



Savings continue

Cost-awareness is starting to become a natural part of everyday life throughout Ericsson. IT is one area where it is possible to save millions. **4-5**

GSM success in Taiwan

Far EasTone and TransAsia are two successful GSM operators in Taiwan. Although mobile telephony had a relatively late start in Taiwan, development has proceeded rapidly. **8-9**

New transmission unit

All transmission and transport operations are now being gathered within a single unit. Data quantities and transmission speeds are increasing in networks, making transmission increasingly important for Ericsson. **11**

contact



42.60

Ericsson B share,
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■ NO. 17 · OCTOBER 18 2001



"Ericsson is known for its lead in technological solutions and the solutions we have are of great interest to other companies," says President of Ericsson Mobile Platforms, Tord Wingren.

Photo: Lars Åström

Customers queue for platforms

With its new company, Ericsson Mobile Platforms, Ericsson can transform the Mobile Internet market. The company develops 2.5G and 3G platforms and focuses on companies that manufacture mobile terminals.

This means that we can expect new mobile brands and that it

will be possible to connect everything from cameras to handheld computers to mobile networks. Nicklas Gerhardsson, head of sales and marketing, explains that customers are already lining up, following the publication of the press release that introduced the company.

Feature 12-13

Employees victims of plane crash

Ericsson lost three employees in the airplane crash in Milan, Italy, on October 8. The victims are Håkan Andersson, system designer, EMW, Mölndal, Sweden; Tino Calgaro, manager, Radio Base Station Systems, Ericsson Lab Italy, Milano; and Agostino Piccirillo, strategic product manager, Ericsson Lab Italy, Milano.

"Our thoughts go to the memory of the deceased as friends and colleagues, but first and foremost to their families," says Kurt Hellström, CEO.

■ NEWS

Recently, Japan's largest operator, NTT DoCoMo, launched the world's first commercial 3G network. The network offers connection times 40 times faster than with existing systems. Ericsson has supplied base stations for the 3G network, which will initially cover a 30 kilometer radius in Tokyo. **6**

■ TECHNOLOGY

In the new world of broadband that will soon encompass us with an electronic "smog" of increasingly advanced gadgets, the human brain will have difficulties keeping up, writes Martin Rantzer, Ericsson's research manager in Linköping, in his report predicting future trends, "All Senses Communication." **18-19**

■ AT WORK

Probably it is mainly the rest of us who find it strange. For Arnoud van Wijk, who is deaf, and Anders Svantesson, who is blind, everyday life with a handicap is completely natural. Both feel that their colleagues at Ericsson are extremely supportive. **20-21**



Anders Svantesson

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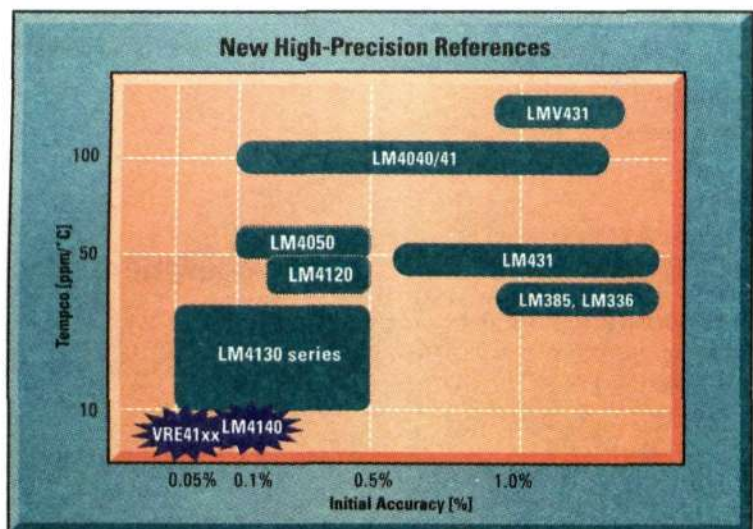
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The Sight & Sound of Information

Ericsson's guardian Angel

Strengthen Ericsson's position in areas where the company has been weak. Sign contracts with new customers, and ensure that as many new and existing customers as possible become global players. Angel Ruiz, new head of market unit North America, knows what he wants to achieve in his new job.

► Angel Ruiz will assume his new position on October 1. He succeeds Per-Arne Sandström, who now becomes Ericsson's new Chief Operating Officer. In addition to securing new customers and ensuring they can grow at the rate they desire, he sees areas that will be important for the company to tackle in the near future.

"My goal is to see Ericsson in North America grow in areas in which it has traditionally not been a strong player – for example, fixed networks. We also have to sell more services," he says.

"In the difficult economic situation the company is currently in, we have to continue to work in a streamlined organization. At the same time, I have to try to create a secure and stimulating work environment for our employees," Angel Ruiz continues.

Flatter, faster organization

In the new organization, Gerhard Weise was appointed head of market area Americas. He is thus strategically in charge of all the countries of North and Latin America. It is the job of the market unit managers to concentrate primarily on business operations – including day-to-day contacts with customers.

"The new organization is flatter, faster and has shorter chains of command. It enables us



North America is one of the most competitive markets in the world, but Angel Ruiz – in charge of this market unit as of October 1 – is not about to let himself be frightened by that. He is focusing on winning over new customers and penetrating areas where Ericsson in the US and Canada has previously not been strong.

Photo: Gunnar Ask

to react to customer demands more quickly than before," Angel Ruiz believes.

Advanced rapidly

The new head of market unit North America has extensive experience of working in customer relations. Since 1996, he has been key account manager for the operators Powertel, Bell South and, most recently, Cingular. In his new position, he will be based in Plano, Texas.

Angel himself believes that he has advanced rapidly at Ericsson because his education and professional background are so well in tune with the company's goals and operations.

"I've worked in telecommunications for 20 years, of which the past ten have been at Ericsson. My experience includes sales, product and project management, various management positions and, particularly, being in charge of the customer accounts of large operators," he says.

Not so long ago, market and financial ana-

lysts believed that increasing numbers of North American operators would take the GPRS route toward third-generation mobile systems. However, it has recently become apparent that the operators are choosing other solutions, too, such as CDMA.

"The US and Canada have numerous mobile standards, so it is important for Ericsson to be able to offer all operators a smooth transition to 3G, and eventually to 4G, regardless of what standard they use today."

Great distress

Angel Ruiz was having his breakfast in Plano, Texas, when his wife called and told him that a plane had accidentally flown straight into the World Trade Center – because that is what many believed when the first plane rammed into the building: that it was an unfortunate error.

"I was still talking with my wife when the second plane crashed into the other building,

At that point we realized it could not be an accident. It was a day of great distress," he relates.

However, Angel Ruiz is not particularly worried about the prevailing economic situation in North America. He believes the economy will recover sooner than many people think.

"Naturally the terrorist attack created turbulence in the market. However, apart from that, there is considerable potential for both general and specific growth in the telecom sector," he says.

As regards leadership characteristics, Angel Ruiz believes in playing fair and in leading others by setting a good example.

"It's important to treat people with respect. Proper leadership brings out the best in employees. How well I succeed in my new position depends entirely on the skill of my staff," says Angel Ruiz.

Ulrika Nybäck

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FACTS/ANGEL RUIZ

Country and year of birth: Cuba, in 1956; moved to the US at age 12

Language skills: Native speaker of Spanish, fluent in English

Degrees: Master of Administrative Science

1988–1990: Project Manager at Sprint

Account manager for operators: Powertel, Bell South and Cingular

October 1, 2001: Becomes head of market unit North America

Family: Wife and two daughters

Leisure pursuits: Motorboats, dancing salsa

Favorite listening: Latin music

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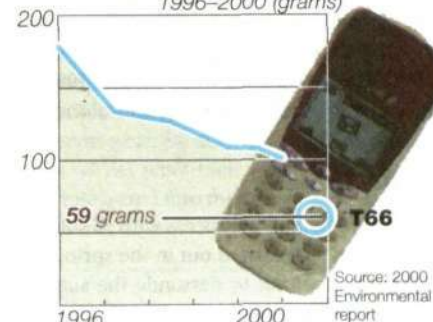
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Weight of Ericsson's mobile phones
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Millions awaiting in IT savings

Ericsson is tracking down its IT expenses. For just over six months now, the various market areas have been engaged in an intensive cost hunt. All of the savings suggestions – large and small – have been taken into consideration and many of them have already been implemented. When the various measures achieve full impact, the result will be savings in the order of USD tens of million.



Mats Winkler, head of Ericsson Global IT Services, has succeeded well in speeding up savings, both in his own company and in the standardization of the IT infrastructure globally.

Photo: Ecke Küller

► Ericsson Global IT Services, which provides support for Ericsson's IT infrastructure, is one of the Ericsson companies that have made the most progress with their savings efforts.

This spring, the company launched a program of corrective measures that examined every possible aspect of the company to find savings possibilities.

"We're reviewing everything from how to negotiate the best possible prices from our subcontractors to the most cost-effective ways of holding meetings or managing individual projects," says Mats Winkler, president of Ericsson Global IT Services.

According to Mats Winkler, the company will save nearly USD 20 million this year and USD 40 million in total for Ericsson, as a direct result of these measures. The company's ability to realize savings within the current year is, according to Mats Winkler, due to its early realization that the old approach applied at Ericsson was devastating for the finances of the individual companies.

Video replacing air travel

"When I started this job in May 2000, I was astonished at the number of items being purchased all the time – computer equipment and office supplies," he says.

This was completely wrong, he felt. So, one of his first actions was to introduce obligatory purchase orders, requiring justification of every single purchase made by Ericsson Global IT Services. Purchasing has decreased enormously since then. Even the amount of air travel undertaken by the company has been minimized.

"Instead of flying back and forth around the globe, we purchased an excellent videoconferencing system."

The system has already paid for itself several times over, Mats believes.

"Nowadays, the company holds videoconferences almost every day. Major business meetings that require a personal presence are always held on Ericsson's own premises here in Stockholm," he explains.

There has also been a sharp reduction in the number of consultant positions, from 145 a year ago to about 40 today.

"We are saving roughly USD 1.3 million a month in reduced consulting fees alone," he says.

A painful process

A major renegotiation process with all subcontractors was also carried out in the spring and during the summer to persuade the subcontractors to reduce their prices for the services

and products Ericsson Global IT Services needs for its operations.

"This was not a painless process and many suppliers think we were hard. This experience shows, however, that it is possible to reduce prices considerably and I think a customer as large as Ericsson is entitled to impose exacting demands on its suppliers in terms of price and quality," says Mats Winkler.

Some subcontractors disappeared in the process. Today, the company cooperates with only half as many suppliers as it did one year ago.

The really substantial IT savings, on the other hand, will come from standardization of Ericsson's IT infrastructure and a reduced number of computer rooms and local computer support units worldwide. At present, all local companies are investigating the savings potential that exists in their own particular business areas.

Ericsson Global IT Services offers support in the form of analyses and how to implement

comprehensive savings solutions in IT-related matters.

"We have already completed a preliminary study of Latin America. We believe we can save about USD 9 million a year over the next few years through standardization measures and restructuring of computer networks there," says Mats Winkler.

Western Europe first

A similar study is under way regarding China, while it is believed that Western Europe, where considerable progress has been made on a project to streamline the IT infrastructure, offers particularly large savings potential.

"We have made a great deal of progress in reducing the number of servers and in dismantling local computer support in various local companies, but much work remains. In some countries, for example, the networks must be completely redesigned," says Åke Kindström, head of EGIS Western Europe.

The project is scheduled for completion one and a half years from now. By that time, all local companies in Western Europe will be expected to have trimmed their IT organization, minimized their server farms and begun using a shared network.

"Since there will be far fewer servers than today, service and maintenance will be much less expensive. When the consolidation of all intranet networks has been completed, we will have saved about USD 20 million on an annual basis," says Åke Kindström.

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Staff involvement key to successful savings

► One of the reasons why Ericsson Global IT Services (EGIS) has succeeded in reducing its costs so much is the attitude of the company's staff. Every day for the past few months, employees have contributed tips and suggestions as to how the company could save money.

"The support for this savings program has been terrific," says Leif Malmjöf, head of quality assurance for Ericsson Global IT Services and one of the initiators of the electronic mailbox that has been set up for employee suggestions.

Based on the most recent count, about 150 suggestions have been placed in the mailbox. A sample of the messages indicates that the tips cover virtually all parts of the company's operations – from how savings can be achieved through changes in daily work procedures to more advanced technological solutions involving business operations.

"All suggestions are equally important – every little bit helps," says Leif Malmjöf.



Leif Malmjöf

The suggestion box is emptied each day and new tips are routed to the part of the company to which they refer. The managers of the units involved investigate the issue and reply as to whether the suggestions can be implemented or not, and explaining why.

"The aim is to quickly process the suggestions and promptly reply to the employees involved. If we do not receive a response by a certain time, we e-mail or call the manager concerned and ask why he or she has not replied," says Leif Malmjöf.

Applying such pressure has worked, and several employees' suggestions have now been integrated into day-to-day operations.

"For example, we're currently reviewing the company's list of magazine subscriptions. We have also exposed our suppliers of office supplies to competition, to exert price pressure. And from now on, delivery of office supplies is to be steered by need and not by the calendar," says Leif Malmjöf.

Jenz Nilsson



Illustration: Jan Olsson

Plenty of clever ideas

Monthly financial reporting, less travel and more web conferences. All companies and units within Ericsson are cutting costs, but, to some extent, in different ways. Contact called around and obtained many smart savings tips from Ericsson employees in Venezuela and Sweden.

► Ericsson in Venezuela began its savings program in earnest in March this year. The management of the local company initiated a review of its entire operations and, based on this, identified five critical areas in which it considered large savings could be made. These five areas were travel and training, market activities, telephones and IT, consultancy and outsourcing, as well as offices.

"At the end of each month, we follow up cost performance within each area. We also ensure that this information is disseminated to all concerned. By improving our accounting in this way, we have reduced expenses and significantly increased cost awareness within the company," explains Olle Ulvenholm, head of the local company.

Despite stringent savings requirements, the company still maintains an organization that places customers and business first. However, business strategy has changed of late.

"Right now, we must focus all our energy on customers with solid profitability and on those sales projects that we truly believe in. We must concentrate on business operations and cannot afford to take risks," continues Olle Ulvenholm.

Thanks to creative employees, Ericsson in Venezuela has managed to carry through projects that initially seemed impossible with such a small budget.

Recently, for example, Brita Mosquera, communications manager for the local company, managed to convince five local software companies to bear the costs of a trade fair. Innovations, products and systems from Ericsson and the software companies were displayed there.

A further example is the fact that many of the more than 200 employees of the local company have continued their studies and training despite the savings requirements.

"Now that we are fewer employees, we use certain premises for web-based training programs. We gather in one of the rooms and a supervisor is on hand to provide support when questions arise. Despite the economic downturn, continued training remains important," according to Olle Ulvenholm.

