

contact



PHOTO: JASHA ALAVAS

Croatia looks into the world of 3G

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New perspectives with MMS

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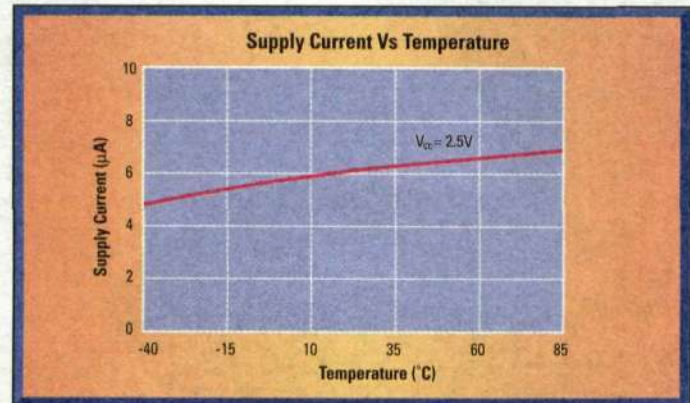
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LM3702/3	Yes	N/A		X		X	Push Pull	micro SMD
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LM3706/7	Yes	Yes				X	Push Pull	micro SMD
LM3708/9	Yes	Yes		X		X	Push Pull	micro SMD
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LM3712/3	Yes	Yes	X	X	X		Push Pull	micro SMD
LP3470	Adj	N/A		(POR)			Push Pull	SOT23-5

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 **National
Semiconductor**
The Sight & Sound of Information



Portions of development operations in Plano, Texas, in the US, will be moved to Montreal, Canada.

PHOTO: JOHAN M ANDERSSON

Fewer design centers for development

Ericsson's product development activities are now being concentrated to fewer design centers. As part of the Efficiency Program, a number of important projects are being brought together at larger units with overall responsibility for complete product lines. As a consequence, some 400 jobs in the US and 440 in Denmark are being eliminated.

Ericsson in Dallas, Texas, will transfer several development projects to other centers. The objective is to concentrate development activities to larger units with a strong and clear responsibility for entire product lines. In Dallas, this concentration affects the development of wireless multimedia access, multi-service networks and switches. This development will be transferred primarily to Ericsson in Montreal, to which development of core networks for TDMA and CDMA have already been transferred.

Activities with direct links to customer operations will remain in Dallas. This includes system verification for GSM, GPRS, WCDMA and UMTS. Ericsson Research in Dallas will be able to continue to support US customers who have chosen to migrate their systems to these wireless standards.

Ericsson is also reducing its operations in Denmark. Research and development activities will be primarily affected, but global service and support functions are also included in the staff reductions totaling 440 persons.

Development units in Copenhagen and Ålborg will be transferred to larger development centers in other countries as part of the global Efficiency Program. This will result in a loss of some 310 jobs.

These changes mean that Danish development operations will now be limited to the development of Call Center and operations support systems at LM Ericsson A/S (LMD) in Copenhagen and switches at Ericsson DiAx in Struer. Ericsson Telebit in Århus will continue to be the center for IP protocol development, and Ericsson Microwave Systems will continue its development of microwave links in Vedbæk.

These reductions mean that the number of Danish employees will be reduced from 1,400 persons to 960. In September, some 80 employees were laid off as a result of the merger of marketing units in the four Nordic countries.

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Inmarsat orders from Ericsson

Ericsson has been awarded a contract worth USD 55 million from UK-based global mobile satellite operator Inmarsat. As sole supplier for a third generation UMTS core network, Ericsson will deliver equipment that will allow Inmarsat to launch its Broadband Global Area Network planned for 2004.

The new satellite communication network will allow Inmarsat to deliver mobile broadband data communication services as well as voice communication to end-users in the maritime, land and aeronautical sectors. This applies almost anywhere in the world

where telecom infrastructure does not exist or cannot support content-rich applications.

Inmarsat's B-GAN service is expected to be available following launch of two new I-4 satellites in late 2003 and 2004. B-GAN will allow Inmarsat to deliver Internet and intranet content and solutions, video-on-demand, video conferencing, e-mail, LAN access via notebook or palm-top computers. It will provide at least ten times the traffic capacity of the current network.

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Life looks good in Panama

Multi-service Networks recently hosted an ENGINE Life show in Central America that earned rave reviews from the local press. About 30 journalists from Panama, Guatemala, El Salvador, Costa Rica, Nicaragua and Honduras saw the possibilities that broadband can provide for end-users. With music and film, ENGINE Life takes visitors from the jungle to the busy streets of New York City. Outside, Ericsson employees exhibited and explained end-user applications. The ENGINE market in Central America is valued at over USD 1 billion.

Chinese operator selects Ericsson again

Four subsidiaries of China's largest GSM operator, China Mobile, have selected Ericsson as the supplier of their backbone network for packet data. The contract includes IP routers and LAN switches. Ericsson will also deliver installation, support and training services. Installation of the four networks is scheduled for completion before year-end, enabling the operators to offer rural subscribers Mobile Internet access and eventually even 3G services. In September 2000, Ericsson signed a contract with China Mobile for the delivery of a mobile core network for IP traffic. With the new contracts, Ericsson will supply nearly 80 percent of China Mobile's nationwide backbone network. Ericsson also has contracts with 17 of China's leading provincial operators.

Ericsson retains the lead in Yugoslavia

Ericsson and Telekom Srbija, Serbia's second largest operator, have signed a contract for expansion of the GSM network. Capacity will increase by 50 percent and include GPRS services. This is the second contract this year with a total value of USD 48 million. There are now a total of four cellular operators in Yugoslavia, and Ericsson is the sole supplier to all. Mobile penetration in Yugoslavia is currently about 17 percent.

Lion's share of Cingular deal to Ericsson

Ericsson's President and CEO Kurt Hellström confirms that the best part of the Cingular deal announced last month belongs to Ericsson. Cingular is going from TDMA to GSM for voice traffic and to GPRS for data traffic and then to Edge (Enhanced Data Rates for Global Evolution), the 3G standard based on GSM and the same packet data technology as is used in GPRS. By year-end, Cingular will be running GPRS networks in California, Georgia, Nevada, North Carolina, South Carolina, Tennessee and Washington. With the operator Voicestream, Cingular will operate a GPRS network in New York City as well.

Crisis spurs creativity in Pakistan

Ericsson engineers in Pakistan are showing that it is in times of difficulty that you find the smartest solutions. Despite the troubled situation in the area, they have succeeded in installing a new Jambala node for a Home Location Register (HLR) in the operator Pakcom's TDMA network. Normally, employees from Canada would perform this work, but a ban on travel in the area has made this impossible. The team in Pakistan resolved their problem by establishing a temporary HLR, consisting of old AXE equipment. They placed the new Jambala node in position and then conducted a remote installation of the software by downloading it from their colleagues in Canada.

In this issue of *Contact*, we begin a series on training. The first and second installments take up the subject of leadership and what is required to climb to the highest positions within the company. Jef Keustermans, who is head of the Benelux market unit, believes that success in a leadership role depends on an individual's willpower and motivation, as well as hard daily work.

Long climb to the top

A key element of Ericsson's personnel strategy is internal recruitment and development of management resources. Pär-Anders Pehrson, who handles leadership issues at the corporate level, explains what is required to reach one of the highest positions within the company and advantages inherent in the internal recruitment of managers.

"In brief, the Management Planning program means that the company can recruit a recently graduated man or woman, who acquires a large amount of experience in various roles within different parts of the organization, achieves or exceeds established targets, undergoes the company's management training program and then moves into one of the highest positions in Ericsson – perhaps even becoming president. This is the vision behind the company's Management Planning program," says Pär-Anders Pehrson.



Pär-Anders Pehrson

The program was developed ten years ago. It is applied in all parts of the organization and aims to identify potential managers early in their careers. Each unit and company within Ericsson is responsible for its own supply of managers and management planning, while the program is coordinated at corporate level.

Strong competition

Pär-Anders Pehrson believes it is important that the efforts to identify and develop managers within the company continue. This also applies to management training, despite the savings now being implemented.

"This is a matter of investing in the future of the company and it really must be given priority,"

continues Pär-Anders Pehrson. He describes the advantages of the internal recruitment of managers.

"It is an extremely favorable way in which to attract, develop and retain the most competent and promising persons available in the labor market. We want those starting at Ericsson to be aware that there are many opportunities for exciting jobs within the company. And for anyone interested in and with the aptitude for a management position, there are definitely major opportunities with us."

Wide range of activities

But is it really a good thing to spend your entire working life with the same company?

"Certainly, at least when the company is Ericsson. You shouldn't be forced to switch companies in order to have a more challenging job. Ericsson conducts operations in 140 countries and with a wide range of diversified activities. In addition, there is always a certain level of staff turnover at all companies, so I am not worried about bringing new blood into the organization," says Pär-Anders Pehrson.

There are stringent demands made of those who are aiming for a senior management position at Ericsson. In addition to broad work experience and expertise, the candidate must also have the correct personal qualities, such as intellectual capacity, self-confidence and self-awareness, the ability to see the full picture, to understand and be interested in people, as well as being result-oriented.

"One of the most important characteristics of a manager is the ability to understand his or her own behavior and be able to change it. Most people have a clear perception of who they are and the qualities they possess, but other people may have a different impression and this is why it is important to take criticism in the right way," explains Pär-Anders Pehrson.

Since 1998, Ericsson has had three goals for recruitment to the top 200 positions: more non-Swedes, more women and more younger people. The company has had varying degrees of success with these three goals. Regarding the employment of more non-Swedish managers in senior positions, Ericsson has made con-

siderable progress: Valter D'Avino, Eduardo Restuccia, Nils Grimsmo and Guy Roussel are examples of managers who report directly to the CEO. Rejuvenation efforts are also moving forward and the current average age of the top 200 managers is substantially lower than it was a few years ago.

"We can become better in this area, but there is a limit to how young the senior managers can be when they are appointed. It is necessary to have a considerable amount of experience of the job to be able to succeed," says Pär-Anders Pehrson.

