

contact



PHOTO: PATRICK DENTON

Popular stand in Cannes

4-7



PHOTO: MARIA ULLNERT

On-time delivery to Japan

8-9

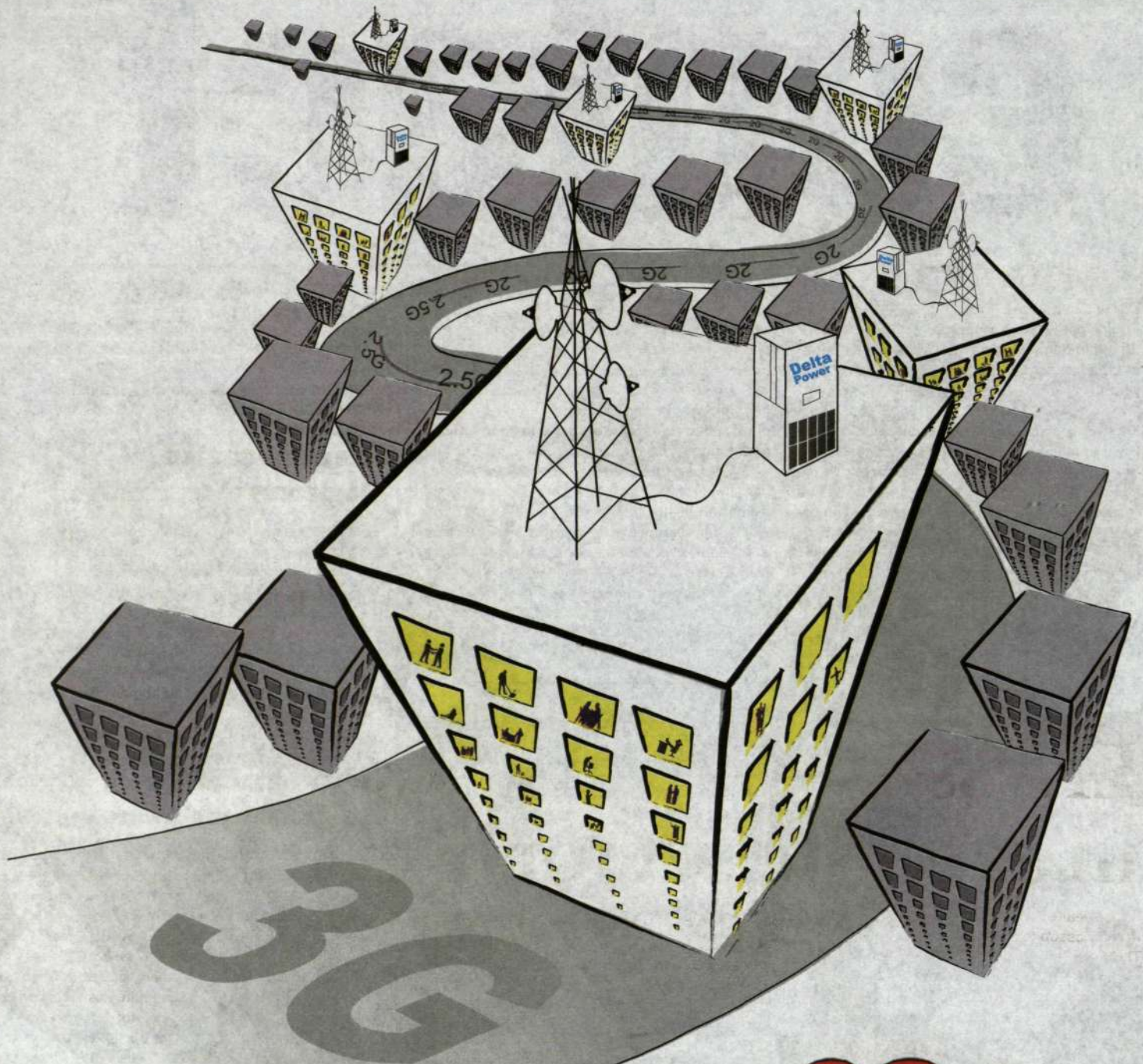


PHOTO: JAREK JOEPERA

Mobile helps avoid parking tickets

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- System EMC class B
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Empowering. Solutions.

Major Engine order in Egypt

Engine has made a big impression on the Egyptian market with a new frame agreement, worth approximately USD 173 million over five years.

Ericsson has signed an agreement with Telecom Egypt to modernize Egypt's fixed telecom network. Egypt is one of the fastest growing markets in the Middle East and Africa, with a telecom network that is in need of modernization in order to meet future needs.

Telecom Egypt, which operates the fixed network, has selected Ericsson to oversee the modernization of that network. Ericsson's Engine solution will increase network capacity while simultaneously opening up options for various multimedia services.

Mats Granryd, head of Ericsson in Egypt, says that this is about forming a strategic partnership.

"Ericsson is proud to be selected as strategic part-

ner to Telecom Egypt and actively contribute to the development of the communication and information services in Egypt," he says.

The first backbone network was inaugurated in Alexandria at the end of February. Implementation of yet another backbone will begin in Cairo within a few months.

"We believe that Ericsson will be a suitable partner, supporting us in achieving our objectives when facing the highly competitive market place," says Akil Beshir, chairman of the board of Telecom Egypt.

Telecom Egypt was founded in 1918 and was originally known as Arento. Over the past 20 years, the operator has been implementing an ambitious plan to review and upgrade the switching and transmission network facilities.

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Ericsson delivers in satellite sector

A four-year effort has at last resulted in delivery from Ericsson Satellite Solutions Group to Thuraya Satellite Telecommunications and Hughes Network Systems (HNS). Ericsson supplied portions of a turnkey mobile satellite telecommunication system in a deal valued at more than one billion USD for all vendors.

This marks the first successfully completed Satellite turnkey program for Ericsson globally. The system is a result of collaboration between Ericsson, Boeing and Hughes Network Systems. Ericsson provided the bulk of the ground segment to HNS, which consisted of a Turnkey Network Switching System (NSS) and a Customer Care and Billing System (CCBS). Hughes in turn developed the Ground Segment Station (GSS) and handsets and delivered them to Boeing who provided the "bird" (satellite). Ericsson signed a contract with HNS as a subcontractor in 1997.

"I'm proud to say that we have delivered exactly what we had set out to do. This type of program is a first for Ericsson, which makes it an extraordinary achievement," said Joe Ferry, vice president, Ericsson Satellite Solutions, based in Reston, Virginia, USA.



Ericsson has delivered a portions of a turnkey mobile satellite telecommunication system.

The Thuraya Mobile Satellite System is a GSM-based mobile satellite system with a footprint spanning from Central Africa through the Middle East to Southern Scandinavia, as well from the UK to India. Thuraya Satellite Telecommunications, of Abu Dhabi, United Arab Emirates, recently went commercial and has a subscriber base of 20,000.

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IP contract in China

Guangxi Mobile has signed a contract calling for Ericsson to provide the IP backbone network across eight cities in China's Guangxi region. Guangxi Mobile becomes the 18th provincial operator in China to sign with Ericsson for an IP solution, in addition to national operator China Mobile.

Ericsson will deploy the end-to-end solution, including AXI 580 and AXI 520 series IP Backbone Routers (based on Juniper products). The carrier-

class AXI core routers will enable Guangxi Mobile's IP network to provide high-speed data services and advanced Internet applications. Extensive services are also part of the contract.

Implementation is set to begin in April 2002. Upon completion, Guangxi Mobile's network will carry voice, data and multi-media services, and will be capable of migrating to the third-generation mobile communication.

DODI AXELSON

Breakthrough for 3G in the US

Ericsson, together with the US operator AT&T Wireless, has completed the first ever call over a 3G network in the US. The call was placed as part of a routine testing phase.

"AT&T Wireless will be offering its customers 3G services exactly as scheduled," promises Rod Nelson, chief technology officer at AT&T Wireless.

The call was completed using both radio access and core network technology provided by Ericsson. Testing took place at AT&T Wireless headquarters in Redmond, Washington.

"The tests are part of our efforts to migrate from GSM/GPRS to EDGE and UMTS as planned," says Rod Nelson.

New magazine to promote learning

February 26 marks the premiere of Ericsson University's own magazine "Younique." Published quarterly, it will cover topics such as learning, networking and how to share knowledge. Pia Åkerdahl, head of market communications at Ericsson University, explains:

"Younique will help Ericsson employees all over the world develop their expertise in ways that match both the company's strategies and the needs of the market."

In Sweden, the magazine will be distributed through the workplace while international distribution will be coordinated with the English language version of *Contact*.

New candidates proposed for Board

Ericsson's Annual General Meeting will be held March 27 and several important items will be on the shareholders' agenda, including the election of new Board members. Lena Torell, a professor of physics and president of the Royal Swedish Academy of Engineering Sciences, has been proposed as a Board member. Sir Peter Bonfield, knighted in the UK in 1989, has also been nominated as a Board member candidate. He led operator BT through what he himself described as "six roller-coaster years." As previously announced, Michael Treschow has been proposed to replace Lars Ramquist as Chairman of the Board. In addition to Ramquist, three other individuals will be leaving the Ericsson board. They are Göran Lindahl, Niall FitzGerald and Clas Reuterskiöld.



Lena Torell

sunrise selects Ericsson for WCDMA network

The Swiss telecom and Internet operator sunrise has chosen Ericsson to provide its nationwide WCDMA network. That brings the number to 35 of commercial WCDMA contracts Ericsson has landed with operators around the globe. Ericsson will deliver a complete radio network solution to the future 3G operator. Currently, sunrise has one million mobile subscribers to its network, which covers 97 percent of the country.

Ericsson's platform on the Mexican stage

Mexico's largest mobile operator Telcel has installed Ericsson's Express service activation solution to ensure its pre-paid service is managed in a fast and secure manner. Telcel currently provides TDMA mobile services, but will be introducing a GSM network shortly, making it the largest operator in Latin America, with Ericsson as its provider. The challenge for Ericsson's Global Services team was to find a durable and unique solution, capable of handling high traffic and a rapidly growing subscriber base for the customer.

Mobile Internet in focus

For many people in the telecom sector, the GSM Congress in Cannes has become a sign of spring. Judging by the number of visitors at the 3GSM World Congress 2002, spring is also in the air for the telecom industry. Ericsson's main message this year related to the Mobile Internet and how operators can earn money from it.

This was the sixteenth consecutive year that the 3GSM World Congress has been held in Cannes and the number of participants has grown every year. Since many operators with TDMA systems in the US have opted for the GSM route to 3G, interest in this GSM event in Cannes has become even greater. Ericsson was present, with a stand in one of the four exhibition halls, demonstrations in the Congress outdoor pavilion, speakers and customer seminars.

In 2001, the Congress was attended by more than 24,000 people from 121 countries and about 30,000 visitors were present this year. Operators from about 60 countries came to the event. In terms of floor space, this year's Congress had also grown, with the addition of another hall, at the Palais des Festivals, which is located on the Croisette, the famous avenue in Cannes that runs along the Mediterranean.

Businessmen dominate

As in prior years, the GSM Congress dominated the town of Cannes. This was particularly evident on the promenade outside the exhibition. Postcard-buying tourists in jeans were well outnumbered by men in suits, holding mobile phones and attaché cases.

Eight years ago, the congress in Cannes, on the French Riviera, was a rather small affair.

Torbjörn Nilsson, senior vice president of marketing and strategic business development at Ericsson, is one of the people who have participated in almost all of the congresses in Cannes. He was also there this year, accompanied by Kurt Hellström, at such events as the press briefing. He also participated in the customer seminar and, during the week, met many different customers in various contexts.

New applications

Ericsson's message during the congress was about how the operators can turn the mobile Internet into business in various ways.

"We demonstrated and explained to customers the alternatives they have for migrating from GSM to GPRS or EDGE and then to even faster speeds in 3G networks. In addition, we demonstrated the new services that are on their way, such as the MMS multimedia service," says Torbjörn Nilsson, who also considers it important to disseminate knowledge about Ericsson's work on standards during the congress.

"In efforts to quickly create a volume market for the



Mobile Internet, standards and coordinated testing of these standards for both networks and services are extremely important," he continues.

GPRS gathers momentum this year

Torbjörn Nilsson believes that 2002 is the year when GPRS services will really gain momentum and it is also the year for the broad build-out of 3G networks. Subscribers will begin to sign up for 3G services during the second half of 2002, but the really large volumes of end-users will join during next year, he predicts.

What is the best aspect of the Cannes Congress? "Cannes is not the worst place to be at the end of February," says Torbjörn Nilsson, laughing.

"No, joking apart, the Congress is a very exciting place. There are a large number of interesting seminars and speakers. Ericsson's customer seminars were highly appreciated and always fully booked. We also held a social event with customers on one evening. We had about 1,000 places and already months before the opening of the congress, 1,500 had registered to take part," he says.



Torbjörn Nilsson

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Ericsson's message regarding the Mobile Internet and how it can help operators earn money was not only visible within the trade show grounds. Large billboards with the same message lined the prominent Croisette beach avenue in Cannes.

Packed press

I am cautiously optimistic about the future," said Ericsson President and CEO Kurt Hellström at a press briefing that Ericsson held during the 3GSM World Congress 2002.

The nearly 200 journalists and analysts who were in attendance at the Carlton Hotel demonstrated that there is a significant amount of interest in Ericsson. In addition to Kurt Hellström, other speakers at the press briefing included Torbjörn Nilsson, senior vice president of Marketing and Strategic Business Development, Håkan Eriksson, head of research, Jan Wäreby, executive vice president and head of marketing at Sony Ericsson, and Mick Kishida, head of GSM/UMTS product planning at the company.

Kurt Hellström started off by reiterating what

in Cannes

Collaboration can improve services

Customer seminars comprised a major portion of Ericsson's involvement at Cannes. A seminar by Turkcell was among the most popular presentations. The operator explained how, by collaborating with Ericsson and application developers, they had successfully developed a number of GPRS applications that had become popular with end-users.

