches installation and test for cellular and PSTN networks, you will be in charge of: • Performing customer site inspection • Managing on site sub contractors installation and hardware test teams • Ensuring that sites are installed and tested according to Ericsson standard quality, within agreed time schedule. • As part of agreement, conciliating on site customer requirements • Representing Ericsson towards our customers for installation performance. You are implicated in installation and test methods improvement, and involved in work site profitability. Candidates shall have excellent communication skills. Knowledge and experience of rules and methods for switch installation and test are requested. A good level in speaking/reading/writing French is required.

• Radio Implementation Supervisors

In the frame of radio sites deployment for Mini link and WLL projects, you will be in charge of: • Site inspection • Supervising on site sub contractors deployment teams • Ensuring that sites are installed according to Ericsson standard quality. • Performing hand over to customer once acceptance fully completed • Assume operational support to on site sub contractors deployment teams during installation and test phases. Candidates shall have good radio knowledge as well as excellent communication skills. Previous experience in radio deployment is requested. A good level in speaking/reading French is required.

For these opportunities please contact: Sébastien Barreau + 33-1-64-47-66-38, mobile 33-6-85-40-85-61 sebastien.barreau@esf.ericsson.se Or esf.drh@esf.ericsson.se

• Systems Deployment Project Managers

You will be responsible for the implementation of deployment projects. The activities covered are handling deployment projects (installation/integration/upgrades) from request to successful completion of the product deployed, representing the Ericsson deployment organisation in dealings with customers and local deployment offices during on-site and remote deployment activities, developing and maintaining sufficient product knowledge for current products, installing/upgrading software and hardware products, providing on site on call support, providing remote support to on-site Ericsson deployment personnel, reviewing hardware and software configuration for deployed products, performing installation and/or acceptance tests of deployed products, producing and maintaining deployment tools. We are looking for people with management skills and experience and with a deployment technical experience. A good level in speaking/reading/writing French is mandatory.

• Bid Manager UMTS

You will have to manage the bid process on the operational side and finalise the offers to the customer after obtaining all the internal authorisations from the Ericsson departments/functions involved in the bids. You will be responsible for running the in-country bid management function and contribute to continuous improvement of bid management standards, providing the local UMTS bids forecast, coordinating and planning the overall bid resources, participating in the UMTS project management, defining with the KAM/NAM and management the winning strategy for each bid, managing the qualification process, providing consistent briefs to the management to implement the winning strategy and have the appropriate resources allocated as soon as possible, building the bid team with appropriate skills. Animate and motivate the bid team, producing bid management plans, building relations with appropriate resources outside of the local organisation, conducting risk assessment and produce risk analysis summary, supervising the bid production activities, controlling the schedule to meet the customers' deadlines, monitoring handover to postsale teams for every win. Speaking/reading/writing French is definitely a bonus, but not mandatory.

• Local Service Product Manager

For professional and customer services in the ESF marketing division, we are looking for a «service product managers». He or she will be in charge of the packaging of the fixed, data and IN products that are marketed in France. The key responsibility is to define and price our offer of customer and professional services for these products. The other tasks are the marketing plans for France, the external communication and the sales support in collaboration with the service product manager in charge of mobile products. Candidates for this position should have a technical knowledge on these telecommunications products and basic marketing knowledge. The level of French language should be fluent but excellent is not necessary.

For these opportunities, please contact: esf.drh@esf.ericsson.se

The premises are located near Paris.

ERICSSON

Would You like to join a new VENTURE at Ericsson Business Innovation?

Ericsson Business Innovation, the global Ericsson incubator recently decided to start a new Venture, Network Data Base (NDB).

NDB is an online data server technology. It's a "telecom class" database, which offers outstanding quality and technical leadership in terms of capacity, reliability, scalability and response times. It is the only database that combines superior solutions of all those technical characteristics in one product.