Working towards goals

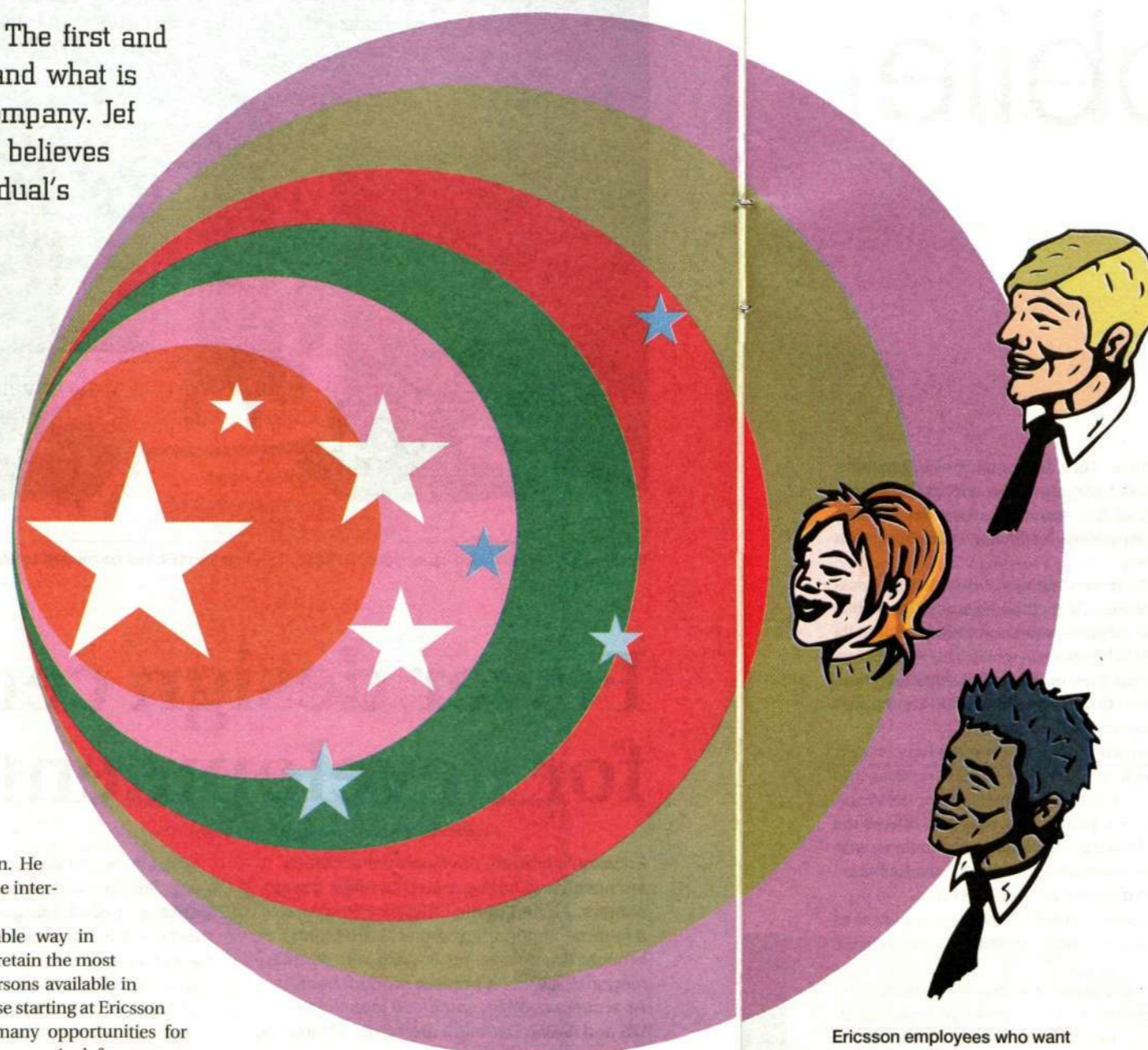
The aim of having more women in top positions is moving in the right direction, but not as rapidly as the company would like. Of the total number of managers, 15 percent (one in seven) are women, but at the highest level, this figure is only 5 percent.

On the whole, Pär-Anders Pehrson believes that the internal recruitment process functions well.

"We are working to retain the same momentum in training and the same high quality in our management training programs in the future. We are also continuing efforts to achieve our goals – more young people, more women and more non-Swedish managers. If we can achieve these goals, we will have an even more dynamic workplace, which is an excellent platform for strong business," concludes Pär-Anders Pehrson.

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Ericsson employees who want to reach a position with a large amount of responsibility must be goal-oriented and have a long-term plan. Management training and long work experience are required in order to advance to one of the 200 highest positions. The company's goal is to recruit more non-Swedes, more women and more younger people to management positions.

ILLUSTRATION: SYSTER DIESEL

"Your success in a management role depends on yourself and your own will and drive. Making a career means hard work every day, taking responsibility and getting things done"

– Jef Keustermans

Sacrifices and influence

The requirements for being an effective manager are hard work, a well-developed network of contacts and a balanced life. Jef Keustermans, one of Ericsson's top 200 managers, tells *Contact* about his experiences in his role as manager and how he got there.

Jef Keustermans joined Ericsson in 1991 and, since then, he has held a number of different management positions, including responsibility for operations at Eurolab in Aachen, in Germany. He is currently head of the Benelux market unit, which comprises Belgium, the Netherlands and Luxembourg.

Eight years ago, he completed the Ericsson Management Planning training course.

"It was actually one of the best courses I have attended, with excellent instructors and interesting content. I have also had a large amount of support from the people I got to know there. I developed noticeably over the four weeks of the course," says Jef Keustermans.

A few years later, he also attended the International Management of Technology course.

Jef Keustermans believes that Ericsson can become even better at taking advantage of the management expertise that exists within the Ericsson sphere. He considers it important to show results that relate to the three goals: more non-Swedish managers, more women and more young people. Jef Keustermans was born in Belgium and still lives there. He has worked in a number of different countries, but mostly in the Netherlands.

"Ericsson still has too few foreign managers. Naturally, one reason for this is that such a large proportion of operations is located in Sweden. Nevertheless, I believe that we should become better at taking advantage of the expertise that exists outside Sweden," he emphasizes.

What are your best characteristics as a manager?

"Hmm. That's difficult to say. They develop over time. I am efficient at achieving the goals I have established and I am good at motivating the employees. However, I should become better at communicating – at the moment, there is a considerable need for information within the organization," he notes.

Ensuring that the company develops and performs well is one of Jef Keustermans' driving forces.

"The decisions I make are of major importance. It certainly gives me a boost to see the company perform well and that the employees are able to develop in their roles," he continues.

It is a significant decision to become a manager in a top position and involves a number of sacrifices. Therefore, Jef Keustermans wants to advise all young managers to carefully think through their decision and not rush into assuming a large amount of responsibility.

"You have to examine your own situation and ask the question: do I want to work as much as this requires? If you have a partner, discuss the decision with him or her," he advises. "I have seen young people skyrocket to the top and, at a later stage, regret it because they have missed out on so much else in their lives."

One reason that Jef Keustermans is able to work so much is that his wife is at home and takes a large amount of responsibility for their four children.

"When you have a management position with a high level of responsibility, you can't do all the work in a 40-hour week. You have to accept and enjoy a large amount of pressure at work. Through the years, I have become better at delegating and taking time off occasionally. Last week, for example, I took a few days off to spend time at home with the children," he says.

Do you have any advice to employees who are attracted by a management position?

"Your success in a management role depends on yourself and your own will and drive. Making a career means hard work every day, taking responsibility and getting things done; developing your network within the company and ensuring that you have balance in your life. It's possible, even if you are working hard," concludes Jef Keustermans.

ULRIKA NYBÄCK



Jef Keustermans believes that there is a considerable need for information within the organization.

PHOTO: CHRIS WOUTERS

Take-off for Mobile

"Ready, Steady, Go" was a customer event for GPRS operators organized by Ericsson in London on November 20-21. More than 30 customers attended and were able to familiarize themselves, for example, with Ericsson's concept for making the Mobile Internet truly consumer-friendly. There was also considerable interest shown in MMS - Multimedia via SMS.

"We mustn't lose our faith in the future, despite these difficult times. It is now more important than ever to make the right decisions. These decisions must be based on the fact that we work in a fantastic field, which has major potential for development, and the creation of a new world of communication."

This was how Mats Dahlin, head of the Europe,

Middle East and Africa market area, welcomed participants to Ericsson's GPRS days in London.

The day before this event began, GPRS and Mobile Internet were already in focus when industrial analysts from five research companies were invited to a briefing.

"This is part of our efforts to communicate with industry analysts, who, naturally, are an influential

professional group. They are a source of information for many different players in the telecom industry," says Eva Sparr of the communications department, where she is responsible for Ericsson's relations with industry analysts.

In addition to demonstrations of Easy Access, Ericsson's consumer-friendly method for using the Mobile Internet, the participants were shown how Multimedia Messaging (MMS) functions in reality. This was the first time that this was presented in a live demonstration. Ericsson was also first to show how MMS can be sent and read using today's GSM phones.

"The program also included presentations on current topics, such as pricing of various services and how operators can charge customers. When the invitations were sent out, participants were also offered the possibility of booking individual consultations with experts and this was much appreciated," says Catharina Lundin, project manager for the GPRS event.

Many participants wanted to talk about applications and the Ericsson experts' appointment books were quickly filled.

Ericsson's consumer lab was also in attendance and reported on the customer segments that are the greatest driving forces for Mobile Internet.

Turkey is a GPRS country

The Turkish operator Turkcell and Estonia Mobile Telecom are two operators that have practical experience of GPRS and shared their experiences at the event.

"Through their participation, we wanted to show that GPRS is here today and how it can be used," explains Catharina Lundin.

Beril Afsar of Turkcell spoke about GPRSland, Turkey's first Mobile Internet portal. Developed in cooperation with Ericsson, it was launched recently and has become a real success.