Operators and joint-venture partners from 26 countries were on hand to listen to Ericsson explain how the telecom industry can boost the popularity of the Mobile Internet. Einar Lindquist, executive vice president of the Mobile Systems WCDMA and GSM business unit, stated that the primary prerequisites for GPRS to become a widespread phenomenon – networks and telephones – are already in place. Now what is required is to provide users with a number of exciting services to choose from so that the general public becomes interested.

In order to provide a concrete example of this, Ericsson invited a guest speaker from Turkcell. In collaboration with Ericsson, the operator and a number of application developers have succeeded in developing and launching GPRS services that end-users really like. This collaboration, which goes under the name of GPRS-Land, is a business concept based essentially on shared risk and shared profits for everyone involved.

"My most important message is that we, as operators, cannot do everything ourselves – we have to bring in collaborative partners. GPRSland has done as well

as it has because everyone is doing what they do best," says Beril Afsar, head of the marketing and strategy division at Turkcell.

She hopes that her presentation inspired others to take a chance on collaborating with others to develop applications. Einar Lindquist was very satisfied with the seminars.

"We had a very good response. Naturally, reactions differ, with some saying that they are already doing this while others say that they have been inspired and received new ideas for how to proceed."

Why is it important for Ericsson to have a presence at Cannes?

"Participating at Cannes is about demonstrating who we are and where we are going as a company. Regardless of where people see Ericsson, either at the display or in the pavilion, there is a single message that permeates everything: the Mobile Internet is here and Ericsson can make it a reality," says Einar Lindquist.



Beril Afsar



Einar Lindquist

ULRIKA NYBÄCK

Demonstrations attracted visitors

We've been busy with visitors at the display the entire time. Of greatest interest were messaging services such as MMS, so I believe that operators consider that to be the next major trend. It seems as though Ericsson's message about complete solutions has hit home with operators," says Magdalena Ringertz, a product marketer at Core Unit Service Network and Applications.

"Most of the visitors to the display have been representatives of the major operators, although competitors have also been stopping by to see what we are demonstrating," she says.

"It was fun to work at the trade show, although it was hard on the feet and there wasn't time to talk with every visitor as long for as one would have liked."

Magdalena Ringertz thinks that the best part of the trade show this year was the significant amount of interest shown in various demonstrations. In addition to the main display, Ericsson also offered several demonstrations at a pavilion within the trade show grounds. Visitors were able to obtain information about items such as Ericsson Seamless Network, Mega Network and Telecom Management.

Visitors especially appreciated being able to view the container that housed the equipment for the



It was a crowded scene at Ericsson's display.

WCDMA network that covered the area surrounding the pavilion.

"Customers who will soon receive or who have just received deliveries of WCDMA equipment were eager to step inside to view and 'feel' the hardware," explains Ulrika Johnsson, who coordinated the WCDMA demonstration at the trade show.

ULRIKA NYBÄCK

GUNILLA TAMM



PHOTO: PATRICK DENTON

briefing

many have been wondering – whether or not 3G will become a reality. He responded by saying that the transition from GSM and TDMA to 3G is currently underway and that 3G is already a reality.

Torbjörn Nilsson emphasized that open standards will be important in order for the Mobile Internet to catch on in a broader market. He stated that work to review the product portfolio is ongoing, but that it has already become significantly more concentrated. Mick Kishida, of Sony Ericsson, drew the greatest number of laughs during the press conference with his humorous style. On a more serious note, he outlined current design work and Sony Ericsson's strategies.

GUNILLA TAMM

Next step for Multimedia

At last year's congress in Cannes, Ericsson presented MMS – Multimedia Messaging Service – for the first time. This year, the Company was able to present the next stage, Multimedia on Demand, including services such as news, sports, entertainment and film trailers. Throngs of visitors waited in line to view the new offerings over Ericsson's 3G network.

Ericsson, Sun and Apple recently announced their collaboration in supporting the 3GPP standard for multimedia messages for mobile phones, handheld computers and PDAs, to develop a comprehensive solution.

Apple's QuickTime software is the key to creating and coding sound and video files. (See article on the technical solution behind Multimedia on Demand, on page 17 of this issue of *Contact*.)

"What we showed in Cannes is a solution that is still under development and will be launched in the second half of the year," says Anette Jörgensen

at the Service Network and Applications core unit, where she is project manager for the introduction. "The services must be perceived as valuable, and the quality must be high, to persuade end-users to pay for them. The reason for demonstrating Multimedia on Demand before the solution is ready is to give operators a preview of what the service will be able to offer."

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Elisabetta Romano from Ericsson in Italy was interested in the demonstration she watched of Multimedia on Demand. Here, Jan Olin, of the core unit, Service Network and Applications, explains the technical solution underlying Multimedia on Demand.

PHOTO: PATRICK DENTON

More capacity with EDGE

About 160 people attended the EDGE Operators Forum, arranged jointly by the GSM Association, the GSA (GSM Suppliers Association) and Ericsson. The focus of the forum was EDGE, and the participants included representatives from operators such as AT&T and Cingular, and suppliers such as Siemens, Nokia, Motorola, and naturally, Ericsson.

"EDGE has become an established standard, now that several large American operators have ordered the equipment. In a few years, the solutions will be spread throughout the world. In Cannes, we had an excellent opportunity to promote the new Ericsson offering," says Bo Langemark, who is in charge of the marketing of EDGE. He is very pleased with the enthusiastic response from both forum participants and trade-show visitors.

The EDGE wireless technology makes the data capacity of GPRS three times greater, which is a logical developmental step toward 3G. The standard can give the Mobile Internet a powerful boost.

"We're saying that when a GSM/GPRS network requires more capacity, choosing EDGE is a sound, cost-effective investment, in both the short and the long term."

"The operator acquires an approximately threefold increase in capacity. In a somewhat longer-term perspective, EDGE offers supplementary coverage for the WCDMA networks, which are the networks that will initially be deployed to cover densely populated areas," says Bo Langemark.

"Even in a much longer-term perspective, EDGE will have an important role to play when the GSM and

WCDMA networks eventually merge to form a single network, the Ericsson Seamless network," he continues. "This program was also presented in the Ericsson pavilion at the Cannes trade show."

EDGE was also the theme of a meeting Ericsson arranged for some ten industry analysts – analysts who at previous Cannes shows had been invited as part of the group of journalists invited.

"This was the first time we held a special meeting for industry analysts. They study the long-term scenario for the industry, in order to advise companies planning to invest, change strategy, etc. So, analysts have a greater interest than journalists in more in-depth information," explains Eva Sparr of Ericsson Corporate Communications, where she is in charge of Ericsson's relations with industry analysts.

EDGE is a particularly hot topic for analysts in the US, where several operators recently selected the standard. But EDGE is also important for industry analysts outside the US, since many GSM operators are expected to adopt the solution in the next few years.

"Here in Cannes, we had an excellent opportunity to conduct a more in-depth promotion of EDGE and all that Ericsson has to offer," she adds.



Eva Sparr

GUNILLA TAMM

New node adds momentum to Mobile Internet

During the Cannes congress, Ericsson and Juniper Networks launched their first jointly developed product, the AXB 205 06 GGSN. This is a gateway, or data switch, which ensures that IP packets reach the correct e-mail address and manages security considerations, such as identification.

"This is the best GGSN node on the market at the moment and it will be an important factor in creating momentum for the Mobile Internet," says Carl Foucard, marketing manager for the node at the WCDMA and GSM Mobile Systems business unit.

The node is based on Juniper's M20 Internet router and will primarily be installed by operators to upgrade their telecom networks from only being able to handle voice to also having the ability to handle data traffic in GPRS or 3G networks. Ericsson is responsible for marketing and selling the node.

The product is currently being supplied to the Italian operator Wind and a number of other contracts are close to being signed, according to Carl Foucard.

"The interest in this product during the congress has been considerable, particularly from the large operators," he continues.

Juniper and Ericsson formed a joint company in May 2001, but cooperation began in 2000.

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TCC attracts interest in Cannes

Ericsson's new RBS 2206 base station and the new TCC function, which provides additional coverage, attracted great interest during the congress in Cannes. For TDMA operators, this solution means a faster and less expensive transition to GSM and EDGE, while, for end-users, the TCC function means better coverage in rural areas and indoors in large cities.

One of Ericsson's main objectives during the Cannes Congress was to demonstrate how the company can support operators in their migration to 3G mobile systems. Ericsson's new base station, the RBS 2206, combined with the TCC function, are important features of these efforts, particularly in the North and South American markets.

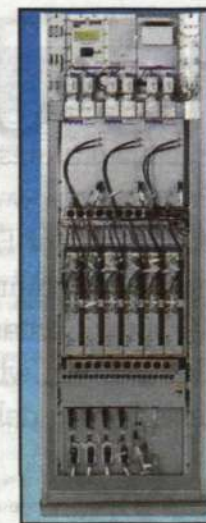
TCC stands for Transceiver Coherent Combining and means, in brief, that two identical signals are transmitted from the base station, thus doubling the output and, accordingly, the base station's ability to cover a larger area. At the moment, primarily TDMA operators that have decided to migrate to the GSM standard have signed contracts for the new solution. They include Rogers AT&T in Canada.

There are many advantages of the TCC function. The operator does not need to invest in new sites, but is able to use existing antennas and mobile switches, and must only add Ericsson's new base stations, in which the TCC function is integrated. In this way, the operators GSM investment costs are reduced by about 30

percent, while the network build-out proceeds more rapidly.

"During 2000, we worked intensively on the migration of Rogers AT&T's TDMA network to the GSM standard and GPRS. At the end of the year, we had really gathered momentum and were migrating about 200 sites a month," says Christian Hedelin, who is in charge of technical sales support at the Radio Network Development core unit.

Ericsson's new GSM base station, the RBS 2206, is the successor to the world's best-selling base station, the RBS 2102/2202. Today, these base stations handle more than 30 percent of all GSM traffic throughout the world.



The RBS 2206 base station

ULRIKA NYBÄCK

More profitable wireless network

How can operators increase earnings from their 2G and 2.5G systems, while preparing to implement their 3G services? The answer to this question can be found in the Ericsson Traffic and Revenue Growth initiative, presented during the GSM Days.

"We want to be the operators' eyes and ears throughout the world, helping them keep track of everything new and viable among new wireless services. As the largest supplier of wireless systems in the world, Ericsson has a unique network of customers, partners, application developers and other industry stakeholders," says Kurt Sillén, manager of the Traffic and Revenue Growth initiative.

Within the framework of this initiative, various tools and working models to increase network traffic have been developed. One example is a regularly updated Top 40 list of some of the world's most successful wireless services.

"By concentrating Ericsson's experience and resources in this manner, we hope to develop a better way of selling our products. At the same time, we want operators to see us as an enabler – a supplier that, in this case, enables them to bring in more money using their existing networks," says Kurt Sillén, summing up the situation.



Kurt Sillén

ULRIKA NYBÄCK

GUNILLA TAMM

Ericsson wins GSM Award

Ericsson has won the GSM Award for "Best use of wireless for emergency situations" for the efforts of the Ericsson Response disaster relief program.

"We should be very proud of this prize," says Torbjörn Nilsson, senior vice president of marketing and strategic business development at Ericsson.

The award was presented to Torbjörn Nilsson and John Giere, Vice President, Branding and Market Communications at Ericsson, at the Palm Beach Casino Hotel in Cannes.

"Ericsson Response shows a different side of Ericsson. I believe we are perceived by the surrounding community as a more humane company, if I may say so myself. The program also shows how important communications are during and after disasters," says Torbjörn Nilsson.

The Ericsson Response disaster relief program is based on a cooperation with the UN, the International Red Cross and the Red Crescent. Via the Ericsson Response program, Ericsson has supported these organizations during a number of disasters – from floods in Asia to earthquakes in Latin America.

Its latest efforts took place in conjunction with the September 11 terrorist attacks on New York's World Trade Center, and through the installation of wireless base stations in Kabul, in Afghanistan.

The GSM Association, which is behind the prize, is a consortium of 600 companies in the telecom industry. The GSM Award was launched in 1996, and the category of "GSM in the Community" added in 2000.

The award jury includes representatives of academia, the media, operators and the telecom industry. Apart from Ericsson, the nominees in this year's competition included NMT Networks in Sri Lanka, for its GSM services, Polkomtel in Poland, for an SMS service, and the French OPT(E)Way for its caller.

Touch down on 3G delivery to Japan

At the end of February, Ericsson delivered the first 3G nodes for commercial operations to the Japanese operator J-Phone. Contact visited Ericsson Mobile Data Design in Gothenburg, where engineers are worked hard on the final tests before delivery.

About 30 engineers are concentrating intensely on the computer screens in front of them. A soft clatter is heard from the keyboard as one of the engineers enters information. Music plays on low volume. At first glance, it is hard to say if anybody in the room feels pressure from the fact that all work in the lab must be completed within the next few weeks.

"Right now, I am adding the final touches to the software and integrating it with the hardware. The nodes will then be tested in the lab," says Anne-Lie Andersson, and gestures to the test lab behind her. She works as a software engineer at the product development unit for the SGSN and GGSN nodes at Ericsson Mobile Data Design in Gothenburg. (SGSN stands for Serving GPRS Support Node and GGSN for Gateway GPRS Support Node).

Micael Berg works with system integration in the same lab. He isn't losing any sleep at night.

"I'm positive that we will be ready to delivery everything on time," he says.

Sending data packets

A node is a data switch that makes it possible to transmit IP-traffic through mobile telecom networks. The nodes are the core elements in GPRS and 3G networks. The two exchanges that Ericsson is producing are called GGSN and SGSN, and their objective is to make sure data packets are sent to the correct address. The 800 engineers who develop the nodes work in Gothenburg in Sweden, Aachen in Germany and Grimstad in Norway.