NDB represents a unique business opportunity particularly attractive in strategic and fast growing market segments: the Internet Transaction-; the Internet Storage-; the Telecom Application-; and the Directory Server Segments. The driving factor in these segments is the tremendous growth rate in combination with increasing performance demands. The performance in these segments is below the required speed, capability and reliability to materialize the full commercial potential. Performance is (and will increasingly be) a key differentiator of Internet and Telecommunication companies. NDB is – in its very concept – designed to tackle this problem. These market segments are estimated to a size of 11 BU\$ in 1999 and growing to 60 BU\$ in 2005, representing a growth of 60% per year.

We are now looking for a core team that can lead the build-up of the venture and participate in the commercial launch of the NDB venture. We are presently looking for the following positions:

Marketing Manager

In this senior role you will be responsible for driving the overall development and marketing of NDB service solution scenarios. It will be up to you to communicate the vital importance of the strong NDB proposition as well as the added value of NDB to the customer's environment and business model.

As the natural leader, you will provide the inspiration and the technical and commercial competence to see things through, from the preparation of business cases and marketing plans and – material to seeing through their effective implementation, launch and market introduction. You will also be overall responsible for the push and follow-up sales activities of New Business Opportunities to existing and new customers, as well as the overall profit-loss performance. You must be qualified for maintaining the highest possible level of customer and channel satisfaction for the partners of NDB and the defined target segments:

- Internet Transaction Servers (e-commerce applications, database-driven web sites etc.)
- Internet Storage Servers (web cache servers, file servers etc.)
- Directory Servers (LDAP servers)
- Telecom Application Servers (VoIP-GW, SIP servers etc.)

Educated to degree level you must be able to draw on at least 5 years industry experience with a minimum of 2 years in an Internet-Database marketing capacity. Experience in a start-up company is a pre.

Senior Project Manager

In this senior role you will be responsible for driving the operational development of NDB' service solution scenarios. It will be up to you to implement NDB

components in an integrated, high quality solution. You will be responsible for budget, time schedule and quality goals as well as the co-ordination & set-up of the several simultaneous ongoing projects, which include all phases from pre-study to maintenance. Your responsibility- & activity scope includes contacts with customers & designers, product & line managers, preparation of quotations & tenders, planning of resources, orders, subcontract management, processes, Methods & Tools, providing statistics and reports, plus much more.

You are a business oriented, flexible operational manager with international experience in Telecom and/or information technology. You have managed complex TTM, TTC & system integration projects. You have the skills to motivate people in different cultures to achieve results. You are recognised as a leader, but would not hesitate to take active part wherever needed.

You must be qualified to deliver the projects according to budget, time schedule and quality, to manage the channels satisfactory and have experience & affinity in the defined customer target segments:

- Internet Transaction Servers (e-commerce applications, database-driven web sites etc.)
- Internet Storage Servers (web cache servers, file servers etc.)
- Directory Servers (LDAP servers)
- Telecom Application Servers (VoIP-GW, SIP servers etc.)

Educated to degree level you must be able to draw on at least 5 years industry experience with a minimum of 2 years in an Internet-Database operational capacity.

Contact person for the Marketing Manager and Senior Project Manager is:

Ton Keppel, phone +46 8 719 20 98 or
+46 70 641 42 06
ton.keppel@era.ericsson.se

Database Kernel Expert

This person will assume technical responsibility of the database kernel. A deep knowledge of databases and their implementation is needed. The database kernel contains all parts handling data storage, index structures, recovery algorithms and transaction protocols. A good understanding of system architectures, programming and handling diverse requirements is needed.

SQL Expert

This person will assume technical responsibility of the SQL Engine. This requires a deep knowledge of databases, SQL interfaces, web languages, parser technology.

System Integration Expert & System Integrators

This person will assume technical responsibility of the product releases. Development of testing tools, testing strategies and responsibility of system integration is within the scope of this persons assignment. A good knowledge of both databases and testing is needed.

System Integrators are responsible for setting up the lab's for various OS's, with various HW configurations and can also assist the software testers in executing tests. A background as system administrator is needed.