Beril Afsar

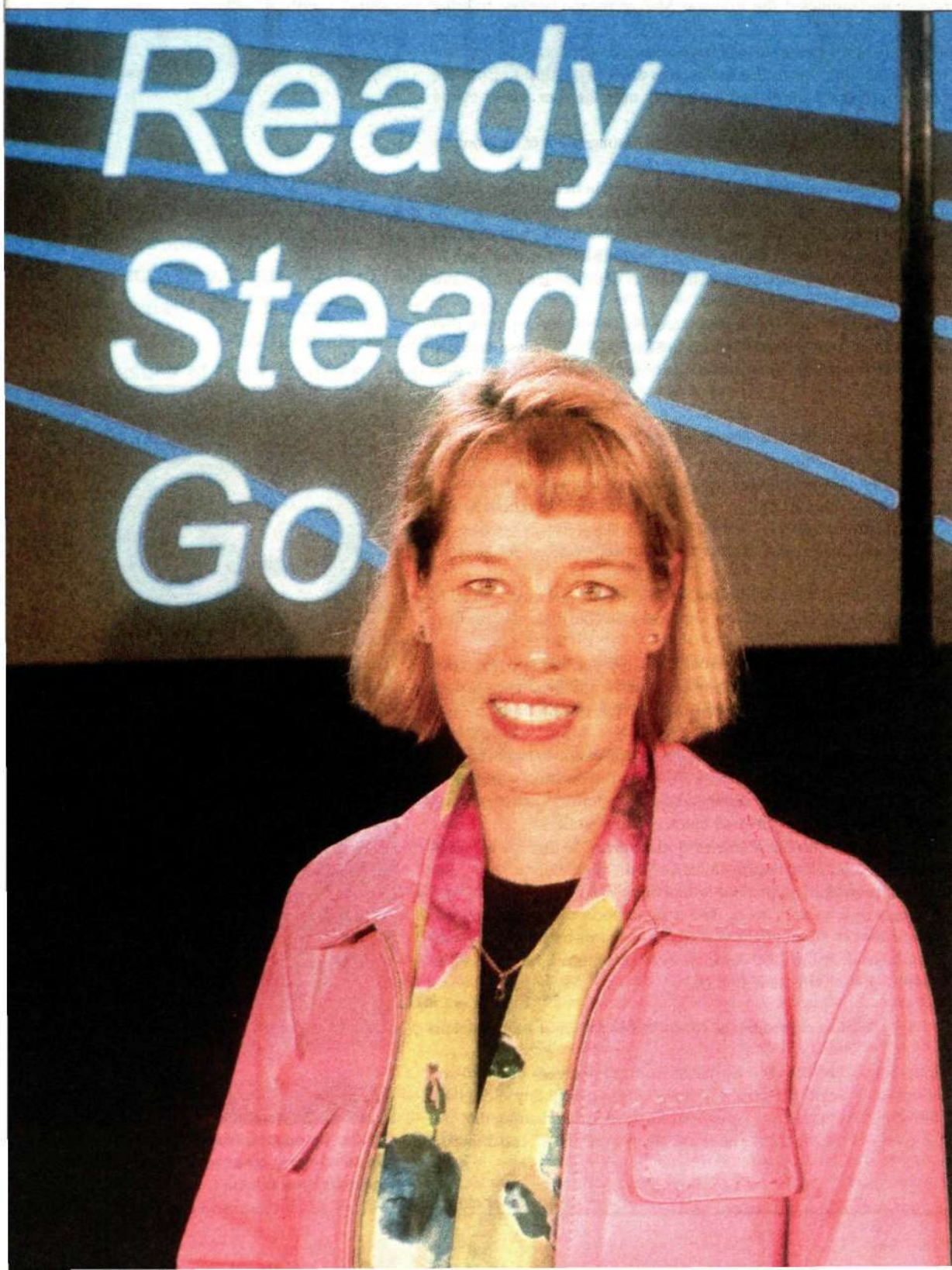
It is a portal with 15 services that help the user to read e-mail, plan their time, make investments and play games with friends, among other activities.

Mobile parking

Raul Vahisalu from the Estonian operator, Estonia Mobile Telecom, reported on "Mobile Parking," an interesting service by which parking spaces can be paid using a mobile phone. This is a practical application of Mobile Internet, which has become extremely successful.

Catharina Lundin, project manager for the GPRS days in London, says that the event showed how much current interest there is in the Mobile Internet. "When we were still just planning this event, we received requests to organize similar GPRS meetings in Asia and America," she says.

PHOTO: PAR ALTAN



Internet

In addition to industrial analysts and GPRS customers, trade journalists were also given the opportunity to become acquainted with GPRS and Mobile Internet at a separate press meeting. Those customers that were unable to attend the GPRS days could follow the entire event live via Ericsson's extranet.

"The GPRS event in London really showed that Mobile Internet is now a hot topic. When we were still just planning this event, we received requests to organize similar GPRS meetings in Asia and America," says Catharina Lundin.

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Charlotte Williams, of Vizzavi in the UK, Urban Johansson, of Ericsson in Sweden, Thierry Bérisset, of Vizzavi in the UK, and Daryn Hammond of Ericsson in the UK, were interested in Easy Access.

PHOTO: PAR ALTAN

The pocket office

Kurt Sillén, head of Ericsson's traffic growth initiatives, is sipping coffee at a café near his office in Kista, north of Stockholm. But his office is closer than it appears: it's in his pocket. Kurt Sillén is always connected, thanks to a GPRS Corporate Access pilot project.

Corporate Access is the name of a suite of applications and services designed to enable employees to fulfill working tasks when they are away from their desks. Kurt Sillén is one of twelve Ericsson executives outfitted with a Bluetooth-equipped PDA (Personal Digital Assistant), the GPRS- and Bluetooth-enabled T39 mobile telephone and access to Ericsson's e-mail servers behind firewalls.

The combination makes him the picture of Mobile Internet, and he's delighted with it.

"We have to practice what we preach," he says. "If this is the future, we have to be able to use these things ourselves."

Considerably less expensive

This is the first time anyone has been able to access Ericsson e-mails in a simple and efficient manner from a mobile location. Kurt Sillén has been able to read e-mails on his PDAs and mobile telephones for four years via a circuit-switching connection, but the GPRS connection makes a huge difference.

"After the first day, I checked my history records and with e-mail, WAP and Internet, I had used about 1.5 Megabytes of information. Had I been on a circuit-switching network, this amount of data would have cost a lot more."

Kurt Sillén estimates that for a ten-minute work session, the packet-switching connection costs one-third of a Swedish crown, while the circuit connection (including per-minute taxes) costs ten times as much, USD 3.

The idea behind the project, and others like it, is to find services that end-users want and need, and that are a boon to operators' business.

Given success

Anders Larsson, technical coordinator for GPRS Corporate Access, says the solutions are the same from a corporate access perspective, no matter if GPRS is over GSM radio or WCDMA radio.

"It is important for our customers, the operators, to establish solutions now - both to start driving traffic over GPRS now and to establish solutions which will likely be applied for a very long time, into 3G," says Anders Larsson.

Kurt Sillén says he's proof that corporate access will be successful.

"Just looking at my own behavior, getting the Bluetooth communication combined with corporate access to my e-mails, and Internet as well as WAP, I have everything I need - and I have it in my hand. The more you can do easily, the more you will do," he smiles.

Anders Larsson says this is only the first part of the project. Next on the wish-list is to eliminate the long log-in procedure, while maintaining strict security. Development for this solution is under way.

Eventually the development team aims to make the offering widely available, first to other Ericsson employees, and then to the general market.



Kurt Sillén always has his office close by, with a Bluetooth PDA and his telephone in his pocket.

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Ericsson's base stations included in first 3G network

The Japanese customer, NTT DoCoMo has now approved Ericsson's 3G base stations and some of these will be included in the world's first commercial 3G network, as of December 1.

This approval means that Ericsson's WCDMA base stations will now be put into commercial operation in NTT DoCoMo's 3G network.

"It is really quite fantastic that we are now part of the world's first commercial 3G network. Over the three years that the project has been under way, we have been forced to resolve many technically advanced problems in a short period of time. It is only through the hard work of the project members that we have succeeded," says Ismo Sahrman, head of Ericsson Microwaves' WCDMA and PDC Products project unit.



Ismo Sahrman

In addition to the base stations that go live on December 1, an additional number of base stations was approved for delivery at the beginning of November.

During the coming three months, these will be tested on-site in Japan and put into commercial operation on February 1, 2002. Serial production of these radio base stations has been under way at Ericsson's plant in Gävle, in northern Sweden, since the summer.

The first base stations that were delivered have been located at the edge of Tokyo. An order has now also been received for 3G base stations to be installed in central Tokyo.

"Having a presence in central Tokyo is prestigious, but it also means that Ericsson must be able to rapidly offer additional functions, since these will be offered first in central Tokyo. We also need to support the customer when there are problems," says Stefan Torkelsson.

In terms of time, NTT DoCoMo is ahead of other



Representatives of DoCoMo call via Ericsson's base stations during field trials in Japan. Peter Hedin of EMW was also present.

PHOTO: ROGER WALLERIUS

operators. This aggressive effort to be Number One in the world is characterized by the large amount of pressure on the suppliers. It is a major success that Ericsson is one of the four suppliers selected.

"Being approved for inclusion in NTT DoCoMo's network is extremely important, both in technical terms and as a reference for other future sales," says Sahrman.

Vodafone is the operator that intends to have the next 3G network functioning in Europe. This is expected to be in operation by mid-year 2002.

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Ericsson selected as supplier of 3G antennas for NTT DoCoMo

At the beginning of November, it was announced that NTT DoCoMo had selected Ericsson as the new supplier of antennas for the Japanese 3G network.

"We have displayed a high level of technical expertise. Our offer fulfills DoCoMo's technical requirements and, combined with competitive pricing, we are offering a better package than the competitors that have participated in this round of procurement," says Hans-Christer Hansson, project manager for Japan Antenna Site Solution (JASS).

"We have been invited to negotiate on prototype

deliveries. These will be used to evaluate the products and approve them for commercial deliveries. We anticipate commercial deliveries of antennas for the 3G network in April next year," says Hans-Christer Hansson.

Ericsson will thus become one of the three suppliers of antennas for NTT DoCoMo's 3G network.

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After the September attacks, the perception of mobile phones in the US has changed. More than just a cool accessory, the mobile phone can actually save lives. (The man in the photograph has nothing to do with the text.)

PHOTO: MARIE ULLNERT/KAMERAREPORTAGE

Security in focus after terror attacks

After September 11, "back to basics" is the key approach, at least in the North American telecom industry. This is shown by a survey regarding the consequences of the attack on World Trade Center.

"You could say that we are in a state of shock," says Allan Tumolillo, analyst at Probe Research. "Everyone's attitude has changed."



Allan Tumolillo

One key effect is that the US government has declared its support for the telecom operators that were spun off a few years ago from the former Bell Systems – Bell Atlantic and Nynex (now Verizon), SBC and BellSouth. This means that we are shifting away from innovation toward safe, standardized technology.

"As soon as the Bell companies start calling the shots, it's bad news for the telecom suppliers," continues Allan Tumolillo. "Instead of investing money in routers and other equipment, the operators will hold back."

Southwestern Bell, for example, has announced a 20-percent cutback in network investments during 2002.

Faced with this situation, what is the best approach for telecom equipment suppliers such as Ericsson? To date, the US operators have preferred to do business with Lucent and Nortel. These are now weaker than ever, which gives Ericsson an opening.

"Ericsson must improve its contacts with the former Bell companies and learn how they purchase equipment," says Tumolillo. "It isn't easy, but the alternative is to forget this market altogether."

According to Allan Tumolillo's analysis, the terrorist atrocities have also had a strong impact on some service suppliers, whose importance will diminish as investors seek stronger companies.