Ericsson has signed more than 100 contracts

and agreements for the nodes with such customers as J-Phone and Vodafone. Supported by its GSN nodes, Ericsson has already captured a 45-percent market share among GSM and GPRS operators. The company's goal is a market share of 50 percent. Björn Allidén, head of development for Ericsson's GPRS solution, believes the company will achieve its goal.

"For operational purposes, our nodes function extremely well in Ericsson's total solution for GPRS and, perhaps even more important, we are improving our products more rapidly than our competitors. I believe, therefore, we can reach a 50-percent market share in the near future," predicts Björn Allidén.

Nokia is one of Ericsson's main competitors in the market for data switches for the mobile networks.

Key competence

Since 1996, when development of the nodes was started, the men and women involved in the project have acquired important skills and expertise in systems development. This competence will form the foundation for a significant part of Ericsson's future success in the 3G-sector, according to Björn Allidén.

"Our greatest challenge today is to make sure everything is ready for delivery on February 28, when the first system is scheduled for delivery to our first 3G customer, J-Phone. Almost simultaneously, we will also deliver a similar system to Vodafone of the UK," he says and smiles proudly.

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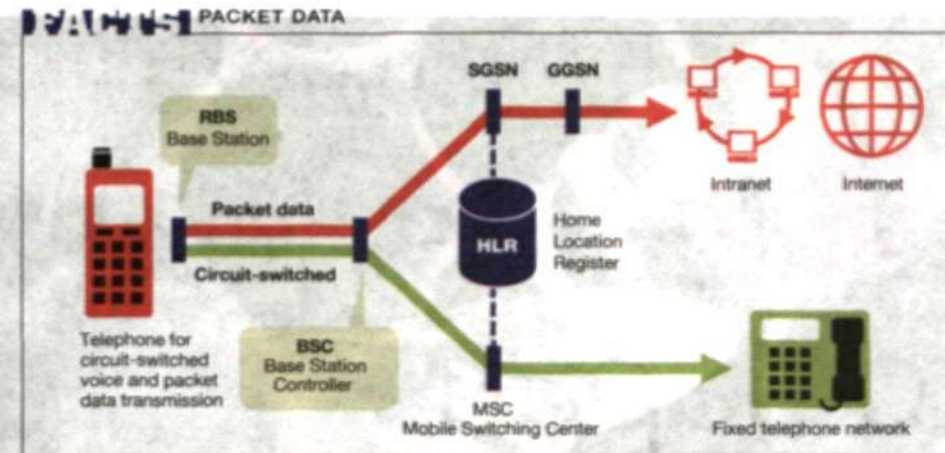


Anne-Lie Andersson and Micael Berg are working on the final adjustments in the test lab before the nodes are shipped.



Busy days at Ericsson Mobile Data Design in Gothenburg. The unit is developing and testing the nodes scheduled for delivery at the end of February to the Japanese operator J-Phone, the first operator in the world to use Ericsson's 3G nodes in commercial operations. In the picture above (left) Micael Berg, system integrator and Björn Allidén, head of development for Ericsson's GPRS solution is seen with software engineer Anne-Lie Andersson.

PHOTO: MARIE ULLNERT/
KAMERAREPORTAGE



The new nodes for packet data are SGSN and GGSN. In a circuit-switched voice call, a line or voice channel remains open for the duration of the call, regardless of whether or not information is being sent. In GSM, a call is allocated to one of eight repeating time slots on the radio channel between the mobile and the base station. With packet data, information is sent in small packets using available network capacity. In GPRS (General Packet Radio Service), which is an enhancement of GSM, four or five time slots can be used for data, assuming that they are not being used for a GSM call. This is an economical method of transmitting information with a theoretical maximum speed of about 64 kbit/second (and up to 130 kbps for EDGE), compared with 9.6 kbps for GSM. The WCDMA technology for 3G will also be based on packet data.

ILLUSTRATION: MARTIN GRADEN

New nodes support two packet-data generations

"Today we have different packet data nodes for GPRS and 3G, but with the next generation, we will have a common node that supports both networks," says Ulf Bengtner, who is responsible for system management of packet data nodes.



Ulf Bengtner

When the circuit-switched GSM system was enhanced to support packet data, as much GSM technology as possible was re-used. This included the entire radio network and its base stations and Base Station Controllers (BSCs). New nodes were needed, however.

In parallel with the GSM network, a new network for packet data was created for GPRS using the new GSN (GPRS Supporting Node), which consists of the SGSN (Serving GPRS Supporting Node) and the GGSN (Gateway GPRS Supporting Node). The SGSN can be regarded as a packet data switch corresponding to the MSC (Mobile Switching Center) for GSM. Where the MSC forwards traffic to the fixed telephone network, the SGSN channels traffic out to the Internet. This takes place via the GGSN, which provides a contact point with external IP networks, ISPs, corporate networks, etc. The nodes can be delivered either as two physical units or integrated in a single unit. The user perceives GSM and GPRS as a single network, since both use the same HLR (Home Location Register) and there is only one subscription.

Prepared for 3G

The packet data nodes are specified in the European 3GPP as a supplement to the GSM standard. Because GPRS is a complex standard, only a few suppliers, such as Nokia, Siemens, Nortel and Alcatel, have developed GPRS system products.

"Ericsson's strength is that we can offer support for both GSM and 3G in the same node," says Ulf Bengtner. "This makes it much simpler for operators to introduce 3G services without investing in a completely new network."

What makes this possible is that Ericsson's solution is based on a future-proof platform called WPP (Wireless Packet Platform). WPP combines features from

Ericsson's TSP platform for the server layer and from the CPP platform, which is used for transport nodes and base stations. This means that the same node can handle both control signals and data traffic. The WPP is thus specially designed and optimized for packet data traffic and complex signaling. The WCDMA nodes for 3G are basically the same as those used for GPRS but with somewhat different software.

"What is now happening is that the number of GPRS users is rapidly increasing and operators are placing increased demands for greater capacity now that the basic functions are in place and GPRS phones are available," says Ulf Bengtner, adding that operators want applications.

WCDMA next

WCDMA is next in line. Basic functionality is now being rolled out, for example in Japanese operator J-Phone's network, thus paving the way for more attractive services.

"We have supplied nodes for about 35 commercial GPRS networks that are now beginning to generate revenues from customers, and we are now starting to deliver nodes for 3G networks. We believe that the WCDMA networks will mature more quickly, since GPRS has already shown the way," notes Ulf Bengtner.

The GSM operators who have already installed GPRS nodes will be able to upgrade them to 3G nodes when the time comes.

"The number of nodes will be determined by the size of the network, but also its topology," explains Torbjörn Lundin from product management.

"Initially, operators will have a minimal configuration with one SGSN and one GGSN, where the SGSN is physically located near the BSC, while the GGSN is close to the link to the IP network. Over time, the number of SGSNs will increase, while there will be fewer GGSNs located centrally in the network," he continues.

"For small operators, it will also be possible to choose our combined CGSM, which is then placed centrally in the network," concludes Torbjörn Lundin.

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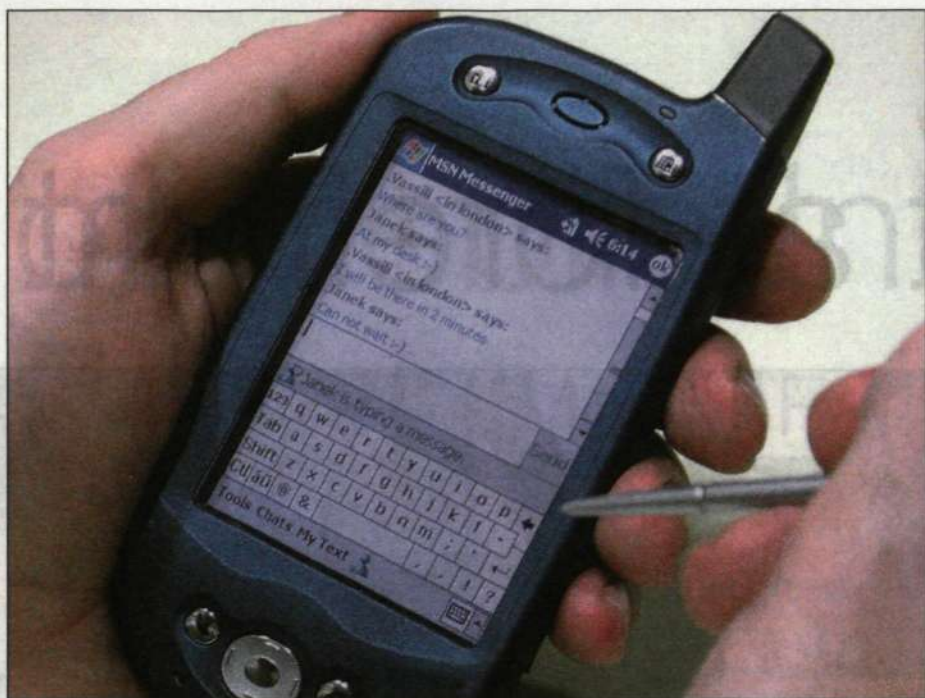
value is created through connectivity

What appears to be the casual movement of Honey Bees from flower to flower is the discovery of an industrious and tireless society. Honey Bees are social insects, they band together and divide labour. The society is made up of types of individuals with sharply defined duties and functions.

So too in business, recognizing that networks are on the cusp of forming connected environments, and redefining pricing models based on the value you can deliver in these environments, should form the basis of new business models for profitable growth.

Cap Gemini Ernst and Young interviewed over sixty CFO's and senior executives in the Telco, media and entertainment, and technology industries, in order to drill more deeply into the issues surrounding them today, and merged the results with research data from a multitude of global information sources. The result, *Business Redefined: Generating Returns*, exhorts all three of these industries to stop looking for a breakthrough service and, instead, band together in an interdependent environment to deliver customer value.

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User ID: cge&y Password: portal Or email helena.klinc@cgey.com



Mobile MSN is now available in France and Germany. This is how it looks.

PHOTO: MICROSOFT

Microsoft goes mobile

Hotmail on your phone and MSN portals adapted for handhelds. Microsoft believes in the Mobile Internet and is keen to gain an early foothold in the mobile world.

"The company wants to control all aspects of the mobile user's environment," says Chris Ambrosio of Strategy Analytics.

This spring, France and Germany have each received a mobile version of the MSN portal, and the UK and Spain are next in line. The mobile portal looks like the Internet version and has basically the same offering, including news, e-mail, weather and shopping. Vassili le Moigne, strategic business development manager for MSN in EMEA (Europe, the Middle East and Africa), considers it important that the Mobile Internet experience resembles the conventional set-up.

"In our experience, if the service is very different on the mobile compared with the PC, people get scared. Maybe this is why WAP had a tough time. I think this service will become highly popular among those who have the right devices," he says.

Microsoft on right track

The right devices means Pocket PC enabled handhelds with a telephone card, or handhelds with telephone and browsing capabilities. Such devices were shown at the 3GSM World Congress in Cannes recently, by the UK's mmo2 and HP.

Chris Ambrosio of Strategy Analytics has studied the global handheld market and believes Microsoft is on the right track.

"Because of its larger display, memory capabilities and enhanced input capabilities, the handheld computer will offer users an interface experience

much closer to the kind they currently have in the desktop environment. Microsoft is attempting to get an early foothold in this user category," he says.

However, it is not currently a matter of mass usage. The portal works best with Pocket PC equipped handhelds. They must also have a telephone card or be connected to a phone that can be connected to the network. To date, handhelds have not become widespread.

"We don't expect enormous traffic in the first year. This is more about sharing a vision than of having 25 million users," says Vassili le Moigne.

"It is possible, though, that everyone will be using MSN mobile in five years' time," he continues in a hopeful tone.

Already in December, Microsoft began offering mobile access to its own Hotmail e-mail service via SMS.

Positive for Ericsson

"Microsoft's strategy is the same as its desktop PC strategy. Microsoft's strategy in the mobile area has the same goals as exist for PCs – the company wants to control all aspects of the mobile device user's environment – system, interface, applications and Internet experience," says Chris Ambrosio.

Nevertheless, he believes that the trend is positive for Ericsson. By making a broad investment in the Mobile Internet for handhelds, Microsoft is showing that it is optimistic about the future of mobile convergence devices – and about the Mobile Internet in general.

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www.betapocket.msn.co.uk/

NTT DoCoMo has a similar strategy

It is apparent that this is the age of the handheld when we look at Japan. NTT DoCoMo launched Infogate, a new mobile portal for handhelds, on March 1. The user is offered both general information, such as news, weather, banking and maps, and online applications, such as groupware. The portal can be accessed via a browser-equipped handheld

computer connected to any DoCoMo phone. However, unlike Microsoft's mobile portals, Infogate is not free-of-charge.

ELIN DUNÁS

www.3g.co.uk/PR/1760.htm

i-Mode launch in Germany

The European debut for i-Mode is approaching. The German operator E-plus has entered an agreement with NTT DoCoMo for a launch in March or April.

DoCoMo will provide E-plus, which has 7.5 million subscribers, with the necessary patents, know-how and technology.

Initially, i-Mode will be operated via GPRS networks and subsequently via the 3G networks. Subscribers will have access to entertainment and various information services, such as weather, restaurant guides, maps, images and more. The Dutch operator KPN (KPN Mobile and KPN Orange have a total of 6.2 million subscribers) previously signed a similar agreement with DoCoMo.



i-Mode will soon be available in Germany.

PHOTO: KPN

South Korea invests millions in 4G

South Korea is keen to be at the cutting edge of wireless development. This is why the authorities are investing USD 104 million in developing the next generation but one of wireless networks.

The so-called 4G networks are based on ultra-rapid packet data transmissions, combined with wireless LAN (W-LAN). The money will be invested over the next three years, writes www.mobilecommerceworld.com.

