

Shared vision

The Efficiency Program and strategies dominated a global telephone conference, lead by Kurt Hellström. 400 executives participated in the conference. **3**

Disaster relief continues

Ericsson employees recently journeyed to Sierra Leone and Guinea to learn the best way to provide support during disasters. Ericsson Response is one commitment that cannot be revoked because of cutbacks within the company. **13**

WAP assists helpers



WAP phones are providing support for social workers helping out the homeless in Atlanta in the US. With a few keystrokes, information about available shelters can be displayed. **15**

contact



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Ericsson B share,
Stockholm June 8
Last Contact 72.00

NO. 11 • JUNE 14 2001



Stefan Agerwald is the student who brought Ericsson, Swedish Radio and Popwire together to conduct the world's first live transmission of radio over a 3G network. Photo: Claes Löfgren



Web TV will complement Contact, News Center and Inside in providing the company's internal information. Photo: Rolf Adlercreutz

Ericsson starts up web TV

June 12 marked the launch date for Ericsson's web-based TV. A five-minute program each week on the intranet will provide a good overview of what is going on within the company. The program will be named after its length: 5minutes.

"Television is a medium that is easy to absorb, it generates emotions and it has a major impact," says Urban Ermling, the creative producer for 5minutes.

News, 4

News via 3G technology

As the trial of the persons accused of an art theft at the National Museum in Stockholm began, it wasn't simply their story that was newsworthy. It also marked the first time that a real news event was reported to a studio with the assistance of new 3G

technology. Ericsson's test network in Stockholm worked perfectly when the radio transmission was sent. Stefan Agerwald, a student at the Royal Institute of Technology in Stockholm, was the person behind the initiative.

News, 6

Major market gathering

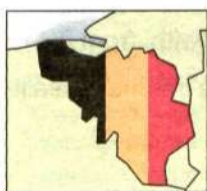
More than 300 journalists, analysts and investors attended a "Strategy and Technology Summit" hosted by Ericsson in New York. The purpose of the gathering was to increase understanding and knowledge about where Ericsson stands on the threshold of 3G. **10-11**

Collaboration is key in Benelux

Collaboration with neighboring countries is important for Ericsson's company in Belgium. At the moment, it is the large UMTS order from KPN Mobile that is on the table.

Multicultural Belgium is like a mini-Europe and is therefore a suitable test market for new products.

Spotlight on Belgium, 16-17



WORLD WATCH

The EU is worried that crime-fighting authorities are not keeping up with the rapid pace of development within communications. This is why the union would like to give authorities expanded options to monitor telecom and datacom traffic, although human rights organizations are critical of that plan. **9**

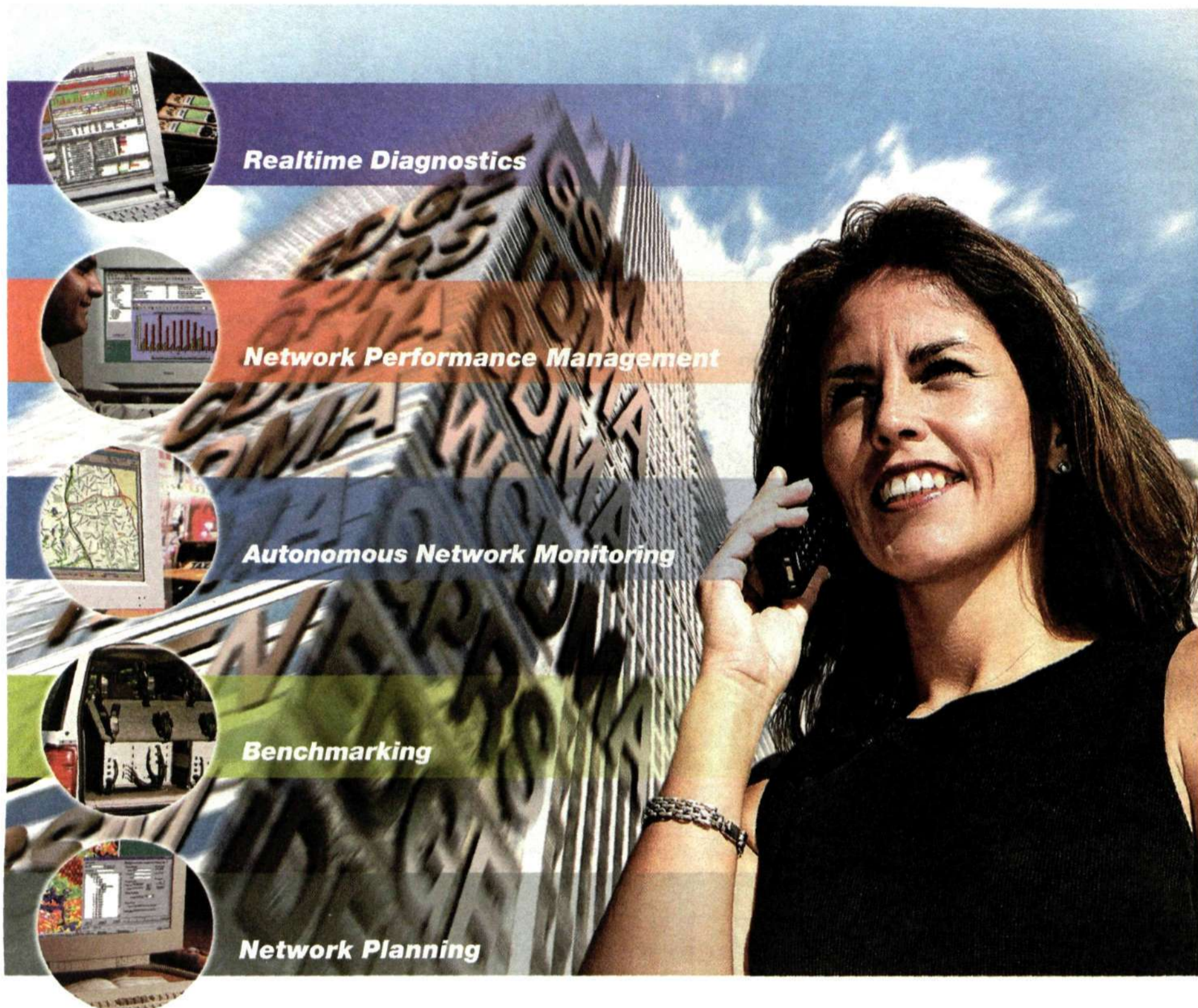
TECHNOLOGY

Ericsson is working to develop a new GSM micro base station, the RBS 2308, which will be three times more powerful as the current best seller, the RBS 2302. Despite the fact that it has been significantly reduced in size, it is able to operate without fans and is completely quiet, something that Ericsson alone is able to offer. **22**

AT WORK

Our clothing is significant in determining how successful we are at work. A conventional suit for men and a dressy blazer for women are both safe bets. Employees that Contact interviewed warned against wearing shorts, tennis shoes, frills and T-shirts sporting the logos of competitors in determining how successful we are at work. **24-25**





Task: Planning and optimizing wireless networks.

Solution: The TEMS portfolio. From 2G to 3G.

If you need to plan and optimize 2G or 3G networks, use the TEMS portfolio from Ericsson.

Operators around the world utilize our portfolio, for every aspect of network optimization – from initial design and performance testing to upgrades and expansion planning.

We're constantly improving our products to make sure they address the challenges wireless operators have to face.

Delivering tools to grow with, from 2G to 3G, we're helping make Mobile Internet a reality.

Strategy, finances and future discussed

Speaking to 400 Ericsson executives during a recent global telephone conference, CEO Kurt Hellström stressed the importance of the Efficiency Program and how everyone in management should act now to implement necessary changes across the organization.

"Let's do what we have done excellently over the last 125 years: let's concentrate on our key strengths, and let's adapt quickly," he urged.

► The conference, on May 30, allowed management to present its views on the future, report on progress of the Efficiency Program, and field questions. Kurt Hellström opened by describing Ericsson's current situation and outlining strategies for the future that will enable it to be the first company out of the current downturn, with streamlined operations, a strong grip on costs, better focus and improved financial results.

He also confirmed that Ericsson would continue its end-to-end solutions strategy with Sony, adding that in hard times it is crucial to have one strategy and brand in order to keep the business advantage.

Positive cash-flow

Sten Fornell, Executive Vice President and Chief Financial Officer spoke about the company's financial situation. He said the main targets for the year are to regain positive cash flow, implement the Back-to-Profit program at the division Consumer Products, improve the operating margin for Systems, and successfully execute the Efficiency Program.

Sten Fornell explained that a rapid improvement of cash flow is needed to pursue the tremendous opportunities in Ericsson's core business. He said the long-term financial objectives remain, including sales growth of more than 20 percent per year, return of capital employed 20-25 percent, and an operating margin of at least 10 percent.

"And with all measures addressing our capital tied-up," Sten Fornell concluded, "I count on a capital turnover well above two times a year."

Audit programs a requirement

Executive Vice President and Coordinator for the Efficiency Program, Ingemar Blomqvist, gave a detailed account of the program's structure. He noted that savings of USD 1.8 billion this year have been identified and the imple-



Kurt Hellström, Sten Fornell, Torbjörn Nilsson, Britt Reigo and Ingemar Blomqvist discussed Ericsson's future in the ever developing telecom market.

mentation process has already started. The Efficiency Program must not be seen as a separate project. The responsibility lies within the line organization and the line managers are accountable. The next step for the Efficiency Program team is to audit programs within divisions, market areas, market units, local companies and corporate functions.

Looking to control

Britt Reigo, Senior Vice President, People and Culture, who spoke on simplifying the organization said this could be achieved in three steps: a stronger Product Management and more profit-oriented Product Development, introduction of a new concept – Global Customer Units – to work with global customers and reviewing functional activities in the global organization looking for areas where corpo-

rate direction and control is needed. Britt Reigo also spoke about new STI, Short Term Incentive, targets and the stock option and stock purchase programs now under way.

Bright future in telecom market

Torbjörn Nilsson, Senior Vice President, Marketing and Strategic Business Development, concluded the presentations with a relatively bright picture of the future telecoms market.

"We see an increase in traffic on the network and high growth in the number of subscribers," said Torbjörn Nilsson.

"Although we're experiencing a temporary downturn in the market, the operators will eventually increase their investments again."

He restated that today's market is in a difficult period, marked by "flat" growth in the US in

telecom equipment, technology shifts, overcapacity in 2G mobile phones, financing constraints, and so on. He noted that there has been continued mobile growth in the first quarter of 2001 and claimed that Ericsson is leading the way into the multi-services telecom world.

Torbjörn Nilsson said that the company's strengths are its position in leading and supporting open standards, that it leads in mobile systems, it leads the transition to broadband Multi-Service Networks, Engine, and that it offers leading end-to-end solutions with a strong global service organization. Torbjörn Nilsson concluded that Ericsson would also lead the way with its new services platform and basic applications.

Kris Walmstey

kris.walmstey@lme.ericsson.se

contact

CORPORATE EDITOR, PUBLISHER

Lars-Göran Hedin, +46 8-719 98 68, lars-goran.hedin@lme.ericsson.se

SENIOR EDITOR

Henrik Nordh, +46 8-719 18 01
henrik.nordh@lme.ericsson.se

ASSISTANT EDITOR

Pia Rehnberg, +46 8-719 34 72
pia.rehnberg@lme.ericsson.se
Lena Widegren, +46 8-719 69 43
lena.widegren@lme.ericsson.se

EDITORIAL STAFF

Lars Cederquist, +46 8-719 32 05
lars.cederquist@lme.ericsson.se
Elin Dunäs, +46 8-719 06 21
elin.dunas@lme.ericsson.se

Lars-Magnus Kihlström, +46 8-719 41 09
lars-magnus.kihlstrom@lme.ericsson.se

Tonya Lilburn, +46 8-719 32 02
tonya.lilburn@lme.ericsson.se

Jesper Mott, +46 8-719 70 32
jesper.mott@lme.ericsson.se

Jenz Nilsson, +46 8-719 00 36
jenz.nilsson@lme.ericsson.se

Ulrika Nybäck, +46 8-719 34 91
ulrika.nyback@lme.ericsson.se

Gunilla Tamm, +46 8-757 20 38
gunilla.tamm@lme.ericsson.se

PHOTOGRAPHY

Ecke Küller, +46 8-681 35 07
ecke.kuller@lme.ericsson.se
Lars Åström, +46 8-719 93 31
lars.astrom@lme.ericsson.se

ADDRESS

Telefonaktiebolaget LM Ericsson,
HF/LME/DI
SE-126 25 Stockholm
fax +46 8-681 27 10
contact@lme.ericsson.se

DISTRIBUTION

Solveig Sjölund, +46 8-719 41 11
solveig.sjolund@lme.ericsson.se

EXTERNAL ADVERTISING

Display AB, +46 90-71 15 00

INTERNAL ADVERTISING AND VACANCIES

Suvi Nurmi, +46 8-719 10 58
suvi.nurmi@lme.ericsson.se

LAYOUT AND WEB DESIGN

Paues Media, +46 8-665 73 80

PRINTED AT

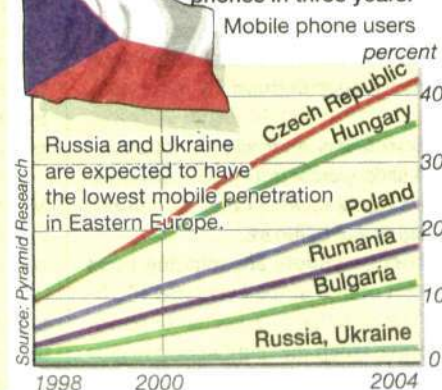
Nerikes Allehanda Tryck,
Örebro, 2001

CONTACT ON THE WEB:

http://www.ericsson.se/SE/kon_con/contact

DID YOU KNOW THAT...

...more than four out of ten Czechs are expected to have mobile phones in three years.



Source: Pyramid Research

Telmex invests in Engine Integral

» Telmex, Mexico's largest operator, is investing approximately USD 35 million to upgrade its network.

It will become the second operator in the world to purchase Ericsson's Engine Integral solution, to create a multi-service network, enabling Telmex to offer its customer multimedia services.

Ericsson's Engine solution makes it possible to upgrade old circuit-switched networks to networks based on packet data.

By investing in Engine Integral, Telmex can realize significant cost savings in both the operation and maintenance of its network.

TDMA contract in Colombia

» At the end of May, Ericsson signed a TDMA contract in Colombia. Ericsson will supply base stations, switching equipment and services to the operator BellSouth Colombia.

Deliveries mainly involve the cities of Medellin and Cali, as well as the southwestern portions of Colombia. The deal will help BellSouth Colombia expand its existing network.

DoCoMo launches its test network

» Japanese operator NTT DoCoMo has now launched its 3G test network. Morgan Bengtsson, head of Ericsson in Japan, was on hand when the first call was placed and said that the sound quality was outstanding.

NTT DoCoMo was to have launched its actual 3G network on May 30. Instead, they launched a test network that will be used primarily for regular voice calls.

"A video call was connected, which we were able to watch on a monitor. DoCoMo called up a female reporter at a TV station," says Morgan Bengtsson.

Interest in 3G has been significant among the Japanese. DoCoMo received 147,000 applications when it put out a request for testers.

Of those, some 4,500 were selected to try out the new network over the summer. If all goes according to plan, a full-scale launch of the 3G network will occur on October 1.

Ericsson did not supply base stations for the test network, but is aiming for deliveries towards the end of summer, in order to be involved when the actual network is launched.

Resource shortage a true challenge

» Never mind analyst predictions, slow IT growth, or a shaky stock market. The real problem is a shortage of water. Low rainfall in most of Brazil has resulted in a shortage of hydroelectric power.

Consequently, citizens and companies have been forced to reduce their electricity consumption by 15-25 percent.

Ericsson has analyzed the situation and will cooperate by using simple measures such as turning off air conditioning, lights and billboards.

Diesel generators are standing by at Ericsson offices in the event of a blackout. The situation is expected to return to normal when the rainy season begins in September-October.

TV news on the net

Five minutes is all you need to learn more about what has been going on in the company over the past week.

On June 12, Ericsson will begin broadcasting web-based tv. The program will be broadcast weekly and is named after its length - "5minutes".

You will be able to access televised company news by clicking on a link at inside.ericsson.se. Initially, the program will be broadcast weekly.

"Television is an easily absorbed medium that arouses emotions and is very effective. Everyone has five minutes to spare at some point during each week and can use this time to keep themselves up-to-date on what is going on within the company," says Urban Ermling, the creative producer of 5minutes at the production company, Jarowskij Media. He has 14 years of experience of television media.

Henrik Brehmer, manager of internal information at Ericsson, believes that the Business TV effort comes at a time when Ericsson really needs internal information.

"5minutes forms a strong complement to written web news and to *Contact*, since it offers fast delivery of information while the other



Brian Owens and Merrilee Kick are two of the news anchors who will be presenting 5minutes. "TV reflects news and events from so many different perspectives and has a greater impact than the written word. I am really looking forward to this job," says Merrilee Kick. Photo: Rolf Adlercreutz

media provide detail and analysis. The televised format allows us to make our operations and our management visible in a completely new way by disseminating the intentions and decisions of senior management," he says.

An increasing number of companies are using television for internal and external information. Fiber optics and satellite telephony have

paved the way for more players within the field.

Merrilee Kick is one of the news anchors who will be presenting the news broadcasts.

"TV reflects news and events from so many different perspectives and has a greater impact than the written word. I also feel that 5minutes has the right breadth in its content," she says.

5minutes will appear as a link on the Intranet, from which the viewer can access the program when he or she has a few minutes to spare. In addition to the news program, certain items will be accessible via separate links. Further ahead, live broadcasts are also planned.

Ulrika Nybäck

ulrika.nyback@lme.ericsson.se

T39 takes top spot

Ericsson made a strong performance at the Bluetooth congress in Monte Carlo. Nominated in four out of five categories in the Bluetooth Congress Awards, Ericsson won first prize for best Bluetooth consumer product, and also impressed with solutions based on Bluetooth technology.

At the Bluetooth Awards ceremony, a number of Ericsson products were nominated. However, it was the T39 phone that made it all the way. This product was selected "Best Consumer Product or Application" by the Bluetooth Awards judging panel consisting of independent journalists, analysts and representatives of industry bodies.

"We are very pleased about the award because it shows that Ericsson is in the forefront when it comes to developing products in which the Bluetooth wireless technology is used," says Johan Åkeson, Strategic Marketing Manager at Ericsson Technology Licensing AB. "Things are really happening in the Bluetooth area, and at last we are starting to see real products on the market.

This point was underlined by the fact that Ericsson announced the market launch of the first Blip product. Blip is Ericsson's Bluetooth platform for local wireless communications. This concept, enabling users to gain access to information through their mobile phone, palm-top, or other mobile device, was first

demonstrated at CeBIT in Hannover. Since then it has attracted a great deal of interest.

At the congress, Ericsson also unveiled its latest Bluetooth Intellectual Property - the EBCP RoseRed. This solution is licensed to companies that manufacture Bluetooth chips, used in mobile phones and other hand-held devices. EBCP RoseRed reduces cost of manufacturing and allows for optimized memory and material usage.

"Ericsson is ahead in all aspects of Bluetooth wireless technology," says Maria Khorsand, President of Ericsson Technology Licensing AB. "We are shipping Bluetooth chips based on our technology, as well as consumer products incorporating them, to a mass market. This is

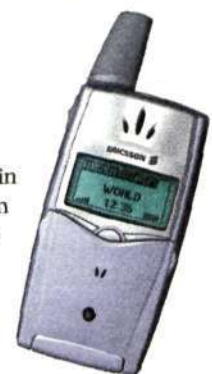
clearly seen in the Bluetooth Awards with nominees from Ericsson in all kinds of categories."

Other nominated Ericsson products were the Bluetooth headset, Blip and the Bluetooth chip Irma B. The congress featured the world's largest Bluetooth exhibition and was attended by over 1,800 people from 39 countries.

Tonya Lilburn

tonya.lilburn@lme.ericsson.se

www.thebluelink.com/bluetoothcongress/flash/default.asp



New Engine solution launched

Ericsson has launched Metro PoP (Point of Presence) Access, the newest addition to the Engine portfolio. The solution enables operators to build true multi-service broadband networks in highly populated areas.

Metro PoP Access allows operators to handle a wide range of services and access technologies while being flexible enough to cope with the tremendous levels of growth in the high-density metropolitan area.

The solution brings broadband

services over copper and fiber to busy urban areas. To handle the high traffic, access nodes are placed closer to the end-user, or even in the end-customers' building, instead of in a central office.

The same network can handle carrier-class business services for multi-tenant buildings, SME:s (small and medium-sized enterprise) and large enterprises. Metro PoP Access offers flexibility in capacity and allows operators to offer managed bandwidth. This means that customers can self-manage their capacity and order more bandwidth

for a period of time when they know they will need it. Broadband capacity is allocated instantly and remotely, according to customers' needs.

Metro PoP Access merges new and existing technology to offer all types of different services. It merges the legacy interfaces such as frame relay (FR) and voice, like POTS (Plain Old Telephony Service) and ATM (Asynchronous Transfer Mode), with the newer technology of multi-service networks - combining voice, IP, ATM, FR and leased line services over a common, packet-based infrastructure.

The Engine solution uses open interfaces, so it can be flexibly integrated into an existing infrastructure. Ove Anebygd, Vice President at Ericsson Multi-Service Networks, says:

"With Metro PoP Access, operators can offer their services over one, single network with carrier-class performance, and have the advantage of optimizing existing equipment and infrastructure, while securing migration into the future."

Cheryl Brown

cheryl.brown@lme.ericsson.se

Mediaways the first to pick new IP solution

Mediaways, Germany's second largest Internet provider, has become the first company to select Ericsson's Open Network Gateway (ONG) for its multi-service network. The contract will provide about one million customers with access to the next generation of Internet services.