The extensive savings measures have yielded results. Since the start of the year the operational costs for travel and training have decreased by 73 percent, costs for advertising and market communications by 70 percent and costs for telephones and IT by 36 percent.

Direct broadcast web conference

The Marcom and Branding market communications unit within the WCDMA and GSM Mobile Systems business unit in Sweden has used technology to reduce its costs. Recently, the unit organized a direct broadcast web conference via the intranet. It is calculated that the web conference saved the company approximately USD 80,000, when compared with the cost of, for example, flying all of the participants to Stockholm. In Kista, 80 individuals participated with their physical presence and as many took part via the intranet.

Anna Carin Johansson works with internal information at the Marcom and Branding unit. She feels that web conferencing is an excellent way to save money.

"Those who participated via the intranet

e-mailed in questions that were answered by the speakers during the conference. There are certainly aspects that can be improved; for example, certain participants had problems installing the right software. However, on the whole it went well and we will therefore hold a follow-up event in November," she explains.

Web conferences represent a simple way of gathering as many participants as possible. New information can be spread rapidly throughout the organization and the entire event is time and cost efficient.

Internet increasingly important

Since the start of the year, the market communications unit has reduced its total costs by 60 percent. This has involved both personnel reductions and postponing large campaigns or lowering their level of ambition. Those who work at the unit have, instead, concentrated on focused customer activities and on using the Internet as their main channel of communication.

In times of savings, there is also a risk that morale at the company may drop.

"Certainly there is some concern even at the market unit, but, at the same time, everyone has so much to do that there is no shortage of work," explains Anna Carin Johansson.

Despite the savings, efforts are made at the unit to find fun things to do together.

"Social activities don't need to be that expensive. Recently, for example, we went out and played softball. Also, everyone chips in a dollar for something special to have with coffee on Fridays. It is perhaps even more important now to continue to have fun together and to talk about how we perceive the situation," she says.

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Efficiency measures characterize university courses

It is the start of a new term at Ericsson University. The focus of the syllabus is on the Efficiency Program and how employees should handle the changes. There are nine courses that managers can choose to have employees follow.

► The main task of the university is to support Ericsson's strategies. From a large number of programs, we have selected those that we can carry out rapidly and that we can offer locally," says Per-Olof Nyquist, who is responsible for Ericsson University.

"The most important areas in the harsh economic situation are lead-

ership, sales and expertise on the market situation."

Three courses are available for managers: Managing Change, Leadership Communication and Effective Teamwork. Eva Andreassen is responsible for the program and controls the content of the courses.

"I can see an extensive need for knowledge about how to lead in times of change. We are placing increasing emphasis on the handling of communication in connection with lay-offs and a weaker financial situation," she says.

For key account managers and those responsible for customer contacts, there are three courses available. One of the course leaders is Helena Åberg. She says that the Efficiency Program created a sense of urgency, which generated more stress among sales staff and customers.

"The products we sell must be competitive and there is an increasing need for focus regarding bidding and negotiations. Naturally, this means stress for salespersons, who are also working in a tough market," says Helena Åberg.

Courses aimed at account managers and leaders of sales teams include Core Three – establishing efficient methods for working with customers and a workshop on negotiation technique.

A third area focuses on understanding the market. Tomas Westling is responsible for the

courses that involve understanding operators, competitors' strategies and end users.

"If you want to be successful today, as products are becoming increasingly similar, you must develop a close relationship with the customer. This can only be done by offering knowledge and expertise," Tomas Westling notes.

"The efficiency program has meant changes being made to the courses in general," explains Per-Olof Nyquist.

"The courses have a clearer focus and are controlled more than before. In our contacts with managers, we don't ask what courses they need; we ask what their strategy is and this is then integrated into the course."

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Plenty of bandwidth in marine cable

» The latest addition to Ericsson's marine cable family is being launched in the European market.

Ericsson's 192-fiber marine cable for non-repeating systems, which normally link distances less than 400 kilometers, permits more efficient installation and creates new business opportunities for operators.

Installation and maintenance are more efficient with the new cable, since the fibers are arranged in strands of eight fibers each. The large number of fibers also creates new opportunities for operators who wish to lease bandwidth.



Better information on SAR values

» It will now be simpler to obtain information on radio wave exposure when purchasing a mobile phone.

All models introduced after October 1 will have easy-to-understand information about the phone's SAR value and how it should be interpreted.

"It is important to point out that this is not a means of measuring the differences in safety between different phones," says Mikael Westmark, Ericsson's spokesman on health issues.

"Radio wave exposure from Ericsson phones is below the established limit, which in turn is far below the levels that could pose a threat to health. Rather, the SAR value may be compared with other technical specifications, such as standby time."

Retailer sold illegal copies

» A Stockholm court has found a Malmö retailer guilty of selling illegal copies of Ericsson mobile phone accessories. The retailer now faces fines of SEK 200,000 (USD 20,000) plus court costs.

The illegal copies, which consisted of batteries and chargers, were discovered by investigators hired by Ericsson to reduce illegal sales.

False copies of mobile accessories are a global problem. Each year, between 10 and 30 companies are caught selling illegal copies of front panels, batteries and other accessories.

Bluetooth cuts production costs

» A new solution from Ericsson Technology Licensing will help lower the cost of developing Bluetooth products.

The Bluetooth Embedded Stack is a software package that allows Original Equipment Manufacturers to cut production costs, because it uses one processor for the application and for the software enabling Bluetooth functionality. The package targets small products such as headsets and computer accessories.



The Bluetooth headset

Operations near Afghanistan normal

In spite of the attacks on the Taliban regime in Afghanistan, operations are carried out as usual at Ericsson's subsidiaries in the neighboring countries.

Ericsson is represented in three countries that share borders with Afghanistan: Pakistan, Iran and Uzbekistan.

In Afghanistan itself, Ericsson has no business or employees.

Currently calm

In all three countries, the situation is currently calm. In Pakistan some Anti-American demonstrations have been held in parts close to Afghanistan, but the unrest has not been apparent in the capital Islamabad, where the Ericsson office is situated.

"So far, operations are being conducted as normal," says Bo Zaine, country manager of Pakistan.

This also goes for the other two countries.

"In Tehran the situation is calm. Iran has opened up in recent years and there is a warm attitude towards foreigners in the country," says Country Manager Jeff Travers.

Also in Uzbekistan, operations are running in a normal way, according to Country Manager Günther Begemann.

Precautions

Still, a number of precautions have been taken due to the current situation. This includes daily contact with Ericsson's Crisis Management Council in Stockholm for constant evaluation of the situation. If the situation deteriorates there are already plans prepared on how to take care of the employees and the business.

Lars-Magnus Kihlström

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Read through the Travel Security guidelines at the following address:

☞ inside.ericsson.se/security/trav.html

And, follow recommendations regarding high-risk countries at:

☞ inside.ericsson.se/security/countries.htm

List of security managers:

☞ inside.ericsson.se/security

Smooth 3G launch in Tokyo

Japan's largest mobile phone operator, NTT DoCoMo, has released the world's first third-generation phone service. Named FOMA (Freedom Of Mobile multimedia Access), the new service offers connection speeds 40 times faster than other existing technologies.

Users can send video clips, images and e-mail. Soon they will also be able to download music and short animated films over NTT DoCoMo's 3G network.

Initially, FOMA covers an area of metropolitan Tokyo with a radius of



Keiji Tachikawa, NTT DoCoMo's president, makes the inaugural call on the world's first 3G network.

Photo: Pressens Bild/Jon Thunqvist

30 kilometers. Osaka, Kyoto and Nagoya should be included by year-end, followed by the rest of Japan next spring.

The first day of service went smoothly. Ericsson supplied base

stations for NTT DoCoMo's 3G network.

"Although this is not the same technology that we will use in Europe, this release proves that 3G technology works," says Torbjörn

Possne, WCDMA manager at Ericsson.

The launch also means that the first 3G phones are being sold. Approximately 4,500 customers purchased a 3G phone on the first day. The operator has 30,000 phones in stock, of which 5,000 are video-phones. On the first day, video-phones accounted for nearly half of sales.

With FOMA, the phones can download data at 384 kbps and send at 64 kbps.

Cheryl Brown

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Joint business merges with Global Services

Ericsson Microsoft Mobile Venture is being merged with Ericsson's Global Services business unit, the world's largest service organization for mobile operators. The partnership between the two companies remains as solid as ever.

The legal circumstances surrounding the joint venture between Ericsson and Microsoft are being changed to enable the organization's capacity to be expanded more rapidly.

After a successful year, the joint venture between Ericsson and Microsoft will in future be based on a number of OEM (Original Equipment Manufacturer) contracts.

Ericsson Mobile Venture's assignment is to develop commercial solutions that provide operators with opportunities for offering personal information management on mobile phones. For example, users should be able to access e-mail, calendar and address book information on their office computers from a mobile

phone using a secure connection, made possible by an integration of Ericsson's Mobile Internet products with Microsoft products. In the future, this development work will be a part of Ericsson's system integration within the Global Services business unit, which includes partnerships with IBM, Compaq, Sun and HP.

The company, which has grown more rapidly than anticipated during the period, has signed three commercial launch agreements, is conducting 16 pilot projects and has

some 40 assignments in 30 countries.

"This benefits both Ericsson and Microsoft. By combining global strengths in system integration, we can achieve much more in a short time. We can take advantage of the opportunities in system integration and expand capacity globally by merging the company with Global Services," says Bert Nordberg, manager of Global Services.

Henrik Nordh

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BP to acquire Ericsson's London office

BP has announced that it will acquire the freehold of No 1 St James' Square in London, and intends to move its global corporate headquarters there in the spring of next year.

Ericsson and BP have already signed a heads of agreement on the

transaction which, subject to due diligence, should be completed by the end of the year. Both companies said the price would remain confidential until completion. After minor realignment of interior space, BP staff would move in during the first half of 2002.

As announced earlier, Ericsson

expects to move to its new premises on 105 Wigmore Street at the end of this year. The Central London Offices continues to host financial functions like Treasury and Vendor Finance, Strategic global HR operations, Communications functions like Investor Relations and Marketing and Sales operations.

The decision to relocate the company's London-based operations is a consequence of the ongoing Efficiency program and was made after Ericsson reduced its London-based workforce.

Tonya Lilburn

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Historic 3G call to Asia

"Good afternoon Hong Kong. I am calling from Stockholm on the first live WCDMA call ever made to Hong Kong."

This was the greeting given when Ericsson's group made contact with an operator in Hong Kong. It was an auspicious and historic moment for the specialist Ericsson team involved with the first call via a commercial 3GPP system to Hong Kong.

The Hong Kong operator is about to select its WCDMA supplier and asked Ericsson if it could demonstrate a call via a complete WCDMA system. The company wanted to experience the demonstration without having to travel to Sweden.

For Ericsson, the solution was simple – a live broadcast in the form of videoconference, which the operator could follow from its own offices at home in Hong Kong. All that was needed for the operator to be able to follow the demonstration in Kista, outside Stockholm, was a little assistance from the Ericsson team in Hong Kong.

"This is an excellent way of demonstrating that Ericsson has a functioning, 3GPP-compatible WCDMA system. We now have the possibility of showing more customers the progress Ericsson is making in 3G," says Anders Moberg, business manager for Hong Kong, Taiwan and Korea.

Bengt Skörelid, application manager at Ericsson's demo center, guided the viewers in Hong Kong

through the radio access network and the core network. All along, the viewers on the other side of the globe were able to ask questions. The operator was extremely satisfied with the demonstration. The members of the Ericsson team were relieved that everything fell into place, considering that this technology is a hundred times more complicated than GSM.

Specialist technicians were on hand throughout in order to monitor the call. A backup system was also in place that could have transferred the demonstration to a web broadcast, although that was not necessary, since everything worked just as it should.

Sara Morge

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Ericsson's specialist group conducted a successful demonstration of how WCDMA technology works in practice. Photo: Thomas Holmberg

Research loan a vote of confidence

The European Investment Bank will provide an eight-year, 400 million Euro (USD 360 million) loan to Ericsson for research and development.

In a statement, the EIB says "Ericsson has made, through its extensive Research and Development activities, a significant contribution to the definition of global technology standards and the development of the telecommunication sector into one of Europe's leading industries."

The loan will be used at Ericsson's "Centers of Excellence" located in EU member countries and in Central Europe over the next two years, with special focus on Internet Protocol based mobile telephony networks.

Major driving force

It is the first such loan obtained by Ericsson. The loan acknowledges that Ericsson's Research and Development activities in Europe are a major driving force in strengthening

the European high tech-industry. The loan also underpins the long-term perspective in Ericsson's Research and Development.

The EIB statement continues, "The company's close cooperation with national technology specialists and universities results in important spill over effects into the local economies through the establishment of small and medium-sized companies and industry clustering. Ericsson has given particular attention to the cooperation with univer-

sities such as in Budapest (Hungary), which contribute to the long-term research strategies of the company."

Dimensions fully in line

The EIB loan will also contribute to the further development of Research and Development facilities in places such as Ireland, Italy and Greece.

The technological dimension of the project is fully in line with the recommendations of the Lisbon European Council and the Bank's Inno-

vations 2000 Initiative ("izi"). The project also helps to achieve the Bank's objectives of preparing candidate countries for accession.

The AAA-rated European Investment Bank (EIB), the financial arm of the European Union, contributes by means of its long-term loans towards the integration and balanced development of its Member States as well as in countries outside the Union.

Dodi Axelson

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On-line Saab star of telecom fair

A Saab 9-3 convertible equipped with mobile e-services raised many eyebrows at the Networks Telecom trade fair at Älvsjö, outside Stockholm. Thanks to the car's standardized e-services platform, the driver can select services and download applications as needed. The prototype is the fruit of collaboration between Ericsson and Saab.



With telematics, the telecom market advances from voice traffic to communication between machines. For consumers, this technology means that cars such as the Saab 9-3 shown at the Networks Telecom trade fair will be commonplace within the near future. Photo: Gunnar Ask

"Via a mobile phone or a handheld computer, it is possible to obtain information about the car regardless of where one finds oneself. Ericsson is the only company to have developed a total system that connects the home, office, car and mobile phone," says Mats Andersson, head of Ericsson e-services.

The technology that was on display at the trade fair on September 24 to 25 is called telematics, a combination of telecommunications and informatics. Interest was extensive. Curious car manufacturers, operators and service developers are keen to be involved in developing a new market. They have witnessed the opportunities that unfold with the open platform, called Open Services Gateway Initiative, OSGi.

"We demonstrated services such

as navigational systems and driver journals," says Peder Fast, head of telematics development at Saab.

"The system is based on the downloading of information from a server. This means that the owner of the car does not need to invest large sums of money in a built-in navigational system. I believe that many would rather pay a smaller amount and download what they need," says Mats Andersson.

Saab and Ericsson have had a partnership agreement on e-services since April 2001.

