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"No crisis, but tough times await"

There have been many gloomy headlines in the press regarding Ericsson recently. A profit warning coupled with news of major personnel cut-backs has caused concern among employees. CEO Sven-Christer Nilsson offers some reassuring information in this issue of Contact. Ericsson is not in the midst of a crisis. The long-term goal that Ericsson grow faster than the market remains intact, and it is not at all certain that 10,000 employees must be made redundant. However, all employees are affected by the extensive changes that the company is continually undergoing.

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CEO Sven-Christer Nilsson offers reassuring news.

Photo: Ulf Berglund



Photo: Gunnar Ask

Gateway to the source code

In a short period of time, a small team of innovators at Ericsson has developed a Web server that never crashes. The Open Source solution was recently released on the Internet. The source code is in other words freely

accessible to all so that anyone can make improvements. Ericsson will be one of the first major corporations to release core technology on the Web in order to reach the market.

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NEWS

Ericsson in the world of IP

The current issue of the Contact supplement, Access, continues to report on Ericsson's advances in the fight to become a leading supplier within IT and IP communications. Telemedicine and wireless Internet access are two of many new and exciting areas covered.



20 years with Gripen

It's been 20 years since the development work on the JAS 39 Gripen fighter aircraft was initiated. Much has happened in two decades. Ericsson has roughly a 25 percent stake in the value of Gripen through Ericsson Microwave and Ericsson Saab Avionics. Contact shows exactly what Ericsson is developing for Gripen.

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Rise of new operators

The Mexican telecom market was deregulated two years ago. Since then, several new operators have entered the scene and more are on the way. Contact has visited Mexico, a country which is considered to be one of Ericsson's major growth markets.

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Customers get answers on Web

The number of customer inquiries received over the Web has increased dramatically the past two years. Contact visited one of Ericsson's global help desks in Lund, Sweden.

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HOLIDAY BUSTLE

Several of Ericsson's plants are continuing production during the Christmas holidays.

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WORLD WATCH

Ericsson isn't the only company in the midst of restructuring.

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Demands for change are unavoidable

Ericsson remains an incredibly strong company. The economy, on the other hand, is weak in many of the countries where Ericsson operates. As a result, corporate management was forced to issue a so-called profit warning last week. There were indications that fourth quarter earnings this year would not correspond to the high expectations of the stock market.

When issuing such a profit warning, financial analysts and others expect some sort of indication as to what measures the company plans to take in order to deal with the situation. President and CEO Sven-Christer Nilsson provided some answers on Thursday, December 10.

"I explained how our new organization and our new work methods are making us more efficient and speeding up the transformation process that Ericsson has been undergoing for some time."

When asked to specify how many employees would be affected by the changes, the president explained that it would encompass a number comparable to the latest wave of outsourcing and other measures taken within the Infocom Systems business area. That statement was interpreted by the press to mean layoffs of 10,000 employees in Sweden.

"By now, everybody knows that figure was not accurate. Sure, there are many who will be affected by the changes we face, and of course that could lead to layoffs – but where, when and how many is impossible to say today. We are currently working to specify the scope. The ongoing and unavoidable streamlining that Ericsson now faces is the result of improvements made in most of our operational areas worldwide."

"A thousand small creeks joined together correspond to the figures I mentioned at the analyst meeting," explains Sven-Christer Nilsson.

"I can understand that many people were upset by the figures spread in the press, along with the fact that there was no internal warning about what was coming. We usually prefer to give employees information in advance – in this case about how the transformation process within the company must now be accelerated and just how many could be affected by it," assures Sven-Christer Nilsson.

"As things were, we were forced to make a public statement in conjunction with the necessary profit warning, before we were able to send out an internal letter in which I could explain the situation to my colleagues within Ericsson."

Strong support for the new Ericsson

"In the months since I assumed the position of CEO, I have traveled all over the world and made many new contacts. I am very pleased by the positive reception I have been given, as well as all the positive – and sometimes critical – comments that I have received during my trips, via e-mail and in other contexts," continues Sven-Christer Nilsson.

Recently, these comments have dealt mostly with the company's new organization and the new work methods that were introduced at the large managerial conference in San Diego at the beginning of October.

"Already in San Diego, I felt strong support for the new ideas from managers and other key people who participated in the meeting. The applause which ended the meeting, warmed my heart, that I promise you."

"The results of a recently conducted survey regarding Ericsson's new organization and strategic direction, which Contact presented in the last

issue, were also encouraging. The survey was further confirmation that there is strong and widespread support for the new Ericsson which is now being formed, but that many questions remain."

"It is only natural that people wonder how they will be affected by these changes. After a couple of months of hard work forming the foundation of the new Ericsson structure, we now need to move ahead and try to answer such questions. We need to understand that there are no employees within the company who will not be affected, who will not be a part of the cultural changes we all now face."