Ericsson's Open Network Gateway, part of Ericsson's Engine, is a solu-

tion for Internet services and Voice over IP (VoIP). It is an open solution that enables PSTN networks to evolve into IP-based multi-service networks.

Many advantages

The solution provides many advantages for operators. These include lower network operation costs, minimizing the risk of overloads and making it easier to introduce new services on networks.

Mediaways is one of Europe's largest operators when it comes to IP-based networks. Implementation has already begun in the UK, and the contract covers all of the countries where Mediaways has operations.

"Ericsson's solution gives us the opportunity to quickly launch new services which, in turn, result in the rapid generation of income," says Martin Kütter, head of Mediaways.uk.

Einar Lindquist, Executive Vice President, division Multi-Service Networks, is pleased that Mediaways has chosen Engine.

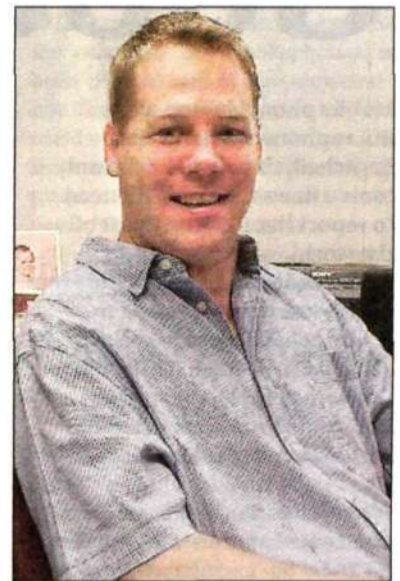
More competitive

"I'm convinced that Open Network Gateway will make the company even more competitive in the marketplace," says Einar Lindquist.

Jesper Mott

jesper.mott@lme.ericsson.se

HELLO THERE...



Mark Wightman

...who works with marketing communications, and has received an honor from Exhibitor Magazine for his work in creating Return on Investment Metrics, a method of measuring the impact of trade shows.

What is it that you measure?

"Primarily, we measure five elements: how appealing the stand is to visitors, staff performance, the impact of the message on people outside the exhibition, and the quality of the live show at the stand if there is one. Finally, we have the 'mystery shopper', which is where we hire people to visit the stand anonymously, and record their impressions."

How do you measure these elements?

"We give people visiting the stands a survey with twelve questions, where we ask them to rate different things, such as the staff's professional attitude, exhibit design and so forth."

What gave you the idea to develop this method?

"Actually, there were two reasons. One was that we had no way of justifying the budget for these events, so I felt that we needed a good way of determining that participating in trade shows really does give return on investment. The second was that I work for a man, John Giere, who believes in the ability to measure the results whatever you do."

What does the honor you received from Exhibitor Magazine entail?

"I was asked to present the program at Exhibitor Magazine's Programs for Excellence seminar in conjunction with its annual convention in Las Vegas. For Ericsson, it's a great opportunity to be recognized as having a best-in-class program for marketing activity."

What are your plans for the future?

"We want to tie the method much more closely to return of investment. So far, the method has given us justification to continue with exhibitions. Our next step is to work out a more targeted way of looking at how investments in exhibitions pay off, and to focus more on following up customers."

Tonya Lilburn

Finnish defense selects MINI-LINK

The Finnish defense has placed an order for MINI-LINK - broadband via microwave radio. The order was secured following extensive testing in competition with several other suppliers.

"It feels great to have landed this kind of a contract in a country like Finland. This is yet another sign of our strength in the global market, which we already dominate," says Mikael Bäckström, head of marketing at Ericsson Microwave Systems in Gothenburg.

Currently, the company controls approximately 40 percent of the global market for broadband transmission via microwave radio.

While the order from Finland's military is relatively modest, approximately USD 3.64 million, there will be additional orders in the next few years.

The order was placed following rigorous testing of several systems, including some from domestic suppliers. Testing included performance under various weather conditions and the ability to withstand constant movement as well as shakes and

bumps. MINI-LINK received the highest score in all of the tests.

"Our product maintains a high level of quality. The construction of this equipment is the same as that used in civilian applications," says Mikael Bäckström.

The Finnish system, utilizing a new frequency bandwidth, provides broadband communication at speeds of 2 Mbps. The military will be able to use MINI-LINK to communicate via voice, data and video.

With the help of MINI-LINK, communication at great distances

can be maintained. As long as there is a direct line of sight between microwave transceivers, they can transmit at distances of up to 30 kilometers. Range is unlimited with the use of repeaters. MINI-LINK is very flexible when it comes to various kinds of access, and is also very compact and easy to transport.

Ericsson has sold systems to the defense forces of Sweden, the US and the UK, among others.

Lars-Magnus Kihlström

lars-magnus.kihlstrom@lme.ericsson.se

Mission impossible - the turkish way

They worked around the clock in a break-neck race against time. In only 75 days, a team of Ericsson employees managed to install 600 radio base stations in Turkey's seven largest cities.

At the end of February, Turk Telecom chose Ericsson as supplier of their 3G network. This was the starting signal for Operation Manager Oguz Memigüven's team of 15 persons.

Seven cities

Under the contract, 600 radio base stations were to be installed in seven large cities in just over two months. If the team had not completed its mission before midnight

on May 7, a penalty of USD 100,000 would have to be paid.

"This was not an easy task," says Oguz Memigüven. "We had many obstacles to overcome, apart from the tight time frame."

"We are extremely proud that we managed to complete this project so quickly and efficiently."

Good reason

And it seems that the team has good reason to be satisfied. Turk Telecom was so pleased with their work that it immediately extended the contract to cover 300 more base stations.

According to Oguz Memigüven, the secret behind the success was in part the choice of subcontractors. Only small firms were en-



Thanks to experience and perseverance, the team managed to complete their task against all odds. Afterwards they were tired but proud.

Photo: Ayse Köse

gaged, because they were more flexible and better at solving local problems. But above all, it was the team's experience and dedication that made the project possible.

"The last three weeks the team worked around the clock to meet

their deadline," says Oguz Memigüven. "So now I've sent everyone off on a well-deserved vacation."

Tonya Lilburn

tonya.lilburn@lme.ericsson.se

Ericsson to deliver France Telecom's IP

Ericsson and Juniper Networks have been selected by France Telecom to build its comprehensive IP backbone network. The deal will enable France Telecom to offer IP backbone traffic with even higher bandwidth and quality of service.

The first routers are already in operation in Amsterdam and Paris;

the next deployment will equip the first of France Telecom's Long Distance nodes in its North American Backbone Network.

Includes installation

The frame agreement includes delivery and installation in the USA of large scale AXI 580, AXI 520, and AXI-4 IP Backbone Routers (based on Juniper Networks M160,

M-40 and M-20 routers). These will allow the company to significantly increase the bandwidth of their backbone networks and to provide IP backbone capacity and transport services to their carrier, ISP and enterprise customers.

Unique strength

Mike Thurk, who is the Senior Vice President of division Data

Backbone and Optical Networks says:

"Ericsson has again proven its commitment in fulfilling stringent requirements set forth by successful, global multiservice carriers like France Telecom."

Kris Walmsley

kris.walmsley@lme.ericsson.se

Good news for radio

Mobile phone, laptop and microphone. When 3G is launched, these will be the only tools a news reporter will need to report live from any part of the world.

The radio reporting of the future was demonstrated recently, when Ericsson collaborated with Swedish Radio and Popwire to make the world's first radio broadcast to a radio studio over a 3G network.

Behind the Stockholm City Law Courts, a colorful bus with the letters WCDMA on its number-plates is parked under a linden tree.

From the inside of the bus, voices can be heard. These come from a sound recording from a trial currently underway inside the building, where a number of men stand accused of stealing works of art from the National Museum in Stockholm.

The radio report – the first in the world to be broadcast over a 3G network – will be sent to the studio at Dagens Eko, Swedish Radio's news program.

Thomas Holmberg, technical manager for the project, explains the route of the sound from the courtroom to Swedish Radio.

"The sound recording, in the form of a sound file, is broadcast wirelessly from the reporter's laptop to the bus. It is then sent via the test network to a base station nearby, on to our WCDMA demonstration center in Kista, and from there via the Internet to the Dagens Eko studio," he says.

Pioneering report

At the moment, a recording from the trial is being broadcast, but earlier in the day, a journalist was able to report directly over the test network. Leif Eriksson, technical manager and also reporter for Dagens Eko, was the person who made the pioneering radio report. He is enthusiastic about the opportunities offered by the new technology.

"Naturally, the greatest advantage is mobility, to be able to broadcast from anywhere. But, the sound quality will also be better and it is less expensive compared with transmitting via satellite links, as we do today."

Radio reporters and other professional users in the media industry are an interesting target group for Ericsson's demonstration of



Nina Odermalm from the news program Ekot, interviews lawyer Peter Mutvei, who is defending one of the men accused of stealing paintings from the Swedish National Museum.

Photo: Claes Löfgren

the new technology's possibilities. Naturally, it is beneficial for Swedish Radio to find a method that enables reporters to work wherever they are.

"With a small and light hand-held computer with a 3G connection, it will be possible to report from any-

where. I am convinced that this is the way in which reporters will work in the future," says Leif Eriksson.

Degree project

The test transmission is the result of collaboration between Ericsson, Swedish Radio and Popwire, a media

and technology company. Stefan Agerwald, a student at the Royal Institute of Technology in Stockholm, took the initiative for the project. He is on the electro technology program and this is the subject of his degree project.

"I wanted to do something with

sound, so I contacted the companies and asked if they were willing to become involved. They accepted straight away," he says.

Stefan Agerwald has been working on the project since March. Initially, it was mostly a matter of investigating the opportunities and planning the implementation, but in the final phase he has had a coordinating role and has ensured that the collaboration between the companies has worked as it should. On June 11, it will be time for the final phase of the degree project. Then he will make a public presentation at the demonstration center in Kista, but for the moment he can relax and be satisfied with his success.

"It feels fantastic that the entire project worked and everyone was satisfied," he says.

Everything must work

One person who is extremely happy is Thomas Holmberg. There were no glitches whatsoever in the technology.

"In a project like this, everything has to work, and it certainly has. Everything went perfectly," he says contentedly from his seat inside the WCDMA bus.

Tonya Lilburn

tonya.lilburn@lme.ericsson.se

Test networks give a taste of the future

Thanks to the test networks that Ericsson has put up around the world, operators and end users can get a preview of what third-generation mobile networks will be able to offer. If all the promised services are to become a reality, however, it will be necessary to develop applications that support them.

To date, Ericsson has installed 18 test networks, or experimental systems as they are also called, at various locations around the world. Most are based on WCDMA technology and are being used to test services that will become a reality when third-generation networks are taken into operation. Their most important function, however, is to give operators a taste of what is to come.

An important part of the test net-

work in Stockholm is the WCDMA demonstration center in Kista. Thanks to partnerships with such companies as Popwire and Music Brigade, the services being demonstrated can be filled with content, and customers are able to test new applications themselves.

Thomas Fagerholm is responsible for applications at the demonstration center and for the Swedish test network.

"We want to show a range of applications and services that will make money for operators."

Examples of such services are radio and TV reports over 3G networks, video conferences, games, music and MMS (Multimedia Messaging Service), which offer greater bandwidth.

Most test networks are the result of a partnership between a supplier and an operator. Such is the case

with the test network in Stockholm, which Ericsson built in collaboration with Swedish operator Telia, and the network in the UK, where all operators in the country have participated in Ericsson's test program. It is also possible for Ericsson to build its own network without operator participation, but this presumes that frequencies are available.

The test networks currently in operation will be phased out as commercial networks are built. The first networks will be taken into operation next year, but it remains to be seen who will offer customers the first 3G services.

Operators around the globe are racing to be first. Japan's NTT DoCoMo is one of those in the lead, but the operator is only offering voice services from the start. Development in the UK is also very advanced.

"There is much talk about all the possibilities that 3G will offer, but to realize this potential, products must keep pace with development," emphasizes Thomas Fagerholm, noting that reporters maybe mobile in theory, but will not be mobile in practice if they are still weighed down by heavy equipment.

Today, a laptop is still required to send audio files over a 3G network. It is possible to develop the hardware and software that would be required for a smaller and lighter product.

"This might become an interesting opportunity for the new Sony Ericsson joint venture. Developing light, yet powerful equipment for news reports would be great," concludes Thomas Fagerholm.

Tonya Lilburn

Important Internet gathering in Stockholm

From June 5 to 8, Stockholm was the gathering place for some of the most important people in the Internet world. Stockholm International Fairs was the venue for iNet 2001. Ericsson, participating for the first time, was the main sponsor.

iNet 2001, which is organized by the Internet Society (ISOC), is a meeting place for the entire Internet world –

including everyone from decision-makers to universities and companies. Nearly a thousand delegates participated in the four-day event held in Stockholm. Delegates represented three different groups – engineers, end-users and decision-makers.

"The Internet world is a new target group for Ericsson. Normally, we focus on operators when we participate in various trade shows. iNet

2001 is a very important forum when it comes to the mobile Internet," says Björn Brorson, project manager for Event Marketing at the Mobile Systems Division.

Ericsson participated in numerous ways, including lectures, panel discussions, press seminars and a 100-square meter display. The main speaker at iNet 2001 was Håkan Eriksson, head of Ericsson Research. One of the most popular demon-

strations during the conference was "Introducing IPv6 in cellular networks." The demo was presented by employees from Ericsson Research and Ericsson in Finland.

Approximately a dozen demonstrations and presentations were conducted at Ericsson's display. Included for the first time was "WLAN/GPRS Seamless Roaming," which is an important aspect of the Mobile Internet.

ISOC is a non-profit, non-governmental, international, professional membership organization. Its more than 175 organizations and 8,600 individual members in over 170 nations worldwide represent a veritable who's who of the Internet community.

Gunilla Tamm

gunilla.tamm@lme.ericsson.se

New standard already in use

Ericsson, Alcatel, Motorola and Siemens – all of these companies will ensure that mobile phones support EMS, a new open standard for sending such features as animation and call signals between phones.

EMS, Enhanced Messaging Service, is already incorporated in Ericsson's T20e and T29 phones.

"We want to demonstrate that we are providing a solution in

a standardized manner," says Fredrik Öjjer, strategic product manager for Ericsson's mobile phones.

Why is Nokia not included?

"Nokia is a member of the group that standardized EMS, but the company has chosen not to be part of this," says Fredrik



Fredrik Öjjer

Öjjer, adding that Nokia is welcome to return if it changes its mind.

"In any case, the operators are demanding that phones support EMS, so it will be difficult for mobile manufacturers to refrain from participating," he continues.

But what is EMS? People have heard of MMS, Multimedia Messaging Service, which will make it possible to send everything from video to large music files between mobile phones. However, while MMS is a future technology for

GPRS and 3G networks, EMS already functions today.

In brief, it can be described as an improved version of SMS – with EMS, it is possible to send call signals and moving black and white images.

However, when it comes to larger files, such as color images and music, we will have to wait patiently for MMS.

Elin Dunås

elin.dunas@lme.ericsson.se

SAR test standard delayed

» The ratification of the European SAR test standard for mobilephones has been delayed and is now expected in July. The new standard, which is harmonized with coming standards from IEEE, IEC and ARIB is expected to be fully implemented in the Ericsson SAR laboratories in September this year.

SAR reporting for new products is now estimated to begin after October 1.

Popular exchange in new version

» In May, Ericsson Enterprise launched the MD 110 BC 11, which is a new version of the MD 110 business exchange. The switch can be connected to the IP network and, in principle, still offers telephone operators and users the same functions as previously.

The exchange contains new functions in the mobile area. These include the possibility of sending text messages to connected DECT phones.

Users can also connect mobile phones and use all the functions in the system, which makes the MD 110 BC 11 an excellent tool for companies with personnel who work at home and while traveling.

Small enterprises supported in Turkey

» Ericsson Turkey and the United Nations Industrial Development Organization (UNIDO) have announced a local activity plan to assist small and medium sized enterprises (SME:s) in Turkey. The aim is to integrate the Mobile Internet technologies in to the business processes of SME:s according to a methodical project plan. Ericsson's role in the co-operation is to support SME:s by sharing technology, and assisting in the development of applications that will increase their competitiveness.

This is one of the first local steps in a global cooperation between Ericsson and UNIDO that was announced in November last year.

200,000 broadband modems to Italy

» Ericsson will supply Telecom Italia with 200,000 broadband modems during 2001-2002. The contract, signed in late May, will deliver ADSL modems HM220dp and HM120dp. Mats Andersson, Business Manager at Home Communications and responsible for the Telecom Italia deal, says DMN Today:

"This is one of Ericsson's largest contracts for broadband modems so far."

Delivery of the 200,000 modems will start in late June. Mats Andersson says this number might increase; it all depends on how Telecom Italia's customers respond to the message in an ongoing broadband access campaign in Italy. So far, the response has been positive.

More efficient companies with Mobile Intranet

In the beginning of June, Ericsson Enterprise launched a number of packages within its Mobile Intranet Concept. These are solutions that are based on Ericsson's Mobile Internet products and are targeted at companies.

Employees receive simple, fast and secure access to the company's internal services, no matter where they are.

Joakim Wohlfeil is portfolio manager at Ericsson Enterprise. He explains that the Mobile Intranet Concept is based on a number of different products offered by Ericsson in the field of Mobile Internet. These products and services are

now being combined in packages, providing the customer with a clearer picture of which functions the products fulfill in everyday work. For example, the Enterprise WAP Gateway is included in the solution. This is based on the Ericsson WAP Gateway, but it is adapted to the companies' needs.

New channels

"We have composed a package that is aimed at companies and based on everyday functionality. For Ericsson, it is a matter of finding new channels for reaching companies," says Joakim Wohlfeil.

Using mobile terminals, such as the Ericsson R380, handheld computers and laptops, the user can

have access to exactly the same environment and tools that are available in the office. This solution is primarily intended for medium-size and large companies.

In addition to the WAP Enterprise Gateway, the Mobile Intranet Concept also includes Ericsson Virtual Office (EVO), Ericsson Mobile Organizer (EMO), products from Ericsson's strategic IP portfolio and mobile terminals.

Increased speed

EVO provides the user with increased speed when handheld computers and laptops are connected to the company's intranet. Encryption makes the connection secure and information is not lost if

temporary interruptions occur. EMO is an application that makes it possible to use a mobile phone for such functions as reading and sending e-mail, making diary notes and reading and printing Word and Excel documents.

Ericsson estimates that 43 percent of labor in Europe can be considered "mobile." This means that this proportion spends more than 20 percent of the working day outside the workplace. As a result, the Mobile Intranet Concept gives companies the opportunity to make considerable increases in efficiency.

Jesper Mott

jesper.mott@lme.ericsson.se

Company brand given own portal

All the information pertaining to Ericsson's brand is now gathered at one location. On May 23, Ericsson opened its brand portal on Ericsson's intranet.

"This is not only an initiative aimed at those working in marketing. The portal will give all employees insight into what the brand is and what it means for Ericsson," says Mattias Isaksson of Corporate Brand and Identity Management.

The portal contains information on what rules and guidelines apply for all usage of Ericsson's company brand. This can involve everything from ad campaigns, events, signs and Powerpoint presentations to the design of business cards and e-mail signatures.

"The guidelines, which previously went under the name Corporate Visual Language (CVL), were available in printed form, but are now exclu-

sively available on the net," says Mattias Isaksson.

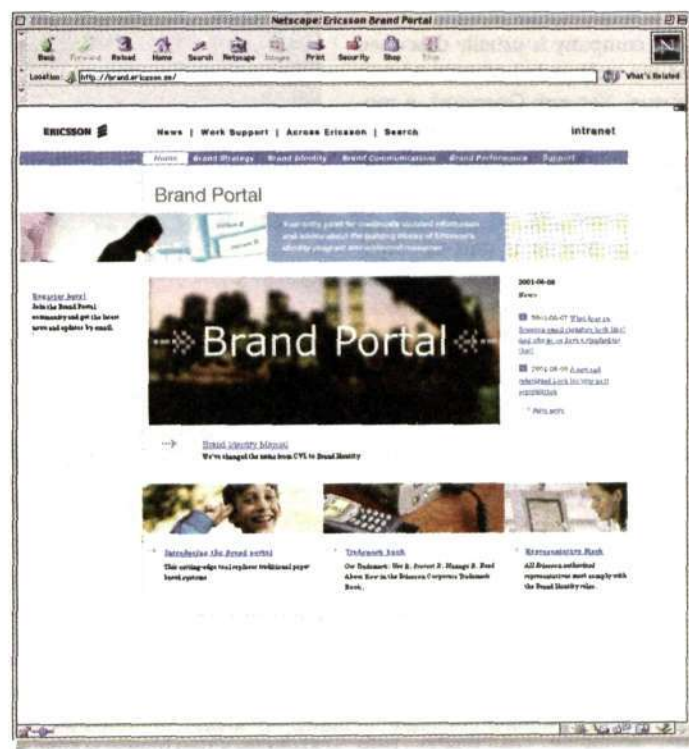
The new portal not only gathers together these guidelines, it also provides information and explanations about what the brand means, how it is communicated and the value of a strong brand.

"This is only the first step. We will develop the portal and offer more interactivity, with a discussion forum, for example. Those who work with the brand will not only be able to read about what rules apply, they will also have access to tools that will help them in their work. The amount of information will also grow," says Mattias Isaksson.

Eventually, certain segments of the content will also be available to the company's external suppliers.

Jesper Mott

brand.ericsson.se



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Lucent and Alcatel end negotiations

» There will be no French acquisition of debt-laden American telecom supplier Lucent. Lucent, and its French competitor, Alcatel, issued a joint communiqué at the end of May announcing that negotiations had ceased. There was considerable speculation about a possible merger. An agreement would have created a telecom giant capable of delivering a broad spectrum of products on a worldwide basis. Rumors about the merger led several major telecom suppliers to express a renewed interest in Lucent, such as Nokia and Ericsson. Alcatel had previously tendered a bid of USD 4.55 billion for Lucent's fiber-optic division.