"On the other hand, more superficial, frivolous services, such as games and pornography, will decline in importance," concludes Allan Tumolillo.

However, companies offering various safety and security services will have everything to gain. This could apply, for example, to location-based services used by people who want to keep track of their children, dogs or boats. Security awareness is also expected to lead to increased sales of mobile phones. Immediately after the attacks, sales of mobile phones in the US increased. This happened despite the fact that the operators cut down on advertising in order not to capitalize on the tragedy.

"People will be buying mobile phones not because they are cool but for safety reasons. And many parents will be giving their children mobile phones," concludes Allan Tumolillo.

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The survey "Shocks! The impact on Telecom, the Internet and Wireless," can be found at:

bic.ericsson.se.

Mobile JVs in vogue in China

Launching joint ventures for mobile telephones is all the rage in China. Korean Samsung Electronics and Japan's NEC and Matsushita, are all starting up joint ventures in the expanding Chinese market.

Samsung is focusing on CDMA phones and CDMA networks in cooperation with Shanghai Bell via a company that is to be called Shanghai Bell Samsung Mobile Communications. NEC and Matsushita, on the other hand, have set their sights right on 3G.

This joint company, which will cooperate with Chinese telecom operators, is to be in operation before year-end, according to Bloomberg News.



PHOTO: LARS ÅSTRÖM

UK 3G auction faces EU court

Mobile operator One2One is planning to take the British government to the European Court. The operator thinks the government's handling of the auction of 3G licenses was poor. A British judge previously ruled that the government was right to grant Vodafone and Orange 180 extra days to pay their licenses.

One2One does not agree, and has therefore taken the case to a higher court. According to One2One, the competitors accumulated USD 120 million in interest revenue as a result of the reprieve. One2One has also announced that it will postpone the launch of GPRS until 2002.

Faulty Japanese 3G phones

NTT DoCoMo has had to recall 1,500 3G telephones developed in cooperation with NEC Corporation for the new i-Motion service.

This service, which was launched at the end of November, enables the user to view 10-15-second video clips. The problem is that the phones do not work with certain websites. When users connect to such sites, their e-mail settings are erased.

DoCoMo's error received a large amount of press attention. CNET News.com reported the following comment from analyst Alan Reiter of Wireless Internet & Mobile Computing:

"NTT is really the guinea pig for 3G technology, and guinea pigs sometimes get stuck. Let those who are without buggy software cast the first stone."

Norway bans SMS gameshow clone

Norwegian mobile operator Dj Juice

was forced to shut down its popular SMS contest, "Who wants to be a millionaire?" after the Norwegian Ministry of Culture found that it contravened the country's lotteries legislation.

This SMS-based version of the popular television gameshow of the same name started on October 24.

Participants paid about USD 2.70 each plus 10 cents per text message for up to 15 questions.

All participants will receive full refunds.



TRENDS IN THE WAKE OF THE SEPTEMBER 11 ATTACKS

- Decline in sales: American telecom suppliers lost 40 percent of their orders in September. Many of them blamed the attacks for their disappointing reports July-September.
- Uncertain future: Before September, Motorola had forecast a recovery during the first or second quarter of 2002. Later, Group President Christopher Galvin said that it is now considerably more difficult to predict the future.
- A boost for videoconferencing: Increased re-

- strictions on travel are expected to create a boom in videoconferencing and Virtual Private Networks (VPN).
- Upswing in IP telephony: Wireline telephony proved vulnerable to the attacks. Many analysts believe the status of IP telephony will improve over the next two years.
- More mobile phones: After September 11, sales of mobile phones increased in the US, a trend that is expected to continue.



From the WCDMA bus, which is now on a world tour, visitors can see a live video conference.

PHOTO: JASNA ALAVAS

3G takes first step in Croatia

Ericsson Nikola Tesla and VIPnet joined forces recently in Zagreb, to place the first 3G call in Croatia. The event coincided with the WCDMA World Tour, which takes demonstrations of the wideband radio access technology to countries that are about to issue 3G licenses.

At the event, called 3G Vision, a strategic partnership was announced between VIPnet and Ericsson, the goal of which is to develop services and applications for 3G telephony.

Boris Nemsic, CEO of VIPnet's majority owner, Mobilkom of Austria, gave a video presentation via a live WCDMA network, while driving around Zagreb in a specially-equipped van that is part of the World Tour.

In front of the gathered audience Boris Nemsic described the cooperation between Ericsson and VIPnet as a natural result of earlier collaboration.

"Ericsson in Austria has been Mobilkom's supplier since the beginning of the year and we are now in the process of entering a partnership with Ericsson for 3G in Austria."

VIPnet is an upstart customer that charged on to the market and quickly captured a market share of more than 50 percent.

"The strong support from Ericsson Nikola Tesla in Zagreb has contributed to our success in Croatia," said VIPnet CEO Tatjana Holjevac.

On networks supplied by Ericsson, VIPnet provides services like shopping and positioning to its subscribers. It is the first operator to introduce such services in Croatia. As for the imminent 3G technology, Tatjana Holjevac is enthusiastic.

"We have to educate the market jointly about the new technologies and applications," she said. "3G will change our lifestyle. Through fast data transfer, the end-users will have access to the information they need at any time and from any place."

Boris Nemsic carries with him a FOMA (Freedom of Mobile Access) telephone from Japan, so he can show a 3G terminal to anyone who asks. He is a true believer in the technology.

"It's all about providing a platform where customers can get services they like. I think 3G is the right platform for this."

Ericsson's Key Account Manager for VIPnet, Milivoj Pejkoč, says the partnership for 3G is logical, since the two have worked closely together to introduce GSM and GPRS on the Croatian market.



Åke Enell, president of Ericsson Nikola Tesla, Tatjana Holjevac, CEO of VIPnet, and Boris Nemsic, CEO of Mobilkom, shake hands following the first 3G call in Croatia.

"Locally, VIPnet is our biggest and best mobile customer. Ericsson's success in this country is due to technological leadership, plus strength in local support. With our extensive resources, we are able to offer customers excellent support, service and tailored solutions. VIPnet recognized this and accepted Ericsson as the optimal partner. They see the collaboration as a key factor in their success with 3G," says Milivoj Pejkoč.

DODI AXELSON

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New start for World Tour in Zagreb

The WCDMA World Tour has unveiled a new concept of self-contained tents for its demonstrations in Eastern Europe. And if extra work is the best compliment one can receive from a customer, then the WCDMA World Tour earned top grades on its stop in Zagreb, Croatia.

"We've been asked for additional demonstrations, so people can come back with colleagues," says Chiff Welander, project manager for the WCDMA World Tour. "I'd say it's a tremendous success."

The demonstration itself consists of an L-shaped tent, with four rooms. The tour used to require rental of huge spaces, so the new concept is more efficient and also more dramatic, due to the tent construction attracts curious phone calls from press.

In the entrance, guests see Ericsson products, a short film, and are given refreshments. They move into a second room where local market unit personnel deliver a tailored presentation.

They're then led into a mysterious dark room.

"They expect to see something high-tech, but instead we bring them into a cave," says Chiff Welander.

The lights are indeed low, except for lanterns, and a machine is pumping out dry ice. The high-tech element comes in when they put on virtual reality glasses, and watch a film that takes them from the beginnings of wireless communication, fire and smoke signals, to the first bulky mobile phones, and finally to 3G.

"After that, we take them into the demo room where they experience 3G," explains Chiff Welander.

In the demo room, guests see a 3G mobile terminal and experience a video conference with the other half of their tour colleagues, who have climbed into a mini-van equipped with video equipment running over WCDMA. "The video conference usually grabs their attention," continues Chiff Welander.

The WCDMA World Tour sets its schedule according to when countries are due to issue their 3G licenses. Ericsson is then fresh in the minds of operators and government dignitaries as they plan their paths to 3G.

The message seems to be hitting home. The customer who was so impressed in Zagreb is Croatian Telecom, HT.

"It's good news for us that they liked this WCDMA demonstration so much, that they wanted another demonstration. The WCDMA World Tour is an excellent opportunity for us to boost our visibility, and to strengthen our relationships with our customers," explains Snjezana Bahtijari, Ericsson Nikola Tesla marketing and communications manager.

The tour now moves on to Istanbul in January 2002.

DODI AXELSON



Visitors enter a room that looks prehistoric. The lighting is low and dry ice is pumped out. Through virtual-reality glasses, they watch a film about the history of wireless communications.

Croatia reshapes focus to accommodate new Ericsson

This is a company in transition. Six years ago, we had 3,000 employees and were a manufacturer of hardware. Now we have 1,200 employees and concentrate on software.

— Åke Enell

Ericsson Nikola Tesla in Croatia has a heritage similar to Ericsson as a whole. The company is named after an innovator and scientist, and his presence remains in the company hallways, alongside Lars Magnus Ericsson.

Nikola Tesla was a Croatian-born visionary credited with inventing the rotating magnetic field principle, polyphase alternating-current system, induction motor, alternating-current power transmission and wireless communication. A company in his name was founded in 1949. The Nikola Tesla company was one of Ericsson's very first license partners.

In 1995, Ericsson acquired a majority shareholding in the company and it was renamed Ericsson Nikola Tesla.

After the takeover, Ericsson Nikola Tesla underwent a major restructuring. Previously, the company had primarily manufactured and installed AXE switches.

"This is a company in transition," explained Åke Enell, president of Ericsson Nikola Tesla and newly appointed head of the Central Europe market unit.

"Six years ago, we had more than 3,000 employees and were a manufacturer of hardware. Now we concentrate on software production and the supply of total telecoms solutions and services."

The location of the company holds a central position in Ericsson's new organization, where market units are larger and more centralized.

"This is a hub for a number of competencies, such as customer services and customer solutions. We are also a large center for research and design, corresponding directly to business units and core units in Sweden."

"Young people like to work here," says Åke Enell, adding that more than 500 of the total 1,200 employees at Ericsson Nikola Tesla are between 25 and 28 years old, and are university graduates.

Ericsson Nikola Tesla now focuses on different product areas. One area growing in importance is Multi-Service Networks in Russia, Ukraine, Belarus and neighboring countries, as well as a number of countries in Africa.

"Multi-Service Networks represents more than 60 percent of our revenue and activities," states Åke Enell.

"Our competence supports other units within Ericsson," continues Åke Enell. "We have a tremendous opportunity to work with the new Central Europe market unit, and for other parts of the world."

DODI AXELSON

A picture says a thousand words

Multimedia Messaging Service, MMS, is expected to serve as a barrier-breaker for the Mobile Internet. Ericsson can offer customers all features of the solution and is the first company to provide operators with the ability to transmit MMS messages to existing WAP and SMS telephones.