Motorola sells mobile content

The mobile operators need help in getting started with offering mobile services. This is the opinion of Motorola, which is now starting sales of an entirely new spectrum of mobile content and mobile services to operators. The operators decide the actual prices.



Five new long-distance operators will make it easier to call abroad from India.

PHOTO: ARCHIVE

Five new long-distance operators in India

As of April, India will have five new telecom operators that will convey international calls. They are Reliance and Bharti, Data Access, Connecting Networks and the Indian unit of Pacific Century Cyberworks of Hong Kong.

The state monopoly for international telecom traffic will end in April.

Estonia at forefront of Mobile Internet

Mobile parking is excellent proof that the Estonian operator EMT is at the forefront in making use of the Mobile Internet. Ericsson in Estonia has the Mobile Internet as a special area and has had close cooperation with EMT for many years.

EMT is Ericsson's largest customer in Estonia. There are two other GSM operators, but EMT is largest, with nearly 60 percent of Estonia's mobile subscribers. From 1991 until 2000 EMT operated an NMT 450 system. In 1993, GSM was launched in Estonia, but the network was then a part of the Finnish GSM system. Two years later, it was time for EMT to put its wholly owned GSM network into operation, while the GPRS system was launched in summer 2001.

"Already from the beginning, we were the main supplier to EMT and we have had extremely close cooperation on several different projects with the customer," says Veiko Sepp, who is president of Ericsson in Estonia.



Veiko Sepp

"Our many years of cooperation have evolved into a real partnership. The main topic is the Mobile Internet. Our subscribers are interested in new services and Estonia is small enough to function as a test market," explains Peep Aaviksoo, president and CEO of EMT. He adds that an area that is currently in focus is that with various positioning services.

Raul Vahisalu is responsible for the development of mobile applications at EMT, where the Mobile Parking service has become a true success.

He explains about Mobikit, which has just been launched. It builds on Ericsson's GSM module for machine-to-machine communications and is a small box that is mounted into a car. Using a mobile phone, it is possible to switch on or off various car functions, such as the alarm, heating or, if the car has been stolen, even the engine. The module also sends information to the car owner's mobile phone in case the car's safety is jeopardized. If the car is stolen, the owner can find out exactly where the car is located by using the mobile positioning service.

For nearly two years now, the Estonian Rescue Board has been using mobile positioning for rescue services, the world's first MPS (Mobile Positioning System) based civil service project involving commercial entities and the state, launched in May 2000. Ericsson and EMT supply the technical platform.

"This is only one of many areas that are attractive. Our cooperation with EMT is extremely creative since we share our experiences and ideas. In cooperation, we can find new solutions that can be tested relatively easily in Estonia and subsequently be launched in other markets, thus turning the mobile Internet into reality," concludes Veiko Sepp.



PHOTO: JAREK JÖEPERA

Margus Malm has just parked his car in the Old Town in Tallinn and is now paying for his parking by pressing a few buttons on his mobile phone.

ERICSSON IN ESTONIA

Ericsson Esti AS was formed in 1996. Prior to this, Ericsson in Finland managed operations in Estonia. The company, which is part of the Nordic & Baltics market unit, currently has 54 employees. The Mobile Internet is a special area for Ericsson in Estonia. Veiko Sepp, the president of the company, manages the Mobile Internet Drive team that was started in the autumn for the Europe, Middle East and Africa market area. The idea of this network is that the participants share their experiences, exchange ideas and help the Mobile Internet market to truly gather momentum.



GRAPHICS: PAULS MEDIA

Mobile Parking a success in the capital Tallinn

Make a parking payment using a mobile phone? It certainly sounds practical. Margus Malm, one of the many Tallinn residents who use Mobile Parking, confirms that it is convenient and saves money. The service has turned into a real success story for Estonia's top mobile operator EMT.

"We launched Mobile Parking on July 1, 2000, and the city's parking revenue increased by 12 percent during the first year alone. Today, as much as 40 percent of the revenue is attributable to people using this service," says Peep Aaviksoo, president and CEO of EMT. When the idea of Mobile Parking was presented to the parking company, there wasn't much interest. However, the City Council became interested and they contributed to the introduction of the service. Today, it is a real success, as Peep Aaviksoo explains:



Peep Aaviksoo

"Many car-owners here in Tallinn are quite young and interested in new services. Mobile penetration is high at 51 percent. Most people who have a car also have a mobile phone."

The majority of those who now use Mobile Parking send an SMS when they park their cars. In July 2001, EMT launched its GPRS network. For anyone with a GPRS phone, it is faster to send a parking notification using it rather than sending an SMS, since a GPRS phone is always online.

"In my work as a camera operator, I use my car on a daily basis and park in various major cities in Estonia. It is convenient to use Mobile Parking - you don't need to have loose change in your pocket or go looking for parking cards for parking. It is also less expensive because you only pay for the exact time you use the parking space," says Margus Malm.

"It is useful to receive a reminder on your mobile when the money on your virtual parking account is running out, so that you can add more," he adds.

"Another advantage is that you can stay in the warm car when you use your mobile phone for the parking fee," says Jana Sooäär, standing outside her parked car in the chill winter wind and demonstrating for me how to use Mobile Parking.

"I use Mobile Parking myself and find it extremely convenient. It is a good example of how the Mobile Internet can be used to make everyday life easier for many people by providing simple services," says Peep Aaviksoo.

Mobile Parking is now available in Tallinn and three other cities in Estonia. The service has also received attention outside the borders of Estonia. At the GSM exhibition in Cannes in spring 2001, Mobile Parking was among the entries competing for the GSM Association's Annual Award. It qualified for the final round, but the trophy went to the Philippines for Smart Money.

GUNILLA TAMM

MOBILE PARKING - HOW IT'S DONE

By calling a special short number, the car-owner opens a virtual parking account. There is a choice of two short numbers, depending on the amount you want to have on your parking account. You can fill up the account anytime.

When the driver has parked, he or she sends an SMS with the car registration number and a code for the parking zone in which the car is located. When this has been done, the parking time starts to apply.

To terminate the parking time, you call the same short number.

The car-owner who uses Mobile Parking shows this by having a special parking sign on the windshield.

If the money on the parking account begins to run out, the driver receives an SMS with a warning ten

minutes before the money runs out. If you don't add more to the account, the parking time is considered terminated after ten minutes and another SMS is sent with this information.

Everyone who has a mobile phone can use the mobile parking service, regardless of the phone capability. It is most convenient to park via GPRS WAP, where all commands can be sent online.

Using a handheld device, parking wardens can check via the operator's database whether the parking fee has been paid.

The parking fees are charged to the mobile subscriber on the monthly phone bill from the operator. For anyone using prepaid, the parking fee is deducted from the card.



Smaller and cheaper Bluetooth promises more

Ericsson is about to launch a new Bluetooth module that is smaller, cheaper and uses less power than its predecessors. At Ericsson Microelectronics, where the product has been developed, it is believed that it will also attract customers from outside the telecom industry.

The heat is on right now at Ericsson Microelectronics in Kista, north of Stockholm. Final tests are being carried out on what is being called the second generation of Bluetooth products. The module, which is planned for market release later this year, is both more robust and has greater capacity than the Bluetooth module launched a couple of years ago. Furthermore, its size (2 mm thick, 10.5 mm wide and 15.5 mm long) is only one fourth that of the older module. This very accomplishment, the success in reducing the size of Bluetooth modules, is extremely important, ac-

ording to Magnus Eriksson, market manager for Bluetooth products at Ericsson Microelectronics.

"Smaller modules mean that less materials are used (silicone and substrate), resulting in lower manufacturing costs. In turn, this means better prices for the customer," he explains.

Since the initial launch of Bluetooth, a low sales price per module has been named as a condition for customers to begin buying the technology. With the launch of the module, Ericsson expects to be able to almost halve the price to the customer. However, the product has other advantages that are not related to low production costs.

"Thanks to its small size, our customers will easily be able to incorporate it into many of their future consumer products. It is also less sensitive to interference from other radio technologies than the older module," says Magnus Eriksson.

Another important advantage is that the module is prepared for the integration of all necessary software. This makes it easy for the customer to integrate Bluetooth functionality in such end products as handheld computers and mobile phones with the software used in computers and phones.

"We believe that the new module will be attractive to companies that have not Bluetooth expertise of their own, but who are nonetheless interested in simplifying their work routines," he says.

As an example, he mentions engineering industries.

"If you visit a car factory, you'll find kilometers of cables connecting various machines. By exchanging these for Bluetooth sensors, automotive companies could save major sums while making day-to-day working conditions far smoother," Magnus Eriksson explains, continuing:

"It is also possible to replace a large amount of the control equipment currently required in engineering industries with Bluetooth. Instead of a control room full of monitors and expensive measuring instruments, Bluetooth sensors can be installed along the entire production line. This makes it possible to perform routine checks and observe any machine errors using only a mobile phone or a handheld computer.

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BLUETOOTH

Bluetooth is a radio technology that makes it possible to do away with cables in communications between, for example, a computer monitor and a keyboard, or between a mobile phone and an earpiece.

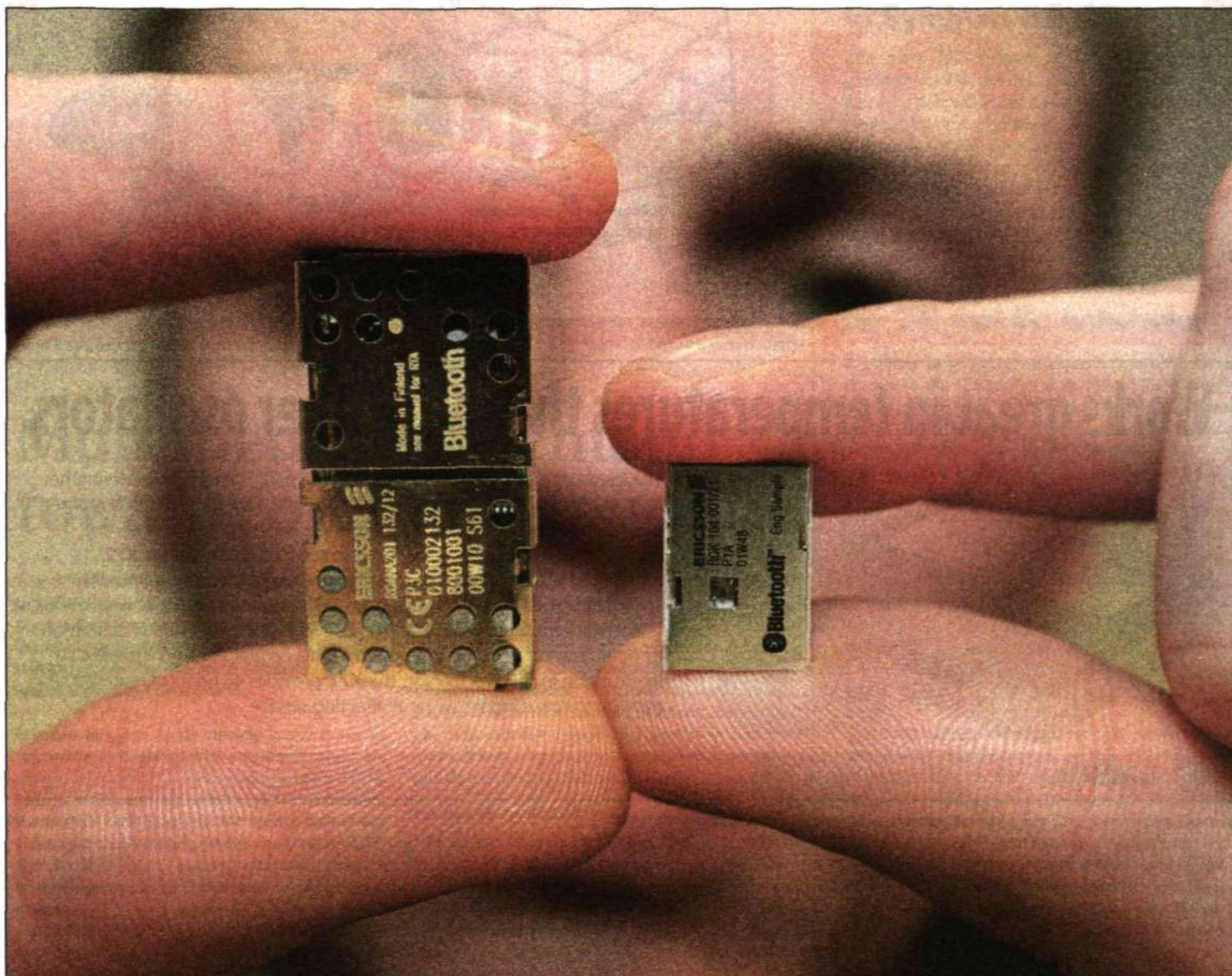
The technology currently works reliably at distances of up to ten meters, although successful tests have been conducted at up to 1,800 meters.

1995: Bluetooth concept created by Ericsson.

1998: SIG (Special Interest Group for Bluetooth) is established, consisting of Nokia, IBM, Intel and Ericsson, among others.

1999: Development tools designed and specifications determined.

2000: First consumer products launched.



Second-generation Bluetooth products are 70 percent smaller than their predecessors, as Magnus Eriksson demonstrates here. The new module has many advantages. It is cheaper, uses less current and is simple for customers to integrate with their software.

PHOTO: KURT JOHANSSON

Freedom of choice for customers

Buy a complete Bluetooth module or parts of it. Ericsson is the first supplier to offer its customers freedom of choice with regard to Bluetooth functionality.

A complete Bluetooth module consists of a baseband chip, a radio module and peripheral components. For some customers it is more suitable to purchase the baseband chip and the radio module individually, as a chip set.