Nordic giant on horizon

» It is no secret that the Swedish telecom operator Telia would like to expand its presence in the mobile marketplace throughout the Nordic region. According to several sources, Telia is about to enter the Finnish market by purchasing Sonera, even as conversations continue between Telia and the company's Danish equivalent, the privately held firm TDC (formerly Tele Danmark). Ekonomiz4, a Web service, claims that there are plans to establish a single telecom powerhouse in the Nordic region – Nordic Telecom. The new company would be created out of Telia, Sonera and TDC. Norway's Telenor would end up on the outside, however. The new Nordic Telecom would have a listed market value of approximately USD 30 billion, with earnings of around USD 11.8 billion.

Vodafone slows down its pace

» The world's largest mobile phone operator, Vodafone, is reporting a significant increase in operating profit for this financial year ended in March. Profits rose 87 percent to USD 5.45 billion. The primary explanation for this big gain are the numerous acquisitions that Vodafone concluded in recent years, including the takeover of Germany's Mannesmann. Vodafone's customer base has doubled to 83 million subscribers. Following depreciation totaling a full USD 15.8 billion, Vodafone posted a pretax loss of USD 11 billion, compared with a profit of USD 1.77 billion last year. Chris Gent, CEO of Vodafone, asserts that company plans call for a slowdown in its future acquisition rate.

"We're going to concentrate on increasing our profit margins in the next few years," commented Chris Gent.

3G project suffers delay

» The introduction of 3G on the Isle of Man has been postponed until later this year following a number of problems. The delay is primarily due to software that controls signals from base stations and sends them on to a switch. A bug in the software has resulted in connections to terminals being lost as users move out of the coverage range of a base station and into another. Previously, the UK operator BT claimed that the delay was due to terminals supplied by Japan's NEC. The project on the Isle of Man is a collaborative venture between Siemens, NEC and BT and means that Siemens and NEC can showcase a pilot project to other customers.

New Swedish GSM license delayed

Expanded competition in Sweden's GSM market will have to wait. A fourth Swedish GSM license will not be issued until next year. At the same time, coverage demands have been sharply reduced compared with the three established GSM networks.

The Swedish National Post and Telecom Agency (PTS) has been busy this spring refining a proposal to offer another operator space within the GSM bandwidth, primarily the 900 MHz frequency. The proposal is currently under consideration, by Ericsson among others.

PTS hopes to receive approval from the bodies to which it has been submitted for consideration to allow a fourth license go to an entirely new player.

"This is important in order to increase competition within the Swedish market, and it can be

achieved by giving a new player a chance," says Magnus Axelsson, administrator in the department for mobile telephone services at PTS.

"If the three operators who already have GSM licenses need more frequency bandwidth, that can be arranged in a different manner," says Magnus Axelsson.

In order for a new player to quickly become established in the market, coverage requirements will not be nearly as demanding as in the past.

"It will be sufficient to provide coverage to 50 percent of the population. All that is needed to obtain that amount is coverage in the three largest cities Stockholm, Gothenburg and Malmö and a few other medium-large sized cities," says Magnus Axelsson.

30-70 rule applies

He explains that the so-called 30-70 rule also applies in this situa-

tion, namely the right to utilize up to 30 percent of the coverage requirements of established networks. This rule has become well known, since it has given Swedish 3G actors the option of collaborating, and thereby lowering infrastructure expansion costs.

"There is even a law that states that the existing licensees cannot deny new players access to their networks," says Magnus Axelsson.

Twelve parties interested

In practical terms, this right is limited by the market price. Even if the new GSM player succeeds in being allowed into another network, it is the owner of that network who sets the price. The new player does, however, retain full roaming rights.

Altogether, some twelve parties expressed an interest last spring. That interest has resulted in PTS now compiling the prerequisites for allocating a fourth GSM license. An invi-

tation to those twelve parties will be sent out within the next few months.

Work has been delayed, however, by appeals, affecting the 3G licenses issued last year. At the time, the GSM frequencies were offered as part of 3G licenses to the players who did not already have a GSM permit. None of them were interested in the GSM license, however.

"Nevertheless, we are required to wait for the county court's decision, which was expected in May, but which has now been delayed until the end of the year," says Magnus Axelsson.

That means the entire process will be delayed and that the GSM license will not be issued until 2002.

The application fee is approximately USD 9,100. The future license holder will also be charged a small administrative fee.

Mats Lundström

mats.lundstrom@lme.ericsson.se

Virgin looks to new markets

Virtual mobile phone operator Virgin Mobile, is curious about the Swedish market.

"We view Sweden as an interesting and mature market," says Alistar Jonston, Virgin Mobile's sales director, in an interview with Swedish newspaper Dagens IT.

The company is usually described as the only global MVNO (Mobile Virtual Network Operator), a mobile phone operator that does not have its own infrastructure, but which does sport a very strong brand name.

Virgin Mobile is part of Virgin millionaire Richard Branson's conglomerate, which also sells music, travel, clothing, Internet services and soda.

Virgin's mobile phone operations got underway in the UK in 1999, as part of a joint venture with the UK's smallest mobile phone operator, One2One.

Two percent of market

With 750,000 subscribers, Virgin Mobile controls just two percent of the British market.

So far, Virgin Mobile's only other operations are in Australia, where the company collaborates with mobile phone operator Optus. Starting in November 2001, Virgin Mobile will also begin operating in Singapore, followed shortly thereafter by Hong Kong, Taiwan and Korea.

Altogether, Virgin Mobile plans to establish itself in ten Asian countries in just a few years, including Japan.

At this point, establishing a foothold in Sweden remains on



Richard Branson, with his virtual operator Virgin Mobile, has expressed an interest in the Nordic mobile telephony market. With 750,000 subscribers, Virgin Mobile controls two percent of the British market.

Photo: Rick T. Wilking/Pressens Bild

the negotiating table. Alistar Jonston says that discussions are ongoing.

Virtual operator

Sweden's three largest mobile telephone operators – Telia, Europolitan and Tele2 – already have several virtual operators each within their GSM networks.

The Yankee Group, a research and consulting firm, predicts that no fewer than 50 MVNO's will be launched within the EU before the end of the year. A review by *Contact* showed that there are over 30 virtual operators in the Nordic region alone.

Mats Lundström

FACTS/MVNO

- There are various definitions of a virtual operator, but the simplest one is: an operator that offers services without having its own frequency license.
- The Yankee Group defines an MVNO as an operator without infrastructure, but with full control over SIM cards, branding and marketing, payment systems and other customer services.



Big Brother and his magnifying glass. A fierce struggle is currently being waged between those who are defending the personal integrity of EU citizens and those who feel that police agencies should be granted greater authority.

Illustration: Björn Hägglund

EU seeks to monitor phones

In a proposal from the European Union, opportunities for government agencies to monitor telephone traffic will be expanded.

This proposal has met with sharp criticism from organizations concerned with the protection of personal privacy.

The proposed legislation before the EU Commission would force telephone and network operators to assume significantly greater responsibility. If the proposal goes through, operators could be forced to store all communication for seven years.

That means all telephone calls, all e-mails and all other Internet usage could be traced.

Access to codes

Telephone operators would be obligated to release information relating to customer identity, such as name, account number, and e-mail or IP address.

Passwords and PIN codes for debit and credit cards and encryption keys would also be accessible to authorities battling crime, if they requested it.

Police, customs and other agencies would have free access to such information, a policy that marks a radical departure from current legislation, which requires permission every time any form of communication is monitored.

Issue postponed

The EU has collectively advocated greater police-agency access since the mid-1990s, in a world where communication is becoming increasingly digital. Member nations have not, however, been able to agree upon how to go about this in practical terms and a decision on this issue has been postponed several times.

The question of monitoring has become increasingly critical with the greater level of digitalization. Several sources claim that there is

now greater unity among the responsible ministers of member nations to deal with this issue.

The issue can be divided into two parts. One involves technical coordination – actually enabling police agencies in member nations to eavesdrop on calls or log data traffic in real-time.

The second aspect involves the storage of telecom and datacom traffic.

In 1995, EU member states agreed to work together on the technical coordination of telecom traffic, spelling out the details in IUR 95 (International User Requirement for Interception).

At the same time, a working group called Enfopol was established, which would develop the details regarding coordination. In 1998, the document was modified to also include data traffic.

Despite the existence of a completed proposal and greater unity among member nations, no decision was taken during the meeting

of EU ministers of justice at the end of May.

"The issue was removed from the agenda since a number of nations have difficulties changing their national legislation," says Björn Lindh, who is press secretary for Sweden's minister of justice, Thomas Bodström, who chaired the meeting.



Thomas Bodström

Disagreement over storage

When it comes to the storage of data traffic, there is major disagreement and a decision is not expected to be made during the period of the Swedish EU presidency, which runs out when Belgium takes over on July 1.

However, the entire proposal is controversial and will not be enacted without the approval of the Commission, according to Tony

Bunyan of the British organization Statewatch.

"This is one of the most important battles when it comes to individual rights in Europe," he says to C-Net.

Technical difficulties

Not only does defending personal integrity make it difficult to approve the monitoring and storage of communications, there are also major technical difficulties associated with storing all telecom and datacom traffic, which would require enormous amounts of capacity.

A couple of years ago, news stories came out about Echelon, an American intelligence program allegedly capable of monitoring all digital communication crossing the Atlantic.

To this date, there has been no confirmation that Echelon actually exists.

Mats Lundström

Convincing presentations for press and analysts



In addition to investors and analysts, the meeting was also attended by several newspapers and TV channels.



For one day, Ericsson set up shop at the Hudson Theatre near Times Square in the heart of New York.



Mike Hanna from Ericsson in the US demonstrated voice activated mobile services for a steady stream of interested analysts

300 media representatives, analysts and investors attended the "Strategy and Technology Summit" in New York two weeks ago to meet Ericsson's Corporate Executive Team.

The question-and-answer sessions focused on 3G technology. Jan Uddenfeldt, Senior Vice President, Corporate Technology, pointed to several years' experience of test systems as a guarantee that it is not incomplete technology that will be offered to subscribers.

► This meeting was the first in a series of such gatherings. The intention is to provide the market with the correct image of Ericsson.

At the heart of New York, just a stone's throw from the important Nasdaq exchange, CEO Kurt Hellström, CFO Sten Fornell and other leading representatives of the company, presented Ericsson's position today, its strategy for the future and its technology focus. The audience consisted of specially invited press representatives, analysts and investors. The more than four-hour presentation was transmitted as a webcast for interested parties in other parts of the world.

On track

Kurt Hellström's main message was that the ongoing efficiency program is on track and that the goal is now to reduce costs by USD 3.4 billion, of which USD 1.6 billion applies to division Consumer Products alone. He promised no immediate recovery of the situation in the industry and did not want to provide a more detailed forecast for full-year earnings in 2001, but a turnaround towards better times is on its way – he is entirely convinced of this.

Torbjörn Nilsson, Ericsson's marketing director, gave a more detailed description of the market situation and the factors that have combined to lead the telecom sector into a severe downturn, exactly like the decline that has affected the IT sector.

"Now that many countries in Europe are approaching 70-percent penetration, the market for mobile telephony has matured and the conditions have changed compared with previously," he explains.

Jan Wäreby, head of division Consumer Products, was able to confirm this opinion, pointing to the fact that it is likely that this will be the first year when the number of replacement phones sold will exceed the number of phones purchased by first-time buyers.

"However, subscription numbers continue to grow, with more than 60 million new subscribers during the first quarter of 2001, and the traffic per subscriber is also continuing to increase. So, sooner or later, the operators will be forced to take measures to increase network capacity."

An important message for the market at the

moment is that Ericsson is much more than mobile communications alone. The success of Engine – the company's solution for the migration of fixed networks from circuit-switched to packet-switched technology – confirms this. Einar Lindquist, head of division Multi-Service Networks, emphasized that the fixed broadband market is now experiencing strong growth in the access area.

"We anticipate that this market will be worth USD 61 billion within a few years. Then we will have a 20-percent market share and an even greater market share – 35 percent – for migration solutions. We will also defend our market share of at least 14 percent for fixed narrowband systems."

The prestigious assignment of assisting US operator WorldCom in the migration of its international network was presented by Einar Lindquist as strong confirmation that Ericsson is now a world leader in this area.

Customer financing important

The presentations were alternated with question-and-answer sessions. These focused to a large degree on 3G technology and the opportunities it presents, as well as how stable the 3G systems will be when they are introduced. Jan Uddenfeldt pointed to several years' experience of test systems as a guarantee that it is not incomplete technology that will be offered to subscribers when it is eventually launched.

The financial outlook for the company was also a focal point of the audience's interest. Sten Fornell received several questions regarding how Ericsson intends to return to positive cash flow and the extent of the company's exposure to customer-finance of 3G contracts.

"Of the 31 contracts we have secured for 3G, only two contain agreements that we will assist the customer in financing its investments," Sten Fornell assured. Regarding cash flow, the new rules for managers' salary bonuses were outlined several times.

"No managers will receive a bonus this year, unless Ericsson can report a positive cash flow at year-end. And the costs of restructuring measures – estimated at about USD 1.4 billion – have also been included in the calculations."

Lars-Göran Hedin

lars-goran.hedin@lme.ericsson.se



Dennis Beilby from Ericsson Microsoft Mobile Venture explains for a television team how a synchronization service makes Microsoft Office mobile.

Photo: Jack Radgowski

3G provides increased capacity

The need for increased capacity was one of the core points of Ericsson's argument that 3G will really start to make strong headway the day that the industry has regained its confidence. There has been much talk of new services, increased data capacity and opportunities for operators to increase revenue, but it is equally important that 3G technology provides extremely efficient use of the available radio spectrum.

► Jan Uddenfeldt, Senior Vice President, Corporate Technology, and Håkan Eriksson, head of Ericsson Research, explained the technical context.

WCDMA, with a radio carrier of only 5 MHz, provides space for many more subscribers than the current system, which has a 200 KHz radio carrier. He maintained that cdma2000 is also a more efficient technology. Ericsson can, of course, following its acquisition of Qualcomm's infrastructure division last year, offer both 3G solutions, which is particularly important in the US, where cdma2000 is still a strong contender despite AT&T Wireless' announcement last autumn that it would invest in WCDMA.

Explaining the concepts

Jan Uddenfeldt also took the opportunity to explain the concepts surrounding data transfer speeds offered by the different 3G technologies.

He pointed out that the important thing is

not the maximum data transfer speed obtainable from one solution or the other, but it is rather the practical speed in cells with broad radio coverage that is interesting.

"One characteristic of 3G is that the range of a radio base station can be increased by lowering requirements on transfer speeds. In practice, this means that WCDMA, with a maximum speed of 2 Mb/s, will initially be able to offer an actual speed of 384 kb/s. The same is true of GPRS where the maximum speed is 115 kb/s while it will, in practice, be possible to attain 56 kb/s. For cdma2000, the figures are 600 and 128 kb/s respectively. At these speeds, both WCDMA and cdma2000 allow new services such as high-quality video and other multi-media based services.

Cost efficient

An important characteristic of WCDMA is the fact that it employs the same network infrastructure as GSM. Thus 3G operators can build out their networks successively. With dual

mode telephones, subscribers will be able to make phone calls unhindered via the GSM network where WCDMA has not yet been built out.

"With its flexibility, WCDMA also allows operators to build fewer sites to begin with until the number of subscribers has grown. When starting up a network, a site with 30 km² coverage can handle 20 simultaneous voice calls. As traffic increases, more sites are built and coverage thus increased. A site with 16 square kilometers coverage can, for example, handle 70 simultaneous calls.

Maria Khorsand, head of Ericsson's Bluetooth operations, explained how Ericsson will now start to earn money from this technology.

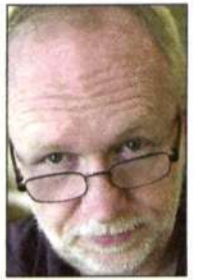
"We foresee a mass market for Bluetooth, in which we will assume an important role with products, technical platforms and—in particular—increasing revenue from the licensing of technology to other producers," she stated.

Mobile Internet Café

Ericsson offered its guests more than mere presentations and theoretical reviews. A Mobile Internet Café was located adjacent to the presentation venue. This was the site of demonstrations of the possibilities offered by 3G, Mobile Internet and Bluetooth, showings of new phones, and much more. There was a large amount of interest shown by the visitors, many of whom wanted to try the latest technology for themselves and learn what it has to offer.

Lars-Göran Hedin

CHRONICLE



Lars-Göran Hedin

The multi-faceted Ericsson

The development of the Ericsson share is determined on the New York and Nasdaq stock exchanges. It was therefore interesting to listen to the reasoning of the gentlemen of various ages who attended Ericsson's Strategy and Technology Summit. The majority in the audience were men, even if one or two female analysts and journalists were also in attendance.

► After having spoken with some of them, I note that several, like myself, have been struck by the fact that Ericsson presented itself as a company with several facets.

There was, of course the serious, somewhat pensive and cautious image traditionally associated with a company in a sector that currently finds itself in economic turbulence. It is important to demonstrate the gravity with which profitability problems are treated and also that solutions to these do exist. I feel that Kurt Hellström and Sten Fornell were successful in this. The CEO of the company stressed once more his conviction that the turning point will come, although not even a man in his position can say exactly when.

Another facet, well suited to the technological leader in its sector, was represented by Jan Uddenfeldt and Håkan Eriksson. With their technical know-how and insight into the functioning of today's and tomorrow's complicated systems, they were the technological geniuses of the seminar. Most depends on the technology, particularly success in the market that they were here to convince – and I feel that here too, these gentlemen were successful.

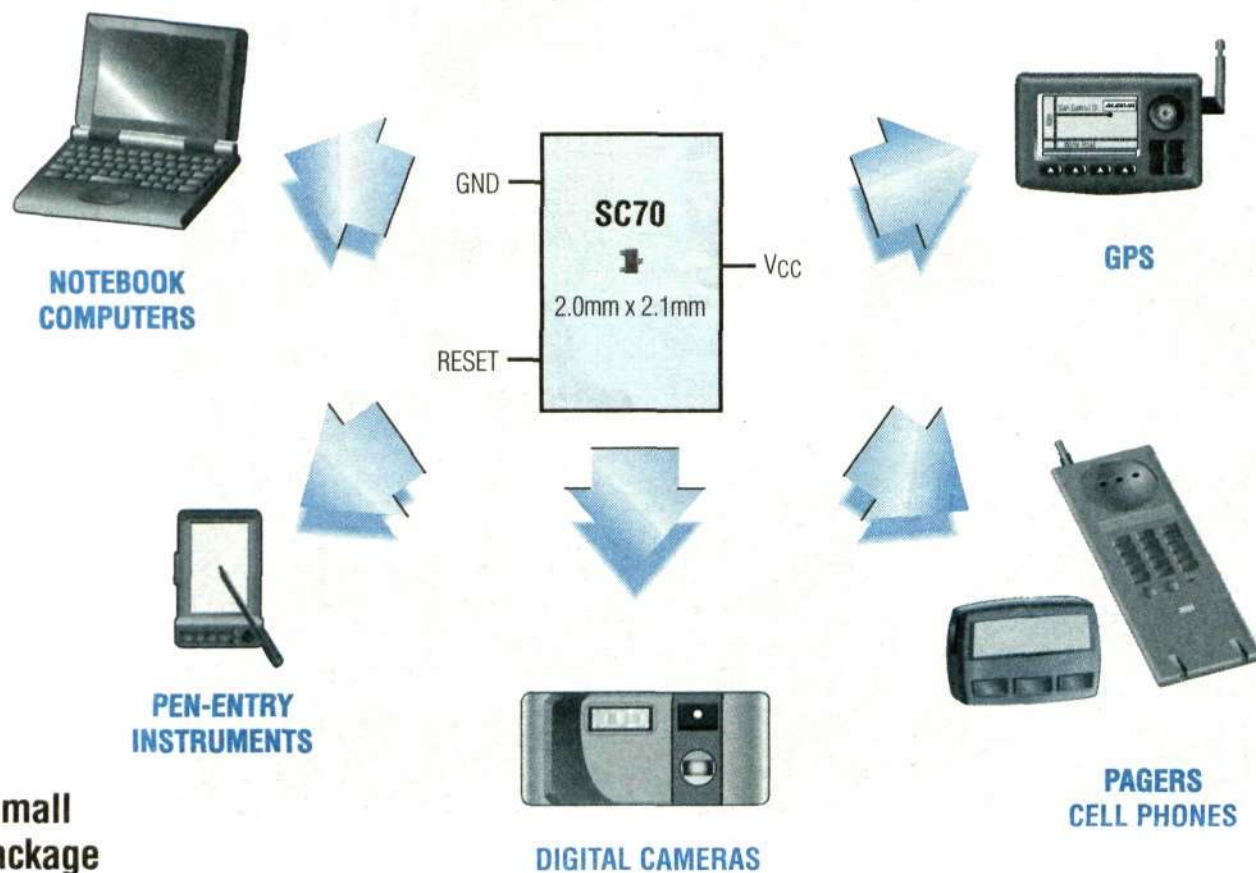
The most interesting factor, however, was, according to many, the enthusiastic, almost rapturous faces of the young presenters at Ericsson's Mobile Internet Café. This was the Mobile Internet personified; a glimpse of a fascinating world that will open up when 3G becomes reality – it was no wonder that many visitors were swept along.

If anyone, apart from the organizers and the clever people who had built up the environment around the event, should be given credit for a superb effort, it must be the young men and women who demonstrated the 3G items. This is the aspect of Ericsson that the world needs to see more of. Internally, however, we still need more of the serious image provided by Sten Fornell, so that everyone understands their responsibility for cash flow. We need to come back down to Earth before we can begin to enjoy the nectar offered by the future of 3G.

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PART	PUSH-PULL RESET	PUSH-PULL RESET	OPEN-DRAIN RESET
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A long-term approach

Ericsson's disaster relief program, Ericsson Response, has largely been associated with floods, earthquakes and other natural disasters. But the program also aims at taking a proactive approach.