MMS enables users to transmit messages with text, animations, pictures and sound via mobile telephones. The service is crucial for the development of the Mobile Internet.

Gunilla Fransson, vice president Internet Applications, is head of Mobile Internet product development. She sees MMS as a natural development of SMS.

"People have established behavioral patterns with SMS, and now is the right time to further the trend," says Gunilla Fransson.

All the features

Gunilla Fransson does not see any other competitors with an offering as complete as Ericsson's.

"We have the total solution. Our mobile networks of-

fer high capacity and our WAP Gateway/Proxy already supports MMS today. Ericsson also has the MMS server called Multimedia Center, mobile services and the T68 mobile telephone, with a browser to support the technology."

Concise business models

In November, Ericsson gathered all GPRS operators for a special meeting in London. Lars Ljunggren, head of product introduction activities for MMS, demonstrated to the operators how MMS-messages can also be transmitted to telephones that do not support MMS. Via a WAP telephone, the message recipient can open and read a simplified message, and mobile telephones enabled only by SMS can receive the text and

then access a web link where the entire message can be seen.

"The operators' response was most favorable. It's important for them to be able to start offering MMS as soon as possible, and we are the first company to provide a live demonstration of the entire chain. A user can also be sure that his/her MMS will be sent to its intended recipient via the best link available, regardless of which mobile telephone the user has," says Lars Ljunggren.

The business models developed for SMS serve as further incentives to develop the content for MMS as well. "With the business model called Premium Charged SMS, the subscriber pays more than normal for SMS, which contains the features he/she wants. If a subscriber wants to receive special information about wine, for example, he/she will pay a little more for the service. The operator will then share the charge with the company that provides the content," explains Gunilla Fransson.

The existing business models, Ericsson's MMS solution and the fact that messages can be transmitted to all mobile telephones reinforces Gunilla Fransson's strong belief that MMS has the potential to achieve rapid growth. Ericsson's solution is also based on an open interface, which is accessible to third-party developers via Ericsson Mobility World.

Money to be made

Lars Ljunggren sees the introduction of MMS as a three-stage rocket. In the first stage, technical tests will be conducted to integrate MMS into operator networks, followed by tests to determine if adequate bandwidth is available for successful implementation. The procedure continues through market tests with selected users and efforts to identify early adopters and develop mobile services, content and payment meth-



MMS enables users to transmit pictures between mobile phones. Which shoes go best with this dress? Obtaining advice is no longer a problem, even if the expert is far away.



PHOTO: ECKE KÜLLER

ods for these users. Lars Ljunggren advises operators to focus on select groups that will initially be willing to test the new services when the time comes for the commercial launch. These groups will, in turn, serve as ambassadors for MMS and, as such, pave the way for implementation in a broader mass market.

But where will Ericsson make its money? Gunilla Fransson explains that MMS gives Ericsson revenues for software licenses, and these revenues will increase as the operators serve more subscribers. More subscribers will also increase the demand for higher capacity, which will enhance Ericsson's network sales.

The commercial launch of initial MMS services is expected to take place during the first quarter of year 2002.

JESPER MOTT

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"Like going from radio to TV"

If you ask Ericsson's head of marketing, Torbjörn Nilsson, about the transition from SMS to MMS, he will say it involves much more than we imagine.

"You can compare it with when we only had radio and then television came along. I don't think anyone realized that an enormous impact television would have," he says.

Some things never change. When mobile telephony becomes packet-based, it will still be a matter of the same old communication between people. However, with computer-borne traffic and the MMS multimedia protocol, that same old communication will be so much more fun.

Mobile postcard

"I believe we underestimate the significance of graphic and video communication. Graphics are suitable for mobile phones, and it is easy to combine telephones with cameras. For example, you can send a mobile postcard instead of a paper one with a stamp on it," says Torbjörn Nilsson.

However, MMS can also be used in professional contexts. Suppose you have a problem with the plumbing in your home, and call a handyman to repair it. The handyman examines the damage but is unsure of how much work will be required.

"He or she can then take a photo and send it to the company to see if someone there knows what needs to be done," says Torbjörn Nilsson. "This means faster, better service for you as a customer."

There has recently been considerable criticism of GPRS, which was not an immediate success. Torbjörn Nilsson thinks it is a little unjust to criticize something that has hardly even started. But he has a clear idea of what is needed.

Different segments important

"Apart from networks and terminals, you need sensible, quality services such as messaging services. Every operator should also divide its market into segments, to be approached in different ways," he says.

One segment might be young people, another, business people.

"Unfortunately, operators have become somewhat more cautious, after their experiences with WAP," Torbjörn Nilsson points out.

Initially, he felt that the prices for GPRS were far too high. They have now begun to fall to lower, more acceptable levels. Ericsson customer Telia has also recently started offering GPRS free of charge for the first three months – a good way to stimulate interest, Torbjörn Nilsson thinks.

"But it won't work in the long term, of course. My experience of free services is quite negative. The operator always runs into problems eventually," he says.

It is of course in Ericsson's interest to stimulate interest in the use of GPRS. If traffic increases, operators must invest in more infrastructure. Consequently, Ericsson tries to help operators in various ways.

"We ought to help operators as much as we can," says Torbjörn Nilsson.

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LEARN HOW ERICSSON HELPS OPERATORS

- Consumer Lab works with operators to divide up the market and develop the right type of products for each segment.
- Ericsson has a good understanding of essentially all operators in the world, and is well-positioned to observe what works and what does not.
- The Edgecom consulting company helps customers with business development.

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LEARN MMS

Multimedia Messaging Service (MMS) consists of only a few steps: entering the number of the person you want to write to, writing the message itself, adding a digital image or sound, and then sending it on its way.

In simple terms, MMS packets are sent via WAP in the form of binary data in frames. Each frame consists of several small, independent objects and can contain both images and sound or text of varying sizes. The frame also has a header that shows who the packet is from and its destination. The layout and the presentation of the message are determined by Synchronized Multimedia Integration Language (SMIL), which is an XML-based standard.

SMIL has two main functions: showing where on the display an object is to be presented and using timing to determine how an object is added or disap-

pears in terms of time, rather like a mobile Power-Point presentation in action.

In order to facilitate usage, there are a number of pre-set templates for the construction of pages, but it will also be possible for anyone who wants to create their own pages from scratch to do so. The size of the display enables three simultaneous objects on each page, for example, a text, an image and a sound, and a message can consist of several pages.

The intention is that it will not be necessary for MMS to cost much more than SMS messaging today and that customers will pay per message. Prepaid MMS will be an important service. It will be possible to use MMS in today's 2.5G (GPRS) system, but the 3G networks will raise the quality of the services and enable the addition of video streaming.

LARS CEDERQUIST, TECHNOLOGY EDITOR

The terms and conditions for employees who move to other countries on long-term assignments will change at the end of the year. The new rules will specify more clearly how remuneration is calculated. The new system will also mean the disappearance of discrepancies in rules that currently exist between different countries. A global system is to be established, according to Ulf Grufman, who is responsible for these operations.

New rules for work abroad



Ulf Grufman says that the new conditions will make it easier for employees to see how remuneration for long-term assignments is structured.

One of the aims of this change is to accelerate the process for transferring employees, making it possible to quickly meet the shifting needs of the customers.

"The clearer the rules, the less risk there is of becoming caught up in administration," explains Ulf Grufman.

The old system has gradually become increasingly complicated. Employees stationed in high-salary countries have been keen to draw comparisons with local conditions and have received supplementary payments.

On the other hand, those who have traveled to countries where salaries are low have not chosen to follow the host country's salary levels.

"Adjustments to local conditions are being terminated," explains Ulf Grufman. "This is central to the new system."

Instead, all Ericsson employees on foreign assignment will belong to a special international community. They will no longer be Swedes in Malaysia or Indians in the UK, but Euroland citizens who receive their remuneration calculated, and mainly paid, in euros.

The basic salary will be consistently determined on the basis of Ericsson's position evaluation system. Position IPE 58 will have the same salary level regardless of where in the world the person in question is stationed. Nevertheless, the final salary can vary, according to expertise and performance.

An important issue will be how to make correct assessments of how the various assignments are to be evaluated.

"But all administrative personnel will be certified – at the host companies, the posting companies and here at the central foreign assignments' unit," says Ulf Grufman. "They will manage these assessments and also be completely familiar with the workings of the entire system."

In addition to a basic salary, Ericsson always pays for accommodation and transport. This is already the case in some areas, while certain employees have a higher salary instead, which covers these costs.

All personnel on assignment will also be covered by the same bonus

system. On the other hand, there will be a clean-up among the local bonus variations that exist today.

In addition, personnel can receive a supplement for the special conditions that are sometimes involved in living in a different country. Aspects such as climate, security, language and access to medical care are taken into consideration. Salaries are also adapted to the local cost of living.

However, changes are not only being made to remuneration. The actual definition of what it means to be deployed on a long-term assignment has been reviewed.

Of those who travel, 95 percent have a project-based assignment. When the work is done, it is time to go home. The maximum time abroad for this group has been reduced from five to three years. A smaller group, consisting of senior managers, can be on assignment for a longer period of time. Only a small group from the corporate executive team can decide to send someone on such a mission.

Anyone who wants to take a position advertised in Germany, for example, but who wants to stay for a long time and have the same conditions as his local colleagues, should really not be considered as being an assignee.

"We call this Local Plus," says Ulf Grufman. "In these cases, Ericsson assists in the move, but then the employee is on his or her own. There is no guarantee of employment on return to the home country. You have to call a spade a spade and, in such cases, the employee is not as mobile as would be the case with a foreign assignment."

Ulf Grufman and his team see no real weaknesses in the new system, which has been developed in cooperation with colleagues from throughout the world, although they anticipate some discussion during the transition period.

"With the new rules, it will be easier to understand the remuneration structure. It will then be a matter for the individual to decide whether this is attractive. It makes it easier for all those who travel to understand the rules from the outset.

The new rules apply to persons who receive their assignment after January 1, 2002, but contracts already established will be phased into the new system later next year.

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The staff at International Assignments in Stockholm receive inquiries daily from employees regarding long-term assignments abroad.

PHOTO: ALEXANDER FARNSWORTH

Company needs determine who gets to go

Sending employees to the four corners of the globe involves a huge amount of work. At the International Assignments department in Stockholm, there are 30 people who are familiar with the general rules and the preparations required by employees scheduled to move abroad. One of these is Charlotte Rubertson.

How many employees are on long-term assignments?