"It is important to us to have access to a standard and to work

together with a large telecom player that leads the field in OSGi development," says Peder Fast.

It will take a while before this type of car becomes commonplace.

"Of course the technology exists but, as yet, there is an insufficient range of services and service developers. The 3G networks are not properly off the ground. It may take a couple of years before we see cars like this on the market," says Peder Fast.

Jesper Mott

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Donations pouring into American Red Cross

Ericsson employees have opened their hearts and their wallets to help the victims and families of victims affected by the terrorist attacks on the World Trade Center in New York.

More than USD 200,000 has already been donated to the Red Cross, and it's still not too late to make a contribution.

Fast Response, Ericsson's fund for the victims, was originally scheduled to close on Friday, September 28, but will now remain open for donations throughout the remainder of 2001. It's easy for employees to send their donations to the fund,

since there are no forms that have to be completed.

Through matching funds donated by Ericsson, which will double the amount of contributions by employees, and a lump sum donation, a total of approximately USD 500,000 will be donated to the Red Cross.

In addition to financial assistance, Ericsson Response is also contributing technology and expertise needed to rebuild the communications network in New York. A total of USD 1 million will also be donated to the disaster-relief fund.

Cheryl Brown



The Red Cross has received donations totaling thousands of dollars for disaster-relief efforts in and around "ground zero" in lower Manhattan.

Photo: Red Cross

New Q3 loss for Motorola

» Cellphone and semiconductor manufacturer Motorola posted a USD 1.4 billion third-quarter net loss, but had positive news for its cell phone business.

"We are pleased to report that our wireless handset business returned to profitability and again reported higher market share compared to last year," said Robert L. Growney, president and chief operating officer.

Motorola also reduced net debt by USD 2.4 billion from the second quarter, and achieved positive operating cash flow. In order to return to profitability, the company is busy cutting back its workforce. By year-end, it will have reduced its staffing by 22 percent, or 32,000 jobs. Nokia is expected to present its third quarter results on October 19.

Vodafone loses in the UK

» Mobile giant Vodafone attracted 2.5 million more subscribers worldwide in the period July through September. The figures continue a trend of slowing subscriber growth, but are in line with analysts' expectations. Investors are increasingly focusing on other operating figures, such as average revenue per user (ARPU). Rival Orange, owned by France Telecom, added 1.5 million subscribers and enjoyed stronger growth in the UK than Vodafone. It added 320,000 new customers against Vodafone's 251,000 and has an "active" user base in the UK of 12.2 million. Vodafone will publish revenue figures and estimates of active subscribers next month.

DoCoMo wants to invest in Europe

» Almost immediately after launching its 3G service in Japan, NTT DoCoMo is talking about the European market. According to the AFX news agency, NTT DoCoMo's president, Keiji Tachikawa claims the company will introduce 3G services in Europe in the second half of 2001. He says this will make DoCoMo the first company to launch 3G in Europe, although he believes that the United States will not be ready for 3G until 2004.



Keiji Tachikawa

GSM remains dominant

» According to the leading research company Strategy Analytics, GSM-based systems will continue to hold a strong position in the telecom industry. In its latest market forecast, the company projects a total of 1.8 billion mobile users in 2006, with more than 70 percent using GSM-based systems, including GPRS and 3G WCDMA technology. However, it is CDMA that will grow most rapidly, from 80 million users at the end of 2000 to 450 million six years later. The analysis company believes about one billion mobile telephones will be sold globally by 2006, of which about 69 percent will be GSM-based and 28 percent based on CDMA. Ericsson's own market forecasts will be available at the end of October.

Worldwide Cellular Forecast Update, the report by Strategy Analytics, is available at: bic.ericsson.se

Asian operator lets

Mobile discount coupons, high network quality and customer surveys. These are some of the features in the success of Far EasTone, one of Taiwan's GSM operators that have contributed to the islands lightning increase in subscriptions.

With 4.1 million GSM users, Taiwan's Far EasTone is Ericsson's largest customer in the Asia Pacific region outside China and Japan.

"The developments that we have undergone since starting almost four years ago, have taken operators in other countries up to ten years to accomplish," says Joseph O'Konek, head of Far EasTone.

When Joseph O'Konek speaks about the increase in the number of users, he talks about customers and not subscribers.

"We're here to improve people's lives and we operate in the consumer arena," he explains.

Even prior to putting the GSM system into operation, Far EasTone placed great importance on building a strong brand image.

Customer satisfaction is important and customer surveys are constantly being undertaken. In a survey conducted prior to 3G, it became apparent that there is a gap between the services that customers want and those they are willing to pay for.

Few people want to pay for a practical personal calendar that is in daily use, but many are willing to pay quite a bit for emergency services, for example.

Young show the future

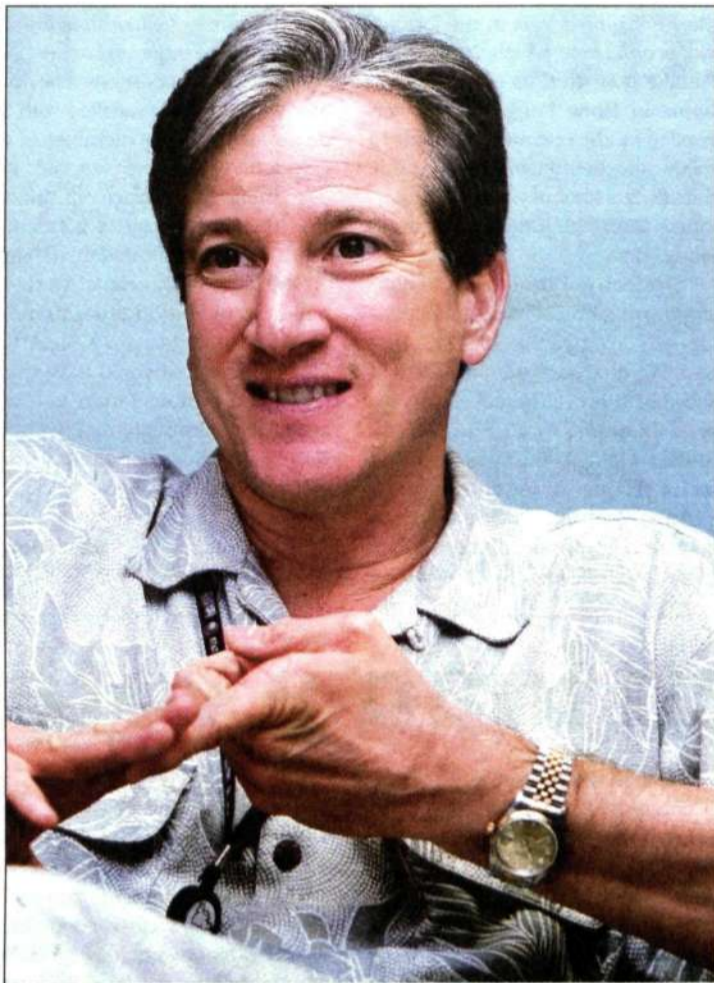
Joseph O'Konek believes that it is especially important to investigate how young people use their mobile phones, since it can give an indication of what the future might look like.

"We are right beside you" is the slogan of the TransAsia Telecom regional mobile operator in southern Taiwan. Its local focus has produced results and the operator currently has more than 740,000 users.

Like Far EasTone, TransAsia is an Ericsson customer. When the operator launched its commercial network in 1998, there were 25,000 people on the waiting list. It is no coincidence that this small local operator is so successful.

Among the attractive offers made by TransAsia was free subscription to the system during the introductory period. This created positive attention and as many as 80 percent of those who participated in the offer of a free trial period later signed up for a subscription.

Roaming enables TransAsia subscribers to use their phones throughout Taiwan, although the network only covers the southern part of the island.



Joseph O'Konek, president of Far EasTone, believes that young people's use of mobile phones provides an indication of what will be popular in the future.

Photo: Shing-Ting Huang

"The big challenge is to simplify usage. Mobile phones must become easier to use and the services should exist within the network and not the device itself."

Enterprise is one portion of the market that Far EasTone does not feel has kept up with developments in the market, unlike consumers. This is an area that is in focus and where various solutions are being offered. This includes, for example,

the Mobile Virtual Private Network (MVPN), which is aimed at the 200 largest companies in Taiwan. This solution integrates the fixed enterprise switch with the mobile network, providing access to both SMS and wireless data applications and offering such features as positioning. For individual users, e-coupons offering discounts that can be downloaded into phones have been a very popular service.

English dictionary via SMS

Charlie Midgley is market manager at TransAsia and has been involved from the beginning. He explains that it has been important to really live up to the motto "We are right beside you" and to create confidence from the very first day.

Local media advertising is a key factor for TransAsia. Much of this is made in both Mandarin and Taiwanese, the languages spoken in the southern part of the island. The company's television commercials, which have been showing for more than a year and a half, have been extremely popular. These are reminiscent of a soap opera, with the two main characters, the fat guy who is a real know-all and the young good-looker who resolves all the problems.

Await new episodes

These TV commercials have become so popular that people eagerly await new episodes. The ads have won all the awards on offer in Taiwan and also received an acknowledgement in New York.

TransAsia introduced SMS services earlier this year and these include weather reports, stock market updates and sports results. A slightly different service is "Mobile Dictionary," an English dictionary that can be accessed via SMS.

Remote upgrade

David Clarke, head of technology at TransAsia, says that it has been important to incorporate quality from the beginning.

"Focusing on the customer is as important for our service engineers as it is for our marketing staff," he says.

A remote upgrade of the network has been under way during the past few months.

"Mobile systems are becoming increasingly complex and we require expert help from Ericsson to complete this upgrade. This is knowledge that we will now pass on to our own service engineers," David Clarke explains.

Towards mid-year, TransAsia was acquired by Taiwan Cellular Corpo-

FACTS/FAR EASTONE

Far EasTone has more than 4.1 million subscribers and two licenses – one for GSM 900 in the most populous northern part of Taiwan, and one for GSM 1800 throughout Taiwan. Ericsson is the company's only supplier of GSM equipment.

Even though mobile telephony had a relatively late start in Taiwan, development has proceeded rapidly.

"Until now, the entire industry has been focused on sales and the number of users, but now it is time to switch our focus to profit instead," says Joseph O'Konek.

Ericsson is Far EasTone's only supplier of GSM equipment. The close collaboration between the companies has resulted in a GSM network that, ever since its launch, has received the highest marks in government studies of network quality and customer service.

GPRS has now been installed throughout the entire network, which means coverage for all of Taiwan.

New areas

Now that the number of users is growing at a slower pace, Joseph O'Konek believes that there will be more time to develop collaboration with Ericsson in areas other than infrastructure, such as applications and services for the mobile Internet.

"Here in Taiwan, there are many competitors in the market and all are preparing for the future. I believe that other markets served by Ericsson could benefit from our experiences," concludes Joseph O'Konek.

Gunilla Tamm

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FACTS/TRANSASIA

TransAsia operates in southern Taiwan and has more than 740,000 subscribers. The operator received its GSM license four years ago and chose Ericsson as its exclusive supplier. Now owned by TTC.

ration, Taiwan's largest mobile operator.

However, TransAsia's market manager, Charlie Midgley, points out that the brand remains.

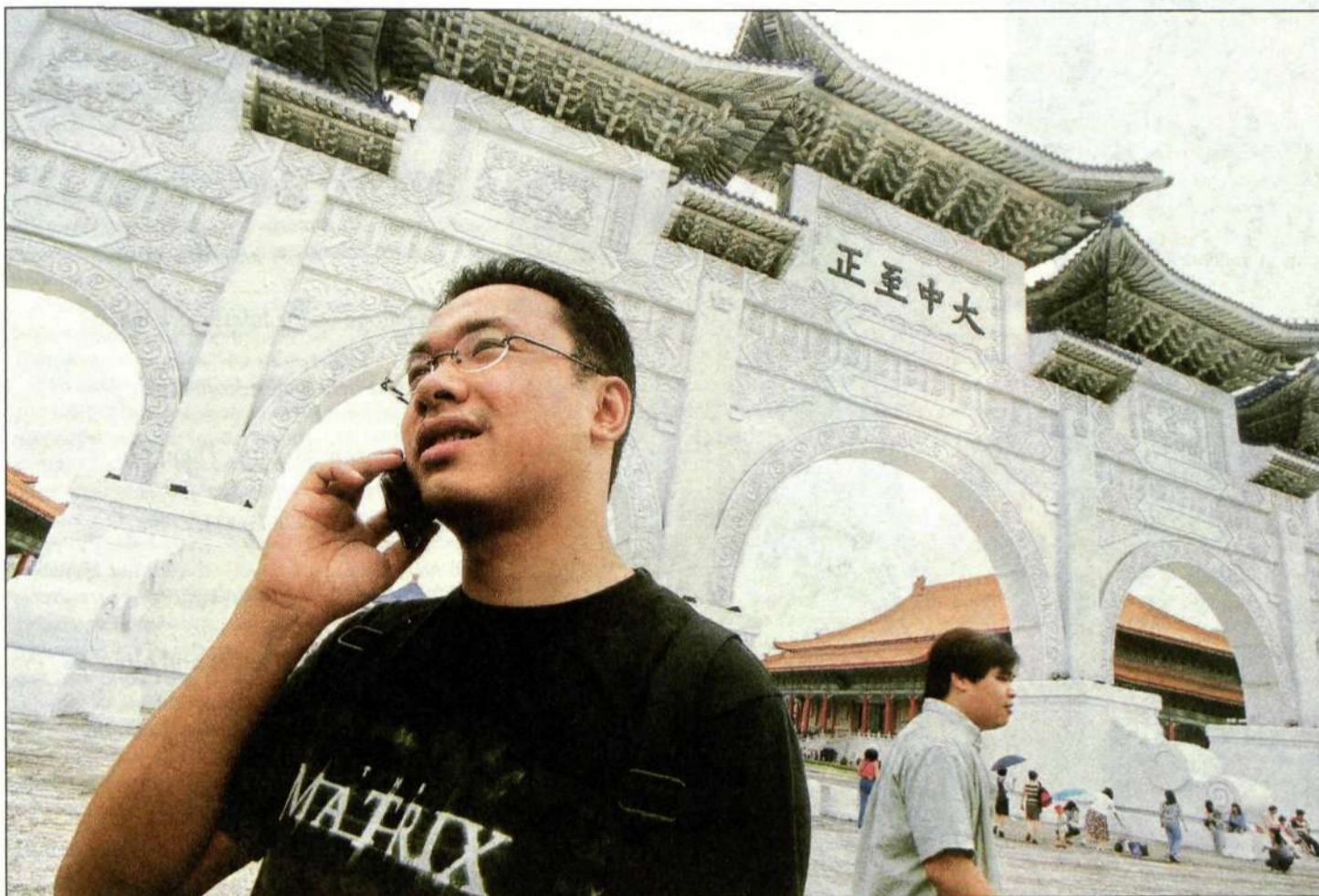
"As a regional operator, we could never compete with the national companies and our local emphasis has thus been an important feature from the start," he concludes.