Jan Herremo and Christer Björklund, both of Ericsson, recently traveled to Sierra Leone and Guinea in Africa in order to find out how the company can best provide support during long-term disasters.

► "Ericsson Response involves both prevention and responding at short notice when needed. We have a five-year contract with the International Red Cross and the UN in order to build up long-term cooperation," says Dag Nielsen, operations manager for Ericsson Response.

Recently, Jan Herremo and Christer Björklund, of Ericsson, traveled to Sierra Leone and Guinea in order to find out how best the company can provide assistance during both acute and more long-term disasters. After visiting some 15 different relief organizations, they feel they have a good overview of what is needed, an overview that is in agreement with their own calculations and preconceptions.

"There is a major need for data and telephone communications and, in many cases, also a telephone technician who can take care of the infrastructure and support for a number of relief organizations. The people working for the organizations are often not equipped to communicate with headquarters via e-mail," says Christer Björklund, who ordinarily works as a security manager at the Radio Network Systems unit at Ericsson Radio Systems in Kista.

Varied experience

He has been involved with Ericsson Response since its inception just over a year ago, and has previous experience of relief work in many areas, including medical care and crisis man-

agement within the UN. Also, during his spare time, Christer Björklund works as a first aid and health care instructor for the Red Cross, and as a fire officer and medical officer for the rescue service.

In addition to facilities for placing calls and sending e-mail, there is also a need for basic equipment, such as diesel generators for power supply. Most of the relief organizations are in favor of testing new telephone systems such as GPRS or 3G systems in the area.

"Being able to assess the need for assistance on-site is important for many reasons, including to ensure that we're doing things properly, as well as to establish a level of confidence among relief organizations," says Jan Herremo, who ordinarily works as a product manager at Ericsson Microwave Systems in Kista.

He has also been active in Ericsson Response since its inception, and has primarily contributed with his product expertise in the area of radio link equipment. Jan Herremo joined the program because he felt that he wanted to assist people and that he wanted to share his occupational expertise outside his job.

"Ericsson Response would also like to provide support during so-called 'silent disasters,' disasters that the media is no longer closely monitoring, but where people are still starving and dying. This could, for example, include providing support to relief organizations by supplying telecommunications," says Jan Herremo.



Jan Herremo, of Ericsson Response, and Christoph Saxer, telecom manager for UNHCR in West and Central Africa, check out telecommunications at the Kountaya refugee camp in Guinea, Africa.

Photo: Christer Björklund

But how can Ericsson continue to provide outlays for disaster relief programs when the entire company needs to be making cut-backs?

"The program involves a long-term commitment that we can't simply drop from one day to the next. Ericsson has made a decision to take social responsibility. That position yields many positive effects, such as motivating and retaining employees and attracting new workers," says Dag Nielsen.

Program generates respect

"We've also seen how Ericsson is receiving greater respect from customers, government bodies and the general public, thanks to our various efforts through Ericsson Response," he says.

Ericsson is the first company in the world to have an active, long-term agreement in place with both the International Red Cross and the UN. It is becoming increasingly common for international companies to assume social responsibility.

Dag Nielsen is constantly working to improve the disaster relief program. In order to raise the level of expertise even more among participants, all Ericsson Response members must work for two weeks with a delegation, such as the International Red Cross, in the country or market area where they are active.

Ulrika Nybäck

ulrika.nyback@lme.ericsson.se

FACTS/ERICSSON RESPONSE

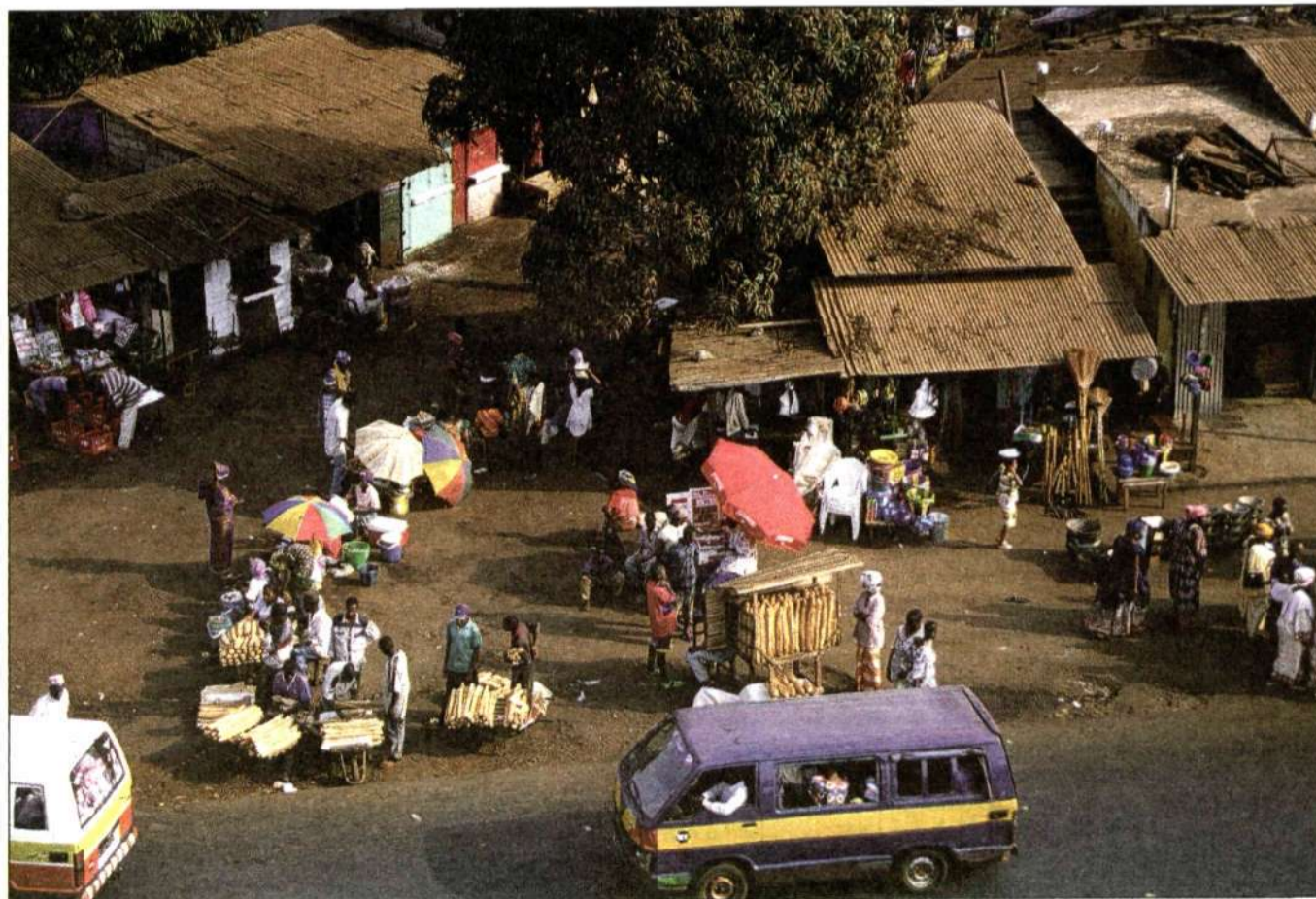
Established: 2000

Head of program: Dag Nielsen

Number of active members: 30 (the goal is to build up to between 150 and 200 members)

Most recent disasters in which Ericsson Response provided assistance: Earthquake in El Salvador, January 2001. Earthquake in India, January and February 2001

Goal: To provide support during disasters with a local presence, especially in the area of telecom expertise



Crowds and street vendors in Guinea's capital Conakry. Jan Herremo and Christer Björklund visited approximately 15 relief organizations during their visit to Guinea and Sierra Leone, in order to find out how best to provide support during long-term disasters.

Photo: Jan Herremo



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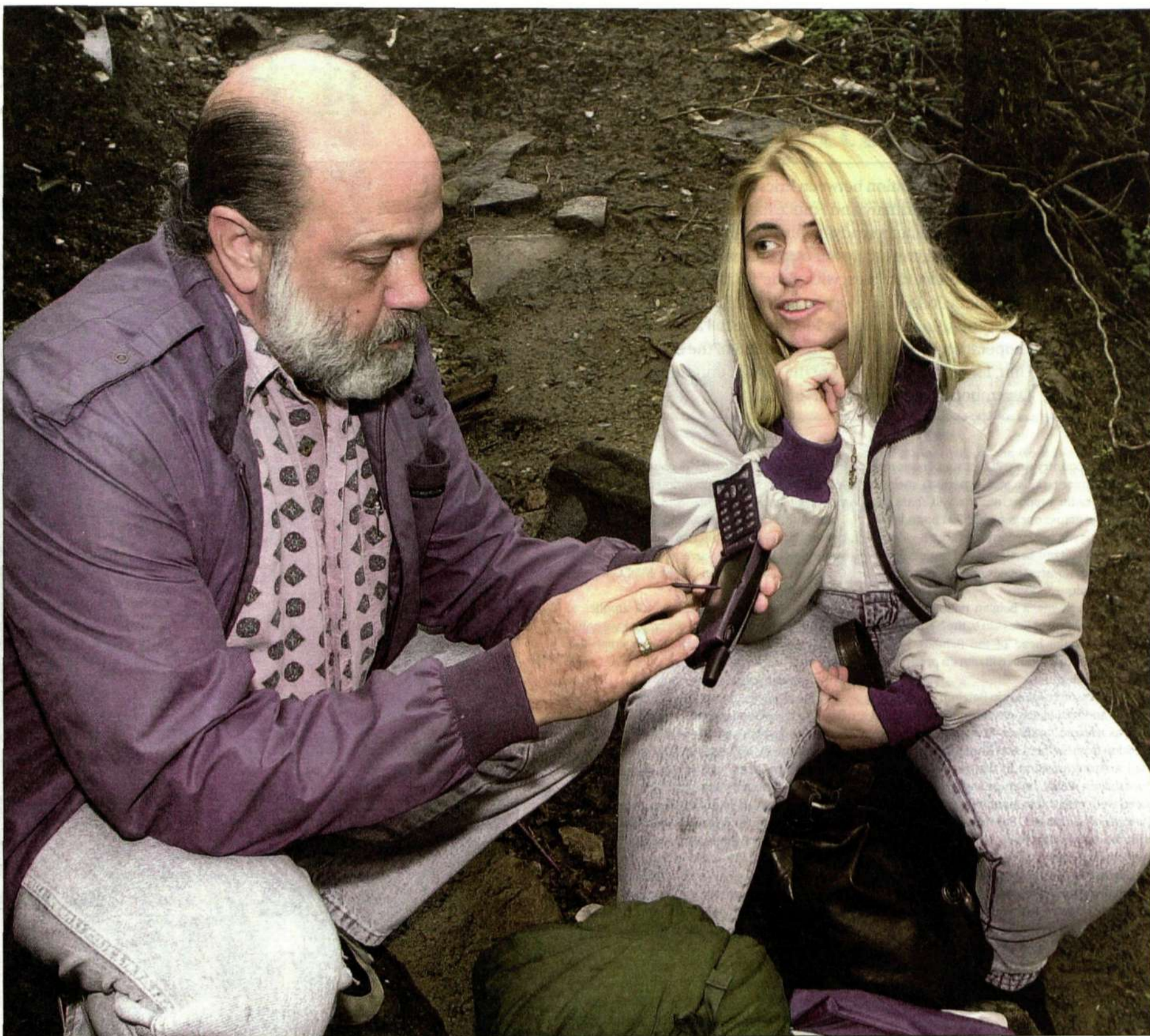
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"The trust that social workers build up is very fragile. Employees don't have time to come into the office and verify certain facts or to make a load of phone calls," says William Matson of Pathways Community Networks. Here, social worker Aubrey Bonton (left) is assisting Karen Adkins, who is homeless.

Photo: Michael Pugh

WAP service helps homeless

With just a few keystrokes on a mobile phone, social workers in Atlanta can find out which homeless shelters have space available for the night, as well as what kind of assistance the homeless person has previously received. The idea behind this new WAP service, which was put into service in May, originated from one of last year's winners of the ERICA award.

► Pathways Community Networks, located in the US, was one of five non-profit organizations to win the ERICA award last year. Together with Ericsson, the organization has developed a WAP service that facilitates work in assisting homeless people. Social workers can connect via a mobile phone or handheld computer to a database that contains information about the kinds of assistance that the homeless person has received in the past. That makes it easier

to determine the kind of assistance the person needs today. The service is primarily envisioned to operate using WAP-enabled phones, and eventually GPRS and 3G phones.

"When social workers are out in the field, they first need to establish a relationship with the homeless person and build up their trust. During those initial conversations, it is a huge help to be able to use the phone to quickly see what sort of assistance the homeless person has previously received," says William Matson, director of Pathways Community Networks, in Atlanta, Georgia in the US.

Starting in May, twelve different assistance organizations will receive access to the service. Using their WAP phones, social workers will then be able to log onto a database in which 140,000 homeless people are registered.

"The trust that social workers build up is very fragile. Employees don't have time to come into the office and verify certain facts or to make a load of

phone calls in order to find the information they need. If they mess up the first chance they have to help a homeless person, there is a big risk that they will never get another chance," says William Matson.

Pathways Community Networks collaborates with 32 other assistance organizations and would like to expand the service so that more people can find a use for it. William Matson explains how he came up with the idea for the WAP service.

"When I saw how companies can place orders via the Internet or a WAP phone directly to a plant, it hit me that this technology could be used in so many other ways as well."

A test group tried out the service during April, clearing the way for its launch in May.

Ulrika Nybäck
ulrika.nyback@lme.ericsson.se

GSM at the heart of Europe



Increased cooperation between Ericsson companies in the Netherlands, Germany and France means better operational efficiency – a factor already highlighted by Ericsson in Belgium.

"Why should we create our own processes and 're-invent the wheel' when we can 'steal with pride' from our neighbors?" says Dominique Jodoin, President of Ericsson's Belgian company.

Recently, Ericsson has decided to take full advantage of this cooperation by announcing the creation of the Benelux Market Unit, formed by the merger of the market units of Belgium-Luxembourg and of the Netherlands.

"In each country we will focus on developing complementary skills and expertise, such as technical radio support, and we will share this knowledge across our geographical boundaries. Clearly, this will help us save costs but it will also allow us to use our best available experts to address our customers' needs and opportunities," says Dominique Jodoin.

Jef Keustermans, a Belgian national and the current president of Ericsson in the Netherlands, will become the head of the Benelux Market Unit. Dominique Jodoin will remain president of Ericsson in Belgium.

The Ericsson company in Belgium was formed in 1977 and sold alarm systems and furniture, as well as telecom products. Despite intense competition from Siemens and Alcatel, both of which had a strong position in the country, Ericsson focused on PABX business switches. Business fared well, with the company capturing a full 20 percent of the market. For many years, business switches were in fact the company's most important product. Last year, the PABX operations were sold as part of the new channel strategy.

Today, mobile telephony is the focus of the company's operations, which employs approximately 250 employees.

In addition to Belgium, the company manages Ericsson's business in Luxembourg, to which it has delivered equipment for the Millicom GSM network, operated under the name of Tango.

Growing quickly

For a long time, Belgium was a blank space on Ericsson's European GSM map, until 1998, when KPN Orange selected Ericsson as the sole supplier for their GSM system. By then, there were already two GSM networks in Belgium.

The number of mobile users in the country is growing quickly. Last year, the penetration rate

increased from 32 to 52 percent. Dominique Jodoin predicts that penetration could reach 60 to 65 percent by year-end.

Recently, KPN Mobile announced that it had chosen Ericsson as principal supplier of its 3G system, which is to cover the Netherlands, Germany – and Belgium, where KPN Orange is an operator.

"We're also aiming to be the 3G supplier to Tango in Luxembourg, and we believe we could even secure a break-in UMTS contract this year with either Proximus or Mobistar," says Dominique Jodoin.

In the field of support functions, Ericsson in Belgium cooperates closely with Ericsson in the Netherlands. This mainly involves the SAP business system. By using a single SAP system across the countries, and by reusing the processes created by Ericsson employees in the Netherlands, the Belgian company has succeeded in generating savings corresponding to half of what the system would otherwise have cost.

"There are many areas where we can cooperate with Ericsson in the Netherlands and France. For example, we have borrowed skilled engineers from both countries. We're not talking about any great distances here," says Dominique Jodoin.

He believes that Ericsson could use Belgium as a European test market for new products thus reducing certain corporate costs. Many American companies come to the country to test new products and form an idea of how suitable they are in Europe.

As a multicultural country with three official languages, with a very large number of expatriates from all over Europe, Belgium is like a "mini-Europe", and highly suitable as an environment for testing prior to a larger-scale European launch.

In 1991, Ericsson opened its EU office, officially named the European Affairs Office. Initially administration of the office was supervised by Ericsson in Belgium, but in most areas, everyone concentrated on his or her own area. Today there is much more cooperation between the two companies, particularly in marketing and certain projects.

Useful knowledge

The GSM order from KPN Orange in 1998 was a turnkey assignment for which 2,300 base stations were to be installed and put into operation. "Turnkey" referred to the fact that, in addition to installation and startup, Ericsson was also responsible for all peripheral requirements, such as finding appropriate construction sites for the base stations, obtaining building permits and raising masts, and so on.

At the time, less than ten Ericsson employees in Belgium were involved in GSM activities. At the beginning of the project, Ericsson's and KPN Orange's work was mainly performed by consultants as the civil work knowledge had to be developed very fast.

"Both KPN Orange and we at Ericsson learned a very important lesson during these initial



The number of GSM subscribers in Belgium is growing rapidly. The country was previously a blank area on the European Ericsson map. Last year, the penetration rate increased from 32 to 52 percent.

Photo: Lars Åström

months: never let consultants take management control of the project. Together, we solved the problems, in part by swapping a number of consultants with employees of the two companies. We developed a real partnership with our customer, one that simultaneously gave us full control over the quality of the work," Dominique Jodoin explains.

"We learned how to run large projects, which has proved to be useful knowledge now that UMTS is to be realized," he adds.

The company is now sharing the knowledge it acquired by seconding some 20 Belgian employees to large mobile telecom projects currently under way in Mexico, Morocco and Austria.

Earlier this spring, Ericsson in Belgium introduced a new organization that focuses firmly on customers. The KPN unit is the largest, with approximately 130 employees.

Now, during the late spring, the company is moving into newly built premises next to Brussels airport. The area, which is still under

construction, will be home to several IT companies – for example, 3M and IBM. Microsoft also has an office nearby.

The floor plan of the new premises is completely open, so there are no closed offices.

The building, which is leased by Ericsson, has two vacant floors in which Dominique Jodoin would like to see cross-border Ericsson activities, such as testing of new products in the European market.

One of the goals that the company in Belgium had set for 2001 was to be chosen as UMTS Supplier by KPN Orange.

"Now that this is being realized, skills development has become even more important, and we have already made a good start in this area. Ericsson's major training drive, 'The Knowledge Step,' was a success in Belgium, with an average of six courses per employee," concludes Dominique Jodoin.

Gunilla Tamm
gunilla.tamm@me.ericsson.se

Strength through collaboration

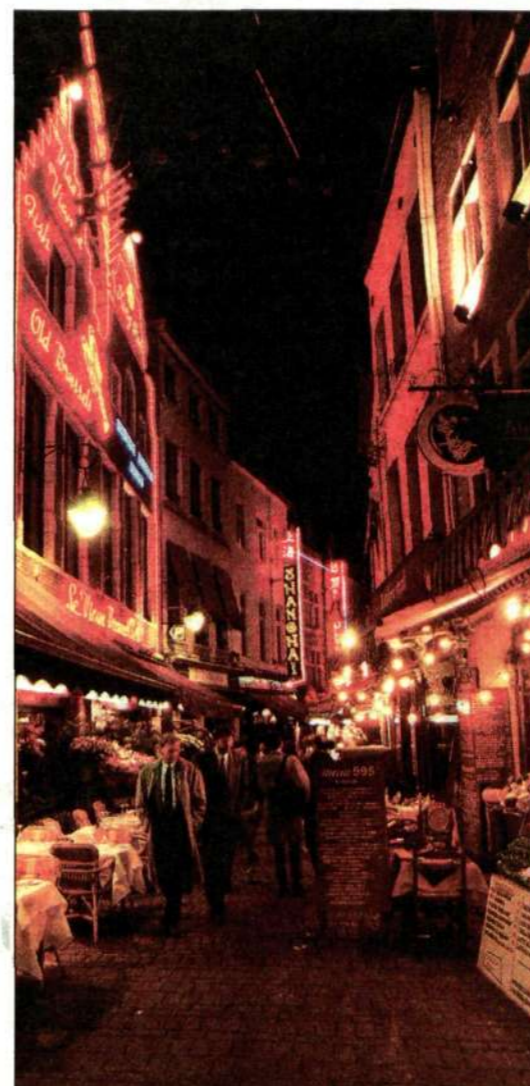


Photo: Rolf Adlercreutz

KPN Mobile's recent selection of Ericsson as the supplier of its UMTS system, which is intended to cover the Netherlands, Belgium and Germany, was a confirmation that the cooperation between Ericsson companies in different countries is a strength. Every company can contribute its experience and expertise.

At Ericsson in Belgium, the unit for KPN Orange is the largest, with approximately 130 employees. KPN Orange, which currently has 700,000 subscribers, is growing and capturing market shares from the country's other two operators.

"We started working with our tender to KPN Mobile in August last year," explains Jean Marc Engels, Key Account Director for KPN Orange. "Each company has appointed experts. Accordingly, the Netherlands, for example, contributes its experience from the switch side, Belgium

contributes its expertise in managing large-scale projects and Germany contributes with marketing experience."



Jean Marc Engels

The writing of the contract is now being finalized. A pilot system, which is to be ready for testing by "friendly users" at year-end, is being installed.

Preparations for the roll-out of the commercial system – that is, the installation and startup of the new system – are under way. These preparations are particularly important in Germany, where operator E-Plus is a new customer for Ericsson.