Product Managers

The product managers will assist the Marketing Manager in market contacts, defining market strategies, developing marketing material, handling customer contacts and defining requirements on product releases of NDB.

Software Experts & Software Designers

Software Experts are software developers with a deep knowledge in programming advanced systems with high requirements on quality, real-time, performance and easy-to-understand code. A pragmatic view on software development using the best tools for the task is preferred.

Software Designers will assist in developing the NDB software assisted by various experts.

Software Testers

Software Testers will develop and execute test cases and assist software developers in debugging the faults. A background in testing is desired.

Contact person:

Mikael Ronström, phone +46 8 727 25 55 or
+46 70 264 63 63
mikael.ronstrom@uab.ericsson.se

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Make yourself heard.

ERICSSON

High above Istanbul

Climbing masts to perform installations is not a job for just anyone. It involves mounting radio equipment a hundred meters above the ground, or on roofs and the sides of buildings. Needless to say, the climbing course offered at the Competence Development Center by Ericsson in Turkey is an important one.

► Some years ago, GSM Systems, along with Teracom and Crux, developed a new climbing method and course package that is used in the climbing training program at Ericsson in Istanbul.

"So far, we've conducted seven courses with some 70 participants from both Ericsson and our biggest GSM customer, Turkcell," says Ali Ercan, head of the training center.

The course deals both with physical safety while working high up and how to save time and money by using the appropriate equipment. This applies, for example, to the installation of antennas and base stations on the sides of buildings, an increasingly common

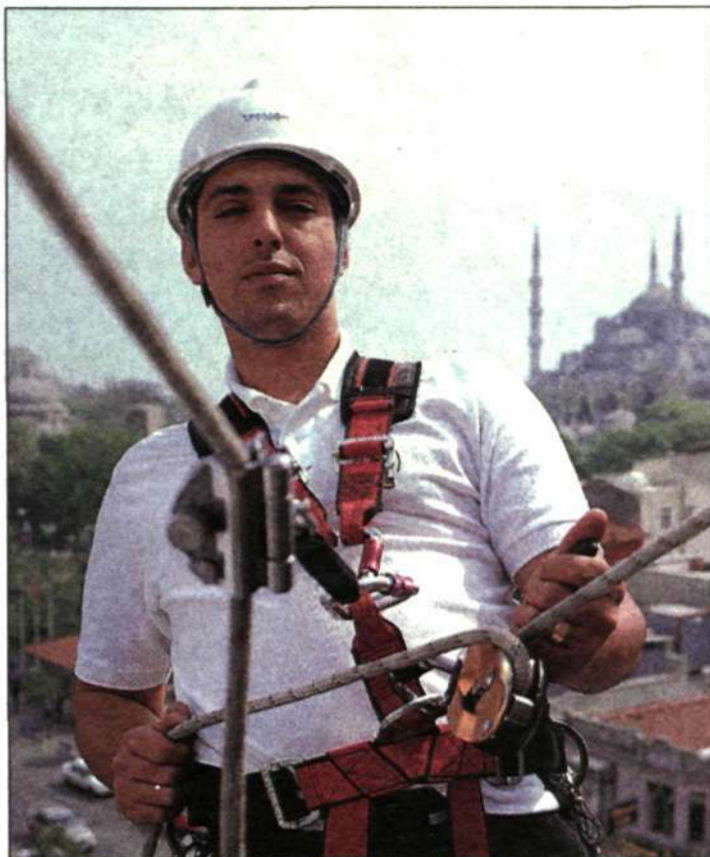
location for transmission equipment.

Using the new tools available, installers can lower themselves down from rooftops, without the assistance of cranes, thus avoiding the need to block off streets.

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Climbing training is offered through the Competence Development Center by Ericsson in Istanbul. Participants with a head for heights can enjoy the views.