Charlie Midgley

Gunilla Tamm

young show the way



The operator's inventiveness has contributed to the substantial increase in mobile usage in Taiwan. Mobile penetration is a dizzying 96 percent, but the real figure is probably lower, since many people have several SIM cards. Photo: Shing-Ting Huang

FACTS/TAIWAN'S MOBILE MARKET

In 1997, the Taiwan telecom market was liberalized and GSM licenses were distributed.

Today, there are a total of more than 21.5 million subscribers.

In total, there are six mobile operators in Taiwan. The Taiwan Cellular Corpo-

ration (TTC) is the largest, with more than 6.6 million subscribers. Second-largest is Chungwa Telecom (CHT), which is in the process of transferring to GSM from AMPS technology.

Far EasTone is the third largest. The other operators are Mobitai, KG Telecom and TransAsia.



Far EasTone, with its head office in Taipei, has a mobile network that covers all of Taiwan. TransAsia, whose system covers the southern part of the island, has its head office in Kaohsiung.

New measures improve operators' margins

Taiwan reports an amazing 96 percent penetration of the potential mobile telephone market. In reality, though, everyone knows that the figure is lower. Therefore, the latest tendency is for mobile operators to talk of earnings per subscriber in addition to the number of subscribers.

Until the spring of 2001, steadily increasing subscriber lists were interpreted as signs of success, which, in turn, increased the stock market value of the mobile operators. This is typical for a growth industry.

However, many markets, particularly in Europe but also in Asia, have reached saturation point recently. It is no longer possible to expand quantitatively. On the other hand, other measures of success, such as average revenue per user (ARPU), are growing increasingly important.

The world's largest mobile operator, Vodafone, has led the way by including ARPU in its reports as of spring 2001.

"Actually, this is not a new calculation method. Rather it is the case that Vodafone has decided to provide analysts with more information about how subscriptions are used," explains Monica Enderstein, who is responsible for investor relations at the company.

But why does 96 percent penetration not mean the same thing as 96 percent of people having a mobile phone?

The reason is that pre-paid subscriptions have increased dramatically in recent years. In the UK, for example, operators have sold subsidized phones even with pre-paid accounts. This has enticed users to purchase new subscriptions despite already having one. Since last winter, however, both One2One

and Vodafone have removed their largest subsidies for pre-paid subscriptions.

Previously, a subscription has been counted as inactive when the user has not re-filled the account or used the subscription for 12 months. In extreme cases, individual users may have up to ten pre-paid accounts simultaneously.

In order to decrease the counting of users more than once, a subscription is now counted as inactive after three months. Removing the unprofitable, inactive subscriptions from the statistics means that earnings per subscriber increase and operators' margins improve.

"Paradoxically, this may mean that there is an advantage in having fewer subscribers – as long as these are subscribers that pay for themselves," explains Bengt Ernstsson, who is responsible for statistics at Mobiltelebranschen, the Swedish

WLAN gains new ground

» ONE, the third-largest Austrian mobile operator, has taken a majority stake in broadband wireless provider eWave. The aim is to add wireless LAN services to its future UMTS offering, particularly in so-called "hot spots" such as hotels or airports.

Telenor of Norway has already linked WLAN to its GPRS service, offering it to nomad customers in certain hot spots throughout the country.

Mobile phones down in Finland

» New sales numbers from the Finnish organization for home electronic resellers show decreasing sales of mobile phones in Finland. The sales fell by more than 54 percent during September, compared to September last year. Looking at the first nine months, the downturn was 21 percent. According to Financial Times, one reason for the poor numbers is that Nokia's GPRS phone has been delayed.

Additional antenna doubles capacity

» In the United States, Qualcomm has developed a method of more than doubling the voice capacity of 3G CDMA2000 technology, according to Reuters. In practice, this means that a single base station can handle several conversations, although the technology requires the development of new telephones with two antennas, Qualcomm says.

Qualcomm wants to introduce the new technology in the long term. According to Roberto Padovani, Qualcomm's R&D manager, it may take as much as 18 months before phones with twin antennas are available. Ericsson owns Qualcomm's infrastructure division since 1999.

Sweden awaits GPRS price war

» As the last player, mobile operator Tele2 finally introduced GPRS services in Sweden. Wisely, Tele2 chose a price model that allows unlimited usage of data-based GPRS services for only USD 4.50 per month.

The newcomer puts pressure on its competitors Europolitan Vodafone and Telia who both charge a fixed price plus a fee per usage. However, Tele2 says it will adapt its prices to a model more similar to its competitors from May next year. But, until then, everyone is eagerly waiting for these competitors to react. Maybe there will be a price war on GPRS?

China in European satellite project

The Galileo satellite navigation system is receiving a boost from an unexpected source – China now wants to join this gigantic European project. According to the German daily newspaper Der Spiegel, there is political agreement but no formal signature.

The Galileo program, which is designed to guarantee European independence from the US in the satellite field, is due to come into operation in 2008. It is estimated that the annual cost of the project is approximately USD 35 billion.

FACTS/MOBILE PENETRATION

Not only Taiwan has sky-high market penetration figures for mobile telephones. Others include:

- Austria: 84.5 percent
- Finland: 80.9 percent
- Iceland: 90 percent
- Israel: 90 percent
- Luxembourg: 87.9 percent

Source: EMC, September 2001

industrial organization for the mobile telecommunications sector.

"This trend in the calculation of subscriptions may grow stronger with the new generation of networks," he concludes.

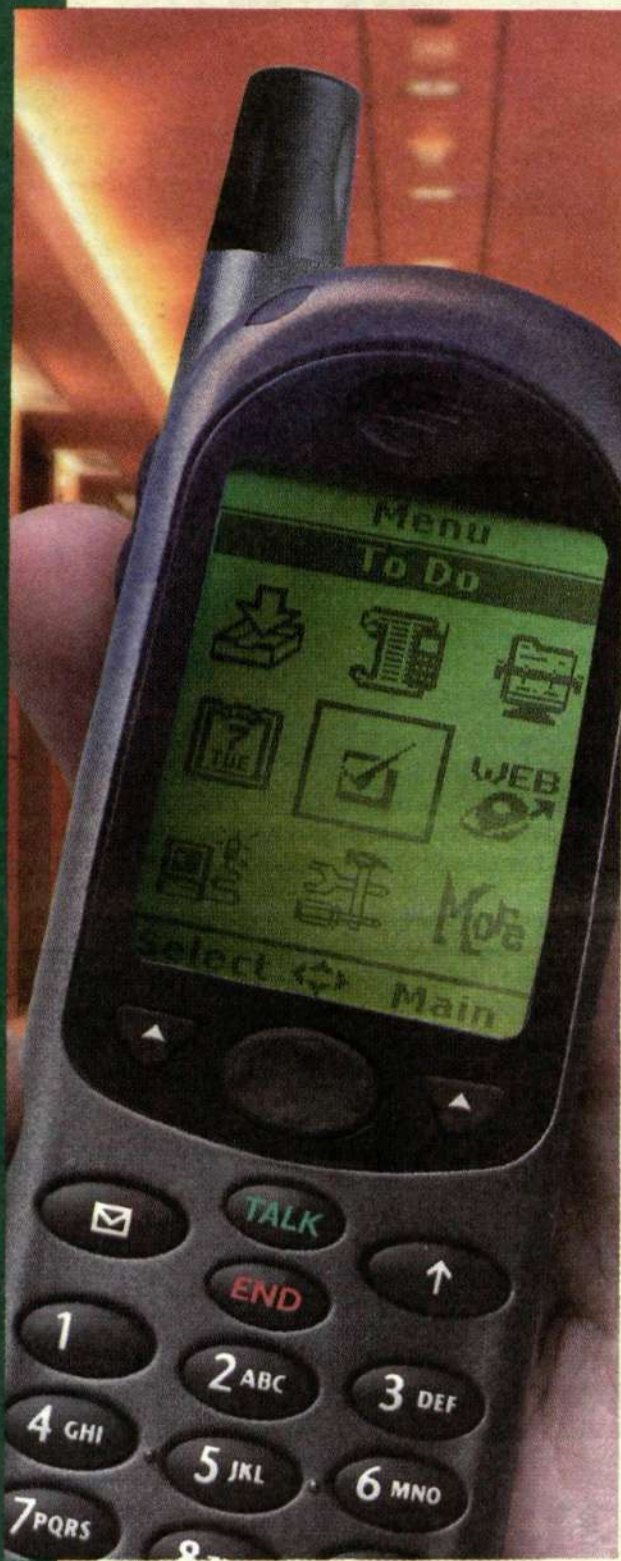
Mats Lundström
freelance journalist

Flash Memory



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Spotlight on transmission

Transmission and Transport, an area of operations defined as long-distance communications via microwave and optic cable, is gaining greater momentum. The recent establishment of a separate business unit underlines the growing importance of these operations.

► Until recently, transmission and transport operations were included as part of different Ericsson divisions. Microwave operations were structured as part of mobile systems, and optic cable was included in the Data Backbone division.

Effective September 1, 2001, both areas of activity have been merged in a single business unit, Transmission and Transport, with Björn Olsson as manager.

"We have been highly proficient in the development and sales of microwave systems for many years, but less successful in optic cable systems. One of the reasons, perhaps, has been our decision to focus more strongly on other areas of Ericsson's operations. We have now established a goal, however, to capture new market shares in the optic cable sector, in parallel with determined efforts to defend and maintain our leadership position in the microwave sector," says Björn Olsson.

Ericsson is the world leader in the field of microwave transmission. The company has achieved enormous success with MINI-LINK E and MINI-LINK BAS through its capacity to provide wireless transmissions of very large amounts of data from one point to another, or from one point to several others. Microwave operations account for about two-thirds of the new business unit's overall activities, with optic cable operations comprising the rest.

Higher capacity networks

In a trend similar to ongoing development in mobile systems, the transmission sector is also progressing toward a new generation. The current trend is highlighted by the introduction of greater network intelligence.

Companies are also starting to build metro-networks to cover areas as broad as 100 to 200 kilometers. Customers in these areas are offered extremely high data transmission speeds, even in the outer reaches of the networks, via combinations of optic transport and microwave.

"Optic capacities are gradually moving further out in the networks. In the Stockholm area, for example, some metro-network operators have already started to offer high capacity," says Björn Olsson.

Another important market sector is based on methods used to increase the capacity of existing fiberglass cables through wavelength multiplexing. Ericsson's solution, Erion, enables operators to increase the data transmission capacity in a single fiber by a factor of 32. Instead of installing a new underground cable, operators are now able to deploy Erion equipment at both ends of existing cables.

"Our most important objective is to continue to generate and develop business. It's a natural tendency for the organization to turn inwards when changes are introduced, but, based on my 20 years of experience working in direct contact with customers, I understand the importance of providing our key account personnel with all the support they need," says Björn Olsson.

Established in several cities

Transmission and Transport consists of about 2,500 persons, including delivery operations. The business unit's operations are conducted in several different cities and development centers. Ericsson Microwave in Mölndal, Sweden, is the primary base for microwave operations, but development activities are also conducted in Norway, Denmark and Italy.

Development and design centers for the business unit's optic fiber operations are situated in Kista and Kungens Kurva in Stockholm, as well as Horsham, in the UK, and in Germany and Italy.

Lars-Magnus Kihlström
lars-magnus.kihlstrom@lme.ericsson.se



Microwave operations account for about two-thirds of total operations conducted by the new Transmission and Transport business unit, with optical transmission accounting for the remaining one-third. The picture above shows a MINI-LINK BAS microwave installation in Oslo.

Photo: Niclas Henningsson

Bandwidth requires greater intelligence

The field of transmission and transport is moving toward a generation shift. Intelligent and flexible networks will gradually replace today's more rigid optical networks. The shift is a basic requirement to meet the growing demand for bandwidth and capacity.

► IP-based communication is characterized by accelerating growth. The ongoing trend requires much greater bandwidth, compared with today's infrastructure, but capacity requirements vary from one point in time to another. Emerg-

ing requirements call for a new type of transport network, a network that not only offers capacity to accommodate higher traffic loads, but also the functionality needed to provide intelligent and flexible traffic management.

Generation shift in networks

A generation shift is now in progress in the transmission sector. The driving force is the new generation of mobile and multi-service networks that will create a very dramatic increase in data traffic. To keep pace with current trends, Ericsson is now working on the development of ION, an intelligent optical network.

"The old generation of optical networks, based on SDH (Synchronous Digital Hierarchy) and WDM (Wavelength Division Multiplex) are static, 'dumb' and built for voice communica-

tions. In view of today's sharp increase in data traffic, which now accounts for more than 50 percent of all network communications, it is imperative that we also focus on further development of transmission networks," says Per Andersson, head of business development for the Transmission and Transport business unit.

The channels in second-generation networks are fixed, and the fibers extend from one point to another. It is possible to access the capabilities of a channel here and there, but the networks are largely static.

"A major feature in third-generation systems will be the ability for a data router, for example, to request more capacity when it begins to sense a traffic overload. Under these conditions, the optical network will automatically establish new wavelengths and, when a fiber is

fully utilized, the network will be able to access capacity in another fiber. Today's static systems do not have this capability."

Electrical intelligence

"Our objective is to retain the intelligence in the electrical world and introduce relatively simple optic relays to connect the light between different channels. Network architecture is also important. It will comprise a transition from ring to meshed networks," says Per Andersson.

He also believes that development of the next generation of transmission equipment may be completed within the next two-three years.

Lars-Magnus Kihlström

PART OF ERICSSON'S NEW ORGANIZATION

PRODUCT/SOLUTIONS DIMENSION

Business Units



Multi-Service Networks & Data Backbone
Johan Bergendahl



Mobile Systems WCDMA & GSM
Einar Lindquist



Mobile System CDMA
Åke Persson



Transport/Transmission
Björn Olsson



Global Services
Bert Nordberg

Other Business Operations

EBC
EBT
ECA
EMP
EMW
INN
MIC

Mobile platforms benefit the industry

The newly created company, Ericsson Mobile Platforms, opens up a number of possibilities, including new brands and mobile phone models, mobile connection in everything from cameras to handheld computers, and increased sales of Ericsson's mobile systems.

"We can create a structural change in the industry," says company president, Tord Wingren.

► Ericsson Mobile Platforms began operations on September 1, 2001. The central office is situated in Lund in southern Sweden and this is where 450 of the 800 employees are to be found. The compa-

ny also has operations in Basingstoke in the UK, Grimstad in Norway, at Research Triangle Park in North Carolina, in the US, and Tokyo in Japan.

The company develops platforms for the GPRS and 3G mobile standards that can be purchased by any company wanting to manufacture mobile telephones or other equipment connected with the mobile network.

"Ericsson is known for its lead in technological solutions and the solutions we offer are of great interest to other companies," says Tord Wingren.