"An important part of the work is to form a project organization consisting of employees from all three countries," concludes Jean Marc Engels.

Gunilla Tamm

FACTS/BELGIUM GSM OPERATORS

Belgium has three GSM operators with a total of 5.6 million mobile subscribers, which corresponds to a penetration rate of about 55 percent.

Ericsson is a supplier to KPN Orange, which started its GSM network in 1999 as the third GSM operator. KPN Orange has been very successful at establishing its presence in this competitive market and now has over 800,000 subscribers. Proximus, which is owned by Belgacom and Vodafone, started up its GSM service in 1994 and is the country's largest operator, with about 3.2 million subscribers. Mobistar, which is owned 51 percent by France Telecom, started its GSM service in 1996 and currently has 1.8 million mobile customers.

Success for inexpensive ads

Increased sales of mobile phones and fewer phones ringing in movie theaters. These were the results of an advertising campaign conducted by Ericsson in Belgium. Movie theater ads were also part of a good deal, costing less than a dollar per screening.

"We used the slogan 'Make yourself heard' with the addition of 'but not in the movie,'" explains Véronique Vergeynst, who oversees media activities for the Consumer Products Division at Ericsson in Belgium.

The concept behind the ads was not to promote a commercial message, but to instead encourage moviegoers to turn off their mobile phones. Phones that ring at inappropriate times in public places, movie theaters included, have become a problem. The ad campaign ran in collaboration with the Belgian media sales company.

"This was the first time that a mobile phone manufacturer has gone out and encouraged people to turn off their phones. And Ericsson did it because it was totally in line with one of the Ericsson brand values: respect for the individual. In conjunction with this message, we presented a telephone, Ericsson's A2618s, which is designed for young people in the 18-34-year age group, that is, the group most likely to attend movies," says Véronique Vergeynst.

The ads were 15 seconds long and ran in both French and Dutch. Ten different versions were created, some more lighthearted than others. The campaign ran over a four-month period and was shown a total of 200,000 times, which meant each screening cost less than a dollar.

The campaign was so well received that theaters not using the same ad agency contacted Ericsson, wanting to use the ads. Sales of the A2618s phone model increased noticeably.

The ad will be participating in the Cannes advertising festival in June 2001, at which the annual media Lion award is presented.

"We're working now to develop new ads that will have the same tone of playfulness," says Véronique Vergeynst.

In 2000, Ericsson in Belgium won two of the award categories that Ericsson's Consumer Products Division presents each year on a regional level. One was awarded for the combination of creativity on a small budget.

The ad campaign for the A108s youth phone was presented in six different colors, one for each of the available phone faceplates. Ads were printed on beer-mats and the campaign was run in conjunction with the company that distributes them. The target audience was the many young people who congregate at trendy cafés and restaurants.

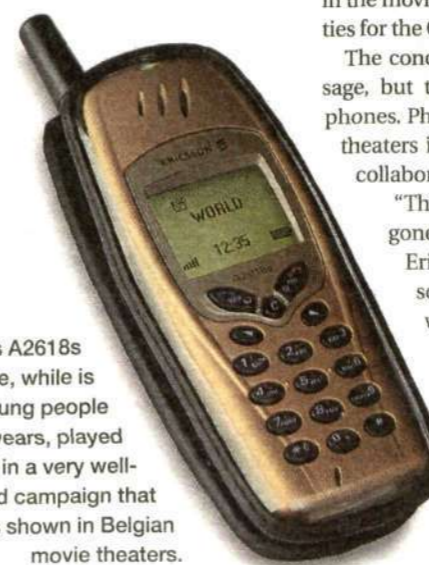
The other award pertained to the T28s phone model. Through various media and PR-activities, the phone's design was highlighted in a way that received a large amount of positive attention from both the press and consumers.

The Ericsson WAP Award was created by Ericsson in Belgium last year in order to draw greater attention to WAP and to position Ericsson as the leader in new technology. WAP included. The competition, which was directed at external business-to-business participants, was so well received that other Ericsson companies, including the company in Spain, have followed suit and are launching their own Ericsson WAP Awards.

Gunilla Tamm



The management of Ericsson in Belgium gathered in front of the new building to which they recently moved. Photo: Emmanuel Crooy

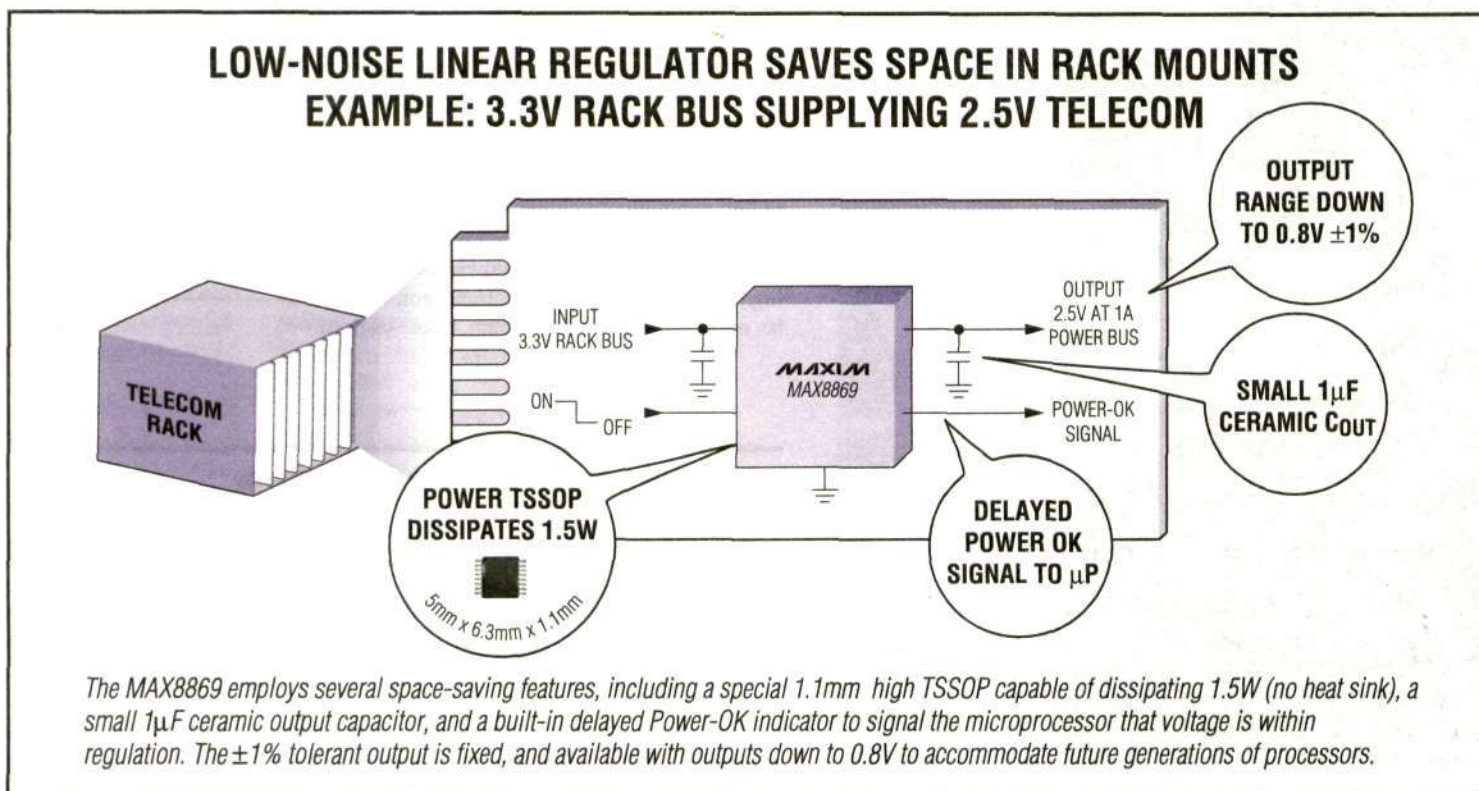


Ericsson's A2618s mobile phone, while is targeted at young people aged 18-34 years, played a key role in a very well-received ad campaign that was shown in Belgian movie theaters.

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3G lobbyists in Brussels

On the Avenue de Tervueren in Brussels, Ericsson has its eyes and ears to the EU and the new Europe that is emerging. The avenue is home to Ericsson's EU office, which oversees the company's lobbying operations in Europe. Issues pertaining to 3G are currently at the top of the list.

► This year marks the tenth anniversary of the creation of the Ericsson European Affairs Office, which has three employees. Torbjörn Ihre, who is President, works on issues associated with regulations, legislation and trade. Lars-Göran Larsson takes care of more specific, technically regulated telecom issues, as well as policies regarding standardization. He also sits on the board of European Telecommunications Standards Institute (ETSI). Jennifer Fugate is the European Affairs Officer in charge of environmental issues.

Lobbying involves generating business by indirectly influencing a customer's decisions.

"For us, it means that we must contribute to Ericsson's business successes by influencing a number of groups within the EU, such as politicians, various commissioners and legislative authorities. Furthermore, we must be able to determine where to make our efforts in order to achieve the desired effect. This can include the EU Commission, the European Parliament or member states. The 3G issue is one example of this, where we are now shifting our sights to individual governments and their joint council meeting in June," says Torbjörn Ihre.

"What all three have in common is that their decisions affect Ericsson's operations, as well as the company's clients and end-users," he says.

Vattenfall, Electrolux and Volvo all have their EU offices in the same building as Ericsson, which is strategically located, just a few subway stations away from the EU quarter. This is very practical given the fact that meetings can be called at very short notice. There are not so many scheduled meetings. Informal contacts and networking are the most beneficial tools.

The issues that Ericsson's EU office handle can either be taken up on the office's own initiative, come from some group within Ericsson or be initiated from somewhere else, such as the commission or industry organizations.

Ability to influence

Sweden is currently at the center of attention since it holds the EU presidency.

"So much is going on here all the time. That's why it is important to be on-site and maintain a sense of continuity with contacts, since it takes a long time to establish networks," says Torbjörn Ihre.

An important task is to find the appropriate person within the EU. This might involve a person who is going to sign a certain directive, to



Torbjörn Ihre

which Ericsson would like to present an amendment.

When *Contact's* reporter met with Torbjörn Ihre and Lars-Göran Larsson, they were on their way to a meeting with the Information Society commissioner, whose assignment includes telecommunications. The EU meeting in Stockholm concluded a day or two before, and it is that meeting which is to be discussed.

"It is now that we have the opportunity to exert influence by getting our comments into the minutes that will result from the Stockholm meeting," says Torbjörn Ihre.

Among other things, EU Commissioner Erkki Liikanen will convey his viewpoints. He is responsible for telecom issues and a key person.

Technology dominates 3G

3G issues currently dominate and the EU has set out an action plan. One view is that the EU should have stepped in prior to the 3G auctions getting under way. It will be difficult to do anything in the short term. Currently, the emphasis is on creating a positive feeling within the telecom industry.

"3G has an extremely high technology emphasis. People should now look more towards services," says Torbjörn Ihre.

EICTA (European Information and Communications Technology Industry Association) is a combination of manufacturing companies within the telecom sector and an important institution in EU operations.

Here, competitors work together and, in 90 percent of the issues, they hold the same opinions. Among the telecom companies that are

members of the EICTA are Ericsson, Siemens, Alcatel and Nokia.

In addition to external networks, it is important to have internal networks at Ericsson. Every region contains such a network for matters regarding the field of Telecom Policies and Regulations. The European network is known as Euronet.

"It includes Ericsson employees from 15 different EU nations, as well as Norway, Switzerland, Hungary, the Czech Republic and Poland. The network is important for ensuring that Ericsson speaks with one voice and has common messages from every market unit," explains Lars-Göran Larsson.



Lars-Göran Larsson

Ericsson's local company in Brussels oversees all administration at the EU office, and, over the past few years, collaboration has increased to include some marketing and shared projects.

In the past, it was often necessary to be present at various lectures within the EU to get information. Today that is not as important, since information can also be found on the EU's numerous websites.

"The underlying theme of our work here in Brussels is to be out early and find the right person, be it externally or within Ericsson," concludes Torbjörn Ihre.

Gunilla Tamm

gunilla.tamm@ime.ericsson.se



Jennifer Fugate, one of Ericsson's three envoys in Brussels, has invited Swedish EU parliamentarians to discuss such subjects as product responsibility.

Photo: Emmanuel Crooy

Building environmental networks

European Affairs Officer Jennifer Fugate has environmental issues as her area of responsibility. Arranging meetings for Swedish EU parliamentarians is one of her tasks.

► In collaboration with employees at a few large companies, Jennifer Fugate has established a group within the EU to pursue the issue of electronic waste and environmentally dangerous substances.

"Included in the group is Electrolux, with whom I have had a large amount of contact.

The goal of our work is to promote the industry's opinions when it comes to the directives that deal with electronic waste and environmentally dangerous substances," she explains.

"Together, we have organized seminars and a few meetings, to which we have invited Swedish EU parliamentarians to discuss such subjects as product responsibility."

Currently, Jennifer Fugate is devoting a great deal of time to mapping out Ericsson's resources within the environmental field in relation to the EU and establishing a network, both external and within Ericsson. Internally, there are many contacts with Stockholm.

Gunilla Tamm

FACTS/ERICSSON EUROPEAN AFFAIRS OFFICE

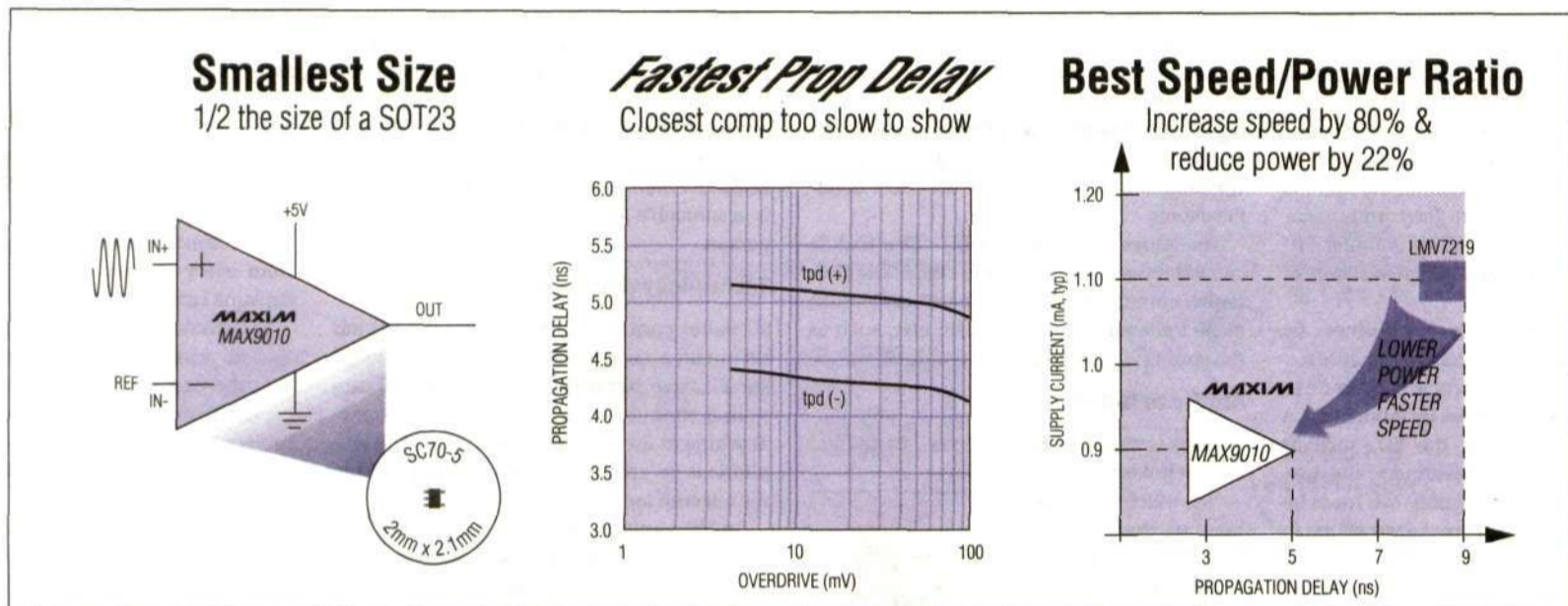
The Ericsson European Affairs Office was established in 1991 and currently employs three people.

Ericsson has four offices that are involved in lobbying efforts. In addition to Brussels, these are Hong Kong, Miami and Washington DC.

Lobbying involves creating deals by indirectly influencing customers' decisions.

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MAX9012/13	2/1	No/Yes	No/Yes	0.9/1.0	5	+4.5 to +5.5	8-µMAX/SO	1.55/1.45
MAX9201	4	No	No	1.25	8	+5 to +10 or ±5	16-SO/TSSOP	2.25
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Enthusiasm returned following changes

The ongoing efficiency program is affecting thousands of people in Sweden, mostly within the division Mobile Systems.

Three years ago, similar changes were made on the fixed network side and over 5,500 employees lost their jobs in Stockholm. Today, however, there is a renewed sense of excitement among employees.

► Morale was at a low in 1997 among employees working with fixed networks. Sales of AXE had been falling for several years and the business area had gone from being the pride of Ericsson to the black sheep that was operating at a loss.

Management at the time decided to enact major cutbacks. At the end of 1997, the business area employed 7,500 in Stockholm. Today there are just 1,900 people working in what is now division Multi-Service Networks.

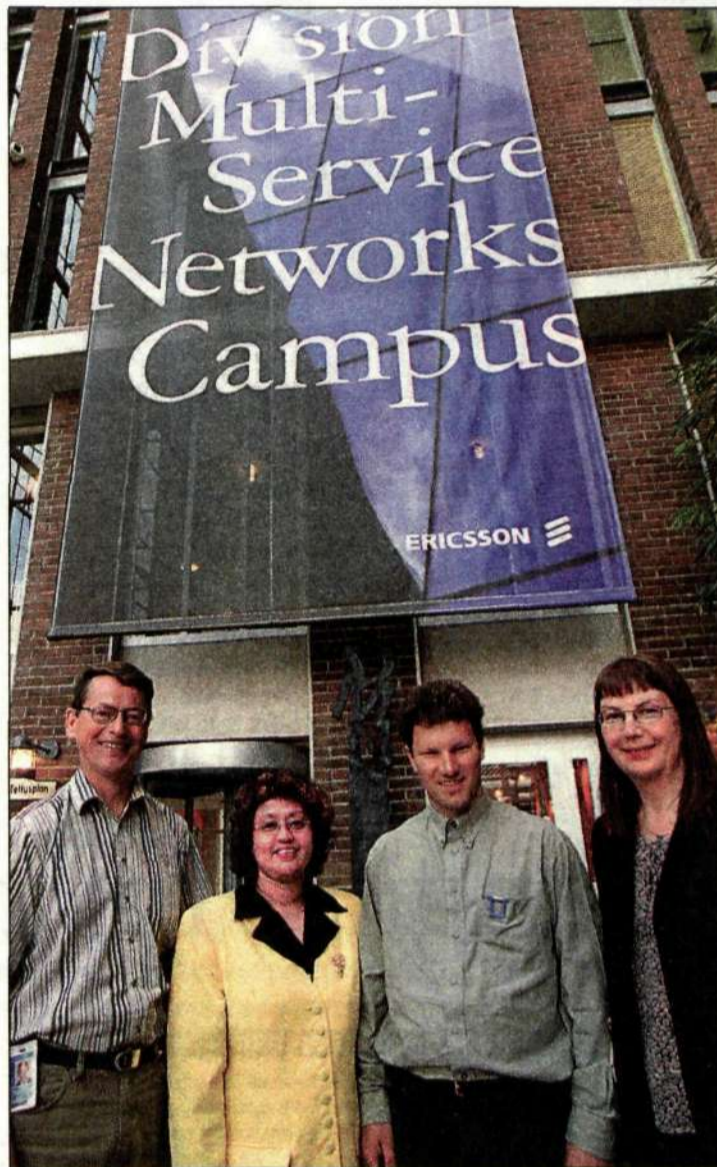
Difficult period

Contact met with four of those employees to hear about their experiences and about the lessons that they learned. The four are Olof Andrén, Solution Manager, Customer Group Latin America, Sven Brenning, at Technical Market Support for Global Operators, Laureen Sandqvist, Customer Projects Manager and Anne Rundqvist, Business Unit Driver for TTC Global.

Olof: "The first redundancy notices came out just before Christmas 1997. It was extremely bad timing. A total of 10,000 jobs were to be eliminated globally. Even I was shocked and could hardly believe that so many people could be laid off."

Laureen: "Many people applied for other jobs. Quite a few went to Ericsson Radio Systems or Ericsson in Sweden. When managers also started leaving, I thought things were really bad."

Olof: "There were many rumors floating around. Such as that AXE would be gone within three years and that Nokia would acquire the entire operation."



These days, Sven Brenning, Laureen Sandqvist, Olof Andrén and Anne Rundqvist are proud to work at the division Multi-Service Networks. It was a different story three years ago when several thousand employees made redundant.

Photo: Ecke Küller

Sven: "Things like this tend to cause speculation and generate rumors. The less clear the information from management, the more rumors there are."

A process to take inventory of the expertise of employees was initiated in order to determine who would keep their jobs. Olof, Sven, Anne and Laureen were part of that group, although many of their colleagues disappeared.

It was a difficult period, even for those who

remained. Morale was low and there was not much support from the rest of the company. Today the situation is quite different. The Engine solution has been very successful and the division has become a workplace that people willingly seek out. Olof, Anne, Laureen and Sven give much of the credit to Executive Vice President of the division, Einar Lindquist. He arrived in 1998, after the major cutbacks had been made.

Olof: "He assembled the employees and

told us that we were capable and that what we were doing was important. We'd never had a boss who had said that before, and we felt as though things were starting to turn around. The fact that management moved down to the main floor next to the reception area also helped."