"This may be because the customer's applications require a form factor that the new module cannot support. Another reason may be that when large volumes are involved, it can be cheaper for the customer to

choose a chip set solution rather than a complete module," explains Magnus Eriksson.

In connection with the launch of the second generation of Bluetooth products, customers can choose to buy the complete product or parts of it.

"We want to give customers the opportunity to select the solution that suits them best, while gaining access to Bluetooth technology," he says.



Magnus Eriksson

He explains that many customers have already shown an interest and placed orders for chip sets.

"The next step, when the baseband functionality has been integrated further in, for example computers, will be to offer customers the possibility of buying only the radio module from us. That would allow them to further reduce the cost of obtaining Bluetooth functionality."

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A filmed sequence is coded and stored on a server. Via a portal, users can find the file and download or have it streamed over the Internet to their mobiles.

ILLUSTRATION: KEROLD KLANG

Multimedia on Demand toward common standard

With Mobile Multimedia on Demand, you can get streaming video clips on your mobile phone whenever you want. Backing the standard are a chain of suppliers who are rallying around the standard established in March 2001 within the 3GPP.

Ericsson, Sun and Apple recently joined forces in supporting the existing 3GPP standard for Multimedia on Demand for mobiles and handheld PDAs. The chain is now complete with Apple's QuickTime, the world's leading system for coding sound and video, which is now being extended to support 3GPP Sun's scalable servers and software, and Ericsson's solution for integrating the services in wireless networks.

If SMS and MMS are push services in which the message is sent to the recipient, then Multimedia on Demand is a pull service in which users themselves determine when they want information.

Typical services are news, entertainment, film trailers, etc. Most video applications deliver acceptable performance with 64 kbps, but content with rapid movements, such as sports, will require more.

Chain of collaborators

The following is required to allow users to download short multimedia sequences on a mobile phone. Someone must create the content, which is then edited to a suitable length and coded in the right format (MPEG-4) for a 3G channel of 64 kbps, for example. This file is then sent to a Multimedia on Demand server, where it is converted into an application, WAP or SMIL. Content providers are responsible for the content, while application developers provide the technical support.

There must then be a portal or a search engine that enables users to find the information, and it

must be possible to send the information on demand over a network for presentation on a mobile phone.

"The media, IT and wireless worlds are converging," say Jan Olin and Noam Raffaelli at Ericsson's Interactive Media unit. "Roles will vary, however, so flexible solutions are essential. Operators, for example, may want to act purely as transport links in the chain or become media companies with their own portals for distributing content."

Ericsson's contribution

"We are providing the wireless operator with a flexible solution and a channel for multimedia," says Jan Olin. "At the core of our solution is a Network Integration Node that supports the creation of integrated services, delivery of high quality services and charging for services."

The latter is an important issue for Mobile Multimedia on Demand. In contrast to the Internet, where everything is free and end users do not have high demands, mobile users are expected to pay for services. It is therefore very important that they are of high quality.

Because it has information about all channels in use, Ericsson's node is able to select the coding and transmission speed that is appropriate for current network loads. Getting this to work optimally, however, will require collaboration with the media industry.

Transmission can take place by downloading short files or by streaming files that are retrieved from a streaming server with a buffer capacity of a few seconds to ensure a continuous stream.

The established standard for Multimedia on Demand within the 3GPP uses Internet protocols, such as RTP (Real-time Transport Protocol), MPEG-4 for video and AMR for voice. Ericsson is also promoting standardized chips and multimedia players for mobile phones.

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Read more in Ericsson Review 4/2001:

www.ericsson.com/review

www.streamingmedia.com



PHOTO: ECKE KÜLLER

3G added to Symbian OS 7.0

The new 7.0 version of Symbian's operating system for mobile phones is now being enhanced with functions that will make it easier for manufacturers to produce 2.5G and 3G phones.

Examples of functions are EMS and MMS, IPv6 and IPsec (security) and support for Java applications and SyncML (for synchronization).

www.symbian.com

Microwave transmission for 3G mobile networks

Ericsson is offering an expanded portfolio for microwave transmission that is optimized for 3G mobile networks. Currently some 60 percent of all GSM base stations are connected by microwave, and Ericsson's MINI-LINK system has 60 percent of that market.

In the new packet data and 3G networks, traffic patterns and service offerings will be different than previously, and Ericsson's expanded product portfolio is intended to optimize transmission for operators.

www.ericsson.com/press/archive/backgrounder/3gmwavebackgrounder020219.doc

MMS proxy for both WAP and http

Ericsson has developed a new proxy server for MMS (Multimedia Messaging Service) that will replace the WAP Gateway 4.0, while supporting not only WAP, but also http. A WAP gateway can be seen as a bridge between the mobile network and the Internet and is the access point for users wishing to reach the Internet.

In the same manner, the new MIEP (Mobile Internet Enabling Proxy) server will act as a link between the mobile network and Internet applications, and will support not only WAP phone users, but also users with http-based PDAs or laptops.

MIEP has several competitive advantages. One is that it allows operators to employ different payment methods, such as charging by the message or charging both end users and application developers for the time they use the network for push and pull services.

MIEP 1.0 is expected to be available in May 2002.

inbrief.ericsson.se

Tech tip

Here are two tips for working smarter from Gunilla Ahrens at Solution Management IT:

- Telephone conferences via EriNet. Instead of using an external operator, place calls on Ericsson's own EriNet. The same functionality at a fraction of the price.

phone.ericsson.se/services/conference/bridge.shtml

- E-mail from Internet cafés. If you do not have access to an ESOE PC, you can use the Internet Mail Access service to log in on your private PC or a PC at an Internet café and access your Outlook mailbox. For security reasons, do not open attachments. All you need is your RACOM card or Softtoken.

erimail.ericsson.se/products/ima/index.shtml



PHOTO: PRESSENS BILD

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Dick dove into new career

When the initial disappointment of having lost his job subsided, he decided to realize a dream. Today, Dick Oskarsson works at a diving center in Örebro, Sweden, and will soon be a fully certified diving instructor.

While assembling base station components may not have been his dream job, it was still relatively unconstrained, and the atmosphere among the employees was very positive.

"I started working at Ericsson in 1997, first as a shipping receiver – a position I held for three years – and then in materials management – for about one year. When I became a materials handler it felt like a real step up, and I had no definite plans of leaving when the preliminary layoff announcement came last spring," he says.

At the department, it was Dick Oskarsson who had worked the shortest length of time, so it was he and another colleague who were obliged to leave first.

"It was difficult at first. I had enjoyed my job and I missed my colleagues. It was as if a big chunk of my basic security disappeared," he says.

Eventually, he entered the Career and Development Program.

"The program did offer a great deal of help, but I soon realized that it was up to me to deal with my employment situation."

Passionate diver

He describes himself as someone who has always been devoted to his leisure-time pursuits. For many years, he has been especially enthusiastic about diving.

Those who have been reading *Contact* over the past year may recall that Dick Oskarsson was one of the divers in an expedition in 2001 to Scotland's Loch Ness to find the sea monster "Nessie." They never found the monster, but the expedition received considerable attention in the Swedish and foreign press. This gave Dick Oskarsson an idea:

"It has long been a dream of mine to be a diving instructor. I eventually found an instructors' training course here in Sweden that I really wanted to take."

The problem was that the training was expensive, and he needed a sponsor.

"I called several companies, and all the diving organizations. I told them about my employment situation and my plans to become an instructor."

After much calling and many disappointments, he finally found a company willing to sponsor him by providing equipment, and a diving organization that would provide training if Dick Oskarsson would subsequently work for them as an instructor. As part of the Career and Development Program, Proffice, still his official employer, pays his living expenses during the course.

Training complete in April

Dick Oskarsson spends five days a week at the diving center. He divides his time there between serving customers in the center's diving shop, and the diving course, which is held several times a week.

"In the course, I act as assistant instructor. I watch the way the instructor teaches the students. The idea is that I will eventually take over parts of the course, and ultimately teach the entire course alone."

If everything goes according to Dick Oskarsson's plans, he will be a fully trained diving instructor in April this year. He can see himself eventually working as a diver or diving instructor in Sweden or abroad.

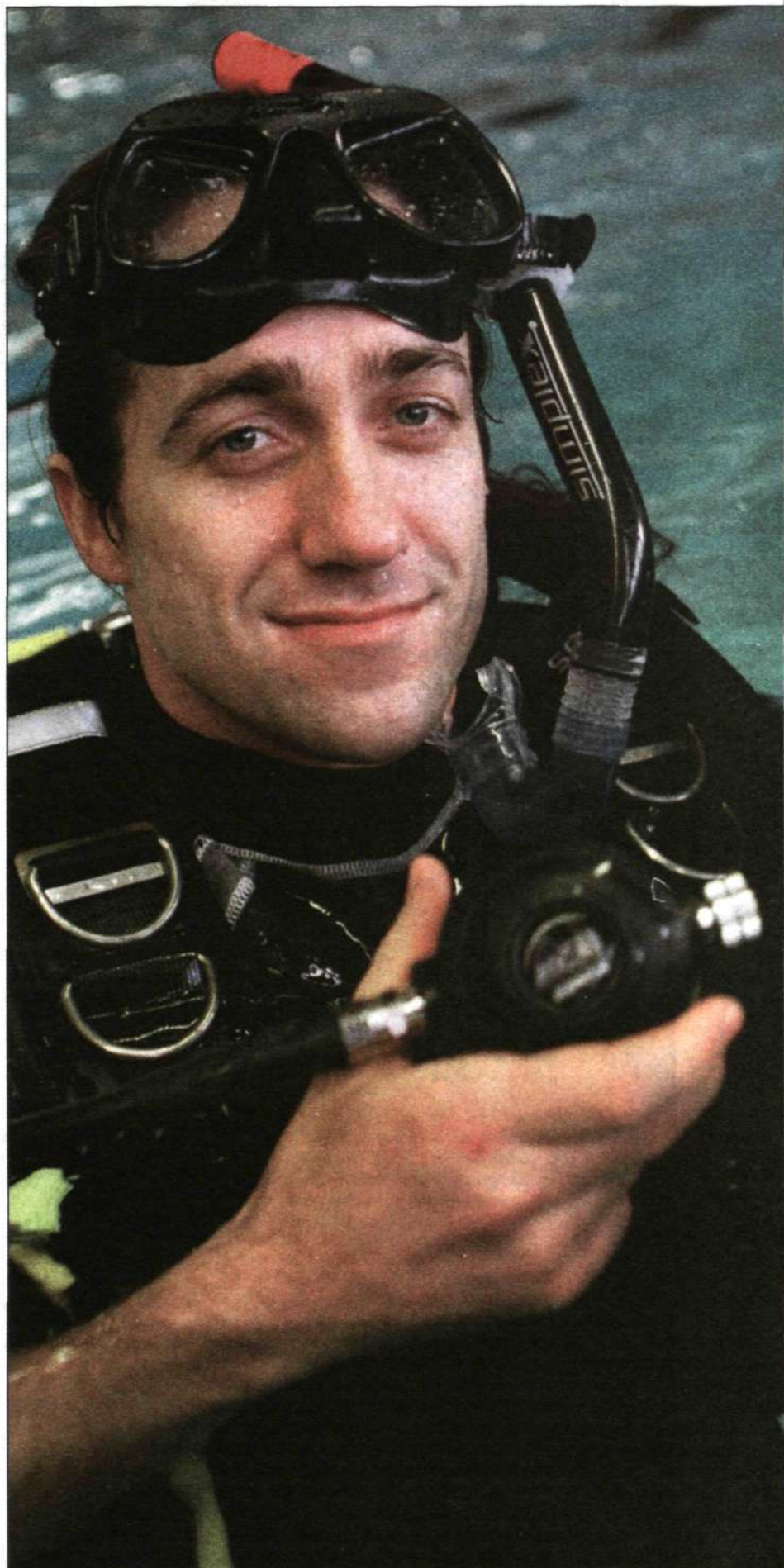
"Swedish and Norwegian divers are highly sought after internationally, since our waters are among the most challenging in the world for divers. So the opportunities are certainly there," he says.

Today, he does not feel bitter toward Ericsson for being laid off.

"No – it actually gave me the chance to support myself through my favorite hobby."

On the other hand, he has learned not to take anything for granted:

"You think you will keep on working at a particular job for your whole life, when suddenly you lose it. In the future, I will always have a contingency plan for what I'd like to do if I become unemployed again. The most important thing is to be active in your job search, and not to give up too easily"




JENZ NILSSON

jenz.nilsson@lme.ericsson.se

Dick Oskarsson, who is in training to be a diving instructor, is happy he was given the chance to support himself through his favorite hobby.

PHOTO: ROLF CARLSSON



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Kevin Tran is close to both his mother, Lan Ngoc Vo, and his father, Qouc-Hoc Tran, every day, since both his parents work at Ericsson in Montreal.

PHOTO: JACQUES DESHARNAIS



Nicole Mongeau is project manager for the implementation of Jambala HLR and chairman of the board of Ericsson's daycare facilities in Montreal. Her son Francis is three and a half years old.

Ericsson in Montreal – workplace and daycare

Ericsson in Montreal operates its own daycare center in the company's office building, an initiative that is highly appreciated by employees with small children.

"For us, it's a way to attract the best-qualified employees," says Peter Buddo, director of communications and human resources issues at Ericsson in Montreal.

A separate facility on the ground floor of the office building in Montreal provides daycare services for 52 children between six months and five years of age. An inner courtyard between the buildings has been converted into a playground for the children. Ericsson has operated the daycare center since 1995, a service that makes the company rather unique in Montreal, and demand from the parents of small children is enormous. Approximately 300 children are on the waiting list today, and the waiting time is about two years. The daycare facilities were therefore expanded recently and the company is now awaiting approval from local authorities to accommodate another 50 children.

"It's difficult to find daycare facilities anywhere in the city, and our initiative is highly appreciated," says Peter Buddo.