"In the spring, there were about 3,800 persons, but now there are 3,089 persons in 94 countries. The recent trend has been that the largest flow consists of people returning home. This is an indication of the general situation within the company. There are still a number of employees embarking on new assignments, but this is restricted at the moment. There will always be a need for employees on foreign assignment, but their numbers must reflect the rest of the operations."

Where do Ericsson employees move to?

"Major destinations include Sweden, the US, Japan and China. Countries that send a large number of employees abroad include Sweden, the UK, Australia, the Netherlands and Germany."

Who can be considered for a foreign assignment?

"It is very much dependent on the company's needs. It's not a matter of who wants to go, but more the case that Ericsson needs a certain expertise in a country where it cannot be found locally."



"We prepare a job offer in cooperation with the recipient company and sign a contract with the employee in question," says Charlotte Rubertson at International Assignments.

How is it determined who can go?

"We don't decide this, although many believe that is the case. The local companies are responsible for recruitment. We only come into the picture when it has been decided who is to be offered the job."

What happens then?

"We prepare a job offer in cooperation with the recipient company and sign an agreement with the

employee in question. We then help out with information. Everyone who relocates receives general information about everything they need to do before departure. They also receive specific information about the country they are going to. We also hold a two-day course, primarily for Swedes, which the rest of the employee's family can also attend. This is to teach about the management of cultural clashes and adaptation processes."

Do you then have contact with the employees while they are abroad?

"We receive inquiries from our employees abroad on a daily basis. But for local matters, they should first turn to their contact persons at the local companies. There is also a high degree of personal responsibility and employees are expected to organize much by themselves. We help out with matters that do not relate to conditions in the country of work."

What else do you do?

"We provide information about the general conditions and function as a competence center in matters relating to foreign assignments, while also preparing guidelines for the annual salary reviews. We also provide guidance for the local companies in such matters as housing and transport. We come back into the picture when it is time for an employee to return home."

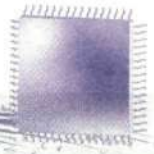
Do you provide help in finding a new job in the home country?

"This responsibility rests with the employee and the home organization. We urge everyone to maintain contact with their home companies all the time they are away. It is extremely important to have something to come back to."

MARIA PAUES



FIBER INNOVATIONS FROM MAXIM

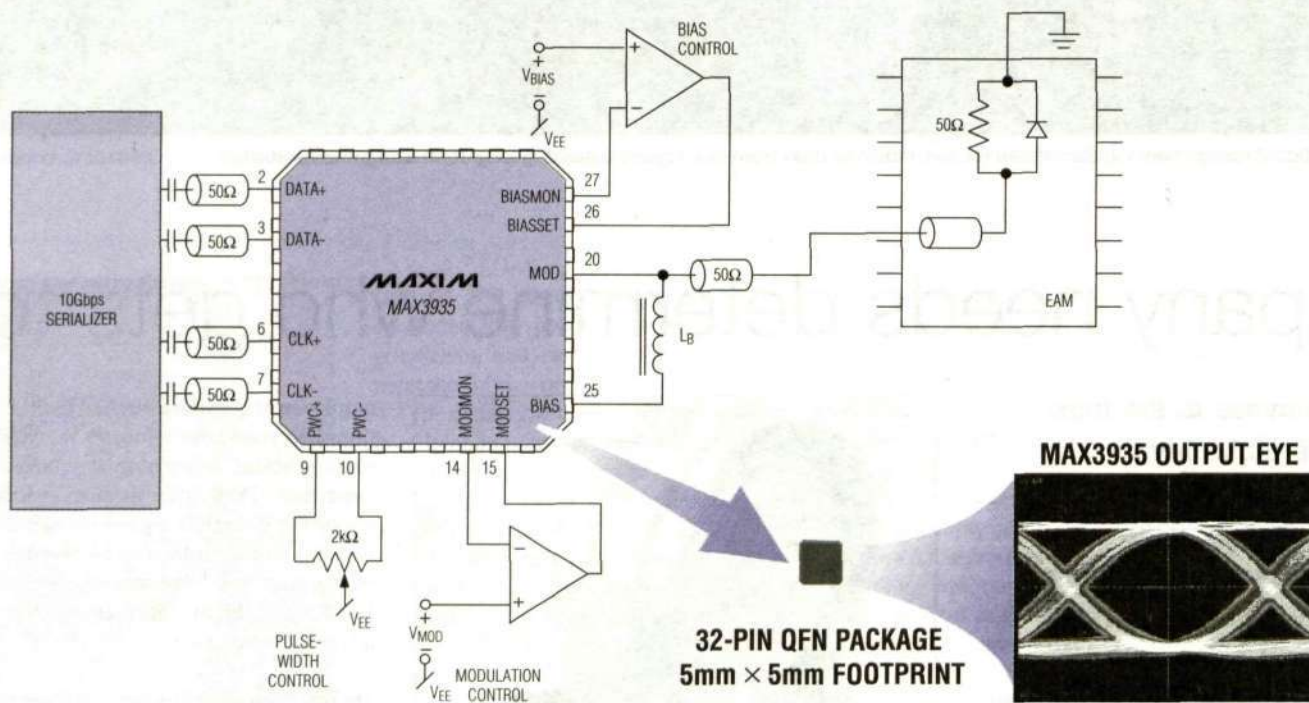


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Flexible hardware saves customer time

The gray area between pure hardware and software is growing. There are already circuits that can be re-programmed dynamically in just microseconds while they are in operation. In the future, today's ASICs may be replaced by more flexible standard circuits. The objective is to save time.

Two factors currently drive the development of integrated circuits. One is that customers are demanding ever-faster development times. The other is that microelectronics develops in accordance with Moore's law, meaning a doubling of the number of transistors per surface unit every 18 months.

Customer requirements mean in principle that products must be compatible with the customer's network and adhere to standards that may not even be finalized yet. It must thus be possible to modify the hardware at as late a stage as possible or even after delivery.

Technology is advancing at a rate that designers find difficult to exploit. As a result, more and more pre-designed circuit elements are being used. Today, producing a flexible design quickly is more important than optimizing the design.

"The trend is increasingly moving away from optimized ASICs and toward programmable FPGA circuits," says Tommy Jansson, manager for Systems Development Technology at Ericsson.



Tommy Jansson

Circuits that are completely controlled by software are naturally the most flexible, since they can always use the latest software. However, they are not optimized for the application and not suitable for applications that demand very high performance. ASICs (Application-Specific Integrated Circuits) are optimal but take considerable time, about one and a half years, to develop.

The technology that is now gaining ground is FPGAs (Field Programmable Gate Arrays), which contain more free logic than an ASIC and can therefore be programmed for the desired function. With an FPGA, circuit design takes about six months. The technology has been available for several years, but only recently has it become sufficiently powerful and economically attractive.

"The most exciting area today is ISR, In-System Reconfigurable Hardware," says Tommy Jansson. "With generic FPGA designs, it is possible to re-program a product installed at a customer site over

the Internet to obtain the required function. Another possibility is that circuit designs can be optimized by letting the traffic control the functional configuration dynamically."

Tools from suppliers

"We don't develop the tools ourselves. We purchase them from our CAD partners or from circuit suppliers. Our task is to help development units realize their designs in a more effective manner," says Tommy Jansson.

To date, FPGA has been used in cases where the standard has not been finalized, while ASICs are used when a function will not need to be changed. The CAD Lab research unit, however, has now also made other units aware of the merits of FPGA/ISR for Ericsson applications. One current example is the circuit for the SS7 signaling card developed by EIN in Karlstad, which gave Ericsson a head start in the market. The technology has been tested in a number of other applications, however, such as the header compression/decompression and table look-up functions for real-time routers, in which performance gains can be realized.

"Ericsson is living dangerously if we do not use the new technology. It is extremely important to find the right balance between software and hardware, since it is there we define the product's performance."

Return to standards

With respect to the future, the trend is reversing and going back towards new types of standard circuits. The faster pace of development and increasing complexity, with an ever-greater number of gates on each circuit, are paving the way for the use of ready-made, standardized and hard-coded blocks together with FPGAs and processor blocks in the same circuit. It is also essential to re-use as much as possible.

In the future, a programmable circuit could equal what is currently a whole circuit board (see diagram). There would be standardized and well-defined interface circuits for radio, ATM et cetera, DSPs (Digital Signal Processors), a programmable FPGA/ISR and a large processor that handles the large volumes of data and controls the operation of the other elements.

"We should be able to build a large number of our systems with a few circuits of this type and by so doing develop the right products more quickly," concludes Tommy Jansson.

LARS CEDERQUIST

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PHOTO: MARTIN KROOK

Breakthrough in Japan for 3G core network

It is a well-known fact that Ericsson in Japan holds a substantial head start with regard to the radio portion of the new 3G networks. However, Ericsson has now also delivered its first Japanese 3G operation and maintenance (O&M) IP system to Japan's second largest mobile operator, J-Phone. The delivery of this equipment is the result of two contracts with J-Phone companies: JPE in Tokyo and JPC in Nagoya. This achievement was preceded by diligent groundwork. Since Japan is the first country where 3G has been brought online, no standard solutions are available and Ericsson has had to break new ground. Engineers from Japan and Sweden created the infrastructure for O&M services in collaboration with experts from Malaysia and Australia.

"Originally, our customer, JPE, had intended to carry out the integration and verification itself, but when they saw the quality of our work, they let us do everything," says Martin Krook at Ericsson's office in Japan, adding that JPC is now also considering having Ericsson design ATM services.

Packet data also for i-Mode

In the previous issue, we wrote about packet data for PDC and PDDC, which Ericsson supplies to the Japanese operator J-Phone. We should also have mentioned that, since 1997, Ericsson has also supplied base station equipment for DoCoMo's packet data network in which i-Mode was introduced in 1999. Ericsson has supplied about half of the equipment, meaning that about half of all i-Mode traffic is handled by Ericsson equipment in the base stations. DoCoMo currently has some 30 million i-Mode subscribers.

"Compared with J-Phone, however, an important difference is that Ericsson is not the total system supplier for DoCoMo," notes Håkan Lönnqvist at Ericsson Microwave Systems.