Laureen: "When we arrived at work one morning before Christmas, our managers greeted us with champagne and the ladies received roses as a thank you for our efforts. Of course that felt really good."

Managers to be relied on

Openness and information from management are also factors that have contributed to greater satisfaction according to the employees.

Anne: "Today, we have a sense of pride and I feel involved in what is going on. I believe that openness is extremely important, as is receiving sufficient information about what is going on and why. We obtain information via the Web and TV and at our All Staff Meetings. Einar and the others explain how things are going for the division, what we hope to achieve and how we will accomplish that."

Sven: "On the other hand, it's more difficult to find out how things are going for the rest of Ericsson. If mobile phones are faring poorly, we find out about that in the morning paper. As an employee, I had no idea. I think there is a shortage of information in that respect. Contact could also make improvements in this regard."

These days, at Multi-Service Networks there is a spirit of ambition that is inspiring, as well as a belief in their own work and in their products. And they view the future with optimism.

Sven: "I started working at Ericsson in 1967, and it's actually quite amazing that despite having experienced numerous crises during technology shifts – everything from the old 500 switches to AXE and GSM – Ericsson has always emerged stronger from these crises."

Olof: "Just like our division. We had been discounted, but now with Engine we're at the forefront of development, and it seems like there is definitely a future for AXE."

Lars-Magnus Kihlström

lars-magnus.kihlstrom@lme.ericsson.se

Thoughtful strategy yielded results

It is no accident that the division Multi-Service Networks has experienced a turnaround. Behind its successes lies a conscious strategy with the most important elements being communication, organization and leadership.

► When the new management group for the Multi-Service Networks Division was appointed at the end of the 1990s, its outlook was not great. Customers viewed its products as passé, employee moral was at an all-time low following layoffs, and not even corporate management was convinced about the future of the operation.

"We felt that this would be the only chance we would get to change that trend. We wanted to create involvement, participation and pride among employees, and we realized that a well-planned communication strategy was incredibly important," says Vice President, Human Resources, Mats Tronelius who arrived at the division in 1999 from the division Mobile Systems.



Mats Tronelius

Initially, the strategy consisted of two main messages: profitability must be improved and the product portfolio must be repositioned. At the same time, a major effort on communications was begun. Among other things, regular All Staff Meetings were initiated, during which

management, with Executive Vice President Einar Lindquist in the lead, took up the message at every opportunity. The intranet also became another important source of information.

Management also wanted employees to be just as informed as customers. The boundary between internal and external information was removed and during events scheduled for clients, the press and analysts, employees were also invited to join in. One such was the Get Insp(w)ired event, which was an important part of the work to advance the company's position in the ever-changing telecom market.

The aim of the management group was always profitability, and a number of the measures taken were painful. Among other things, operations were shut down in some 40 different nations and several projects were discontinued. At the same time, another decision of

more symbolic consequence was taken. A "casual all week" dress code was introduced and the office building was remodeled to form a campus, with corridors being replaced by an office landscape and the management group moving down from the top floor to an open room, with glass walls, on the ground floor. At the same time, reserved parking spaces for the managers disappeared.

"Being a manager at the division Multi-Service Networks means being able to manage without traditional status symbols. Respect among co-workers is determined by how one conducts oneself," says Mats Tronelius.

Twice a year, employee attitudes are measured with the help of the Dialog tool. Today, the employees have the highest results within Ericsson.

Lars-Magnus Kihlström

Triple-strength base

Micro base stations for cellular networks are already very compact, but these small boxes are becoming more powerful.

The base station that Ericsson will release next year will be the same size but have three times the capacity of today's best-selling RBS 2302.

► Work on the successor to the world's best-selling micro base station, Ericsson's RBS 2302, of which 40,000 units have been sold, is in full swing.

Selected customers are contributing to the development of the new product, which will be available in second half of 2002.

"We are now approaching the limits for what is possible in terms of size reduction," says Fredrik Rothstein, product manager for the new RBS 2308 base station.

"The system design effort being made to be able to double the number of transceivers in the RBS 2308 without adding active cooling with fans is enormous. In simulation tests,



"It's powerful," says product manager Fredrik Rothstein shown holding the RBS 2308 micro base station which will be available in second half of 2002.

Photo: Ecke Küller

every component is being moved around to see how heat is dispersed in the base station."

"Thermal issues have been one of the greatest technical challenges, but we now have an optimized design that allows full control," continues project manager Mikael Kylhage.

The driving forces behind development of the RBS 2308 are increasing capacity in micro and pico cells and supporting the new Edge standard for GSM and GPRS. The RBS 2308 will

contain four transceivers in a case the same size as the RBS 2302, which has two. The new product will have the same output power and the same number of antenna ports, allowing it to be mixed with other products at the same site.

"We are also working on a site solution in which we package the base station with our MINI-LINK radio link which is increasingly being used for communication between base stations," says Fredrik Rothstein.

"Some 70 engineers are now working full time on this project, which is being conducted in close collaboration with ERA in Kista," says Mikael Kylhage. "We are also receiving software support from Luleå and Skellefteå and working closely with strategic suppliers. After an extensive pre-study, we now have a very well conceived design that is impressing our customers."

A number of key customers have been kept informed from the start and invited to comment on the design. One of these is Vodafone D2, the mobile operator that was previously called Mannesmann. Technical director Christoph Leifeld says that he is very impressed by the new base station, which he describes as "compact with an excellent modular design."

The RBS 2308 will not employ active cooling, yet will withstand temperatures from -33°C to $+45^{\circ}\text{C}$, using a well conceived design for maximal cooling with ambient airflow, which allows completely silent operation. Silent operation, a feature offered only by Ericsson, makes the base station easy to locate discreetly in virtually any urban environment.

Lars Cederquist

lars.cederquist@lme.ericsson.se

Universal sync engine for networks

Synchronization of calendars, to-do lists and address lists between various fixed and mobile terminals will be a standard feature in tomorrow's networks. Ericsson is therefore working to develop a universal synchronization engine, uSync, with a uniform interface to all applications and functions and a standardized interface, SyncML, for different terminals.

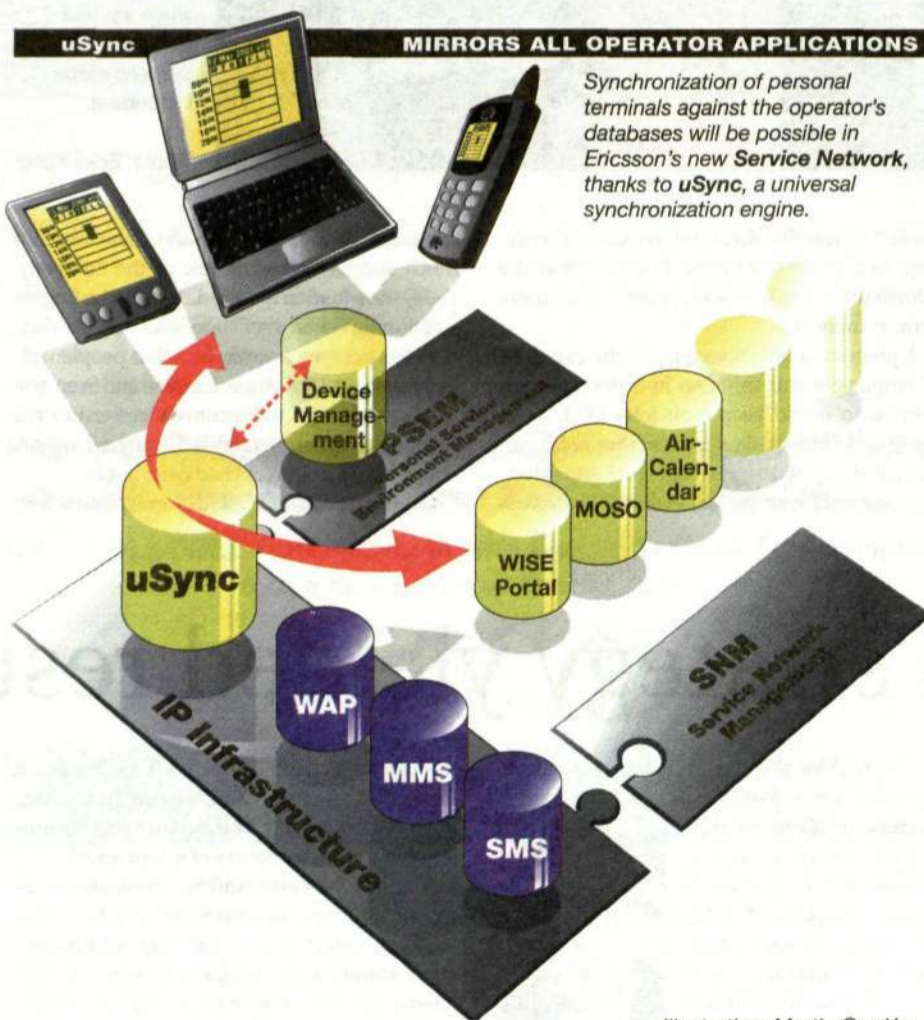


Illustration: Martin Gradén

► Ericsson recently presented its Internet Services Platform, a concept that will make it easier for operators and service providers to manage the many applications being created for 3G networks.

An important component in the service network are the Service Capability Servers, which distribute the various applications and services in the network. This is where the new synchronization engine uSync will be deployed to synchronize data between various server-hosted applications and data on different terminals. It will be sold as a separate product together with various applications from Ericsson.

Supports all standards

"uSync is a refinement of our Air Calendar project, in which we developed a solution for remote synchronization of calendars against a network server," explains product manager Anders Håkans.

"Now we are developing a new SyncML engine that will be able to talk to many different applications and which has all the interfaces an operator needs for billing, operations

and maintenance, fault management, etcetera. The uSync software will support all standard hardware and work with all mobile standards."

The advantage of putting uSync in the service network is that the operator will have a single interface for synchronization, rather than a separate function in every application server. The operator thus obtains a centralized

function with excellent control that can be scaled up as needed.

The interface between uSync and applications is based on an Application Protocol Interface (API), which will make it easy to synchronize an application using uSync.

"We are working on a project together with an Ericsson unit in Karlstad in which we expect

to have a solution ready by the third quarter," says Anders Håkans.

With uSync, users will be able to synchronize data between the server and their terminal anywhere, at any time. PIM (Personal Information Manager) data can be synchronized over the air via uSync between the terminal and the server.

Users may choose when the terminal should be synchronized, making devices more personal and attractive.

A helpful assistant

The next major application for synchronization will be device management, which will provide a simple method for operators to help end users configure all terminal settings.

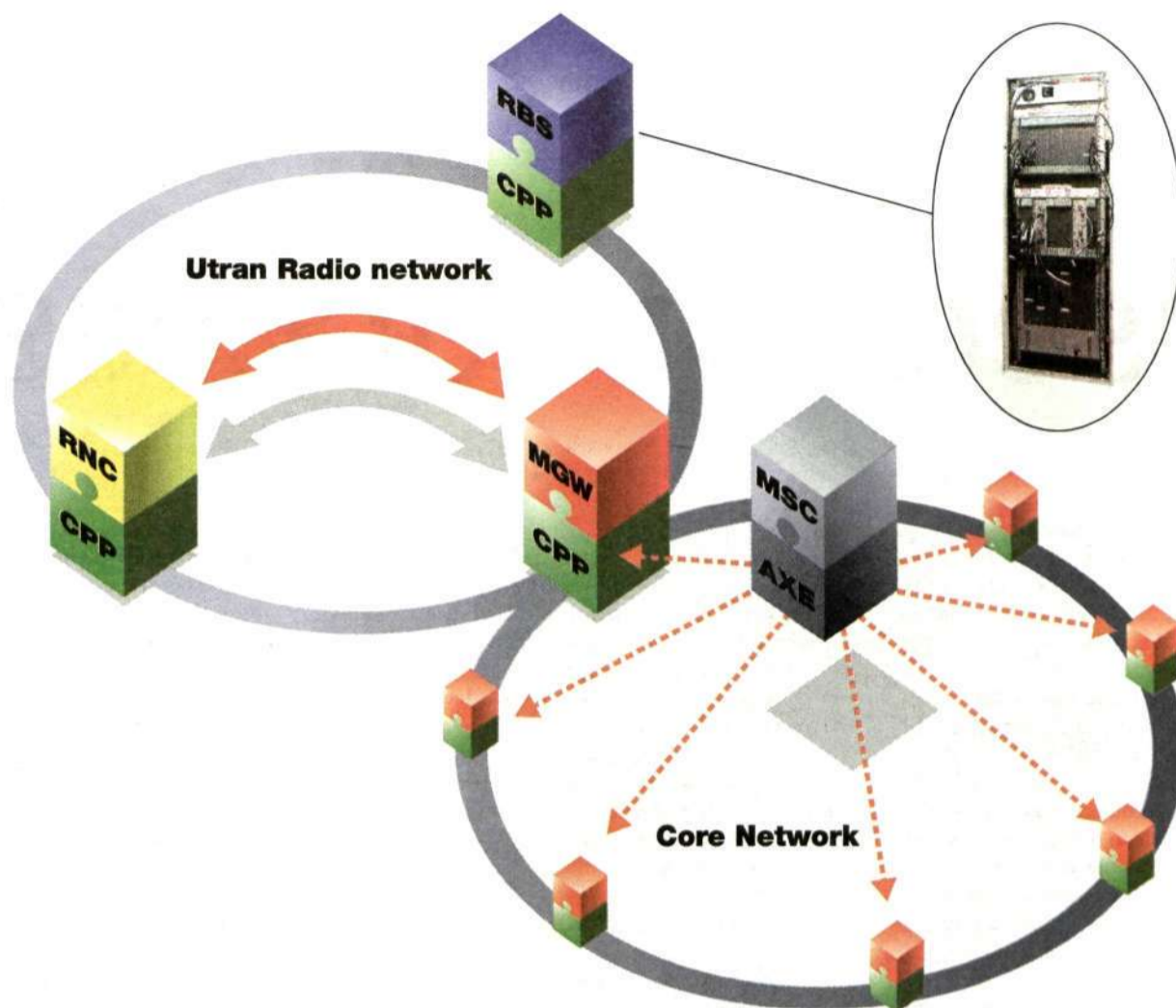
"We understand that it will be difficult for end users to configure all the settings for IP addresses, telephone numbers for access servers, MMS parameters, etc.," says Anders Håkans. "But they should be able to just use these features and not worry about what all the different settings mean. With uSync, they will always have the right settings, and the Mobile Internet will be easy to use."

uSync will be a central component in the Device Management (DM) function which will support all types of terminals. The advantages of DM will become evident if the user loses the terminal device or purchases a new unit. The operator will be able to store all settings for WAP, SMS, MMS and e-mail, for example, on a server, which will then be able to synchronize with the new terminal.

Lars Cederquist

The SyncML standard, which is now supported by more than 600 companies, was described in *Contact* 4:2001.

www.syncml.org



By starting with the generic hardware and software provided by the CPP platform and adding application hardware and software, a CPP-based node is obtained that can become part of a third-generation radio network (Utran), a radio base station (RBS), a radio network controller (RNC) or a media gateway (MGW) at the edge of the core network. The CPP includes the SCB switch card, the GPB processor card and the SPB, an SXB card used for connecting several magazines, and the ET card, which provides an interface to other nodes. To these are added device boards for specific applications.

Illustration: Martin Gradén

A switch with many applications

Ericsson's CPP platform can be used for small base stations containing just a few circuits or for large control units employing hundreds of processors and filling dozens of cabinets. Apart from processing power and memory capacity, there are really no upper limits.

► CPP, the Cello Packet Platform, was designed as a transport platform for access products, primarily within mobile telephony. CPP is thus the platform for several different products, of which the most typical are radio base stations for the new WCDMA 3G networks and the RNC, the Radio Network Controller that determines how traffic is distributed among base stations.

In the new network architecture, which has separate layers for transport, control and applications, the CPP belongs to the transport layer. Also at this layer will be tomorrow's media gateways (MGW), which are being based on the CPP. Media gateways are switching nodes at the edge of the transport network, where they provide a contact point with all control servers, access networks and other networks.

"The generality of the CPP concept makes it suitable for a number of products. Using the same core components, it is possible to build both base stations, which must be produced in large numbers at low cost, and complex, yet robust RNC units," says Johan Sjöblom, manager for the CPP development unit.



Johan Sjöblom

C as in cell

Key to understanding the CPP is the letter C, as in Cello, which is all about cells. The CPP transfers voice, sound, video, e-mail and data files using data cells, which are packed optimally.

The first versions of the CPP used an ATM switch for packet switching. Today, however, IP is also being introduced in the CPP. ATM is a

packet-switching technology that employs fixed-size packets of 53 bytes (one byte = eight bits), while IP packets can vary in size. An IP packet of 58 bytes would require two ATM cells. To avoid such waste, the CPP employs seven to eight different cell sizes internally.

Another key to understanding the CPP is hardware design. Physically, the CPP consists of a number of magazines that can each hold up to 28 circuit boards. The two outermost card positions are reserved for the switch cards, which use a proprietary ASCC switch chip, while the other 26 can be populated with various cards, such as processor cards, line cards, transcoders and echo cancellers, depending on the product being designed. Each card is fitted with a Device Board Module (DBM), which includes communication circuits for the processors and memory. The cards are then filled with their own hardware and software, which makes it easy to design the hardware for any given application. All communication between the cards is handled by the magazine's backplane and the switches.

Uniquely scalable platform

The CPP is unique in that it is a totally distributed system – in contrast to the AXE, which is a centralized system – in which the load is distributed among several processors, including main processors (MP) and board processors (BP). Each node must contain at least one MP, which corresponds to the central processor for AXE, as well as one BP per board. What makes the CPP so robust and fault-tolerant is that several MPs can work together in a cluster. If one MP goes down, another can take over, and the other units can continue to work on their tasks without interruption. To ensure that no essential functions are impacted, the CPP

designers determined at an early stage what components must be able to survive a hardware failure.

The CPP is extremely scalable, not only upwards where 30 or more magazines can be combined, but also downwards, where the limit is a single circuit or module. Examples of small products based on the CPP are the new home base stations that via a broadband connection to the fixed network will give mobile users access to a GSM network with 3G services.

The CPP also includes Special Purpose Processors (SP), which allow extremely powerful circuit boards to be designed in which several SPs work together on the same board.

Already on the market

The CPP is nearly five years old, and Ericsson is already using it in several products on the market. These are primarily test systems for WCDMA base stations and RNCs that employ the first version of Cello, which was actually a prototype. The latest version, Cello2, which was released in March, offers full functionality and provides all the interfaces required to allow it to serve as a transport and control platform. Cello2 is now available in a production version, as well as a simulation version for developers who want to test software during the design phase of a project.

"We are now working on Cello3, which will be released in the second half of this year, and pre-studies for Cello4 and Cello5 are also in progress," says Johan Sjöblom.

Current CPP customers are the WCDMA product units and the Media Gateway developers, but cdma2000, the third-generation CDMA system, will also use Cello in its Base Station Controllers. The platform is also being evaluated for Ericsson's new RXI real-time routers for IP networks.

"More and more developers are showing an interest, so our problem now is expanding the organization quickly enough to support more applications," says Johan Sjöblom.

Just like AXE, the CPP is an open and dynamic platform that is growing and changing. The ASICs and switching components were

FACTS/CPP

The CPP is based on a redundant packet switch that supports switching of ATM, IP and TDM traffic with selectable levels of quality (QoS). Node traffic and the packet switch are controlled by such applications as RBS, RNC and MGW, which execute on a distributed processor cluster that is connected to the packet switch. This ensures the robustness and scalable capacity that is required in these types of nodes in a telecom network. The switch handles not only user data, but also all control data within the node and to and from other nodes. The CPP supports various types of network interfaces, including E1/J1/T1, STM-1 and Ethernet, for connecting user data, signal information and operation and maintenance channels.

The software in the CPP is written in either the C/C++ or the Java programming language and executes on the OSE Delta operating system and a Java Virtual Machine. The operator's view of the CPP is a modern, object-oriented and web-based interface, either locally at the node or remotely over an IP network.

developed by Ericsson, but the CPP uses commercial processors and programming languages. From its origins as an ATM-based transport platform, the CPP is evolving towards IP and other products.

"Today we run IP over ATM, but we are working on a version that will use IP exclusively. We expect to be able to deliver that product to customers by mid-2002. By that time, we will have Cello nodes with IP, which will mean IP-based Media Gateways and RNC and radio base stations with IP," says Johan Sjöblom.

Work with CPP is conducted primarily in Nacka Strand, Älvsjö, Karlstad and Linköping in Sweden, but units in Finland, the Netherlands and Norway are also involved.

Lars Cederquist

lars.cederquist@lme.ericsson.se

There are self-conscious men in Armani suits and there are hyper intelligent women who choose to go to work in miniskirts and with low necklines. Perhaps we are too quick to judge, but the fact is, our clothes affect how well we succeed in our work.

Dressed for success



"I like colors," says Christer Wiklander who works with marketing communications at corporate level. "It's a shame to see there has been so much black recently. I have quite a lot of black clothes myself but I always try to add a dash of color, a colorful shirt or tie. There's a big difference between what I wear to work and what I wear at home. In private, I like to wear sweatpants, a t-shirt and go barefoot. I would never wear shorts to work. That's just the way it is."

► I quite often make a mess of it. All too late, I discover mucky children's handprints on the legs of my trousers. And many have been the meetings where I have sat and worried about having chosen the wrong sweater – the one that makes me look fat. At the same time, we read increasingly often of how important our clothes are for our careers.

"Of course," says Ingrid Giertz-Mårtensson, President of the Swedish Fashion Council. "Generally, clothes are always important. We are perceived through how we present ourselves."

Taking this into account, it would be wonderful if it were possible to obtain some clear advice. However, it is not that simple. Each workplace has its own unwritten rules. A suit and tie is the clear choice in many circles but can be perceived as embarrassingly conservative and nerdy in others.