The management board of the daycare center consists of the children's parents. Nicole Mongeau, project manager for the implementation of Jambala HLR, is chairman of the board. Her three and a half year old son Francis attends the daycare center, and her daughter Maude, is a "graduate" of the center.

"I signed up for a place on the daycare waiting list when I became pregnant. It's much easier for me in the mornings, since I don't have to travel halfway across the city to leave my children. It also feels very secure to

have them near me. I can look out the window and see Francis when he's playing in the courtyard, and that's a very nice feeling," says Nicole Mongeau.

The daycare center is financed through support from the local authorities, subsidies from Ericsson and fees paid by the parents. Ericsson is required to operate the facility as a separate legal entity, but the activities are not allowed to generate a profit.

"Of course, it costs money to operate a daycare center with professional personnel, but it's a very good investment," says Peter Buddo.

Once in a while, the children are seen walking past workplaces in the office landscape, and sometimes they attend special events in the cafeteria. The events range from study visits to the Lucia celebration or Halloween party. Peter Buddo believes the children's presence creates a special atmosphere.

"It's a positive thing to see children every day at work. It creates a sense of life."

JESPER MOTT

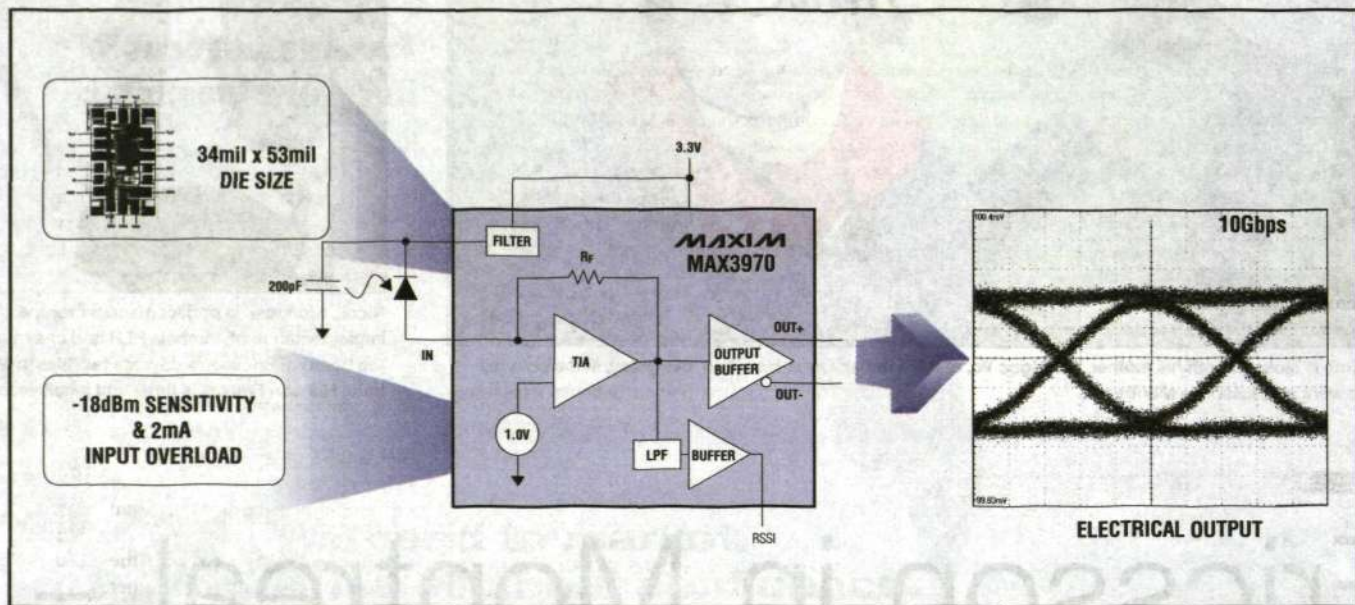
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Bill Gates receives his doctor's hat from Anders Flodström, vice chancellor of the Royal Institute of Technology.

PHOTO: JACK MIKRUT/PRESSENS BILD

Honor for Bill Gates

Bill Gates, the founder of Microsoft, can now use the title of Doctor. At the beginning of February, he was awarded an honorary doctorate from Stockholm's Royal Institute of Technology in front of a large media gathering. This included a 13-year-old junior reporter from Swedish Television, who wondered if the ceremonial hat was a good fit. For security reasons, the Royal Institute had not been able to find out the visiting celebrity's hat size.

"There were three hats. One was too large, one was too small, but the third one fitted perfectly," said Bill Gates with a smile.

Håkan Ericsson, head of research at Ericsson, gave the opening speech and emphasized the importance of companies such as Microsoft taking 3G technology into consideration when they develop software.

During the visit, Bill Gates also took the opportunity to meet key personnel from Ericsson to discuss how the companies can best cooperate.

ELIN DUNÁS

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from the archives



Ericsson's employees have always enjoyed outdoor sports, preferably in the form of competitions. In 1963, health counselor Henry Forsberg (right) thought it was time to take part in the Swedish ski race Vasaloppet – he had been practicing for more than 20 years! The temperature was minus 16 degrees when he, Uno Jehler and Ingvar Blom charged their batteries with herring, potatoes, eggs, pancakes with jam and porridge at 4:00 a.m. At first, everything went smoothly, but when the temperature rose to plus six degrees, it became "like skiing through boiled semolina pudding." A total of 3,887 persons participated. History does not tell us how Henry Forsberg and his colleagues performed.

Play the game to learn about cash flow

Cash flow is a term that is often heard nowadays. But what does it actually mean? Now there is a web-based game for those who want to test and improve their knowledge in this area.

"There are many ways to improve cash flow. On the web-based course, you can gain better knowledge regarding what this is all about and good advice about what you can do to improve the company's cash flow," says Sten Fornell, Ericsson's CFO.

Camilla Dahlberg, skills development manager at Ericsson, finds the game rather brilliant.

"It is a simple way to acquire an overview of how you can contribute to the cash flow and you don't require a background in economics to understand it. The game only takes about 20 minutes and it's also a lot of fun."

You can find the game on the intranet:

☺ university.ericsson.se/apps/news/showdetails.asp?newsid=95

Parents in focus in future workplace

How is it possible to combine parenthood and career? This was a subject discussed during the Workplace of the Future seminar that was organized recently in Stockholm by the Confederation of Swedish Enterprise. One of the invited speakers was Louise Heime, equality and diversity coordinator at Ericsson Microwave Systems. She talked about Ericsson's efforts in such areas as paternity leave.

"I spoke about how we work to make it easier for men and women to be parents while also working. For example, our managers are encouraged to try to find flexible solutions and to maintain contact with employees who are on parental leave," says Louise Heime.

About 150 people came to the seminar to listen to ideas from other companies that have been heavily involved in matters concerning equality and balance in life.



Louise Heime

new assignments

Ingvar Larsson has assumed the position of head of the Service Network & Applications core unit, which was previously Ericsson Internet Applications. He replaces Lars Boman.

Ingvar Larsson was previously sales and business manager at the Global Services business unit.

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Hannu Tyystälä and his colleagues at the Lapp handicraft company Lappitoute Oy in Kemi, Finland, have hit upon a popular item with their TreeG mobile phone. Some 20,000 of the wooden "phones" are sold annually in Sweden and Finland. The most common buyers are Ericsson employees on vacation.

PHOTO: STIG EIDEGREN

TreeG aims to oust 3G

Sony Ericsson and the other mobile phone giants are getting competition from an unexpected source. A tiny Lapp handicraft company, Lappitoute Oy, has launched a guaranteed water- and shockproof TreeG telephone, which is overtaking the Scandinavian market.

At the Lappitoute Oy workshop in the Finnish town of Kemi, just a few kilometers from the Swedish border, they are working at a feverish pace. Sitting amidst traditional Lapp knives, reindeer skins and textiles is a pile of carved TreeG telephones. An unusual product for a traditional Laponian handicraft company perhaps, but for Eero Himanen and his wife Riita, who operate Lappitoute Oy, it has become a natural addition to their product line.

"These days, everyone is buying mobile phones, so we decided to make a model that can handle just about anything and which has guaranteed low call rates. And you don't have to worry about being exposed to radiation either," says Riita Himanen, laughing. A wise decision, apparently, as they have been an incredibly popular item. While actually

designed for use as bottle openers, many people simply buy them as ornaments.

Natural product

Last year they distributed 20,000 of their phones to retailers in Sweden and Finland. Eero Himanen does not, however, believe that their popularity is due to excellent coverage or nifty applications.

"Most people just buy the phone because they think it's a fun thing to show off to their friends. I also believe that people find our wooden telephones to be a pleasant counterpoint to all of the high-tech gadgetry associated with real mobile phones," he says.

The wooden phones are made out of well-aged blue pine, allowing the wood to crack. The end result is that no two telephones are alike, either in color or shape.

Most buyers Ericsson employees

One of the largest Swedish retailers is the Grannas A. Olsson store in Nusnäs, Dalarna, which sold almost 2,000 of the phones last year. Christina Liljegen expects that the store will sell even more this year.

"We've noticed that they are a very popular business present. The most common buyers are actually Ericsson employees on vacation," she says.

JENZ NILSSON

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column

LARS-GÖRAN HEDIN
corporate editor

A user's guide to reading *Contact*

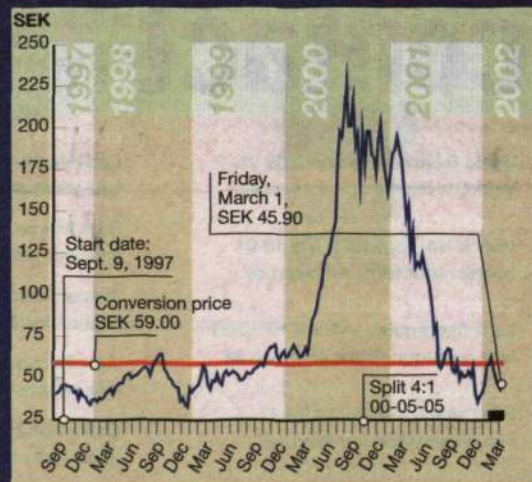
Several months have now passed since *Contact* adopted its new format. We've received many positive reactions at the editorial office to this "reworking" as they say in the newspaper industry. The reworking has resulted in a magazine that now has a more understandable structure.

This was our thought: Following a one page news summary – where those who have missed *Inside* can catch up on the most important news of the past two weeks – we offer several pages labeled "corporate." Here, you can find the most important announcements from and about Ericsson: strategies, plans, altered work routines, new company-wide activities and the like. If important events have taken place during that period of time, one or two pages of news-oriented reporting might follow the "Corporate" section. After that, we devote some space to discussing what is going on outside Ericsson, especially within the telecom industry. We know from our readership surveys that "World Watch" is a highly valued section.

In the middle of the paper you will find our longest, most in-depth reporting. It might involve a feature story on one of Ericsson's global markets or some other article that requires more space and which is, hopefully, accompanied by interesting photos and illustrations. One or two other smaller, but current, feature stories round out this section. On our "Technology" page we post the latest news from the technology front, along with one or two smaller articles and briefs regarding Ericsson's large research and development organization.

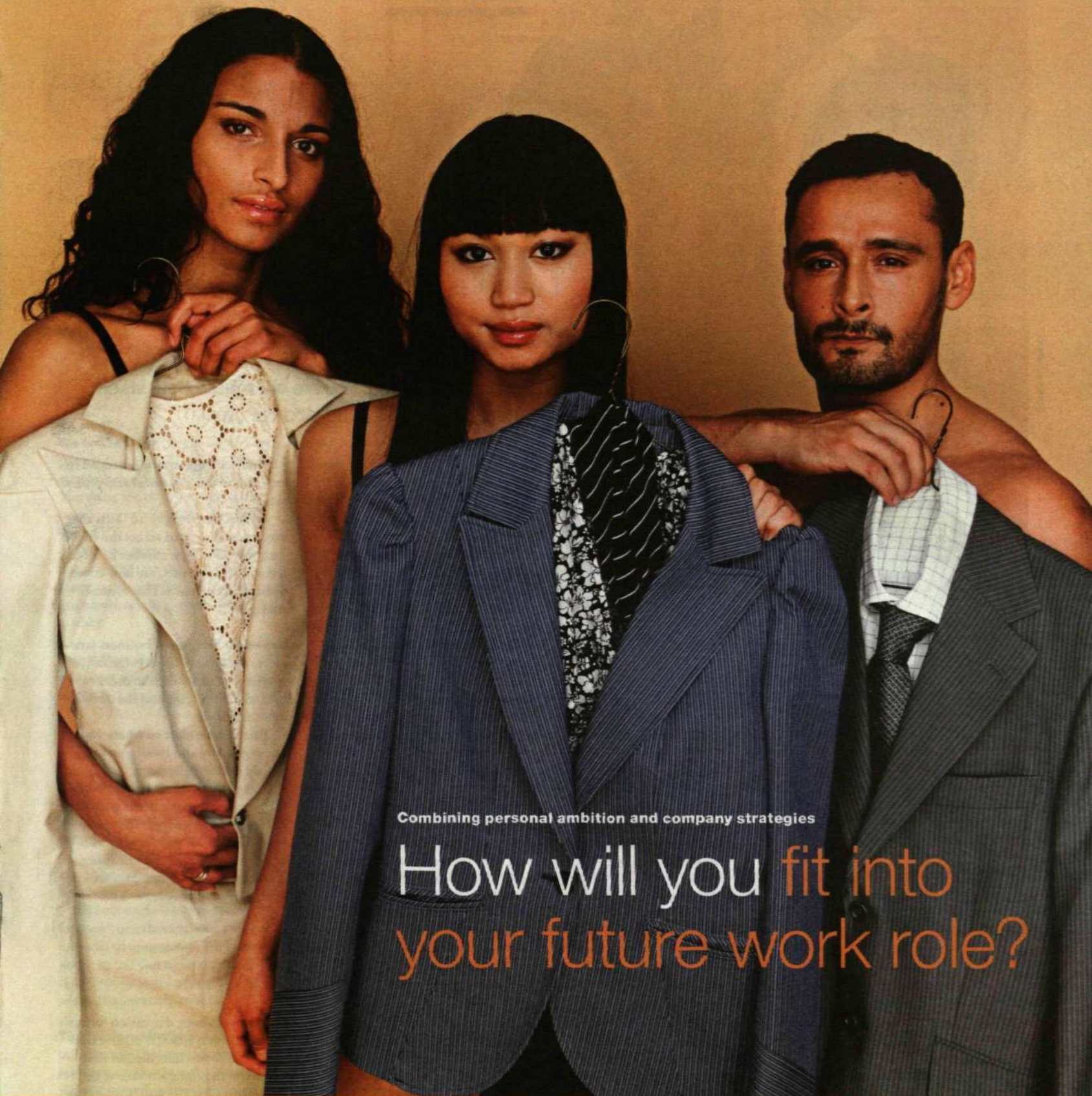
Following this, you will find more articles, usually focusing on internal matters such as work routines, project methods or other personnel-oriented materials before we conclude on a lighter note. The last section, "Around Ericsson" provides room for a range of articles including short news briefs on events within the company that do not warrant longer articles, as well as space for a little Ericsson history. Finally, on the back page you will find this column, which attempts to provide a personal take on events both within and outside the company, accompanied by a more lighthearted human-interest story. The goal of this page is to leave the readers with a smile on their face as they put down their copy of *Contact*.