But what is a mobile platform exactly? Is it a physical product? Tord Wingren explains that platforms consist of components that Ericsson allows other companies to manufacture using Ericsson's design. This is the physical product that is then provided to the primary customer by Ericsson's sub-contractors.

"In addition, we deliver software directly to our customers and provide them with various types

of support. We customize platforms to suit the customer's product in the best possible way. It is important to add that those who purchase our platforms also obtain licenses to manufacture and sell products based on Ericsson patents."

Previously, the operation was known as the Strategic Planning and Technology Unit, which was a part of Ericsson's Consumer Products division. Tord Wingren says that this was appropriate at a time when products were defined by the technology. At that time, phones were getting smaller and smaller. Today, however, design, software and brand are far more important. The formation of the company has involved quite a number of changes.

"Nowadays, we make products. Previously, we delivered to other product projects. Today, we package our technology and market it. I think this sharpens Ericsson's technological edge. The distance between those who develop the technology and the customer has grown smaller."

Another aspect of customer contact lies in industrialization, that is, the process of progressing from a prototype to mass production.

"We guarantee the quality of our solutions even in mass production and assist the customer in this process. When it comes to the parts that the manufacturers develop themselves, such as displays and antennae, they bear the responsibility for their own product."

Tord Wingren is confident about the future of the new company. It will be able to speed up the development of the Mobile Internet and will benefit other areas of Ericsson.

"If we are able to set the standard with our technology platforms and can create a total solution that functions in Ericsson's networks, then this will also represent an advantage for Ericsson's sales of networks," explains Tord Wingren.

Jesper Mott

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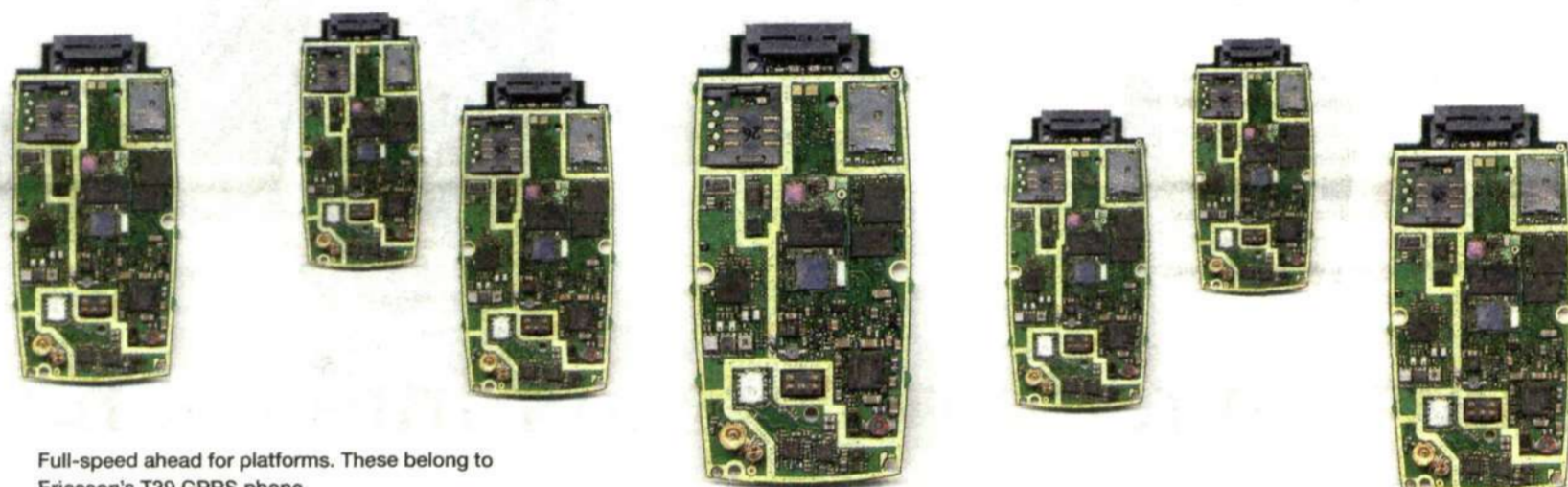


Tord Wingren (above), president of Ericsson Mobile Platforms, is satisfied with the start made by the company. He is now looking forward to the commencement of operations at the new premises in Lund. Nicklas Gerhardsson (right) is responsible for building up the part of the company that will establish and maintain customer contacts.



Martin Garner analyzes mobile communications at Ovum.

Photo: Lars Åström



Full-speed ahead for platforms. These belong to Ericsson's T39 GPRS phone.

The market lies open

As a newly created company, Ericsson Mobile Platforms is charting its market. It is a matter of establishing contacts with the right players. Nicklas Gerhardsson, who is responsible for sales and marketing at the company, says that reactions have been extremely positive.

► Nicklas Gerhardsson works to establish customer contacts and is building up a method for the company's future interaction with customers. The news of Ericsson Mobile Platform's creation generated extensive interest and many people have been in touch after simply having seen the press release.

"Both small and large companies have been in touch. Not all of them will become customers, but all contacts are important. Ericsson is gaining market know-how and learning what requirements exist regarding technology and support," says Nicklas Gerhardsson.

The largest and most important customer is Sony Ericsson. A history of collaboration exists, since Ericsson Mobile Platforms was a unit within Ericsson's Consumer Products division. Certain projects are therefore continuing as previously, although the new situation requires that

new contact interfaces be established between the companies.

Ericsson Mobile Platforms delivers both to Sony Ericsson and to its competitors. Nicklas Gerhardsson explains that it is important to handle this situation correctly.

"There are two aspects to consider. As a company, we must maintain strict control over the information we receive from Sony Ericsson and its competitors. To the same extent, this also applies to Sony Ericsson since they will have contacts with companies that compete with us. If we are not sufficiently competitive, Sony Ericsson will not buy from us. The other aspect is that we do not control the competition. We offer a platform that is a prerequisite for manufacturers to be able to create a product, but they are responsible for ensuring that the product is competitive by means of design, functions and services."



Nicklas Gerhardsson is responsible for building up the part of the company that will establish and maintain customer contacts. So far, the customers themselves have contacted Ericsson Mobile Platforms.

The broadening of the market benefits all parties. Ericsson, Sony Ericsson and their competitors.

So, what does the competition look like when it comes to platforms? Nicklas Gerhardsson foresees major possibilities for Ericsson to lead the field in both GPRS and 3G platforms. A handful of companies have demonstrated that they are able to develop GPRS platforms and about as many will have the

resources necessary to develop platforms for 3G terminals.

"However, I feel that Ericsson Mobile Platforms has the advantage of coming from an environment where telephones have been designed and developed. We have a special understanding of the problems that manufacturers will face."

Jesper Mott

Smart strategy with PC parallels

The formation of Ericsson Mobile Platforms is a natural step in developing the market for the Mobile Internet, says Martin Garner, industrial analyst at the Ovum company, which has its headquarters in London.

► Ovum recommended that Ericsson begin licensing mobile telephone manufacture as early as in 1997, explains Martin Garner. He is a little surprised that this did not happen sooner.

"This is a wise decision, which we see as a natural step in opening up the market," says Garner. The phenomenon of leading companies developing advanced components while others manufacture the final consumer products has several parallels in other sectors. Intel has, for example, employed this strategy with great success when it comes to microprocessors for the PC industry.

"Another interesting parallel is Seiko, which makes clocks and watches. It has a large portion of the market for complete watches, but has a truly extensive market share for components. Watches are comparable with mobile phones. The market is controlled by fashion and the differences be-

tween the watches available are mainly cosmetic. Their underlying functions are largely the same."

A mobile telephone terminal contains a small number of advanced key components. It is these that are difficult to develop and expensive to produce. Garner feels that it is sufficient for a few companies to be able to cope with the development of these components for 2.5G and 3G terminals.

"But in order for the Mobile Internet to come up to speed, more manufacturers of complete terminals are needed."

Will we see more manufacturers within the near future?

"These efforts focus on the Mobile Internet and the manufacture of complete consumer products still requires considerable research and a great deal of knowledge. It is still difficult to manufacture these telephones. We are not going to see hundreds of different brands on the shelves in a year's time. Rather, the number of brands will double and the number of models may increase perhaps tenfold compared with today."

A strong brand name is not sufficient for success in the market. The established electronics companies may become the mobile phone manufacturers of tomorrow.

"There will be greater variation in the design

FACTS/OVUM

Ovum is a company with 280 employees that conducts and publishes its own research within IT, e-commerce, the Internet and telecommunications. Its headquarters are situated in London. Ovum also has offices in San Francisco, Boston, Melbourne, Buenos Aires and Seoul. The company concentrates on analyzing new phenomena, such as the development of 3G.

In addition to its independent studies, Ovum conducts consultancy assignments for companies such as Ericsson or authorities such as the European Commission.

Martin Garner was involved in starting a group within Ovum that analyzes mobile communications.

of wap and GPRS telephones. Manufacturers will also experiment with equipping other gadgets, such as cameras and mp3 players with modules that allow them to connect to the Internet. There will be an explosion of experimentation and many will fail. A company like Ericsson can earn a large amount from this without having to take any risks itself."

Martin Garner foresees two alternative paths that developments can follow. One is that it will be possible to connect gadgets such as handheld computers, mp3 players, cameras and minidisk players to the Internet. Alternatively, these gadgets might, instead, be equipped with Bluetooth and linked to a mobile phone that, in turn, acts as the portal to the Internet. Bluetooth would thus shrink the mar-

ket on which Ericsson Mobile Platforms is focusing.

"But I think there is a sufficient variety of products and enough users for a diverse market to emerge."

When it comes to the relationship between Ericsson Mobile Platforms and Sony Ericsson, Martin Garner is curious about how the resulting competitive situation will be managed.

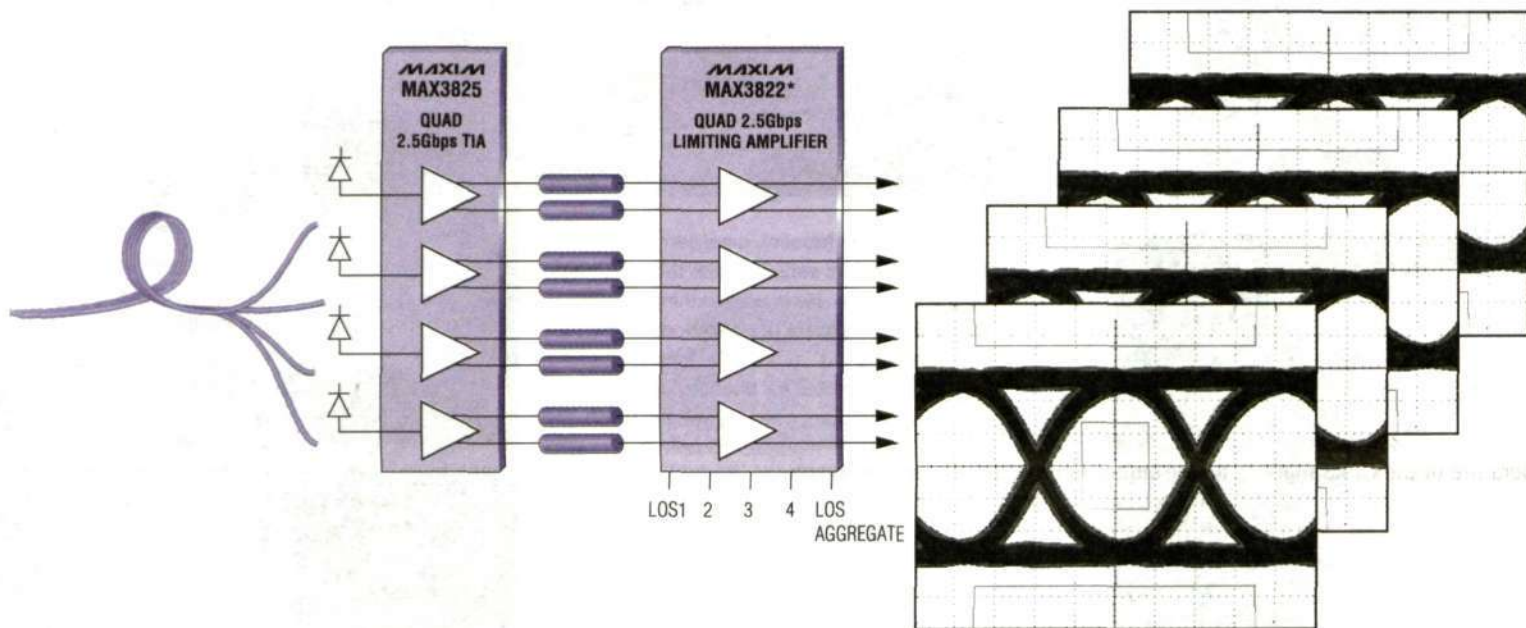
"Ericsson will have to handle this with care because Ericsson Mobile Platforms will probably supply manufacturers competing with Sony Ericsson. However, with a growing market, the platform company also represents good news for Sony Ericsson," he says.

Jesper Mott

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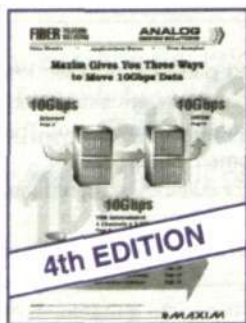
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GPRS finally moves ahead

Ericsson is maintaining its lead in the GPRS market. Ericsson has more contracts than its competitors, and more customers that are actually offering GPRS. Two operators that now have their GPRS networks in operation – Tango in Luxembourg and Telia in Sweden – both have high hopes of data-based GPRS services.

▶ The latest figures from the company's market analysis department indicate that Ericsson is participating in 75 of a total of 169 agreements signed for the supply of GPRS services throughout the world.

"No other supplier has so many GPRS agreements," says Anna-Lena Handell, one of Ericsson's market analysts.

About 60 operators have started to offer GPRS services in some form, and half of them are using Ericsson networks.

Telia on track

That means that approximately 30 Ericsson customers have already launched GPRS, and 23 of them have started to offer this service to all their customers – a commercial launch in other words.

"The most recent addition is Telia, which launched its service in the consumer market on September 11," Anna-Lena Handell says.

She and her colleagues are keeping a daily check on the temperature of the GPRS market.

"The August figures indicate that Ericsson

was involved in 73 agreements, which makes two new contracts in a month," she notes.

But although a large number of operators have launched GPRS services, utilization is still limited.

One problem, according to Anna-Lena Handell, is that not all the parties in the value chain have found their true role. In Japan, where i-Mode is very popular, only a small portion of what consumers are charged is going to the operators, while content providers take the lion's share.

"It is essential that the industry employs a business model in Europe and the rest of the world in which all participants find it profitable to contribute to the development of the mobile Internet in the long term – a model that includes networks, services and telephones," Anna-Lena Handell continues.