At Ericsson there are no written rules governing clothing. A most unscientific survey of Ericsson employees around the world gives a picture of a company where quite a relaxed style is acceptable on most workdays. At the same time, all of those asked say that they dress up more for important meetings or customer contacts.

"On such occasions, I prefer to wear a suit and tie," says Christer Wiklander who works with market communications at the corporate level. "At least it is never the wrong choice. It's better to be wearing a suit and tie in a relaxed context than to feel unsuitably dressed at a meeting where everyone else has a tie."

Indian sari completely correct

Neeta Thakur explains that she wears her Indian sari on important occasions when she wants to feel both formal and elegant.

According to Ingrid Giertz-Mårtensson, this is exactly how it works. You need to have a feel for the situation. She mentions Bill Gates, who, ear-

ly in his career, could turn up at meetings with the barons of industry wearing jeans and a t-shirt.

"For that, you need a great deal of self-confidence and a strong position. Of course you can choose to have an extremely personal style that completely breaks with the salient dress code but then you must be prepared to be seen as an oddball and for those around you to question what you are doing.

In the US, a rather strict dress code generally applies in the workplace, explains Carita Brodd, who works for Ralph Lauren in New York. The exception is Friday. In the US, "Casual Friday" has become an established concept at many companies.

"But if you think people dress formally today, just look at old movies and photos from the 1960s," she says. "Then, everyone looked exactly the same. So, actually, there is more freedom to have your own personal style today."

No extreme patterns

Interest in workplace fashion has grown significantly in recent years, explains Ingrid Giertz-Mårtensson, who receives many questions about this. She believes this is due to an increased interest in fashion and design generally coupled with uncertainty about what is correct.

"To a certain extent, this is a matter of generation. For many older men, a suit is very often sufficient," she explains.

"Younger men are often much choosier about labels and the cut of clothes. They won't just put on any old shoes just because they are black."

So there certainly are trends in workplace fashion even if the room for variation is more limited than in private.

"There is a great deal of fashion in shirts and ties," says Ingrid Giertz-Mårtensson. "And you can do quite a lot by coordinating different

shades. But you should avoid colors that are too loud or extreme patterns."

Blue, gray and colors, be they as they may, black is still always number one. Black is always popular in all age ranges and professional categories.

If Ingrid Giertz-Mårtensson is to recommend any one indispensable item of clothing for career women, it must be a smart black blazer.

"This can be combined with either trousers or a skirt. Underneath, the blazer, you can vary rounded necklines in different colors, a nice shirt or a fine jersey top. You can remove the blazer when sitting at your computer and put it on again to receive visitors. It's the perfect item of clothing."

For men, Ingrid Giertz-Mårtensson feels the best basic item is a nice suit.

Shorts, baseball caps, training shoes and vests are, on the other hand, items that many colleagues feel are unsuitable. Extremely feminine clothes can also be perceived as incorrect in professional contexts.

"Unfortunately, you might not be perceived as serious if you give off signals that are too feminine," says Ingrid Giertz-Mårtensson.

But high heels are OK?

"Sure, if you can manage walking around a whole day in them. Otherwise, workplace fashion is increasingly a matter of comfort. Things should be comfortable and practical."

Actually, it is a matter of clothes providing security, confidence and calm. Anyone who feels at all uncertain before a meeting should carry out a little bit of research. What is the customary style?

"Getting it wrong the first time can be embarrassing," says Ingrid Giertz-Mårtensson. "Choose a safe alternative over the less certain."

Maria Paues
maria@pauesmedia.se



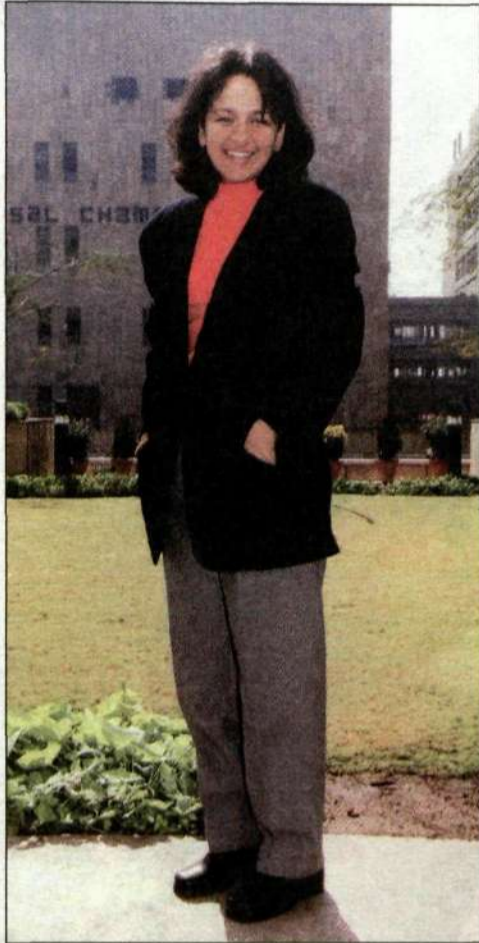
"I like to get these boots out when, for example, I ride my motorbike," says Ariane Hagselius who is project manager for the About Ericsson website and works in Stockholm. "At work, I nearly only wear them with my long, fringed skirt. I think they go well together. Usually I prefer to wear trousers and a blazer to work. That feels most suitable. When I get home, I change into jeans and a sweater. I don't think you can wear shorts to work. That's beyond the limit."

Photo: Lars Åström



"I like to wear light pants, a classic white shirt, without a tie, and smart Italian shoes," says Helder Souto Santor, Market Development Manager in Brazil. "I would never wear jeans, tennis shoes or a T-shirt, except perhaps on a Friday when we have a more relaxed style."

Photo: Jessica Santos



"Business suits are by far the most comfortable and smart mode of dress at the office," thinks Neeta Thakur at Ericsson in India. "On special occasions, I wear a traditional Indian sari, which is both formal and elegant. But because it takes some time and planning to wear a sari, I often wear Salwar-Kameez to work. These are loose-sitting pants that you wear with a knee-long shirt. I would never wear a short skirt, a see-through blouse or tight or revealing clothes. I would rather wear jeans, a t-shirt and training shoes. My work wardrobe is completely different from my party clothes."



"In my department, a suit is compulsory because we visit clients every day," says Guillermo Saavedra who works as Account Executive in Venezuela. "It's part of our culture too. We can only dress casually on Fridays. Then I might put on something more comfortable, but always elegant. I would never turn up at work in a t-shirt with a competitor's logo on the chest."

Photo: Jessica Santos



"I like to dress casually and don't differentiate particularly between what I wear to work and what I wear in private," says Henrik Nordin at Ericsson Radio Systems in Mölndal, Sweden. "The whole department is very relaxed. We are mainly engineers. If I'm going to have an important meeting, I always wear a smart pair of trousers and a nice, designer label shirt. I put in extra effort if I am going to visit a client. Personally, I would never come to work wearing training shoes or a cap. That's just too lazy!"



"Normally we have a very relaxed style," says Yanmin Xiao and Zhang Dehua, on a visit to Stockholm for project work. "That usually works well - both here and in China. But for meetings we dress more conventionally with suits and ties. We would never go to work in shorts or sleeveless t-shirts. Non, no, no, that just wouldn't be on!"



"Our department is extremely informal. We don't have a dress code," explain Ulrica Stensson and Kristina Frykstad who work at Ericsson's internal bank. "In theory, you could come in training shoes and no one would say anything. But we don't usually do that. In general, we do dress up a bit to go to work. In private, we have a sportier style. For meetings, we prefer to wear trousers and a blazer. We wouldn't go to work wearing denim jeans or very low necklines. Vests are out too. No, a short sleeve, at least, is necessary."



"I usually dress according to my mood," says Arja Kants at Ericsson Telecom at Telefonplan in Stockholm. "If I'm happy, I wear a lot of color. I like to wear skirts. If I've got an important day ahead of me, I like to choose something new that feels extra smart. I would never dress too jazzily for work and I avoid fussy styles, frills and shine textiles. I associate things like that more with parties."



Monica Karlsson tested her wings, took a leave of absence and, as a single mother, took a year off to study international marketing. She strongly recommends others to pluck up the courage to start studying again. "My studies were so much more rewarding when I felt that I could relate the theories we were learning to my work; that was a big advantage and facilitated the learning process," she says.

Studies boost Monica's

Monica Karlsson made the transition back to student life again in order to study international marketing for a year. She sold her car and sublet her apartment in order to manage her finances. Now she is back at Ericsson – with a new job and more pay.

► "These days, I'm feeling much more confident in my job since I understand the big marketing picture better. I would really recommend that others pluck up the courage to take that step. If I, as a single mother, could handle it, others should be able to as well," says Monica Karlsson, as she waits for the coffee dispensing machine to fill her mug. *Contact* met up with her at one of Ericsson Sweden's offices in central Stockholm.

She currently oversees a customer account with Telia Mobile, marketing mobile applications through Ericsson, Sweden. Three years ago, Monica Karlsson took a new position with partial responsibility for sales of customer services to Telia Mobile.

She found her new work exciting and challenging, but felt that there were certain gaps in her knowledge. Time constraints were often so great that her colleagues did not have time to explain things that she did not understand.

Each day that passed brought greater clarity to Monica Karlsson's thoughts of returning to school. When she received a course catalog

from Stockholm's Institute for International Education (IIU) in the mail, she found a one-year program in international marketing that seemed to suit her perfectly.

Encouraged to apply

"I contacted human resources to find out whether it would be possible to take a one-year leave of absence. They felt that the program was appropriate for me and my position and encouraged me to apply," says Monica Karlsson, pushing back a lock of hair behind her ear.

"My own manager also encouraged me to apply and we agreed that the company would pay for half the cost of the program," she says.

Many Ericsson employees take courses at the IHM Business School two nights a week, while continuing to work full-time. In such cases, the company often covers the entire cost of tuition (see article on next page).

Night courses that required supplementary classes on the weekends, for example, were not an alternative for Monica Karlsson.

Up to each company to decide who gets paid education

Who decides who gets to study and who gets their education paid for? Per-Olof Nyquist, who oversees Ericsson's collaboration with colleges and universities, explains.

► Ericsson has decided not to enforce stringent rules worldwide about which employees get their education financed by the company.

"No, that could cause problems since educational programs are so different in various parts of the world. As long as the training is in line with Ericsson's strategies and needs for expertise, it is up to individual managers to decide which employees get their education paid for. Managers must still have their decisions approved by their supervisors – the so-called grandfather principle," explains Per-Olof Nyquist.

When the company pays for a costly educational program, the employees concerned are often required to sign an agreement in which

they promise to stay with the company for a certain number of years.

"The companies that are continually offering their employees opportunities for additional training and development, have proven to be the ones that end up retaining their employees the longest. You can never put up fences around people."

While studying, it pays to stay abreast of what is going on within the company, and it is wise to maintain contact with one's co-workers and manager. Continuing to participate in personal development discussions has also proven to be advantageous.

"This keeps your manager informed about what you want to do and what you have learned. It is also a good opportunity to explain your thoughts about your future career," says Per-Olof Nyquist.

"Working full-time and studying two nights a week, for example, is usually the best solution for both the employee and the company. As an employee, you have an easier time relating the theories that you are studying to your job, while also continuing to keep track of what is going on within the company," says Per-Olof Nyquist.



Per-Olof Nyquist

Ulrika Nybäck

Photo: Lisa Sellin

career

During her studies, she continued to maintain contact with her co-workers and her boss. A month or two before Monica Karlsson returned to work, she was offered a different job with more responsibilities and a higher salary, within the same unit as before.

"The fact that I feel more confident in my job makes just about everything in my daily duties go better. Now, for example, I have a better feel for when it is time to terminate marketing efforts that don't seem to be working for a particular customer, terminate when I should be using alternative strategies," she says.

Monica Karlsson believes that the ideal arrangement is to study a subject that is relevant to one's current position after having worked for a few years.

"My studies were much more meaningful when I felt that I could relate the theories we were reading about to my job; that gave me a big head start and facilitated learning."

Wondered if she would make it

Monica wondered herself whether there would be enough time for all the classes, some of which were in the evenings or on weekends.

"It's not as difficult to study as one thinks. It was never as bad as it is during the busiest periods at work."

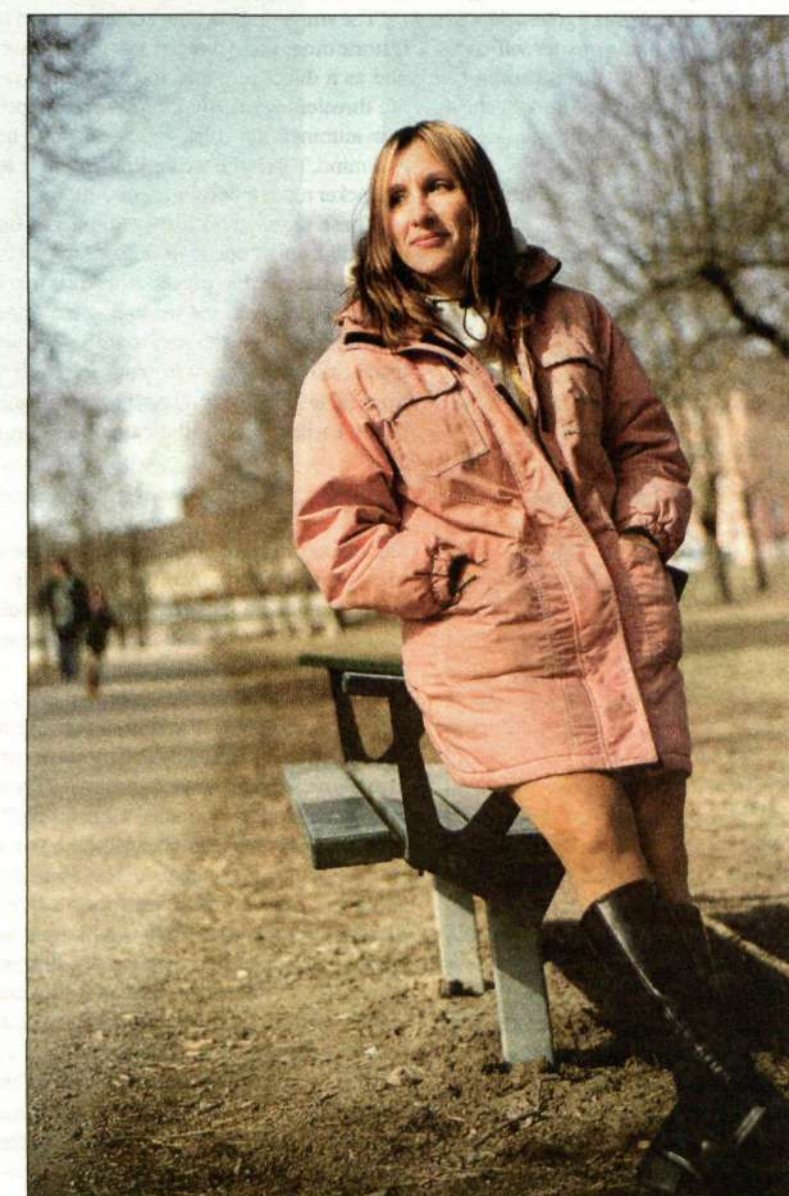
An entire year of studies usually involves certain sacrifices and requires extra careful planning. Monica Karlsson figured out in advance how much less her monthly income would be. She decided to sell her car and sublet her apartment during her period of work experience in New York.

"Prepare your daycare facility or school for your new schedule if you have children. Also, check with the municipality to see if you have a right to reclaim your daycare place if you take your child overseas for a period of time. Be prepared for a difficult financial situation, and review your expenses to see where you can cut back," advises Monica Karlsson.

Studying has whetted Monica Karlsson's appetite and she says that she would consider additional studies. But above all, she feels ready to work in areas that are partially new to her.

"I really enjoy working on branding strategies. Customer contacts, communication, marketing and design are also exciting areas. I'm keeping my eyes open," she says with a smile.

Ulrika Nybäck
ulrika.nybäck@ime.ericsson.se



A well-trained mind

Mental training is a technique that can be used at anytime, wherever you happen to be.

It is easy to learn, leads to an increased sense of well-being and gives you the tools to achieve your goals.

"I can sit back and contemplate what I truly want, rather than blindly going with the flow in a stressed fashion," says Elizabeth Rawlinson of Sales and Business Management, Japan.

► People can have very different goals with their mental training. It can involve learning to deal with stress, becoming more goal-oriented and able to prioritize, finding greater self-confidence or achieving athletic accomplishments, according to Katarina J-son Bech, a healthcare consultant who leads classes in mental training.

"In order to understand others, I must first understand myself. Goals first have to be established within every individual. It involves trying to find an attitude where I feel good. The better people feel within an organization, the better the entire organization feels," says Katarina J-son Bech.

Mental training incorporates methods de-



"In performing mental training, we are using methods developed by elite athletes. It is based on relaxation and a quest for realistic, individual goals," says Katarina J-son Bech, a healthcare consultant and mental training advisor.

veloped and used by elite athletes. At its foundation are relaxation techniques.

"The stress that we were subjected to in pre-historic times was a direct threat to our survival, and as a direct response to having survived a life-threatening situation, a relaxation response was automatically triggered within our body and mind. This is the feeling one experiences in the locker room following a workout."

"These days, stress just continues to build and build, and it becomes difficult to precisely define what it is that triggers our stress mechanisms. As a result, we no longer experience that automatic relaxation response. We have to teach ourselves how to conserve our resources, learn how to relax. If I am constantly tense, I will not have the capacity to do my best."

Positive relaxation

Mental training is often initiated by the use of a trigger mechanism. An example could be clenching one's hands together tightly, before taking a deep breath and concentrating on a spot in the middle of one's stomach.

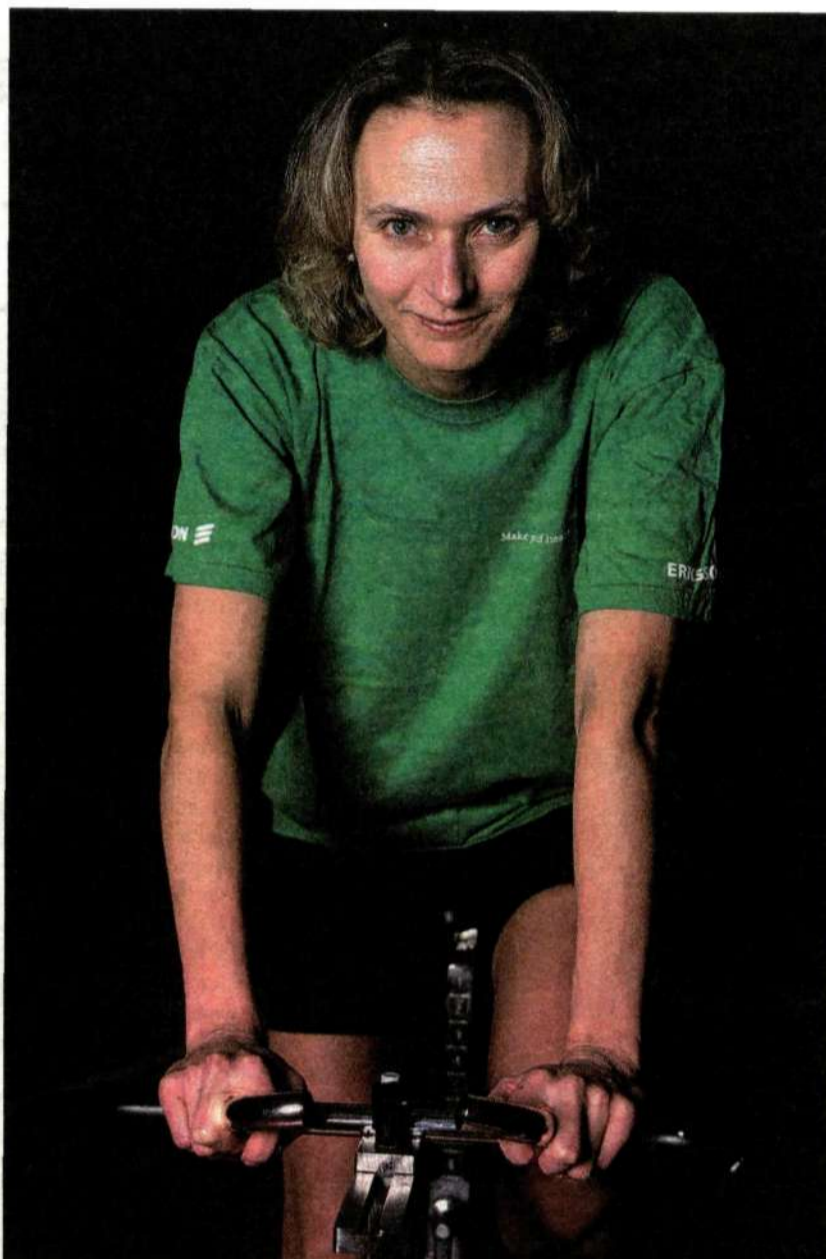
"During relaxation, we become more positive towards ourselves and to others. We also become more open to positive messages or affirmations. We can repeat to ourselves phrases such as, 'I am calm and safe,' 'I am strong.'"

Once that has been accomplished, you can start working on your goals.

"Once you start working towards a goal, there are often spin-off effects. Many people learn how to displace their thoughts from only seeing threats and difficulties to seeing possibilities. Once a goal has been achieved, it is possible to move on to the next one."

"It's important to give yourself praise," says Katarina J-son Bech. "As long as we cannot accept praise from ourselves, we cannot accept it from others."

"I, myself, experienced a period when I



"Mental training has given me a new perspective on life. The technique helps me to sit back and find out what I really want," says Elizabeth Rawlinson.

Photo: Bror Karlsson

FACTS/SUGGESTED BOOKS

Daniel Goleman: *The Meditative Mind*
Mihályi Csikszent: *Flow*
Viktor E. Frankl et al: *Man's Search for Meaning*
Edward de Bono: *Handbook for the Positive Revolution*

would sit on the way home from work thinking about all the things that I had not yet accomplished, all the e-mail I had yet to respond to, all the telephone calls I should make, all the memos I should write. It felt destructive."