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For additional information, access the website:
<http://inside.ericsson.se/convertibles>

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DENNIS BLOMBERG



R&D, marketing, or customer services? Let us help you realize your dream of professional progress, and contribute to the success of the company.

Hi there, do you know who we are?

We are here for you. You are our mission, our vision, our friend, our colleague, and our client.

Fancy words, you might say? But this is not mainly about us, it is about you. About how you can grow. And it is about us understanding what you need.

Well, let's not hide the fact that not absolutely everything is about you. Quite a lot has to do with the company as well. But above all, it is about you and the company together. Which is where we come into the picture.

Ericsson University provides outstanding learning opportunities for the entire Ericsson group. Learning in the form of training, courses, programs, projects – you get the picture.

But above all we are responsible for making sure the learning at Ericsson is structured in the right way, with the right means for the people it addresses, and is directed toward the right goal.

This is an organization steeped in experience, both personal and professional.

All the knowledge and skills that used to be dispersed across the entire company in a large number of different training units, are now coordinated in one place. That creates strength.

Based on recognized business strategies, the level of knowledge in the company is monitored in order to find where the gaps and the development needs are.

This is done close to where you are, regionally and locally, and is closely tied to daily work.

Part of the result is programs that fill gaps, meet given needs and raise the level of knowledge. The other part is you, with your new knowledge, your growing qualifications and your new situation. You are our goal, don't forget that.

Those who seek shall find. But start looking here.

You probably have better things to do than go hunting for information, – which may or may not exist, and looking for the people – who may or may not have the answer. A lengthy procedure that easily kills the desire to learn anything at all.

One point of entry is our pretty

simple solution to the problem. We can tell you, here and now, exactly where to turn for learning and training. To us. To our web site and your regional or local Ericsson University contact.

This is the address: <http://university.ericsson.se>. You have

probably heard it before, but now it's time to bookmark it. Because what you will find there is a window of new opportunities – learning opportunities.

Besides some well-chosen words about us, you will find the entire regional and global selection of Net-based learning, instructor led

courses, seminars, discussion forums, book tips, web links, coaching contacts, and more. Information that gives you the right answers at the right time, just the way it should be. Anytime, and anywhere. Not bad, is it?

So log on – you may actually learn something of great value.

We have the tools to let you build your professional future. This quarterly paper is one. Another is university.ericsson.se, where you will find our courses and just about everything else.



DENNIS BLOMBERG

The price of your success is our hard work.

We are looking for the same things you are in terms of learning. Success, quality, reliability and usefulness. You want the time you spend on learning to give results, and so do we.

We have pooled our forces into one organization for that very purpose. Simply put, so that we can guarantee validity, usefulness and quality.

Every time you enter into a learning situation, you must be able to rely on the fact that you are there for the

right reasons and are going to take the right experiences with you.

When you, visit your region's home page and see what courses are offered in your area, both global and local programs, you can rest assured that someone on our end can guarantee the quality of the course, and that you will receive best value for your money.

We are a global, virtual organization with a contact network that stretches around the globe.

As an organization we have a common view of teaching and learning – a view that we share with our professional partners. Internally, this is primarily Ericsson Education, and

externally we work with many of the world's foremost universities. But regardless of how prominent our partners are, we are the ones who are responsible. You can count on us.

You are the judge of how good we are.

You are important. That should be pretty clear by now! So important, that we even call you Number One. Because that is how a knowledge-based company works.

You are responsible for yourself, for your contribution, and for your personal development. We are not going to tell you to do this or do that. But we will be here for you when you are ready to act.

The basic attitude in a company of Ericsson's character must be that each employee wants to do a good job and contribute to the success of the entire organization. This seems pretty clear to you, doesn't it? This connection between individual effort, personal development, and

Ericsson's business goals is extremely important.

In short, we make certain that we offer appropriate learning opportunities to develop you and the company in the right direction. According to the basic business aims upon which, after all, our work is founded.

Your manager – the person who probably has the clearest view of the business goals, the goal for your unit and the skills required – is an important person in the picture.

Together, you will draw up a development plan suited for you. Naturally, you have particular desires for your development, and so does your manager. In other words, it is crucial that you meet and discuss

these questions together.

So make sure that the Personal Development talk really happens. Because the PD talks are much more than just one of the management's listed tasks – they can be the difference between success and failure, both for you and for the company.

One person who understands better than most the vital link between the individual and the company is Per-Olof Nyquist, the first executive to speak out in this publication. (And that is rather appropriate, as he is also the head of Ericsson University.)

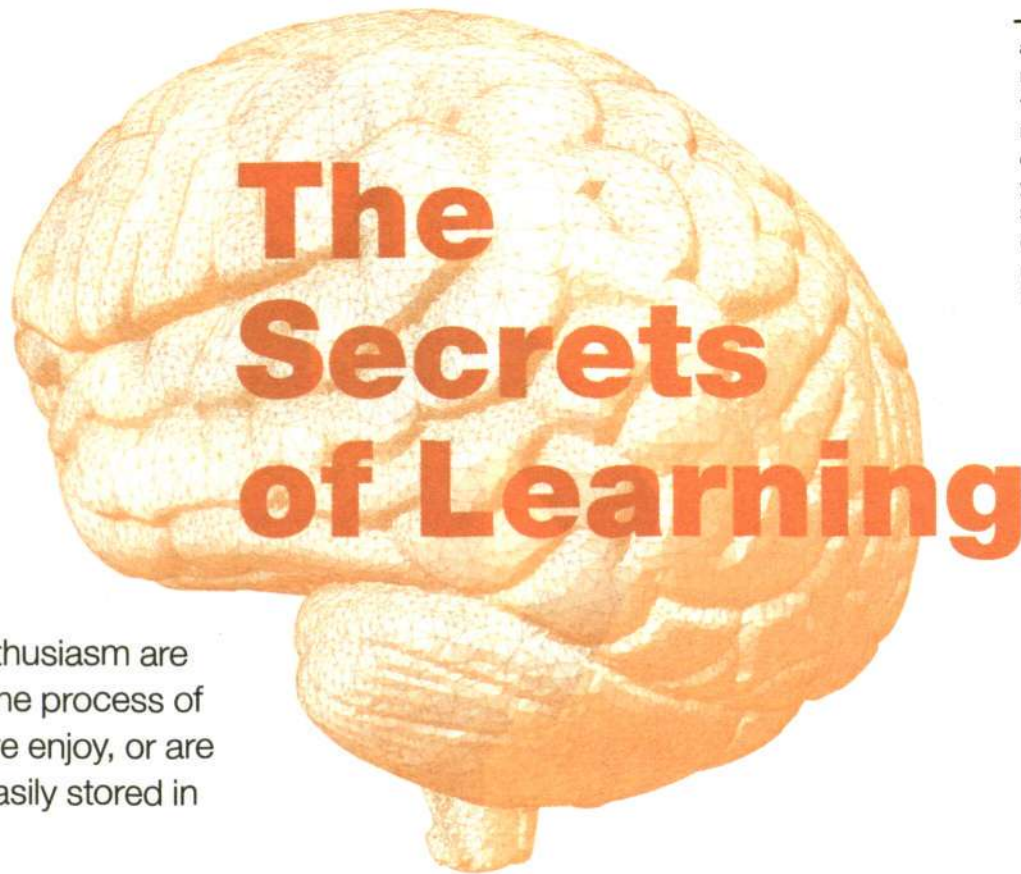
This is what he says: "If the employee asks himself, 'Do I want to contribute to the success of this business?', and his answer is 'Yes!' – then

Ericsson University has the tools to allow him to develop in the right direction."

The right direction? That means the direction in which we want the company to move with regard to the market, with regard to technological developments, and with regard to profitability.

The equation reads like this: A knowledge-based company is driven by a clear vision, with business goals that are achieved by the individual's skill and knowledge.

The message does not get any simpler: What you learn, the company learns. The success the company achieves thanks to its knowledge, is your success. So go ahead and grow. Nobody is going to stop you.



– I usually say: You are your brain. That means that everything you have experienced and learned over the years makes you a richer person. So getting older definitely makes you richer, says Rolf Ekman.

Pleasure and enthusiasm are fundamental to the process of learning. What we enjoy, or are intrigued by, is easily stored in the brain.

British neurology professor Susan Greenfield has compared the brain to a jungle – a complex ecological system where there is constant life and communication, a system in which every component affects the whole. Acquiring a new piece of knowledge, actively learning something, activates millions of highly interdependent nerve cells.

Each nerve cell consists of a cell body with a long tail, called an axon, which transmits outgoing signals by conducting impulses away from the cell body. The ends of these tails branch into tens of thousands of other axon terminals, each of which are in contact with another nerve cell. It is at this point of contact, the synapse, that nerves can commu-

nicate with one another and allow us to store new knowledge in our memory.

Nerve cells are team workers. There is no one cell whose job it is to remember that important thing your boss said this morning, or what you meant to buy for dinner.

Rather, the brain divides up the tasks, putting millions of cells onto the job of remembering what the boss said. Inefficient and uneconomical working method, you might think, but without this multiplicity the brain loses its precision and becomes extremely vulnerable.

Pleasure and enthusiasm are fundamental to the process of learning. What we enjoy, or are intrigued by,

we store easily in the brain, while the names of all 349 members of parliament can well be left stored in a reference volume.

Learning is a relatively conscious process: we do not learn if we do not want to.

– We must, therefore, like writer Astrid Lindgren, allow our imagination to take possession of us and lift our mind, advises Rolf Ekman, professor of neurochemistry at Sahlgrenska Hospital in Gothenburg.

Ekman maintains there is no proof that there actually are periods when the brain does not register new information.

Still, that the brain needs relaxation is elementary. So maybe it is

not such a bad thing at all to take a break, or to 'sleep on it'. Because while we are otherwise occupied, our brain keeps working on our problems.

– It's plain stupid to try to persevere in marathon meetings until the wee hours, like many wage, or peace, negotiators seem to have a tendency to do, says Ekman.

Instead, he advocates a high level of physical activity in order to stimulate the intake of new knowledge.

– Children that have a lot of physical activity in their everyday lives also learn more. So it's important to stay active at work, take lots of breaks, and move around regularly.

Josefin Ekman

Make your brain happy

Our brains are like our cars. We start them up, drive them, and take for granted they will keep on running. It is easy to forget they have to be serviced – but by doing so, you save yourself a lot of trouble.

Essential for the development and smooth running of the brain are stimulation and proper nutrition. There are

three types of exercise to stimulate the brain: physical activity; mental work-outs such as solving crossword puzzles; or allowing sensations and feelings to take hold of us, either in response to music or images or purely physically.

But don't run yourself into the ground with mental exer-

cise – make certain your brain is allowed to rest in between. No professional athlete will perform better for not taking a day's rest every once in a while.

So spend half an hour in the hammock, clean the house, bake a cake or listen to a new record.

The main thing is that the brain not be tasked with your problems, but that thoughts can wander in free associa-

tion. Also, closeness to other people – time with friends, an hour's massage or even meditation, are all important for the brain to feel well and healthy. Relaxation releases a substance that signals a sense of well-being to the body and mind, which makes us happier and wiser people.

The food we eat affects the health and happiness of our brain as well. Chips and fatty spreads clog our heads, while

vegetables and fish protein increase not only concentration, but also the motivation that improves our memory and our sensitivity.

So keep your brain in a good mood! If you don't, there's a risk that your brain – like your car – just breaks down one day en route, in rush hour traffic and on the way to an important meeting...

Josefin Ekman

The man who **built** the world...

Some ideas have that special something. Like the time when Leonard Kleinrock invented the Internet. Talk about making use of your knowledge.

In October 1999, on the thirtieth birthday of the Internet, the world's largest and longest on-line birthday card bore the message:

"Happy birthday. The Internet is my home, I have no other, the Internet is my country and you guys are my nation. Dear Lord, thank you for the Internet!"

There were thousands more.

Few people have had as much influence on our private and professional lives as Leonard Kleinrock. Almost exactly three months after man's landing on the moon, Kleinrock led man's first step into cyberspace.

As a student at MIT, Massachusetts Institute of Technology, he presented his 'packet switching' theory, an early precursor to the Internet. A few years later he established the

first telephone connection between a computer at Stanford University in northern California and his own at UCLA, University of California Los Angeles.