Photo: Håkan Sjölander



Internet film awarded prize

► Ericsson's animated film about how the Internet works has attracted a great deal of attention in the industry. The film, "Warriors of the net," won first prize in the Pirelli International Award



1999 and has been named the selection of the week by the search engine Yahoo.

"This is really great. Interest has exceeded all our expectations," says Niklas Hanberger, one of the people involved in making the film at Ericsson Medialab in Marievik last year.

The film provides a simple explanation of how traffic over the Internet actually works, and is suitable for school classes and technology managers alike.

The film was even nominated for the Big Kahuna prize in the category best three-dimensional multimedia production.

The film is available in MPEG format and can be downloaded from the Internet.

www.warriorsofthenet

New order office at Gävle plant

► An order office for Japan opened on September 1 at Ericsson's plant in Gävle. The plant already had three order offices: one for Western Europe, one for America/Africa/Asia/Pacific and one for WRN, or broadband. Altogether, there are 90 people employed at the four order offices.

The purpose of the order office is to develop contacts, delivery flow, processes, methods and tools. GSM has been conducting work in this manner for several years. The order office for Japan will contribute to closer collaboration with customers. One example is the routines available for claims.

These routines may also be adopted by the other order offices.

Party goes to best Mr. E results

► Ericsson in the US is building up the excitement ahead of the final competence shift race. Once all the employees in a department have answered Mr. E's tricky questions, the department's name is published on a special website, "Competence shift honor roll."

Each month, the company raffles off a prize in the form of a departmental party for one of the new additions to the roster of departments that have completed the competence shift program.

Coffee breaks could soon be risk-free

► Are you one of the Ericsson employees who drinks too much coffee on the job, or have you been forced to convert to decaf? A group of Japanese and Scottish researchers have now succeeded in cloning a gene that makes it possible to grow coffee plants that will provide caffeine-free coffee.

Currently, caffeine-free coffee available on the market is made by removing caffeine prior to roasting. The chemical process used for removing caffeine leaves an aftertaste, explaining the suspect taste of decaffeinated coffee.

See the stars – if you win

► Do you dream about mingling with the celebrities of the music world? Perhaps your chance has arrived. Ericsson is raffling off tickets to the MTV Europe Music Awards in November.

For the second year in a row, Ericsson is one of four main sponsors for cable music channel MTV's Europe Music Awards, to be held on November 16. MTV will be awarding prizes in seventeen categories during the star-studded ceremony in the Stockholm Globe Arena.

Those of you who work for Ericsson

in Europe have a chance at winning tickets to the gala event. Ten first prize winners will receive a trip and accommodations in Stockholm, along with tickets to the music awards and other exciting activities.

To enter the competition, log on to Ericsson's intranet site at: inside.ericsson.se/MTVawards

If you do not have access to the intranet, watch out for entry forms at your workplace or contact your local public relations representative.

The contest runs from September 11 to October 13.



Last year's MTV Awards gala in Dublin was attended by 4,000 celebrities, viewers, artists and MTV representatives. If you work at Ericsson in Europe you have a chance of winning tickets.

FACTS/MTV EUROPE MUSIC AWARDS

MTV Europe Music Awards will be broadcast live all across Europe and to the rest of the world on MTV's channels. MTV rotates the location of the gala event among various European cities. Read more at www.mtv.com

ERIC & SON





Ericsson employee and top-ranking canoeist Anna Olsson is rushing towards the Sydney Olympics. The games will be challenging, but she has more than 100,000 co-workers rooting for her. Photo: Rolf Carlsson/Pressens Bild

Going for gold

On Friday, September 15, the Sydney Olympic Games opened. Anna Olsson from Ericsson is there looking for a medal.

► Mark the 30th of September in your calendars, because you will want to be poised in front of your TV sets. Anna Olsson, Sweden's hope for a gold medal in canoeing, will hopefully paddle her way to the finals.

The 36-year old engineer, who works as a unit manager at Ericsson Infotech in Karlstad, Sweden, is no newcomer to the games. She has already competed in four Olympics and won a gold medal in Los Angeles in 1984 in the K2 500 meter competition.