"So I decided to think about all the things that I had accomplished. I felt much more at peace with myself and my performance improved."

Today, Elizabeth Rawlinson works in the Sales and Business Management unit for the Japanese market. During a reorganization in 1998, she moved around the company for a period of time.

"I attended a few different courses and had a look around. It was then that I became aware of mental training and thought that it sounded like an exciting course," says Rawlinson.

She had a somewhat different and very concrete goal.

"I decided that I wanted to be able to participate in a running race. I would run the whole race and not walk once. While some people might think that mental training sounds woolly, it is a proven method that is utilized by many elite athletes."

New perspective on life

Initially, Elizabeth Rawlinson felt that it was difficult to learn how to relax.

"But since learning the complete method, I feel that it has given me a new perspective on life. These days, so many people are

FACTS/MENTAL TRAINING

- Clench hands together
- Take a deep breath
- Focus on a spot in the middle of your stomach
- Relax
- Think positive thoughts
- Think: "I am calm and secure," "I am strong," "I can handle this"
- Form realistic goals
- Let the goals sink in
- Act on your goals

It is also possible to purchase or borrow cassette tapes with instructions from booksellers or libraries.

stressed out and just go with the flow. They don't even have the strength to sit down and think about what they really want. By using mental training, one can sit back, find out what you want and achieve balance. Many people had 'aha' experiences during the course and were able to deal with serious concerns."

According to Elizabeth Rawlinson, variations of mental training can be found throughout the world. They include meditation, qigong, yoga or t'ai chi.

So how did your race go?

"I really did not spend enough time training and I didn't even have proper footwear. I ran in my husband's running shoes. But I was able to visualize the entire race and envisioned myself running. I ran the whole race without stopping once."

Cecilia Sandahl
cecilia@pauesmedia.se

When the Sandman takes a vacation

Ericsson physician Peter Fellbom lectures to packed audiences about sleep.

"Sleep is central to our survival, yet many people have sleep problems."

Helene Birknert is one of them.

"In the summertime in Sweden it's often difficult to go to sleep because it's so light out. So I put on one of those silly sleeping masks that they give you on planes. It's great for shutting out the light and it makes it easier to go to sleep."

► Helene Birknert works in strategic marketing at Ericsson Internet Applications. Sometimes, she has a hard time falling asleep. During stressful periods of work she usually makes sure that she has a pad of paper and a pen available on her nightstand.

"When thoughts come to mind, I write them down so I can proceed with the process of falling asleep, rather than getting more tensed up thinking. 'I've got to remember this tomorrow morning.'"

She also recommends earplugs.

"They are very effective at shutting out distracting noises. The sound of one's own breathing is sleep inducing in itself."

Peter Fellbom agrees that there are many good techniques available for falling asleep.

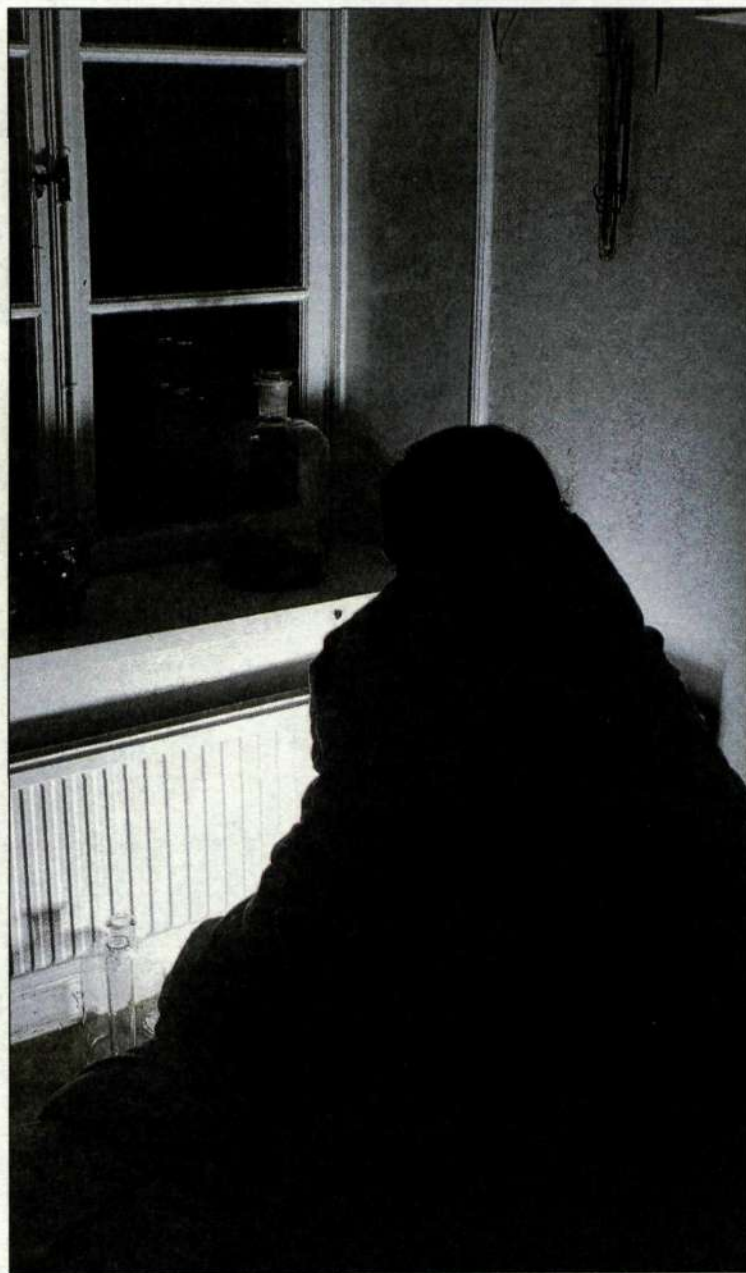
"Lovemaking is a good option. It results in a pleasant, high-quality sleep. Home remedies such as warm milk or a calming herbal tea can also be good. But you should seek professional help if you can't make the problem go away, otherwise you end up in a viscous circle."

All kinds of people come to hear Peter Fellbom's lectures.

"Everyone from those who toss and turn a little before falling asleep to those who have serious sleep disorders. Many people pose questions about sleep," says Peter Fellbom, who provides them with answers.

There are various stages of sleep. One of those, deep sleep, is crucial for good health.

"People reach deep sleep fairly quickly after



The body can be adversely affected when we are unable to fall asleep. Deep sleep is crucial for our wellbeing. Many indicators also point towards sleep playing a role in whether or not we become burned out under stress.

Photo: Bror Karlsson

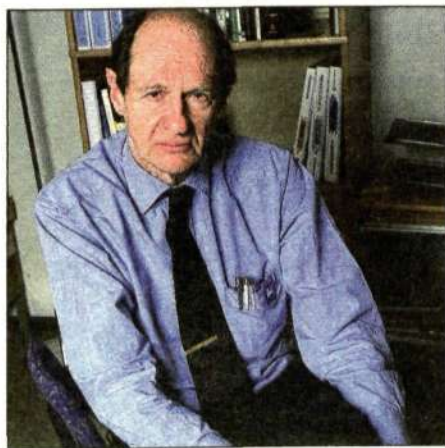
falling asleep. It takes perhaps 20 minutes to get there and then lasts for roughly 60–90 minutes during the first round. After that, we come out of it into a more shallow sleep. It is at this point that the first REM sleep occurs."

REM sleep is important for memory functions and dreams. Our muscles are completely relaxed and at their coolest. The latter portion of nighttime sleep is less critical for the hormonal and chemical processes within the body. We do, of course, need rest.

Various things can interrupt that crucial deep sleep stage. Snoring with interrupted breathing or stress are two examples. Various forms of caffeine can also interfere with sleep.

"This is true of coffee, tea and Coca-Cola,

Ericsson physician Peter Fellbom recommends that people seek professional help if home remedies do not work.



FACTS/TIPS FOR BETTER SLEEP

- Try going to bed at the same time every night, even on weekends
- Lovemaking results in a calm, deep and pleasant sleep due to the generation of the hormone oxytocin
- Avoid coffee, tea and Coca-Cola five to six hours before going to bed
- Do not consume large amounts of alcohol. While alcohol might make it easier to fall asleep, this sleep is of poor quality
- Do something about snoring; snoring with interrupted breathing requires immediate medical attention
- Avoid nicotine
- Keep the bedroom cool, body temperature drops when falling asleep, which explains why children often kick off their blankets
- Do not sleep during the day
- Reduce stress
- Create sleep routines
- The bedroom should be for sleeping and lovemaking, get rid of the TV, VCR and computer
- Your bed should be your friend. Get up after half an hour if you can't fall asleep
- Avoid going to bed with an empty or full stomach
- Try home remedies such as warm milk or a calming herbal tea
- Consult your physician if you have serious problems



When every tick of the clock means less time left for sleep, the situation can feel hopeless – but help is available.

which can all have an effect for up to five or six hours after consumption. Parents might, for example, treat their kids on Saturday night by giving them Coca-Cola. Later on they can't understand why the children are tossing and turning in bed," says Peter Fellbom.

While alcohol can make it easier to fall asleep, it initially yields poor quality sleep, which gives way to unruly sleep.

"When deep sleep is interrupted in various ways, the result is a shorter amount of inferior quality sleep, causing us to be tired and even more stressed. It also has an influence on our resistance to infections."

As everyone knows, people get more tired the longer they stay awake. Sleep is also controlled by diurnal rhythms.

"The best thing is to have a consistent rhythm. Shift work is hard on the body. But it is possible to recover lost sleep the following

night. The brain compensates with more and longer deep sleep periods," says Peter Fellbom.

"That results in increased levels of growth hormones, sex hormones, activity in immune defense and serotonin. Good sleep is a prerequisite for healing depression naturally. Conversely, one can eventually become depressed from interrupted sleep."

If a person does not have any sleep disorders, then a power nap during the day can be very effective.

"Since we quickly enter into deep sleep, it's possible to restore one's energy after a couple of hours of sleep during the day, but that is not recommended for people who have a hard time falling asleep at night."

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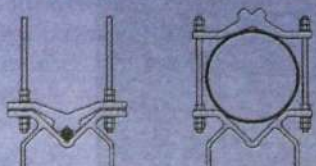
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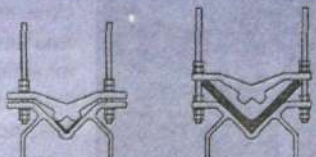
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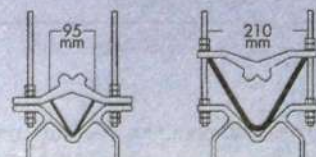
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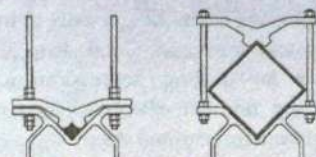
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Nessie remains elusive

Dick Oskarsson of the Kumla factory in Sweden recently participated in an expedition that attempted to catch the famous monster, Nessie. The expedition was the only one ever to receive permission to dive in Loch Ness in Scotland.

► Dick Oskarsson works as a goods receiver at the Kumla plant, in central Sweden. He went to Scotland to try and catch the famous aquatic monster, Nessie. Nessie did not bite, but one of the members saw an eel-like animal one night from the boat.

"We attached ultrasonic cameras, or sonars, to the boat to see what was in the murky water. The cameras were connected to a computer monitor, so we could see individual fish and whole schools.

"One night at about 2:00 a.m., one of the members of the expedition saw an eel-like animal of an estimated five meters in length on the screen. He clambered out of his sleeping bag to try and save the computer image but did not have enough time," explains Dick Oskarsson, who was a diver and captain in the four-man expedition.

The Global Underwater Search Team, GUST, is the only expedition ever to have received permission to dive and lay a hoop net in Loch Ness in Scotland. The otherwise general prohibition was introduced to protect the fauna of the lake.

The expedition caused a huge media presence,



Once more the Loch Ness Monster slipped away and left the hoop net empty.

Photo: Göran Rajala

the largest in the UK since Madonna's wedding, according to one of the journalists at the site.

Dick Oskarsson prefers not to call Nessie a monster.

"People say monster because they lack knowledge and are frightened. There are many different theories about what Nessie is; some think it's a big fish, others that it's a prehistoric animal, a plesiosaur. Personally, I think it's an abnormally large eel," he explains.

The next expedition will be to Norway in mid-August when he will dive in Seljordsvattnet north of Oslo. According to a number of divers and marine biologists, there is an animal as yet unknown to science there, too.

Ulrika Nybäck

ulrika.nybäck@lme.ericsson.se

☉ dive.to/dicko

Contact available on the net

► We have noticed that many people are not aware of how to find articles from Contact on the net. But they are there – both in English and in Swedish.

At inside.ericsson.se (internal), you can search on "News" in the black field. By then clicking on "Magazines," you will find not only Contact and its Swedish counterpart, *Kontakten*, but also our customer magazine, *ON, Ericsson Review* and other publications.

At www.ericsson.se (externally), you can search on "About Ericsson" and "Publications" under "Information." There, you can also search on articles by writing, for example, "GPRS Contact" in the field to the upper right, if you want to see what has been written about GPRS.

☉ inside.ericsson.se

☉ www.ericsson.se



Mikael de Bourg Wetterlund's "car phone" was recently rewarded in a competition for modelers.

3G interest in Romania

► Ericsson's 3G road show, which is demonstrating the possibilities of Mobile Internet through 3G technology, is traveling through 50 different countries. On May 22–23, the 3G show was presented in Romania for the first time. Interest was greater than expected and, in addition to the 350 invited customers, journalists and analysts, 125 employees also attended in an internal demonstration. Among the invited spectators was the Romanian Minister for Communications and IT.

In a speech, Thomas Lundin, head of Ericsson in Romania, affirmed that use of the Mobile Internet will increase dramatically over the coming two to four years and that the possibilities for development are dependent on 3G technology.

Tough pedal battle



The "Tjejtrampet" bicycle race is not only open to elite sportswomen. Enthusiasts of all ages are welcome.

Photo: Stefan Bölke

► During the last weekend in May, 5,000 women battled it out in the world's largest bicycle competition, "Tjejtrampet" (the girls' pedal) in Stockholm. Several hundred cyclists from Ericsson participated. In addition, the cycling festival attracted some 30,000 visitors.

The Tjejtrampet fitness race is open to all comers. The winner of this year's race was the world and Olympic champion, Leontien Zijlaar-van Moorsel. She pedaled to victory for the third year in a row with the time 1.20.44.

Ericsson was involved in sponsorship of the event and Leif Bölke from Ericsson Employee Activities was the main speaker during the two days of competition. The events also included "Skoltrampet" (the school pedal), in which the children of many Ericsson employees took part.

☉ sverige.ericsson.se/fun

The mobile that went auto-mobile

► Mikael de Bourg Wetterlund, purchaser in the Consumer Products Division, re-built an Ericsson R380 mobile phone as a model car.

"I was sitting playing with the shell of the phone and when I opened the flip-hatch, I thought it looked like a car. That's how I got the idea," he explains.

The phone-car recently won third prize in a competition for model car builders organized by the Capital City Modelers modeling club in Stockholm.

Mikael de Bourg Wetterlund was also awarded a special prize for creative thinking. This year, 67 exhibitors from the Nordic countries showed 242 different models.

ERIC & SON



Mobiles make you pay attention

► A study involving pupils at schools in Hong Kong showed that those who regularly used mobile phones obtain better results in awareness tests than those who do not use mobiles.

The test was carried out by researchers at Hong Kong University and the results were reported in the journal *Neuroreport*.

The researchers themselves warn that other factors, such as differences in economic and social backgrounds between the two groups, may have affected the results of the study.



Niosha Esfahani and Lee Ljungberg wear clothes with pictures of Ben Adams from the music group A1 and singer Ricky Martin on them. SMS lets them keep each other informed on the latest news about their idols.
Photo: Rolf Adlercreutz

SMS junkies have own language

Niosha Esfahani and Lee Ljungberg are in grade eight at the Sollentuna International School outside Stockholm. Like many other 15-year-olds, they are avid SMS senders. In order to save time and space, they use an abbreviated language. This difficult to decipher coded language consists mostly of abbreviations and symbols.

► "We send messages to each other instead of calling. It's more fun to get an SMS than a phone call. Most often, the messages we send are quite unnecessary," says Niosha Esfahani.

"Messages are often about our favorite popstars or what we're going to wear," says Lee Ljungberg.

Not all of the girls' communication is unnecessary, however. SMS is also useful for planning a quick get-together. When they need to communicate about more serious issues, however, text messaging is not always as good.

"There is a limited amount of space and it takes a long time to type on a telephone," says Niosha Esfahani.

In order to save time and space, they use a language that incorporates numerous abbreviations. Mostly, these are abbreviations of English expressions. Lee Ljungberg explains that there are many standard English abbreviations, which they pick up from chat rooms.

"With SMS, you abbreviate even more

FACTS/THE DEVELOPMENT OF NETSPEAK

With the advent of e-mail, people began communicating in shorter sentences and using new abbreviations. Once Internet instant messaging took off, that language became even more abbreviated. Keyboard symbols often take on different, frequently humorous, meanings and English language expressions have been given abbreviations.

With the advent of SMS, netspeak has evolved into a coded language that is virtually incomprehensible to the uninitiated. Teenagers are the most ardent users of text messaging and they are the ones who understand and refine this new language.

than when you chat. 'See you at three o'clock' becomes 'cu3pm,' she says.

Why is it that young people in particular have developed this language?

"This has become our own language. We're better at coming up with new words," says Lee Ljungberg. "Adults are more careful to speak correctly."

"We're simply more creative," says Niosha Esfahani.

She explains that the Internet is a source for linguistic development.

"Sometimes when I'm chatting I run across expressions I don't understand, so I ask what they mean and then start using them myself."

Most of their friends can understand everything they write, although their parents have a more difficult time.

Parents have an easier time understanding that frequent SMS usage results in

FACTS/EXAMPLES OF COMMON ABBREVIATIONS

- GR8 - Great
- QL - Cool
- HTH - Hope this helps
- PLS - Please
- THX - Thanks
- EXLNT - Excellent
- BTDT - Been there, done that
- GTG - Got to go
- UGTBK - You got to be kidding
- KYPO - Keep your pants on

In order to more simply express one's feelings there are emoticons for every emotion:

- :) I'm laughing and happy
- : (I'm sad
- :-o I'm surprised, or I'm yawning
- :(I'm crying
- : [I'm bored
- :-< I'm mad
- 8-o I'm shocked
- #:-o I'm really shocked
- %-) I'm silly
- :() I'm a loudmouth
- *<:o) I'm a clown

expensive telephone bills. Niosha Esfahani says that is why she sends many of her messages from websites that offer free SMS.

"Although you are still stuck with expensive Internet connection costs, of course," she says.

"That's why you need to get broadband," laughs Lee Ljungberg.

UPCOMING

June 11-15: The 3G World Congress in Hong Kong.

web.sd.us.am.ericsson.se/EWUM/events/wc6/index.html

June 14: 3G Tour Transcontinental visits Riyadh in Saudi Arabia.

June 19-21: Engine Life visits Denver, Colorado. The roadshow will show visitors how broadband will impact their everyday lives.

June 19-22: CommunicAsia in Singapore.

inside.ericsson.se/communicasia01/index.html

July 3-6: Comdex Infocom in Buenos Aires, Argentina.

UPDATES

June 5-8: The Internet Society organized the INET 2001 conference in Stockholm. Ericsson was the main sponsor of the event.

dms.ericsson.se/events/inet2001/

www.ericsson.com/inet2001

NEW ASSIGNMENTS

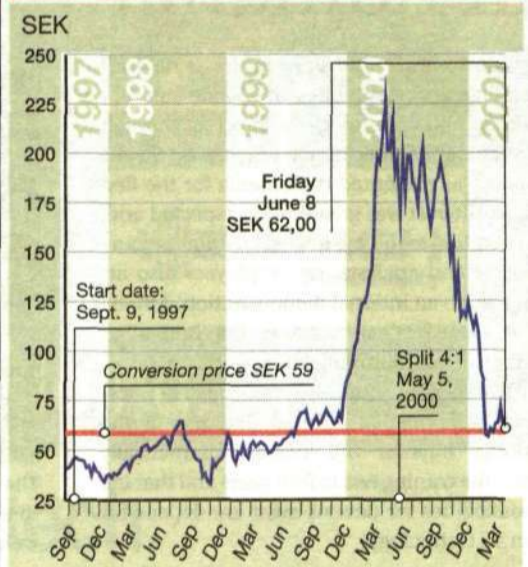
Ulf Månsson has been appointed President of Ericsson in Indonesia.

Rolf Hansson of Ericsson Radio Systems has been named an Expert in the field of PDC Radio and Packet Data Signaling.

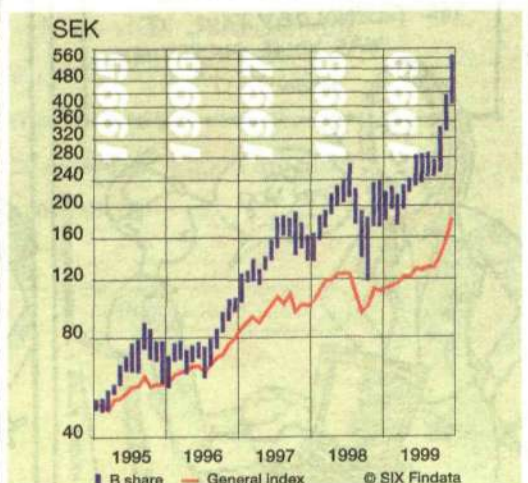
Anna-Karin Thorsander has been appointed Head of Strategic Supply within the Multi-Service Networks Division.

Market units in the Czech Republic and Slovakia have merged, effective June 1. Bo Hildingsson will manage the new combined market unit.

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>



Jesper Mott
jesper.mott@lme.ericsson.se