His first word was 'log', to which the Stanford computer was supposed to add 'in', to form the word 'login'. Kleinrock's team only got as far as 'lo-' before the system crashed. A phenomenon most computer users still encounter frequently, thirty years on...

The technology was initially created for military use, but was soon discovered by more and more research institutes that joined the network. As the network grew, and more students started taking advantage of the enormous offerings, the problem of locating the desired information became obvious. As a



Kleinrock poses by the Interface Message Processor at UCLA in Los Angeles. The processor was used 30 years ago, at the creation of the Internet.

result, the World Wide Web was created in the early 1990s.

Kleinrock, 68 years old and still a professor at UCLA, looks back to the first years with amusement.

– We were not aware of the potential dangers. We didn't think about kids doing their homework over the Net, or of the problem of pornography, he explained in a 1999 interview with news bureau News.com.

Later the same year he also

predicted the Internet's future, saying that computer communication would be cheap, wireless and unremarkable.

– It's going to be everywhere, always available, more or less like electricity. People don't want the Internet on their desks. They want to be able to move freely, and still have access to the Net, said Kleinrock.

Josefin Ekman

PRESSEBILD



Jody Williams' work gets results. After ten years of pressure, Russia finally signals that it intends to become a signatory to the ICBL.

...and the woman who **saves** it.

Some ideas are born more out of necessity than out of curiosity. But it doesn't make them any less important. Jody Williams learned of a problem, thought about it and acted. The result? A whole lot of saved lives.

Jody Williams, 52, is the founding coordinator of the worldwide network International Campaign to Ban Landmines (ICBL).

Williams was awarded the Nobel Peace Prize in 1997, and in the same year persuaded 120 countries to sign an agreement on prohibiting the production, sale, purchase or transport of land mines.

ICBL started on a small scale in 1992. In the course of some years spent in a Latin American hospital, where mines cull thousands of innocent civilian victims, Williams' compassion was awakened. Returning to the United States, she contacted the Vietnam veterans organization, which was already working on a campaign to abolish antipersonnel mines. Since then, the network has grown.

The campaign makes three basic demands: a total ban on land mines, the establishment of an international fund for mine clearance, and financial support from the world's producers of land mines.

The ICBL's breakthrough came in

1995, when Belgium became the first nation to resolve to remove land mines from their weapons arsenal. Today ICBL consists of more than one thousand organizations.

– We have created the people's and the small nations' superpower, Williams said in 1997 in connection with her acceptance of the Nobel Peace Prize.

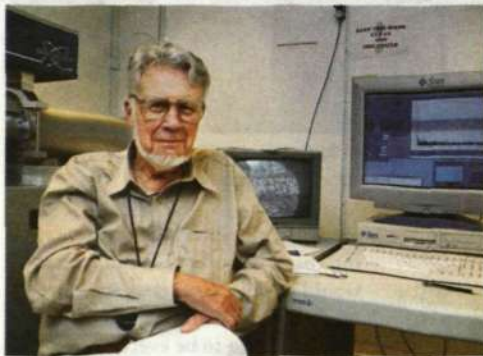
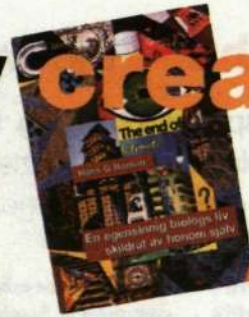
Behind those words are the more than 26,000 people killed or maimed every year by 100 million mines buried across the globe. But despite the publicity and the world's attention, much hard work remains before all mines – an invention rooted in Alfred Nobel's own invention of dynamite, ironically enough – are disarmed in the world's war zones.

Jody Williams continues her mission outside the organization of the ICBL. After a number of internal conflicts and withheld salary, she left the network five years ago to write a book with the support of her Nobel prize money. The subject? Mines.

Josefin Ekman

Great ways to stay creative

Open your mind to the unexpected. Try something new every once in a while. Professor Hans G Boman knows how to achieve a creative environment – at work and at home.



AFTONBLADET BILD

Hans G Boman in a creative environment.

He discovered that all animals are swiftly able to produce their own antibiotics, long before antibodies are created. Now professor Hans G Boman of the Karolinska Institute in Stockholm has written a book about his life, and about the importance of being open to the unexpected – if you want to become a successful problem solver.

Hans G Boman says that there is more than one answer to achieving a creative environment for a group of

people. His experiences of in excess of 50 years successful research have amounted to a host of ideas on creativity in workplaces.

– It can be stimulating to change work position, colleagues and assignments now and then, say every 5–8 years. I have done it every tenth year or so, which probably enhanced creativity and

prevented boredom and stagnation. But this must be done on a free-will basis. Because retaining the joy of working is vital if you want to stay creative, says Boman, who began researching bacterial resistance to penicillin as early as the '60s.

He changed research field when it became too popular, even crowding.

– What is the sense of doing science that will be done by somebody else very soon?

In all, he has swapped 4–5 times,

while maintaining a clear scientific thread in his research.

At the University of Umeå in northern Sweden he studied bacteria, at the University of Stockholm the immune system of insects. He later switched to research on the antibiotics produced internally by pigs and humans. Today we know that all animals and even plants have their own endogenous antibiotics that are present wherever bacteria can land.

Two facts inspired this groundbreaking discovery: Bacteria duplicates every twenty minutes, yet antibodies take two weeks or more to form. And we inhale about 10,000 bacteria each hour.

Boman says that having a sensitive and open attitude to the unexpected is fundamental when solving problems in original and new ways.

– You also have to be careful when distributing work assignments between the members of the group. To be creative, you have to have a lot of individual freedom. Therefore, it's better to let new members find

their own way into a team. The problem that needs to be solved should serve to keep the team together, says Boman.

Further, he states that "a creative group has an upper limit in size of some 6–8 people. The leader has to keep the team together, steering and influencing without being intrusive."

Because Boman takes a great interest in many walks of life, including literature, art, politics and sailing, he has never risked losing his inspiration. His biography – in English the title would be "The Life of a Headstrong Biologist, as Told by Himself" – is spiced with snappy and thoughtful quotes from the world's great authors.

Another thing that gives him pleasure is making collages, like the one used on the cover of his biography. He enjoys the flow of associations this gives. Paradoxically, he doesn't know how the VCR in his living room functions.

Timothy Hebb

TEN THOUSAND

ways to combat stress

It kills creativity, causes family problems and can make your life a misery. But stress can be beaten. Here's how to take control of your busy life.

Your youngest child had a tantrum on the way to pre-school, morning traffic crawled at a snail's pace, while you got a beeping sms about an urgent matter that needs fixing now. You come into work and your inbox keeps ringing. Another e-mail, a few more tasks, one more demand for an answer. That dreaded sense of stress comes over you.

According to stress guru Tomas Danielsson, almost all stress is 'crazy stress' – unnecessary agitation over unimportant things.

This can be stress in response to change, or the stress that comes from comparing ourselves to others.

But this kind of stress can be headed off at an earlier stage, particularly if the workplace management

are aware of it, Danielsson assures us.

One of the big culprits in the stress drama is people's tendency to compare themselves to one another. It is easy to work up the feeling that everyone else manages to do more than you. Danielsson calls this phenomenon additive stress, and it is a form of 'crazy stress.'

The mad desire to 'get everything done' goes along with this. It is what turns a beeping cell phone and an overflowing e-mail inbox into sources of overwrought agitation.

Many people also experience the expectation and demands from their workplace and their family alike as stressful. In this case it is important to find a balance, and to dare to say exactly how one feels.

Management at places of employment has a great potential influence on the stress climate.

When an employee begins to feel exhausted from different types of stress and external expectations, he must have the courage to put a stop to it.

– Exhaustion blocks creativity at work and causes disturbances in family life. The employee can fall into a vicious circle that may end with

a long period of sick leave. Employers must take a bigger responsibility for developing their associates' limit-setting skills.

– Enormous amounts of energy disappears when we think about what we did not get done, and everything that we should get done. Why not teach people to laugh at chaos instead, suggests Danielsson.

Charlotte Säfström

Take it easy – cool advice from the stress doctor

- 1 Stop comparing yourself to others.
- 2 Remember that exercise, nutrition and sleep in the right amounts increase your stress tolerance.
- 3 Start to prioritize and eliminate.
- 4 Build networks.
- 5 Set reasonable goals, both at work and in your free time.
- 6 Remember your strengths – admit to your limitations.
- 7 Bring conflicts up to the surface.
- 8 Practice mental relaxation.
- 9 Work on your self-confidence.
- 10 Dare to say no.



There's no business like **SHOW BUSINESS**

Once upon a time, technology based companies ran the telecom show on their own. They launched one cutting edge technical solution after another and watched their wealth multiply, while content providers were busy trying to come up with applications to fit the new technology, lingering one step behind.

No longer so. Content providers have started to realize their growing business power and are no longer willing to wait around for new technical solutions. Subsequently, the dynamics of the telecom market are changing.

The next big challenge

Ericsson is already experiencing the convergence of the telecom and data-com industries. The next challenge is bound to affect the company's very core – the convergence of the media and entertainment industries.

– It is of crucial importance that our sales force has the ability to identify and create new business opportunities for their customers, says Anders Lindberg at Ericsson University.

– We have to get to know the industries of films, music, games, printed media, television and Internet portals on a deeper level, while still focusing on the business

perspective. These industries affect Ericsson's business and we need to understand how they work.

Lindberg is the driving force behind the course 'Inside the Business of Media and Entertainment'. He stresses that the rapidly changing business dynamics within the telecom industry call for a new approach to content providers.

– The Ericsson sales force has a technology and business based mindset, while the content providers are the 'artists' of the telecom industry. They have a different mindset and do business in a way that is new to us and the network operators. We have to get used to this quickly. Our ability to do so is of great importance to our ability to generate wealth – for Ericsson's customers as well as for the company itself.

Crucial questions

How do the media and entertainment industries meet the challenges of an ever expanding and changing market? What are the most important aspects of their future business strategies? What will they need in terms of technical solutions?

These and related questions make up the focus for the recently introduced course.

– Our main objective is to give

the participants a good, solid understanding of the key sectors within the media and entertainment industries, says John Patrick at PricewaterhouseCoopers.

He is the course leader and took an active part in the development of the program, in close cooperation with Ericsson University.

– The idea is to allow the participants to speak coherently with clients who come from these environments, to help them see where things are going in areas that will soon be even more closely linked to the telecom industry, says Patrick.

– We try to give an understanding of who the challengers and major players are, and a feel for the current movements within the media and entertainment industries.

The participants take part in group exercises and presentations held by media and entertainment executives. A day at the BBC and a visit at global news agency Reuters are also included in the activities.

Åsa Brolin

Details and information about the course 'Inside the Business of Media and Entertainment' are available at: university.ericsson.se

Latest news in learning

Free net-based learning

Don't miss the free Net-based courses, accessible via Internet until December 31, 2002. Many new titles available.

Cash-flow

"Cash-flow", together with "Operating Margin", is of high priority for Ericsson. Through our Net-based training you will acquire a better understanding of the concept of cash-flow. For deeper knowledge we recommend that you continue with the 3-day course "Cash Flow and Profit Impact Program".

Product Management

2002 is the year when Product Management is in focus. A new training curriculum will be launched during the end of Q1.

Get 3 for the price of 2

During the first quarter of 2002 Ericsson Education offers AXE/GSM and GPRS courses for you and your colleagues. The offering is for courses booked and started in Q1. Ericsson Education is our partner for product related training.

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New revised Core Three

The new revised Core Three includes a web application, supporting your day to day work. The new version ensures better teamwork and better business supporting you in your cost savings and efficiency efforts.

Internet Protocol Ver 6, IPv6

A standard that will affect all Ericsson products is about to be implemented. IPv6 will improve the speed and efficiency of Internet traffic and allow users to be continuously connected.

IT Efficiency Seminar

At the seminar you will learn how to increase your personal efficiency in your daily work and how to become more cost effective.

Read the news in full, and get the latest updates at: university.ericsson.se



This is one of the few times you are going to see these people together. Since they are responsible for Ericsson University in their respective regions – that's where they will be...

Ericsson University
7 regions in
close cooperation

Representing their neighborhoods? You bet. When you ask the heads of the seven regions why Ericsson University is a good thing you get some pretty different answers. And you know, that's a good thing.

Joselito Rivera Manilla (7)
Region: Asia Pacific

– There are a lot of highly educated people within the organization, and there's a risk that we all become complacent, thinking we know it all. But to be able to take initiatives and meet the needs of our customers, we must always keep learning.

Joyce Ma Beijing (5)
Region: China

– Personally, I feel that the support Ericsson shows for education and learning is a very sensible move. Updating the staff's competence at a fast pace is the key to success.

Kenneth Andersson Stockholm (6)
Region: Sweden

– Ericsson University has to turn the needs of the company into practical solutions. We have to understand the company's needs on a deeper level and make it our main competence to recognize areas where continuous learning is crucial.

Christine Andrea London (2)
Region: Europe, Middle East & Africa

– I think most people want to learn new things and this makes Ericsson an attractive company to work for. Our employees know that moving to new countries is often

demanding, and I believe they consider this a fantastic possibility to share knowledge. The will to improve skills and thereby contribute to the company's success motivates our employees.

Estrella Peralta Mexico City (4)
Region: Latin America North

– This is also a personal challenge. My team and I keep telling other people to keep learning, extend their knowledge and reflect upon their levels of competence. In order to do so, we have to ask the same of ourselves.

Juliano Benatti São Paulo (3)
Region: Latin America South

– I have great hopes that we will soon implement Ericsson University in every region. The needs differ between regions, and within the regions, in the same way people's

way of using technology differs. Therefore, the learning processes have to differ too.

Peter Dicksson Plano, Texas (1)
Region: North America
– I see Ericsson University as an enabler for Ericsson's future. It is crucial that we establish a link between the company's strategy and offering.



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