Limited choice

Suppliers of GPRS phones have been criticized for the limited range on offer. However, the position is better today.

Ericsson released its first R520 GPRS phone



Ericsson's first GPRS phone was launched in April 2001. Ericsson also leads the field in terms of GPRS contracts, and dominates the market.

in April, soon followed by the popular T39. Another three models are in the pipeline.

"The T65 is next in line," says Peter Bodor, who is in charge of public relations at Sony Ericsson Mobile Communications.

The T68 has already attracted considerable media attention, and the R600 will follow before the end of the year.

Elin Dunås

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FACTS/GPRS CONTRACTS

Ericsson	75
Nokia	51
Motorola/Cisco	18
Siemens	10
Others	15
Total	169

Tango – a GPRS pioneer

When Tango decided to introduce GPRS in Luxembourg and Liechtenstein, a fast solution was called for.

"Only Ericsson could deliver a solution as fast as we wanted," says Didier Rouma, head of IT at Tango.

▶ Didier Rouma recalls that Tango initially contacted Ericsson in September and wanted to launch GPRS in March.

"Only Ericsson was able to achieve this," he says.

On March 1, Tango was able to start offering its customers GPRS. Pascal Koster, who is head

of Tango, says that the company was a little disappointed about the lack of GPRS phones at the time of the launch.

"But this is not only Ericsson's fault – it applies to all suppliers," he points out.

To date, Tango has chosen a low profile for its GPRS service, but now that there are plenty of phones, the operator is initiating a new launch. Tango believes strongly in packet-switched technology in the form of GPRS.

"We carry six million SMS messages each month and have 150,000 customers. This is more than ten times the number of messages that we carried a year and a half ago, although the number of customers has not quite doubled. This is a dramatic increase, which shows that people like to communicate using data services," says Pascal Koster.

Nevertheless, Tango is making a cautious forecast for the autumn. Pascal Koster anticipates that 1 percent of customers will be using GPRS by the end of the year. It is not until the end of 2002 that a more substantial amount of GPRS traffic is forecast.

However, Koster doesn't like the term data traffic at all.

"This is not what counts. The important factor for us is the ability to offer excellent mobile Internet services. It is positive that Ericsson wants to support us in the launch of services to our customers," he adds.

"We regard this as a partnership more than a customer-supplier relationship," concludes IT manager Didier Rouma.

Elin Dunås



The operator Tango was an early starter in the launch of GPRS.

Photo: Barracuda Productions

Telia wanted to wait for a larger supply

The starting gun for the launch of Telia's GPRS service was fired on September 11, and on September 24, Telia announced a special service for the business segment. Anders Bruse, head of Telia Mobile, does not regret the relatively late start.

▶ "We wanted to wait until there was a wider range of GPRS phones on the market," Anders Bruse says.

Europolitan Vodafone, one of Telia's main competitors in Sweden, started to offer GPRS commercially in April.

"Naturally, we were a bit worried about losing market shares since we were not first in the market. But, with the benefit of hindsight, I don't think those who made an early start with GPRS have been more successful," Anders Bruse says.

Both Telia and Tango have experienced a substantial increase in SMS in networks – 171

million SMS messages were sent in the first six months.

This is almost three times more than in the corresponding period in 2000.

"This means that we are in the early stages of an explosion of mobile data services, similar to that experienced by NTT DoCoMo in Japan," Anders Bruse explains.

Color screen required

"Packet-switched technology is the fundamental requirement for success. But phones with color screens and better displays must be more widely spread among customers, as well," Anders Bruse says.

"But it'll probably take some time before my teenage son and his pals have phones with color screens."

Up to the operator

Anders Bruse also thinks it is the operators who have to work to get GPRS moving. They have to be better at developing business models which give content providers a reasonable share of the profit.

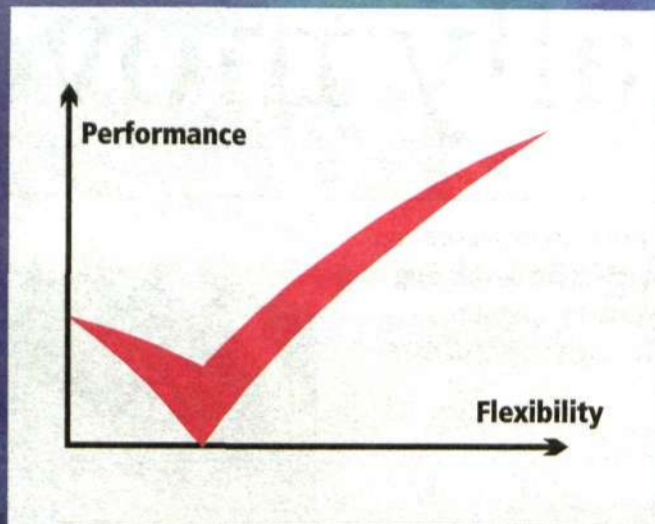
If there were no content providers, there would be no data services.

Elin Dunås



Anders Bruse

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Ericsson's Meganetwork Program helps operators maintain profitability during the wait for 3G.

Illustration: Björn Hägglund

GSM cash cow has much more to give

GSM networks still have the potential to generate substantial revenues. Ericsson's Meganetwork Program will help the global market's largest mobile operators derive maximum profits from their networks, pending the definitive breakthrough of 3G mobile telephony.

► The Meganetwork Program was initiated in autumn 1999 with two primary objectives: to stimulate increased utilization of GSM services and help operators increase the efficiency of their mobile networks, as part of efforts to meet the anticipated sharp increase in telephone traffic.

"The current trend within GSM is that network operators are becoming ever larger. This is the result of mergers of operator networks and of the expansion of networks to enable them to cope with the continuing increase in traffic," says Patrik Regårdh, head of the Meganetwork Program in the Mobile Systems division.



Patrik Regårdh, head of the Meganetwork Program in the Mobile Systems division.

He is convinced that traffic in the world's GSM networks will increase at an even faster pace during the next few years.

"We have entered the second phase of the GSM era. The first phase was a subscriber-driven process, based on a constant increase in the number of subscribers. We are now moving into a traffic-driven phase, resulting from the greater levels of activity in GSM networks," he says.

Readiness is the key

A classic example of this trend was when AT&T Wireless in the US introduced its "digital one rate plan" in the summer of 1999. The plan reduced calling charges and eliminated roaming fees charged to subscribers, which in turn led to a dramatic increase in network traffic. AT&T's TDMA system was overloaded almost immediately, and the company was forced to commission the services of an extra system supplier to accommodate the sharp increase in calls.

There is a risk that some operators with

inadequately prepared networks will miss out on the profits that will be generated within the GSM sector in the next few years.

One major concern is that many of today's operators do not have the financial resources needed for investment in their GSM networks. They have already invested substantial amounts in 3G, but postponements in the roll-out of 3G have now made it even more important to maintain and protect the profitability of their GSM networks.

Fast solutions offering value for money

"We offer services and solutions that quickly and efficiently enable operators to increase traffic flows in their networks without any costly disturbances in their present activities," says Patrik Regårdh who adds:

"For the operators, it's all about services that provide value for money and generate major effects in their systems. That is exactly what they need today."

To secure the success of the program, it is important to identify the needs of each individual operator and, based on these needs, to prepare appropriate package solutions for all customers. Solutions now in demand among telecom operators include the new AXE 810 switching platform, Adaptive Multi Rate – a

FACTS/MEGANET

The program is aimed primarily at Ericsson's 20 largest GSM customers, including such operators as Guandong Mobile of China, Vodafone UK, Turkcell of Turkey and Telecom Italia Mobile.

These 20 operators account for slightly more than 50 percent of the total number of GSM subscribers.

speech encoder for GSM – and RBS 2206, a high-power base station for GSM.

Bo Bergström, former head of the GSM TDMA Edge business unit, emphasizes the strengths of the program:

"Over the years, Ericsson has developed solid experience and skills in building large-scale networks. The continued success of our customers in this area is extremely important to our own commercial success. The Meganetwork Program offers a means to maintain our focus on customers, while consolidating our own success," he says.

Jenz Nilsson

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A future world of supersenses

"New communication senses will be needed in the future to enable people to absorb the enormous mass of information with which they are confronted," says Martin Rantzer, head of research at Ericsson in Linköping, Sweden, in his report entitled "All senses communication."

► The basic premise of "All senses communication" is that as a result of rapid technical development we surround ourselves with increasingly sophisticated and complex devices and services. And this trend seems to be accelerating. Our ability to use technology, however, is not developing at the same rate. We do not see and hear better, understand more quickly, and our motor functions and reaction times have not improved very much over the past one hundred years.

The user interfaces we use today to transmit information to our brains threaten to create a real bottleneck for new broadband services. Broadband for our phones is not enough, we also need it for our brains.

Today's mobile users normally use only one sense - hearing. Mobile broadband and video-

phones will soon enable us to see the person we are talking to as well as that person's surroundings. The vision is that we will eventually be able to use all our senses, and truly experience at a distance the same things as the other person. There is a clear trend in our society toward an increased focus on experience, and our senses are the key to all real or virtual experiences.

"But it is not simply a matter of using sight, smell and touch at a distance. Even more, this vision aims to improve our interaction with technology. We believe that the way in which people communicate via technology will become increasingly like ordinary human communication," says Martin Rantzer.

"Adding voice and gestures to interfaces may make them more intuitive, as well as providing more nuances than we can achieve with a mouse-click."

We must make use of new communication senses. Apart from sight, hearing and touch, these will include senses that people have never had before - for example, radar vision and heat vision using infrared cameras. Technology can transform our own senses into "supersenses."

"Today, we use spectacles and hearing aids

to experience 'normal' vision and hearing. Why don't we use technology to give us new opportunities to, for example, read a road sign at a long distance, or hear what people are saying in a noisy environment? If we are driving a car and become dazzled by the sun, a radar camera could inform us that we are on a collision course."

Combining and strengthening our senses to improve communication implies more than a demand for new technical gadgets. More than

anything else, it implies the possibility of developing new services that will generate more network traffic.

"Ericsson's role will probably be to carry out the research and development of the fundamental technologies and services that will enable our customers to offer these mind-expanding services to their subscribers. Once we are all continuously connected, via Bluetooth, WLAN and 3G, with a surrounding personal network, we will need to use all our



Martin Rantzer

FACTS/ERICSSON FORESIGHT

Ericsson Foresight was created a year ago, to identify new technical, social and cultural trends. The forecasters at Foresight maintain a forward perspective of about ten years, compared with normal research work that is based on a five-to-ten-year projection.

Ericsson Foresight is largely a virtual organization, led by Bert Ericson and Magnus Karlsson.

Several Foresight Associates are linked around this core. They contribute reports and participate in seminars. The next layer contains a large number of stakeholders in Foresight Community. They take part in electronic discussions and are informed about results.

Ericsson Foresight does not conduct any research of its own, but rather collects information and provides basic data for possible future scenarios, in an effort to steer research and development in desirable directions.

Martin Rantzer is one of the observers who have contributed to trend predictions and he presented his "All senses communication" report in mid-September to the Wireless World Research Forum (WWRF), an organization dedicated to devising visions and providing research support for mobile communication. WWRF was initiated jointly by Ericsson, Nokia, Motorola, Siemens and Alcatel and today some 40 companies and universities are members.

senses to take advantage of all the possibilities available."

Boosting our senses is naturally beneficial in terms of correcting major or minor handicaps (from which most of us suffer in certain situations) but it becomes more dubious when people can use new aids to learn too much about each other. For example, if someone were to use their supersense to establish the condition of my health, feelings and/or other personal matters.

"We realize that this touches on some difficult ethical areas," says Martin Rantzer.

"It is important to study the accompanying effects of these new possibilities. We must prepare ourselves for a completely different world, but it is by no means certain that such a world will be better in all respects than the current one," he continues.

One topic that is widely discussed within Ericsson Foresight involves what the society of the future will be like. For example, will cities continue to expand? What will the companies of the future be like?

Many people will perhaps dismiss ten-year projections as nonsense, on the grounds that "it's something we know nothing about anyway."

Martin Rantzer gives me a video cassette to view. It shows what people 30 years ago thought about year 2000. Somewhat surprisingly, I note that nearly all the predictions

made then were correct. Electronic trading, remote education and so forth.

But not how we live. Thirty years ago, people thought that each person/family would have a self-contained accommodation module that could be relocated, by helicopter, to different

environments, where it would become part of a preplanned residential framework.

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inside.ericsson.se/foresight

www.receiver-online.com/index4.html

www.groupbt.com/education2001/factfile/index.htm

Future visions of telecom giants

Members of the Wireless World Research Forum met in Stockholm at their first General Assembly at the end of September. Around 40 members from leading companies within the telecom business discussed their visions of the wireless future and ways of getting there.

► The Wireless World Research Forum (WWRF) is an initiative launched in December last year by Alcatel, Ericsson, Nokia, Motorola and Siemens. The objective is to formulate visions for the future wireless world and identify issues that need to be addressed in order for these visions to come true.

"We want to promote user-driven development, starting from the perspective of what customers want," says Fiona Williams, treasurer of the WWRF board.

The forum has also established a likely time plan and road map for the coming of the wireless

world, spanning about ten years into the future.

"We believe that the trend is toward more context-sensitive devices. Telephones or mobile devices that can sense the environment, and behave appropriately. For example, if I am in a meeting, my telephone will redirect my calls, or if I walk into a shop, the telephone will provide me with relevant information on prices and specials," says Fiona Williams.

Another possible future service is the virtual guide or assistant. When visiting a museum, or a new city, you can be shown around by an artificial guide projected from your mobile device.

For these scenarios to become reality, certain issues naturally need to be addressed, and this is precisely the role played by WWRF. At the meeting, the need for greater bandwidth and frequency availability was discussed. According to the forum, another area of improvement is connection capability, since the next generation of wireless devices will all be communicating with each other.

"One possible development is that each customer uses hundreds of devices that are interconnected. Cars, refrigerators, telephones, they will all be communicating with each other."

At the meeting, the WWRF also presented the draft of their Book of Visions. The book will be released in December this year and describes visions, issues and required research for the wireless world.

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Using all of our senses opens new opportunities for integrating people and technology. Martin Rantzer demonstrates a future scenario where a projector on the side of his glasses projects a virtual image onto the lens. Together with a glove with built-in sensors and force-feedback, which provides a sense of touch, he can see and feel a three-dimensional image, which does not exist.

Photo: Lars Måreluis

Linköping gets a make over

Linköping has experienced a tough time, with the closure of Ericsson's mobile phone production and personnel reductions. But Ericsson has other activities in the area.

► A software center located in Linköping since 1987, has now been assigned more concentrated responsibility for the important control units in the GSM and WCDMA systems, among other developments.

In line with Ericsson's new organizational strategy of fewer design centers, software development and operating support mainly for GSM systems, is now being concentrated to Linköping.