New GSM base stations include TMA support

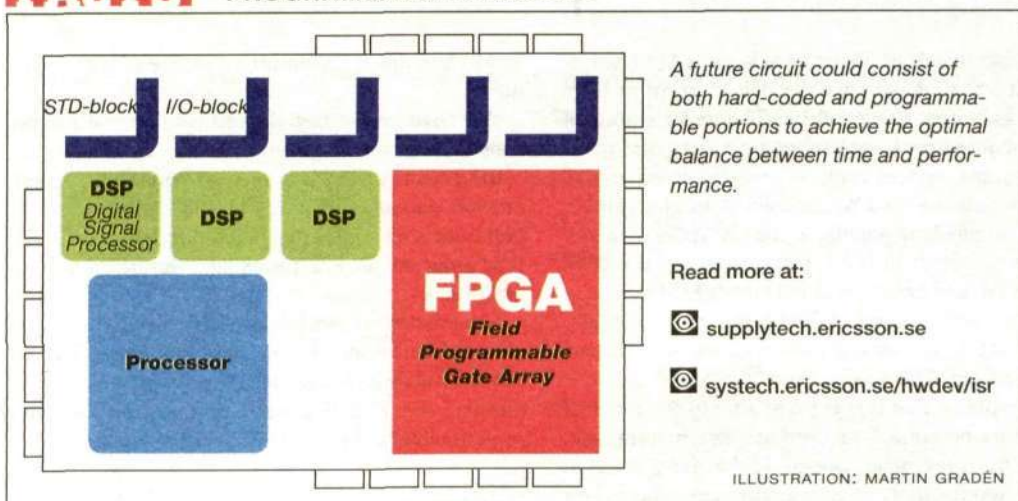
The new RBS 2206 and 2106 high-capacity base stations for GSM now being rolled out to the market will be equipped for RBS-integrated monitoring of tower-mounted amplifiers (TMAs).

A TMA amplifies the incoming signals from mobile phones and provides better coverage with fewer dropped calls, thus increasing traffic in the network. TMA Support, which is integrated with the O&M system, drives and monitors the site's TMAs. TMA Support can be easily mounted in base stations after installation.

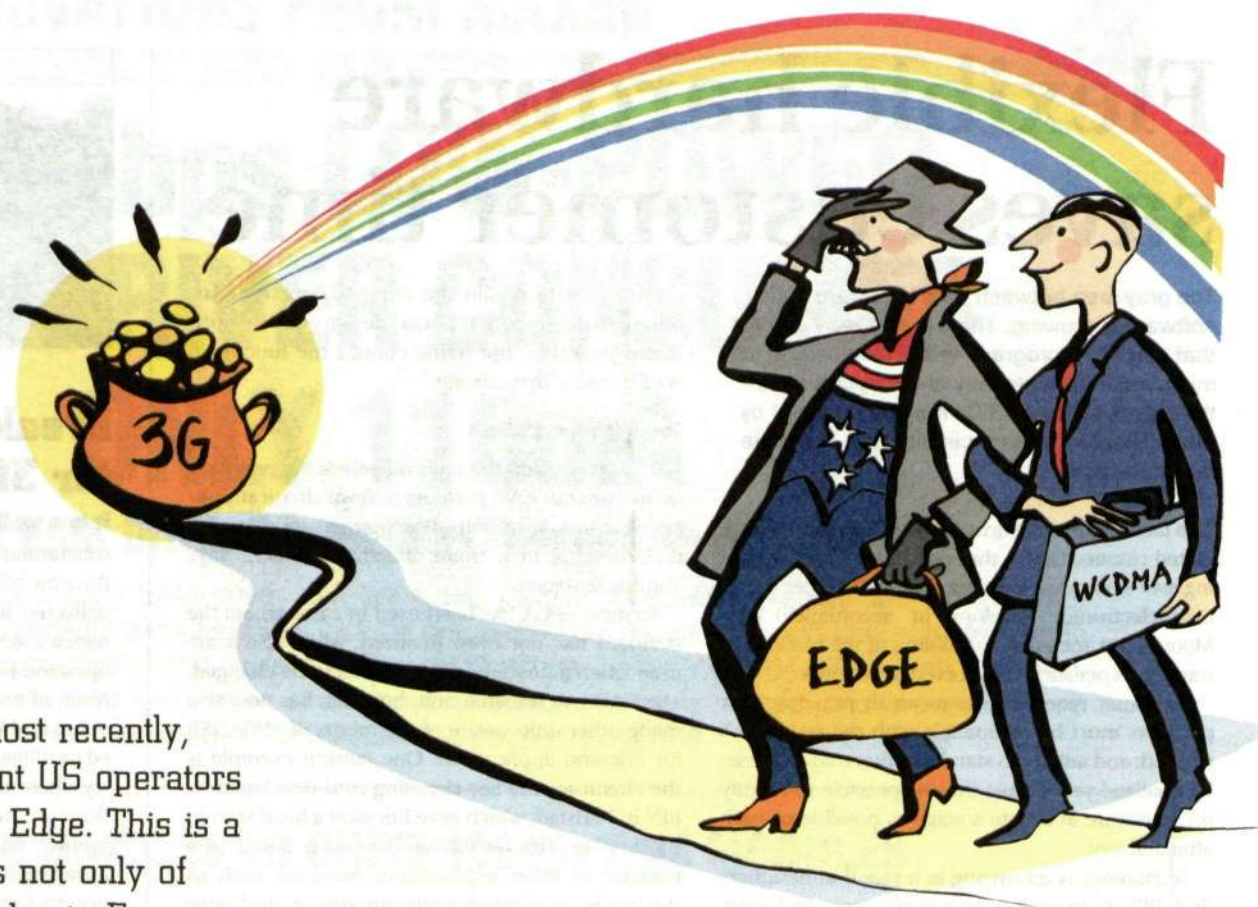


The TMA control unit and the cables for two bias injectors for supplying power to two TMAs on the RF cable.

PROGRAMMABLE CIRCUITS



Real boost with Edge



AT&T, VoiceStream, and, most recently, Cingular, are three important US operators that have opted to invest in Edge. This is a market breakthrough that is not only of significance in the US, but also in Europe. Edge will give the mobile Internet a real boost.

Edge stands for Enhanced Data Rates for Global Evolution. It is a radio technology that triples the data speed for GPRS, making it a natural step in the evolution towards 3G, as well as the Ericsson Seamless Network concept (see article in *Contact* No. 19/01).

"The fact that these operators are now ordering equipment from Ericsson, Nokia, Nortel and Siemens, is confirmation that Edge has become an established standard. This is a signal that there will be a market for phones, which is a crucial factor," says Bo Langemark. He is responsible for the marketing of Edge at the WCDMA and GSM Mobile Systems business unit. When he talks about Edge and the future, he uses three time perspectives – short-term, mid-term and long-term.



Bo Langemark

In the short term, the focus will be on the operators' need to increase capacity in their GSM/GPRS networks. When the time comes to expand and add more GSM transceivers, it could be appropriate to select those that can also handle Edge.

Doing this is neither technically complicated nor

particularly costly, which is why it should not be a difficult decision for operators to take.

Increased capacity

In practical terms, this is done by adding a transceiver that can also handle Edge to an existing base station. The software is then loaded centrally, which means that no engineer is required to travel to the sites.

"One of the advantages of investing in a transceiver such as this is that it also contains improvements for GPRS that generate direct effects. The operator receives an increase of approximately 20 percent in GPRS data capacity. The value of the extra capacity clearly offsets the extra cost," explains Bo Langemark.

In the slightly longer perspective, Edge will provide supplementary coverage for the WCDMA networks, which will initially be used for densely populated areas. More remote locations will still be covered by the existing GSM systems, but, using Edge, these locations will also receive access to all new data services.

"In practice, it means that, by using Edge, an operator can give all of its subscribers access to 3G services at a small cost. This involves a substantial leap ahead of operators that only have 3G services in densely populated areas," says Bo Langemark.

Edge provides supplementary coverage for the WCDMA networks, which will initially be used only in densely populated areas. With Edge incorporated in the existing GSM network, locations without WCDMA coverage can also have access to all new data services.

ILLUSTRATION: HELENA HALVARSSON

In the long term, Edge will also play an important role. This will involve the GSM and WCDMA networks merging to form Ericsson Seamless Network.

Efficiency a necessity

Radio spectrum is an important asset for the operators and, with Edge, it can be used more efficiently. For the American operators, this is important pending the allocation of 3G licenses.

In Europe, it is becoming increasingly necessary to use frequencies as efficiently as possible, as the Mobile Internet gathers momentum.

GUNILLA TAMM

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Important step towards 3G in North America

The US is highly advanced in the area of wireless packet data solutions with attractive terminals. However, developments in SMS and Mobile Internet have not progressed as far as in Asia and Europe. Through the introduction of Edge and the higher data-transfer speeds that this enables, the interest in Mobile Internet will increase.

In the US, no 3G licenses have yet been issued and the frequency status means that it will not be possible to issue any licenses in the near future.

"AT&T, VoiceStream and Cingular, which have all selected GSM, GPRS and Edge, will nevertheless offer their customers Mobile Internet services and this is a major step towards 3G," says Anders Olin, head of the Cingular/SBC/BS customer account at Ericsson in the US.

The fact that three operators as large as AT&T, VoiceStream and Cingular have decided to invest in Edge also means that there will be different variations of Edge phones from several suppliers.

Regarding services, Anders Olin believes that e-mail and entertainment via Multimedia Messaging (MMS), will be particularly popular in the US. Three of the six largest operators in the US have selected the GSM route to 3G and have now opted for Edge.

"Their decision to select GSM as the way to 3G is also interesting for smaller, regional operators," says Michael Kühner, head of New Sales, North America.

He explains that this is partly due to the regional operators' potential for receiving future roaming revenues from the major operators that have selected Edge. Today, there are roaming agreements for

TDMA and this is an important source of income for them.

"We have started negotiations with several smaller regional operators," he says.

In December 2000, Rogers AT&T Wireless in Canada ordered equipment for GSM, GPRS and Edge. This build-out is scheduled for completion at the end of the year. There are plans to install Edge during the second half of 2002.

"Penetration in Canada is lower than in the US, despite lower subscriber fees. The operators are hoping that attractive mobile Internet applications can get the market moving," says Kjell Singelman, Business Manager with responsibility for the USA/Canada market unit.

GUNILLA TAMM

Nordic tones in China

Ericsson employees in Stockholm had an opportunity recently to enjoy the masterful works of Nordic composers free of charge in the city's Concert Hall. The music was performed by the strings section of the Royal Philharmonic Orchestra, which offered the concert as a token of gratitude to Ericsson in China, which is sponsoring a tour of China by the orchestra. The 1,000 seats offered via Ericsson's intranet were filled in no time. Maria Barck-Holst was one of the lucky employees who received a ticket.

"I sent an e-mail requesting a ticket as soon as I saw the announcement on the Employee Activities homepage."

Thanks to her immediate response, she was able to sit back in the Stockholm Concert House and listen to concertmaster Magnus Ericsson direct the Royal Strings as they played works by Grieg, Atterberg, Sibelius, and Tchaikovsky.