Incorrect conclusion

"The fact that many units were able to be moved, relatively intact, from one place within the organization to another has, perhaps, lulled people into believing that there won't be any major changes for them – but that is an incorrect conclusion," warns Sven-Christer Nilsson.

"Now we need to get people to understand that while we are all part of Ericsson as a whole, we are also part of a small company in which everyone knows each other and their job assignments, and where everyone takes responsibility for his or her own job."

"Trust" and "responsibility" are two key words in the new Ericsson culture. In other words, all employees will be given responsibility and trust so that everyone can give their utmost contribution to the common good. In a world where competition is fierce, we cannot afford to waste skills that exist within the company, or to work 'at half-speed."

In the new world of telecom, competition is fierce. Up until now, Ericsson has held its own quite well. Sven-Christer Nilsson warns, however, against any tendency towards smugness.

"Sure we've done a good job. In the systems area, for example, our sales per employee have been higher than comparable competitors among traditional telecom suppliers. But that is not good enough. In the new marketplace we are not simply competing against Lucent and Nortel, but also companies such as Cisco and Microsoft. And we have a long way to go before reaching their rapid work methods."

"It is, however, very encouraging to see how we have managed to elevate the IP-based technology which we have developed in several areas, and that we have come a long way in coordinating and structuring our efforts in this area."

High praises

"There are customers who say that it is nice to see how telecom companies, such as Ericsson, have learned about IP better and more rapidly than datacom companies have learned about telecommunications. That is why I need to give high praises to our technicians and sales organization who have put Ericsson on the IP map in a big way."

"An important reason why this has gone so rapidly is the acquisition of ACC last summer, which really increased our stature and has contributed to our participation in several major deals in the IP field."

"This is completely in line with our new strategic focus. Despite the downturn – which we are now feeling in the Asian and Latin American markets and which we expect will continue through most of next year – our long-term growth goals stand firm. Ericsson shall grow more rapidly than the market!"

It is in order to realize these long-term goals that Ericsson needs to continue to change. The company cannot grow without strengthening its expertise in new areas. At the same time, there are other areas that will be phased out. This is where talk of cutbacks and thousands of people being affected come into the picture.

Personal responsibility

"We are now working on specifying those areas which are in greatest need of change. We will be working with those affected in many different ways. Sometimes outsourcing and skills development can provide solutions."

"But perhaps the best method to handle the changes is through individual skills development, so that we can strengthen our resources within the areas that need it most, using our own experienced employees," says Sven-Christer. "It isn't just the company that needs to show the way," he emphasizes.

"We should not forget that ultimate responsibility for skills development lies with the individual employee. I want to take this opportunity to encourage all employees to strengthen their skills within fields for the future such as mobile telephony and IP communications. The very advantageous home computer offer for Ericsson employees in Sweden this autumn should be viewed with that in mind. That was a clear example of how important we in corporate management consider the development of IT skills in all of our employees."

"Ericsson has always encouraged its employees to move around within the company. We now have a plan for becoming even better at it. Our managers, for example, need to understand the importance of Ericsson employees seeking new jobs within the company. That is especially important now that we in management have decided that all new jobs should primarily be recruited internally. Only when the necessary competencies cannot be found within the company will external recruitment be allowed."

Seeking positive solutions

The fact that the CEO has so strongly emphasized the importance of individual initiative does not mean that he is trying to defer responsibility for the ongoing reorganization of the company onto the employees. Sven-Christer Nilsson also clearly sees his own task in the upcoming years' continued changes. Ultimately, it is himself, together with his colleagues on the Corporate Executive Team, who are responsible for whether or not Ericsson will succeed.

"Our Corporate Executive Team has a major challenge ahead of it. We must be good role models ourselves and respond to the need for change. In the near future, I will devote much of my time to ensuring, along with my management colleagues, that the reorganization is conducted in the most positive manner possible. We are obligated to do that for the company's employees all around the world."

"It can never be said too many times: the company's employees have done a fantastic job so far in helping Ericsson through the changes of the past year. It is thanks to them that Ericsson is a financially healthy company, a leading player in the industry and now well on its way to taking up an equally strong position in the new telecom world."

Lars-Göran Hedin

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I can understand that many people were upset by the figures spread in the press



"It's impossible to say exactly where, when and how extensive the cutbacks will be in Ericsson's labor force," says CEO Sven-Christer Nilsson. "It's the overall result of many improvements now being made through the new structure and work methods, the combined effects of which will require rapid adjustments on the part of personnel."

Photo: Ulf Berglund

Overall effect of many improvements

Organizational changes and strategic focus are not the only elements of change in the new Ericsson that will be "placed in operation" on January 1. A long list of new and smarter ways to approach business will also be introduced, a new corporate culture is being developed and comprehensive changes have been made in the way Ericsson is managed.