Nearly 1,000 people are employed there under the direction of newly appointed general manager Jack Järkvik. Operations, which were formerly conducted at Guildford in the UK, are being relocated to Linköping, as are 100 personnel from the Fixed Networks division.

The Design Center is being assigned four areas of major responsibility: BSC (Base Station Controller) and RNC (Radio Network Controller) for the GSM and WCDMA networks, respectively. It will also be involved in the development of a new, common platform for

operations support systems for GSM, WCDMA and the core network. The Center will also work on a BSC test system, TSS 2000 (Test and Simulator Solutions), used solely for tests within Ericsson, and not as a product for sale to customers.

Flagship carries crew of 200

The flagship of the enterprise is the BSC node, the unit in the GSM network that controls how calls are switched between different radio base stations when the mobile user moves between the cells in the network. The slightly more than 200 employees working on the development of BSC software and testing are in contact with all Ericsson support units around the world.

"The BSC node is one of Ericsson's most profitable products," Jack Järkvik points out and adds that the BSC operation is the equivalent of a company the size of Electrolux, one of Sweden's largest companies.

In 2000, Ericsson sold approximately 1,000 BSC nodes, a considerable achievement bearing in mind that in total there are around 2,700 installed at operating companies.

Two in-house telecom networks

The Linköping test facility is impressive. The equipment here corresponds to two telecom networks in the same class as Sweden's Telia.

"This is a centralized site, with different



The Linköping test facility has grown strongly and today features mobile switches and BSC units corresponding to two normal-sized telecom networks, according to section manager Mikael Pettersson and general manager of the Design Center, Jack Järkvik.

areas for radio, power and other services, but in the new building, to which we will shortly be moving, we will have a decentralized set-up with self-sufficient, complete units," explains section manager Mikael Pettersson.

The facility tests the software in the GSM equipment using both individual function

tests and integration tests of various subsystems and complete systems. For practical reasons, no mobile phones are used. Radio connections are replaced by cables.

Lars Cederquist

A colleague above the norm

A week ago, Anders Svantesson was looking for a cup of coffee. He followed the familiar hum from a machine and wound up in a small room he did not quite recognize. Suddenly someone asked him if he needed some help with the photocopier.

"This kind of thing happens all the time. It really doesn't bother me," says Anders.

► Anders Svantesson is blind. He is also a qualified engineer, designer, husband and father. But his functional handicap is unavoidably the first thing people notice.

He arrives at the appointed place for our meeting by special taxi for the handicapped. Later, I find out that that is viewed as a luxury by some people. But who can take such petty jealousy seriously?

We have never met before, and suddenly I begin to feel a bit nervous. Should I extend my hand? How will he know where it is? Will he want me to help him enter the restaurant, or will he prefer to manage alone?

I can quickly stop thinking such thoughts, however, because Anders tells me what he wants right away. With his cane and my arm, there is no problem.

Anders's immediate colleagues at Ericsson Utvecklings AB know exactly how to make things easier for him – for example, by never omitting to say "Hi Anders. I'm here now."

"Otherwise, I don't pay attention to the fact that he's blind anymore," says John-Erik Johansson, who has been working with Anders off and on for ten years. "Sometimes I ask him to have a look at some document. He always tells me he takes it as a compliment."

When Anders meets colleagues, he makes it a point to put them at ease right away – since most people are a little reserved at first. Conversation that is not strictly about work can be slow.

"They may simply not dare to talk about holiday trips or films they've seen for fear I'll feel bad," he explains. "So I initiate the conversation, and chat with them a while. Things usually go more smoothly once we've got past that first hump."

Math a worry

Anders was 16 when he developed a detached retina and lost his sight, first in one eye and then in the other. It sounds like it must have been incredibly difficult. But Anders feels he was helped by his youthful energy and a practical attitude.

"I was most worried about not missing any more school, how I would get through my math exam, and so forth."

School became a central concern. Anders had to give up his plans to study chemical engineering. When it was time to apply for university engineering studies, he chose electronic engineering instead. Even that sounds like a courageous choice for someone who is blind. If the loss of sight had occurred earlier, before he had developed an interest in the subject, he might have become an historian instead.

However, his engineering studies went well. Obtaining tape-recorded course literature or Braille texts was not a problem. Eventually Anders wound up at Ericsson via work carried out in connection with his degree.

"My supervisor and my boss gave me free rein to design my workplace to include all the necessary accessories, and I was very pleased about that," Anders explains.

Everything worked out, and eventually Anders was hired in 1989.

Otherwise, getting that first chance is generally the great hurdle for the functionally impaired. Anders knows persons hiring staff, when confronted with two equally qualified applicants, will hesitate to choose one who will likely require a certain amount of extra work.

"The solution is that we must learn to see each other's inner potential and not automatically retreat when faced with someone who doesn't fit the mould."

Technical aids

When I called Anders to suggest an interview, he hesitated at first. Someone with a functional impairment sticks out, and is an all too likely candidate for feature articles.

"It's not exactly unexpected," he says. On the other hand, he also appreciates being able to show that functionally impaired people can have regular jobs.

Because they can. Anders has technical aids such as a computer with a Braille display and voice synthesis, connected to a Braille printer and a scanner. This equipment is sufficient to enable him to carry out his work.

Anders's colleagues help him by sending information by e-mail instead of paper. However, sometimes people assume he cannot manage certain tasks, such as taking notes during meetings, interacting with people at other companies, or addressing large groups of people. When this happens, Anders has to take the initiative and show them that he can. He enjoys his work as a designer involved with the AXE control system. Programming, testing and carrying out technical investigations suits him well. On the other hand, he is not sure he could take on a more supervisory role.

"But I wouldn't want to, either, since I like to have as much time as possible to spend with my family," he says. "Also, ordinary actions take so much more time for me."

By way of example, Anders explains that he and his wife, who is also blind, can never do their housekeeping bit by bit. They cannot just grab a dust ball and throw it out; instead, they have to start in one corner of their house and proceed very systematically. It sounds complicated, but Anders says being able to manage such things without help is good for his self-esteem.

Automatic eye contact

Otherwise, he has become used to accepting help. He never finds it irritating when people ask questions or want to show him the right way, even though he can usually manage quite



Usually Anders feels like part of the team. However, where technical aids and special problems facing the functionally impaired are concerned, he is alone. Instead, he can discuss such issues in the network for visually impaired IT engineers that he helped to found last year.

Photo: Alexander Farnsworth

well alone. He has oriented himself carefully in places where he spends a lot of time, and manages very well there.

I have eye contact with Anders throughout the interview. When I point this out, he explains that it is intentional.

"Children who were born blind must learn to 'look people in the eye.' Otherwise, people become confused."

Anders's own sons are not blind. They are now eight and nine years old. But when they were younger, they would often dart away as

young children do, so they had to wear bells whenever the family went out. For them it was nothing special.

Anders's colleagues have also become quite used to his approach to problem-solving.

"Knowing Anders has improved my approach to other people with functional impairments," says Anders's colleague Mats Fjällström.

Maria Paues
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Arnoud van Wijk was initially skeptical about applying for work at Ericsson. How could a person with a major hearing impairment work for a telecom company? Today, he is working as a patent engineer at Ericsson in Rijen. One of his greatest goals in life is to make telecommunications more available to persons with hearing impairments.

► Arnoud van Wijk's was born ten weeks premature. The doctors are not sure, but this may be the reason why he has had severely impaired hearing right from birth. With the help of a sensitive hearing aid, Arnoud is able to hear specific sharp or dull, humming sounds, such as a cement drill or a door being shut in a quiet house.

As a result of the patient, persistent and encouraging efforts of his mother and a skillful speech therapist, Arnoud can speak so well that people do not always notice he has a severe hearing impairment when they first meet him. Moreover, he is very skillful in interpreting what others say by reading their lips.

For slightly over a year, Arnoud van Wijk has been working at Ericsson in Rijen. His work involves evaluating innovation proposals sent to the Company: he ensures that after a preliminary reading the proposals are relayed to the patent unit within the company.

Breaking into the labor market has not been easy.

"Many people have the prejudice that the deaf are people who speak strangely and communicate by sign language – so I have often been eliminated even before the interview stage," Arnoud van Wijk explains.

Recommended workplace

Slightly over a year ago, a good friend suggested to Arnoud that he apply for a job with Ericsson, in the same department in which the friend worked.

"I was very hesitant at first: why would a telecom company want to employ a hearing-impaired person, someone who cannot even use their phones? But then I thought 'What the heck? It's worth a try,'" he says.

Arnoud acted quickly. He submitted an application and was called to an interview. At first he thought the human resources department at Ericsson seemed hesitant, but during the actual interview, the others, who are now Arnoud's colleagues and supervisor, realized that the hearing impairment would not interfere with his performance.

A week later, he was hired.

Arnoud feels that Ericsson has been very supportive in helping to make his day-to-day work as smooth as possible.

"More than anything, it is a matter of the company's attitude to my handicap. They know that my handicap affects my hearing and not my intellect. My work is challenging and my colleagues and boss are very understanding," he explains.

Meetings are something Arnoud van Wijk detests. In order to talk with his colleagues, he is dependent on being able to read lips, which is not so easy during a meeting.

"At meetings, I feel really handicapped. I find it difficult to keep up, because it is difficult to see everyone's lips clearly. Here too, however, my colleagues and my boss are very supportive. After meetings they generally ask me if there is anything I need to have clarified, and then we sit down and talk about it one-to-one," says Arnoud van Wijk.

Arnoud and his supervisor have discussed the possibility of eventually



Arnoud van Wijk at Ericsson in the Netherlands, does not find it particularly difficult to function in everyday life and at work, despite his severe hearing impairment. His colleagues and supervisor are highly supportive whenever he needs their support. Photo: Bart van Hattem

purchasing a machine that can translate speech to text, which would be very helpful in day-to-day work.

Unlike with meetings, Arnoud really enjoys making presentations.

"I love speaking, even in front of a group," he says.

Communicating with colleagues and people in the community is not a major problem for Arnoud. Instead of calling, he uses e-mail, SMS, chat and fax. If the matter is urgent, Arnoud will go and see the person he has to talk to.

Arnoud van Wijk has an important goal in life – to make telecommunications more accessible to hearing-impaired people. He furthers this goal by participating in the IETF SIP association – Support for hearing and speech-impaired users and by working for standardization in IP telephony.

Telephony for the hearing-impaired

IP telephony can improve many things – for example, there is a simple software program that can transform sound into text. An improved vibrator function, larger display and better keyboard – simplifying SMS messaging and chat functions – are a few examples of these improvements. Later on, when video telephony becomes available, it will be even easier for hearing-impaired people to use phones, particularly those depending on signing.

"These services must be available on both networks and phones – so that a hearing-impaired person need not purchase an extremely expensive, custom-designed phone."

Arnoud van Wijk devotes some of his working time to instructing industrial designers and engineers at Ericsson as to how mobile phones and handheld computers can be made easier for hearing-impaired people to use. He is also trying to obtain patents for new solutions.

Ulrika Nybäck
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FACTS/DID YOU KNOW THAT...

The British-American inventor Alexander Graham Bell was also a teacher of the deaf and with his father Bell sought methods to make sound visible to the deaf. Among other approaches, he experimented with membranes and electromechanical devices. This experience, and his knowledge of human speech and hearing organs, was applied in developing a practical functioning telephone.

The wealth he accumulated was applied among other causes to support research, particularly for the deaf.

Source: Swedish National Encyclopedia.



Arnoud van Wijk devotes some of his working hours and free time to make telecommunications more accessible to hearing-impaired people.

Create wireless solutions

with Nera microwave radio

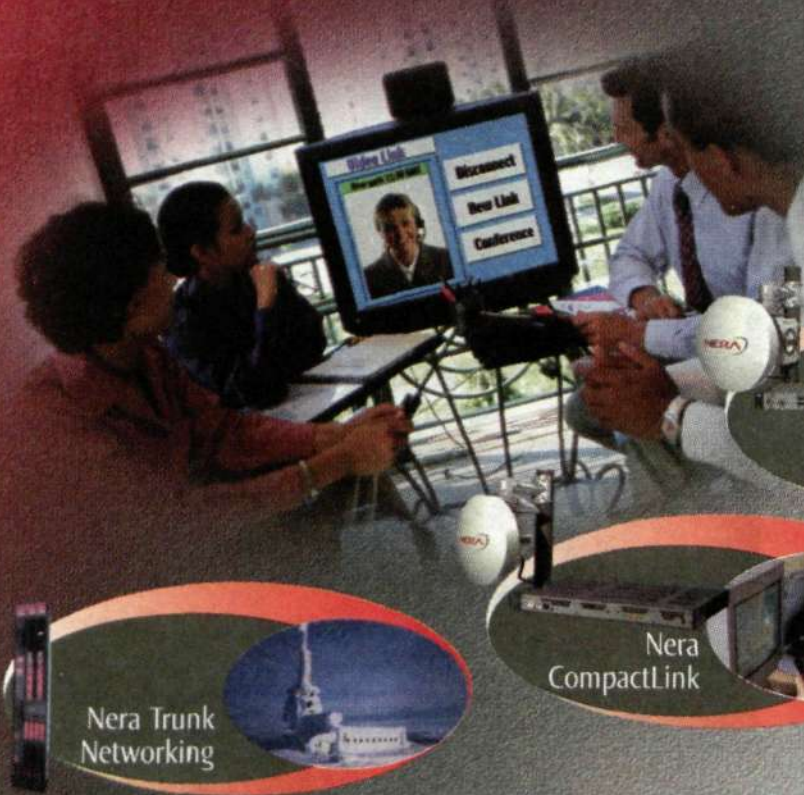
Nera Networks develop, manufacture and install microwave radio solutions for trunk, mobile and fixed wireless systems for telecommunications and digital TV networks throughout the world.

As well as being the fastest way to establish networks, Nera CityLink, Nera CompactLink and Nera Trunk Networking are the most cost-effective alternatives to cable or fibre based networks. They are secure, easy to maintain and eliminate all the problems associated with excavation for cables.

Nera microwave radio is the perfect solution for building and upgrading the network infrastructure necessary to support the transition to UMTS/3G services, whilst making high capacity internet, e-business, video conferencing and digital TV broadband access available to everyone.

Nera's systems are designed to bring working people inside and outside the office together, with innovative solutions that bridge the gaps between land-based, cellular and computing networks.

The future is wireless. When you think wireless, think Nera.