This year, Anna Olsson will be competing in the K1 500 meter event and in the K2 500 meter event with Ingela Ericsson.

TV viewers will want to watch out for the Australian and Hungarian teams in the K2 event and Canada's and Italy's entrants in the K1.

Anna Olsson is confident, however. "I definitely expect to make the finals and to be in the race for a medal."

Anna believed that her successful career had ended after the Atlanta games, when she gave birth to her first child.

She continued to produce top results, however, and when she won both the 500 and 1,000 meter K1 events at this year's Swedish championships, her ticket to Sydney was secured.

Anna Olsson traveled to Australia on September 5, after a long period of intensive training that was made possible by an understanding employer.

"I have always been able to take as much time off as I need. That really helped me with my pre-season training this spring.

FACTS/ANNA OLSSON

Employed at Ericsson since 1993
Family: partner Morten and sons Magnus and Harald.
Number of Olympics: Five including Sydney (Los Angeles 1984, Seoul 1988, Barcelona 1992 and Atlanta 1996).
Achievements: Gold and Silver in the 1984 Olympics, Bronze in the 1992 and 1996 Olympics. One Gold, two Silver and three Bronze in the World Championships. 50 gold medals in Swedish championships, the first of which as a 16-year old.

Now we can only hope that Anna Olsson can return the favor by winning a medal in Sydney.

Jesper Mothander
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UPCOMING

September 20-29: Networks Telecom, an exhibition that promises to be one of the industry's hottest. Speakers will include Ola Elmeland, manager for marketing and business strategy at Ericsson Sweden, on "Mobile Internet - a new way of thinking."

September 25-27: How about Donald Duck over WAP? This is one of the topics to be addressed at the WAP Content Congress in Amsterdam. In addition to Disney's Paulo Cedlini, WAP Forum CEO Scott Goldman will address the conference.

September 29, Ericsson IP Infrastructure in Maryland, USA, will celebrate the opening of their facility which is located in Rockville, Maryland.

UPDATES

Ericsson Microsoft Mobile Venture AB launched. The company, which is jointly owned by Ericsson and Microsoft, will supply commercial solutions for mobile e-mail.

A new venture capital fund will stimulate the development of the mobile Internet in North America and Europe. Ericsson, Industrivärden, Investor and Merrill Lynch are investing a total of USD 300 million in the fund.

NEW ASSIGNMENTS

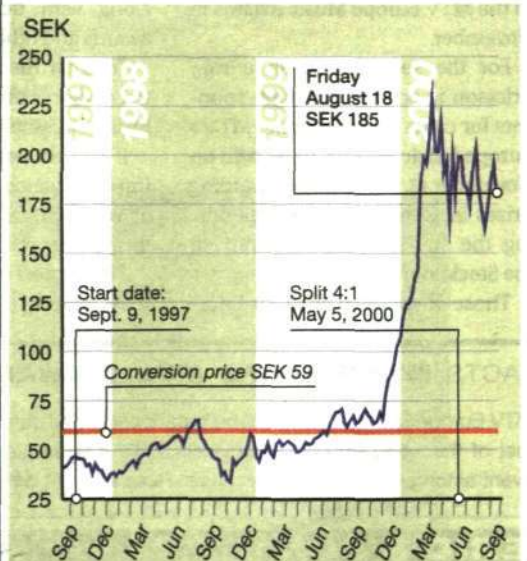
Nikus Nordling, Ericsson Radio Systems, has been appointed senior specialist in the area of Radio Network Planning Methods.

Hans Brolin, Telefonaktiebolaget L M Ericsson, has been appointed expert in the area of Software Technology.

Kåre Gustavsson, Ericsson Radio Systems, has been appointed expert in the area of Electronic Packaging.

Ralf Bergqvist, Telefonaktiebolaget L M Ericsson, has been appointed expert in the area of Radio Network Products.

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>