More effective utilization of skills and resources is the common denominator in new concepts now being adopted. Greater efficiency has become an absolute necessity in the new world of telecom, a world in which the winds of competition are raging ferociously.

When Sven-Christer Nilsson says 10,000 persons may be affected by Ericsson's continued structural changes, he is referring to the cumulative effect of many minor and major efficiency-enhancement measures now under consideration. No single area of Ericsson's business operations will remain untouched. New synergies can be found everywhere, opportunities for new rationalization measures, new improvement potential that can be utilized. The following are some areas mentioned by Ericsson's CEO.

Administration

New administrative system solutions and IT tools are creating opportunities for large-scale cost-efficiency improvements and better control over Ericsson's financial flows, administrative control systems and other routines. A flatter structure will also enable the company to realize various savings in administrative resources.

More effective internal and external order processing and more reliable delivery management routines will also release substantial resources.

A major responsibility of the four vice presidents of Ericsson's new market regions will be to capitalize on synergies between market sta-

(formerly local companies) in the various regions.

Many functions formerly performed in duplicate within different parts of the company can now be coordinated between two or more market units. Skills and other resources can be divided within specific regions – which will allow Ericsson to benefit from greater mobility in terms of people and capital, a "luxury" created by regional economic groupings such as the EU, Asean, Nafta and Mercosur.

Research and development

In the former, more product-oriented structure, new technological solutions were often developed in parallel with similar projects. IP and access are two excellent examples. In these and other areas, Ericsson is now able to apply simple methods to develop joint solutions for mobile and fixed communications. The company will also be able to eliminate duplicate efforts in R&D. Common technological platforms and applications will become the norm in future operations. More and more solutions will be based on open source technologies that will accelerate development projects and reduce costs. It should be noted, however, that Ericsson will also continue to maintain strict control over its most strategically important key components.

JDI (Joint Development Initiative) is a new and more effective work method now being introduced in systems development. It was developed by Ericsson in Canada and WCP (World Class Provisioning).

New generations of radio base sta-

tions and AXE exchanges, for example, require much less manual labor in production, installation and maintenance. At the same time, however, determined efforts will continue to focus on quality – with particular emphasis on software development – to achieve significant

reductions in the substantial resources now allocated to correcting faults in the field. "Getting it right from the start" generates substantial cost savings.

With today's system generations, system production operations can also be concentrated even more.

There are restrictions, however, and due to various marketing considerations, the production of many systems will continue to be distributed among several units.

Lars-Göran Hedin

Board supports the changes

Ericsson's Board of Directors, led by Chairman Lars Ramqvist, shares Sven-Christer Nilsson's opinion that continued radical changes are needed in Ericsson's structure if the company hopes to achieve its long-term goal – business growth in excess of market growth, or about 20 percent annually.

"Sven-Christer did what he had to do. After reviewing the latest earnings and sales figures for November, he told the financial market that Ericsson's fourth quarter would not meet expectations," says Lars Ramqvist. "His message was completely in line with the Board's quarterly reports for the second and third quarters of 1998, in which we clearly informed the market about the Asian crisis and its negative effects on Ericsson."

"What happened after that was unfortunate – with the media misinterpreting the CEO's reply to a question about how he intended to handle the situation, spreading the news that 10,000 employees were about to lose their jobs."

According to Lars Ramqvist, the Board of Directors discussed the number of jobs that might be directly affected by continued structural change at an ordinary meeting of the Board of Directors on December 16.

"We arrived at a figure in excess of 10,000 persons."

"But let's make one thing perfectly clear. We are not talking about layoffs, or jobs that will be eliminated. Instead, we are looking at how many

people are no longer needed in their present capacities within the company – as a result of continued rationalization and changes created by the new organization."

"In the same way that changes were made during my last years as CEO, we are now looking at comprehensive opportunities to establish new modes of operation in other areas of Ericsson, or in other companies. I'm sure we shall also see continued outsourcing of various activities, whereby certain operations are taken over by new ownership. We have seen several highly successful examples of outsourcing during recent years."

"We might also have to study the need for skills development programs in some areas – but Ericsson has an excellent track record in this area."

"The Board of Directors has naturally assumed that discussions will be continued in a cooperative spirit with union representatives. And I



Lars Ramqvist

must emphasize that no time should be lost – a sense of urgency should characterize measures now being implemented. International economic trends reflect a downward turn, and the competition is increasing constantly."

"The Board of Directors would also like to take this opportunity as we approach year-end to lend our support to the company's new strategic pursuits and the new organization that takes effect on January 1. We look forward to an exciting year in 1999, with new mobile telephone platforms and many other new products. But we are also aware of weak economic conditions in the world today, which may lead to slower business growth during 1999 than the long-term target levels identified by our CEO."