Nera CityLink

Nera CompactLink

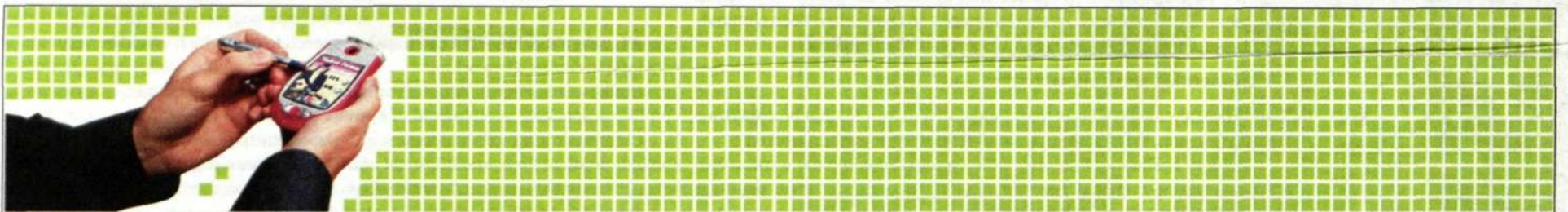
Nera Trunk Networking

NERA NETWORKS

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NERA
enabling a wireless future



A new standard is about to reshape all Ericsson products.

Find out how this will affect you.

A new standard that will affect all Ericsson products and all areas of the company is about to be implemented. **Internet Protocol Version 6, IPv6**, will improve the speed and efficiency of Internet traffic and allow users to be continuously connected. IPv6 is a prerequisite for 3G and mobile Internet.

Are you getting ready to answer questions from customers? Are you involved in the design of new products? Do you want general information about what's going on? Ericsson University offers seminars and courses adapted to the specific needs of each category of staff.

Seminars. Marketing, administration or product development staff can attend three different IPv6 seminars entitled Marketing, How do I get started? and 3G World. Each seminar is adapted

to the relevant professional roles and levels of previous experience, and all seminars are mobile, which means they can be held anywhere in the world if there are enough participants. The seminars will start at the end of October.

Courses. The course program offers technical training in the new standard and an insight into how it will affect other standards and products. The three courses, which cover the transition from IPv4, the protocols and advanced features, will be held from the beginning of November at Ericsson Telebit in Denmark, the world leader in IPv6 expertise.

A complete program of seminars and courses and a registration form is available at <http://university.ericsson.se>.

university.ericsson.se

ERICSSON 

President in China awarded

► Arvid Jauring, president of Ericsson's joint venture with Panda in the city of Nanjing in the the Jiangsu province in China, recently received the Jiangsu Friendship Award for his contribution to the region. The prize is established by the Jiangsu Provincial People's Government and rewards "outstanding contributions and selfless dedication to Jiangsu's social development". The prize was handed out by Wang Rongbing, vice governor of the province.

This is not the first time Arvid Jauring receives a distinction. In February he was granted the "Honorary Citizenship" of Nanjing by the municipal administration.

Ericsson Panda has two companys in Nanjing that manufacture multi-service and mobile systems as well as consumer products.



Arvid Jauring receives the Jiangsu Friendship Award from Vice Governor of the province, Wang Rongbing. Photo: Li Xiao Dong

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Greetings for one-year-old

► In honor of wireless company Cingular's first birthday, Ericsson and Sony Ericsson have taken out an ad in the Wall Street Journal.

"We want to wish Cingular the very best on this special anniversary," says Judy Little, senior VP of sales for the Cingular key account. "We're committed to Cingular's success and look forward to a mutually beneficial partnership for the future."

Ericsson is Cingular's largest supplier of telecom equipment, and Cingular is one of Ericsson's top 10 customers worldwide.

NEW ASSIGNMENTS

Magnus Gall, vice president New Sales, will take on the additional role of acting country manager and general manager of Ericsson Guatemala. Magnus Gall succeeds **Agustin Alvarez**, who will take up a position in the Ericsson Mexico organization.



A new market unit, India and Sri Lanka, will be created with business responsibility for India, Sri Lanka, Nepal and The Maldives. **Jan Campbell** has been appointed head of the new market unit and will also remain as president of Ericsson in India.

Stig Sjögren has been appointed vice president for Product Development Unit Enterprise at Ericsson Enterprise. His previous position was as vice president for Product Unit Computer Telephony Integration at Ericsson Enterprise.



Turkish operator presents GPRSland

With a simple press of a button on their mobile telephone, Turkish subscribers can now enter the world of GPRSland. This Mobile Internet portal is a result of a unique collaboration between Turkcell and Ericsson.

► The Turkish operator Turkcell is now launching GPRSland, a portal allowing subscribers access to information and entertainment through their mobile phones. It includes fifteen different tools that will help users organize their daily events, read e-mails, make investments, play games with their friends, download cards and

melodies and much more. The services are mainly developed for next generation systems, but they are also supported by WAP-telephones, which means that GPRSland can be used immediately by many of Turkcell's subscribers.

"One of the services included in GPRSland has already been used in the Tomb Raider campaign. We

announced a competition and got over 70 thousand SMS-messages in response," says Esra Tan, senior global account manager at Ericsson.

GPRSland is Turkey's first Mobile Internet portal and was developed in Ericsson Mobility World Turkey, Ericsson's support center for entrepreneurs in the Mobile Internet arena in Turkey.

Four software companies developed the fifteen applications included in GPRSland, and Ericsson evaluated and coordinated the project.

"We have used Ericsson as conceptual consultants, to coordinate

and develop a new concept for the Mobile Internet. This is a unique business partnership model that we are aiming to spread to more companies and in order to contribute to the economy of our country," says Mine Alpar, marketing director of Turkcell.



Mine Alpar

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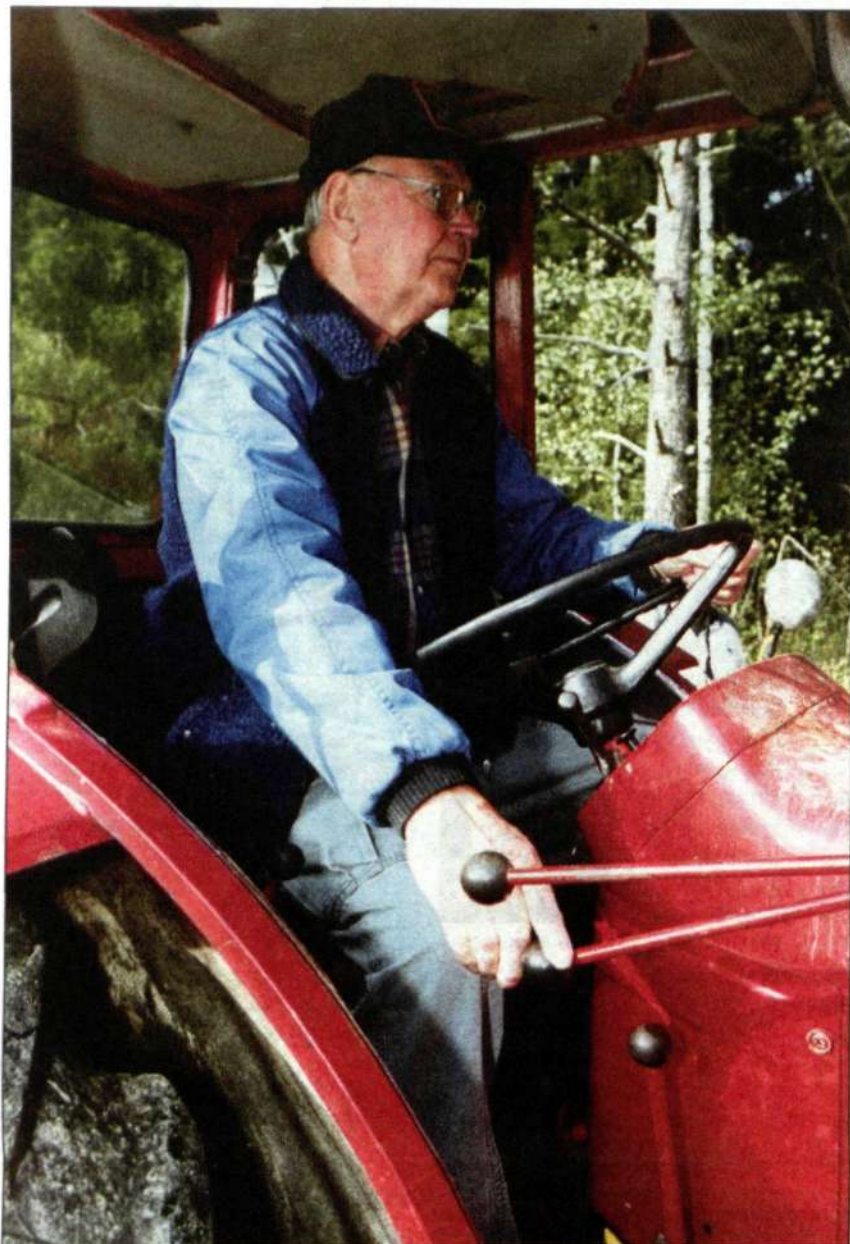


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FACTS/ÅKE LUNDQVIST

Åke Lundqvist was president of Svenska Radio Aktiebolaget/ Ericsson Radio Systems from 1977 to 1988 and, between 1988 and 1993, he was president of Ericsson Mobile Communications Inc, the joint venture company with the US partner GE. He retired in 1994 but continued his involvement with Ericsson in the capacity of consultant until 1997.

Now a full-time pensioner, he devotes his time to his wife Barbro, their children and grandchildren and their farm in Enhörna in the Swedish province of Södermanland. The farm includes two sawmills and two tractors.



Åke Lundqvist was president of Svenska Radio Aktiebolaget in 1979 when the first order for a mobile system was received. This was for NMT 450 in Saudi Arabia and the order was rapidly followed by others from, for example, the Netherlands and Malaysia.

Photo: Ecke Küller

He remembers the first mobile system order

This year, it is exactly 20 years since Svenska Radio Aktiebolaget (SRA) – which later became Ericsson Radio Systems – delivered its first mobile telephone system.

“It was a large order from Saudi Arabia, which provided us with the capital to finance our future mobile telecommunications systems,” says Åke Lundqvist.

He was the president of the company from 1977 to 1988, the period during which the foundation was laid for Ericsson’s success in mobile telecommunications.

► The Saudi order, which was for an NMT 450 system, was received in 1979 and the system was put into operation in 1981. Initially, the Saudis had intended to use a German system, but this turned out not to be feasible due to the frequencies involved. This led to many prolonged discussions.

“This was lucky for us as we were able to develop the products necessary for the NMT 450 system,” recalls Åke Lundqvist. At the same time, he mentions two other important NMT 450 orders from the Netherlands and Malaysia, which were secured a little later.

Another important year was 1983, which was when the first order from the US was received. This was for a network in Buffalo, built on the US standard, AMPS (Advanced Mobile Phone System). At about the same time, the

UK company, Racal, today known as Vodafone, ordered equipment for a TACS mobile telecommunications system. This stands for Total Access Communication System and was based on the AMPS standard from the US.

“It was probably largely thanks to the US order that we secured the strategically important UK contract. These first orders were extremely important as references,” he explains and adds: “The early 1980s were probably the most exciting. So much was going on and the Board of Directors of Ericsson realized that mobile telecommunications was an area to invest in for the future.”

Change of system in New York

Of all orders for mobile systems, the change of system in New York in the summer of 1991

was the icing on the cake, according to Åke Lundqvist. At that time, the largest mobile operator in the US changed from its Motorola system to one from Ericsson. He was on the scene in New York himself as president of the joint venture company that Ericsson and General Electric started in 1989.

As an important milestone, he also remembers the decision to begin developing mobile telephones and the setting up of this operation in Lund in 1983. This was where the first “pocket telephone,” known as Kurt, was born, although it required quite a large pocket.

In order to be a company with a complete range of products and services, Åke Lundqvist feels that Ericsson should keep mobile phones among its products even in the future.

Creative environment

What began with an order for an analog mobile system for Saudi Arabia is today Ericsson’s largest and most important operation.

“I absolutely wouldn’t have been able to imagine it 20 years ago. Perhaps part of the explanation is the fact that Ericsson has always had skilled engineers. During the early years, the environment was highly creative and, in particular, we have also had quite a lot of luck,” he says.

CHRONICLE



Maria Paues
editor

My husband is lost without his gadgets

► My husband is quite hopeless. I suspect that he was never much of an organizer, but now he has gone completely off the rails, and modern technology is to blame. His Palm Pilot fools him into relaxing prematurely – as soon as he has booked in a meeting, he forgets all about it.

As a result, he is caught on the hop every time his department has some joint activity after working hours, and he has to rush out to make dental appointments scheduled months in advance. He is constantly having to buy boxes of chocolate at kiosks at the last minute for relatives and friends who have shocked him to the core by deciding to celebrate their birthdays.

Personally, although I have never owned a Palm Pilot, I have realized that users can specify how far in advance they want to be reminded of their appointments. This appears to be complicated. If my sister has a birthday, I would like to have a week to think up a suitable present – and maybe buy new clothes for her party?

On the other hand, it shouldn’t start to beep too soon to remind me of a business meeting, because this gives me a chance to forget about it again.

In that case, it is better to keep things in your head.

But how can I explain this to a guy who really loves modern devices and who is happy to spend a Friday night reading manuals. He can discuss the finer points of mobile telephones with his friends for hours.

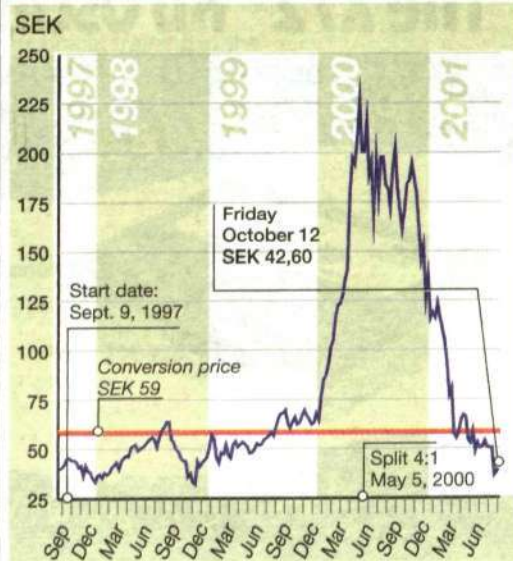
Mobile telephones are another curse, of course. I have been reluctantly forced to accept that there are occasions when a mobile phone is worth having. But I would never throw away my old well-thumbed list of phone numbers.

When my husband suddenly finds that he doesn’t have access to his mobile, he can’t remember a single number. He can’t even call his mother if the battery is run down. I could list several totally confused colleagues and acquaintances with similar problems, and at least one boss who is equally lost. Technology has robbed such people of the pleasure of looking forward to their next party invitation, and I’m sure that the satisfaction of getting your teeth filled is enhanced if the occasion is preceded by a week of fear and anxiety. People who never know what’s going to happen more than an hour in advance are missing out here.

Skeptics like myself are a growing species – people who suspect that all these smart new tools actually stop us thinking and planning in the long term.

But don’t imagine that I am hostile to technology. My skepticism is purely confined to microwave ovens, pagers, ordering on the Internet, digital cameras, watches for divers, SMS, DVD players, digital TV decoders, broadband and the intelligent home.

THE ERICSSON B SHARE



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

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