"I was surprised by the difference and the beautiful musical picture that is created when only the strings are played, without any horns or percussions. It was totally fantastic, and the concert was followed by standing ovations," says Maria Barck-



Ericsson is sponsoring a tour of China by the strings section of Sweden's Royal Philharmonic Orchestra. PHOTO: GÖSTA NYBERG

Holst, whose everyday job deals with customer demonstrations at Creative World.

After the concert, the Royal Strings left for their tour of China, where they will perform at concerts in Beijing and Nanjing. The final concert on the China tour will be a free performance for 1,400 employees of Ericsson Mobile Communications in Beijing.

TONYA LILBURN

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Ericsson helps US Congress stay in touch

As a result of new investments in mobile services, the American Congress is now better prepared after the recent terrorist actions against the US. The chaos and confusion that arose during the evacuation of the US Congress building after the terrorist attacks of September 11 revealed the need for substantial investments in communications. The new investments are focused on wireless technology that enables all parties to send and receive e-mail at all times, for example, access information about meetings and maintain contact with advisors, even outside the office building. The mobile services are provided by the Mobitex network of Cingular Wireless. Ericsson has supplied the US operator with equipment for its network.

Handsfree refreshes the memory

A recent study by the University of Chicago shows that our brain releases stored information more readily when we gesticulate with our hands. The researchers have compared memory tests from people who were asked to keep their hands still during the thought process with tests from people who were allowed gesticulate freely. People who use hands-free when they speak on the telephone, accordingly, should be able to remember things more clearly than people with phones in their hands.



Women feel safer with mobile telephones

Ericsson in Canada and Rogers AT&T Wireless are sponsoring a program to support women at risk for exposure to violence, rape and other forms of attack. The program is being conducted by public authorities in Ontario to help women by providing no-charge calling time and mobile telephones that are pre-programmed to send an alarm when a dangerous situation occurs.

from the archives



In 1951, the "speaking clock" was heard for the first time in Egypt. The voice was that of Tomander Tawfik, an Egyptian radio announcer, and the speaking clock installation was supplied by LM Ericsson's telecommunications signal plant in Stockholm.

"It was pyramidal success," Engineer Gunnar Lindblom told *Contact*. He is seen here with Egypt's "speaking clock" during a recording session.

new assignments

Bimal Dayal will replace Johan Adler as President of Ericsson in Sri Lanka on December 1.

Hugo Löjdqvist, now President of Ericsson in Chile, will start a new job on January 1 as customer relations manager for Telia in the Nordic and Baltic market region.



Hugo Löjdqvist

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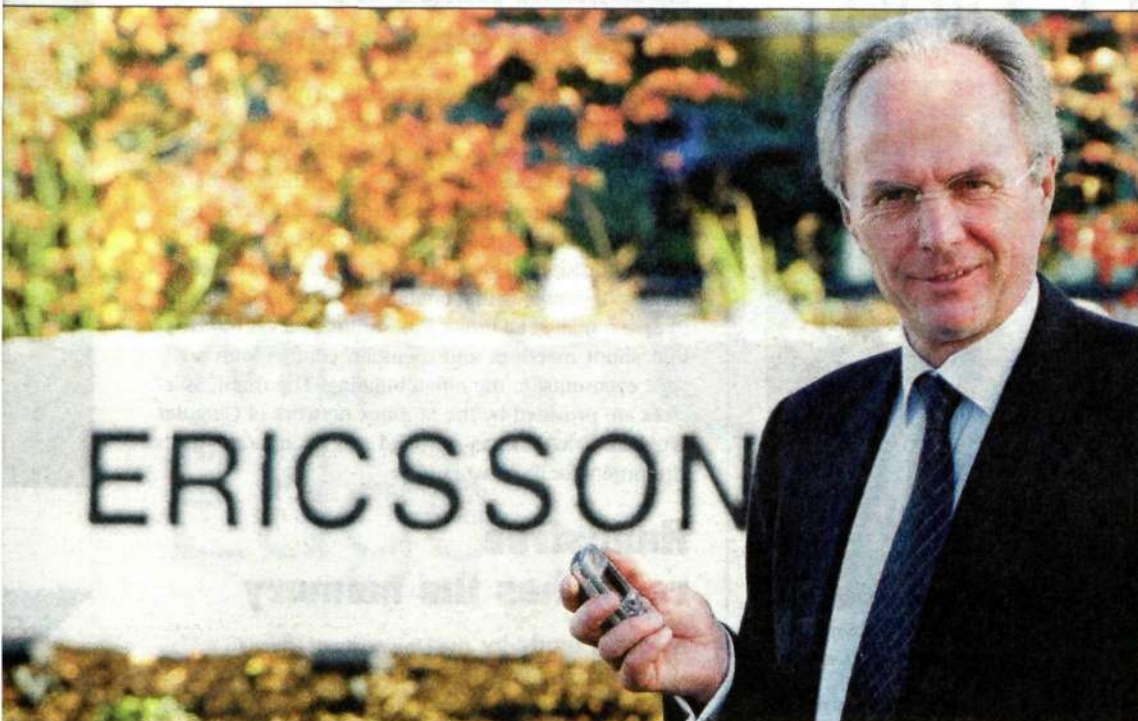
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Sven-Göran Eriksson was pleased with the T68 he received as a gift when visiting Ericsson Mobile Platforms' new facility in Basingstoke, in the UK.

PHOTO: DAVID ADAMSON

Ericsson passes to Sven-Göran

Recently, employees at Ericsson Mobile Platforms in Basingstoke, England, received a VIP visitor. Sven-Göran Eriksson, the Swedish coach of England's national soccer team, stopped by to officially open the new building and share his recipe for success.

At Ericsson's new facility in Maplewood, Basingstoke, all is quiet – the calm before the storm. An expectant buzz can be heard in the spacious atrium. A small welcoming committee has lined up in front of the reception counter, while behind them, the receptionists sit at attention in their bright blue uniforms. Suddenly he arrives – Sven-Göran Eriksson, the man who achieved almost hero status for taking the England team to the soccer World Cup.

He greets the host of the event, Tord Wingren, president of Ericsson Mobile Platforms, then the rest of the group and finally, the ladies in reception, before the day's packed program begins.

"We thought it was a good idea to invite Sven-Göran Eriksson to open our new building. Not only because of the surname, but also because I think we can learn from his successful management style. Working together as a team, while still giving everybody a chance to develop their talents is something we try to do at Ericsson as well," says Tord Wingren.

Teamwork with the same goals

In the new building, all the research and development activities that were previously spread among various locations in Basingstoke have finally been gathered under a single roof. Here, the company

Ericsson Mobile Platforms design, develop and manufacture the platforms that go in GPRS and 3G telephones. Sven-Göran Eriksson is given a guided tour of the building and a crash course in how the platforms are developed. He appears most impressed.

"It was very interesting. I had no idea it was so complicated, you never consider that at all when you pick up your phone to make a call," he said.

Sven-Göran Eriksson sees many similarities between managing a soccer team and managing a company. It is a matter of everyone working well together, but also of trying to get the best from each individual.

"You have to create a positive atmosphere so that everyone feels satisfied and needed," he says.

Quality is the key

After the tour, it is time for lunch and then autographs. An entire table has been filled with soccer balls, posters, t-shirts and books belonging to fans at Ericsson. Sven-Göran Eriksson writes busily and does not refuse the autograph-hungry late-comers who approach with business cards and napkins. He does not lose his unassuming manner, despite all the attention. When I ask if he would care to share his recipe for success with us at Ericsson, his first reaction is to decline.

"Ericsson is much greater than I am. Really, I should be the one asking for advice. Ericsson is associated with quality, so make sure you hold on to that whatever you do. High quality – that's what life's about," says Sven-Göran Eriksson, before hurrying off to his next assignment. In a box under his arm, he carries his new T68, a souvenir of his namesake in Maplewood.

TONYA LILBURN

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inside.ericsson.se/5minutes/ → December 4



LARS-GÖRAN HEDIN
corporate editor

A water-friendly publication

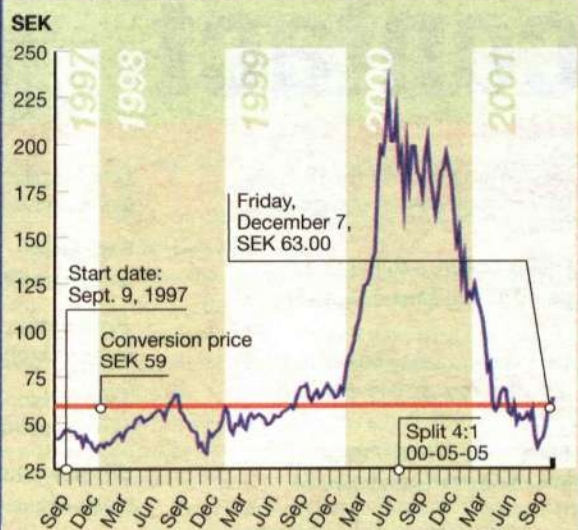
Thank you for all the kind comments on *Contact's* new form. Seeing this 62-year old undergo yet another facelift is gratifying, as is the strong support received from many sources. By the way, do you realize how important *Contact* is for Ericsson's image in the media? With a circulation of nearly 80,000 copies, *Contact* reaches not only nearly all employees, but also many external readers, including the mass media. Virtually every issue therefore generates articles in the leading Swedish publications and via Swedish news agencies.

Nonetheless, there are naturally also those who feel that distributing information in a magazine is a little old-fashioned and not very environmentally friendly. With respect to being old-fashioned, there are many people who have predicted that magazines would be soon die out now that the Internet becoming an increasingly common means of communication. In reality, the trend is just the opposite. More magazines were started in the US last year than ever before. Many electronic news brokers have also in time started paper version of their information services. The reason is obvious – the magazine complements the electronic news offering and gives it added value.

With respect to environmental concerns, the arguments are more difficult to dismiss. Historically, paper manufacturing has taken a relatively heavy toll on the environment in the form air and water pollution. Yet technology has advanced on this front as well. The paper on which *Contact* is printed is one of the most environmentally friendly on the market. It is made from chlorine-free pulp at a small paper mill in western Sweden. This mill, Munkedals Bruk, is the world leader in consuming the smallest amount of fresh water in its process. An average paper mill consumes about 20 cubic meters of water per ton of paper, but the mill we use limits this consumption to three cubic meters. We are still not satisfied, however, and an innovative development project is in progress to create a completely closed process in which all water is recirculated.

Because our printing plant is also environmentally friendly, we will start publicizing *Contact's* environmental profile as of January 1 by displaying the Nordic Swan ecological label.

the ericsson b share



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