"Finally, on behalf of the Board of Directors, I want to express my heartfelt thanks to Sven-Christer Nilsson and his 100,000-plus employees for a job well done during the past year. Despite all the hard work involved in creating the new Ericsson, we shall see that your efforts accomplished excellent results for the company in 1998."

"And, naturally, I want to wish all Ericsson employees and their families a very Merry Christmas and Happy New Year!"

Lars-Göran Hedin

The new Millennium creates possibilities

"We will upgrade 2.1 million MD110 lines in all parts of the world this year. That's an all time record," says Jan Lerner of the Enterprise Networks business unit.

Jan Lerner is responsible for a project designed to secure millennium-compliance for Ericsson's customer base of 11 million MD110 enterprise company switch lines. Approximately 35,000 customers in all parts of the world are affected.

The Year 2000 is approaching rapidly. Comprehensive efforts are being made by customers and Ericsson to meet all demands for secure entry into the new century. Will computers, telephone exchanges, kitchen appliances and a host of other products and equipment come to a grinding halt? Nobody seems to be sure.

Business opportunity

The Enterprise Networks business area was quick to realize that the approaching millennium milestone also presents new business potential over and above its inherent problems.

The eighth version of Ericsson's MD110 enterprise network, the BC 8, which was introduced on the market in 1996, and all subsequent versions are guaranteed for New Millennium compliance.

But what about the entire installed base of all equipment deliveries since the first version was introduced in 1983? What is the outlook in that perspective and what could be done?

A substantial part of that customer base has been updated successfully. Upgrades are a basic requirement to secure utilization of new applications sought by customers. The MD110's unique modular design has made it all possible.

Focus on upgrades

"The New Millennium provided another reason to focus sharply on upgrades," Jan Lerner continues. All markets are now participating in the

project, although the pace may vary from one region to another.

Even 1997 was a very strong year for MD110 upgrades, albeit without any particular emphasis on Year 2000 Compliance. Approximately 1.6 million lines were upgraded last year in 31 markets.

As a result of Ericsson's sharp focus on upgrades during recent years and activities planned for 1999, MD110 customers will have very strong points of entry as they approach the Year 2000.

"We believe at least 80 percent of our customers will be upgraded to a minimum level corresponding to BC 8 before January 1 in the Year 2000," Jan Lerner says.

A special "Y2K Health Check" is now being sold to Ericsson's customers in many markets. British Airways, for example, which has a computer system that covers the globe, bought the new service and quickly determined which changes it needs to implement.

According to Jan Lerner, particularly successful results have been achieved in Germany, the U.K., Spain, the Netherlands, Mexico and Ireland.

He also notes, however:

"Despite our success in many areas, I'm concerned about certain countries that have still not left the starting blocks. We should all take advantage of the New Millennium for what it is. Customers and Ericsson alike can benefit from the 21st Century's arrival."

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Jan Lerner of the Enterprise Networks business area was quick to recognize new business opportunities created by the rapidly approaching New Millennium and the need to upgrade large parts of Ericsson's MD110 customer base in order to secure Y2K Compliance.

Photo: Peter Nordahl



Bernd Fischer (right) led the team that has achieved highly successful results in Y2K Compliance upgrades on MD110 company switch in Germany. His colleagues are (left to right) Jens Erler, Norbert Neudeck and Andreas Tschepe.

Photo: Thord Andersson

German team checks the "health"

"Instead of looking at the Year 2000 Compliance issue as a problem, we recognized an opportunity to contact all Ericsson customers with MD110 company switch based on BC 7 or older versions." Bernd Fischer, manager of Business Enterprise products and solutions in Germany, explains his business approach.

Bernd and three of his colleagues in Germany, Norbert Neudeck, Jens Erler and Andreas Tschepe, established a special team in May to work on a project they called Service2000.

All of Ericsson's 1,800 customers were sent letters offering "health check-ups" on their systems to determine the degree of required upgrading. The offer also included another concept called EuroService.

EuroService is an offer to adapt enterprise networks and enable them to show call charges quoted in Euro, the new European currency, effective January 1, 1999.

The Service2000 offer was made available in three sizes: M, L and XL, for small, medium-size and large companies.

Good response

Customer response has been highly favorable. Of course, some customers felt they shouldn't have to pay full remuneration for the service.

Most customers, however, in addition to upgrades that secure Y2K Compliance and the new Euro currency function, also took advantage of the opportunity to acquire new applications to improve the functionality of their networks.

Sales of services

"By this time next year, nearly all customers will have upgraded their exchanges to a level corresponding to a minimum of BC 9," Bernd Fischer explains.

Service2000 is an excellent example of a well-managed campaign designed to sell services.

The campaign also created greater interest in sales of services throughout the entire German organization.

Power supply a critical issue in 2000

With exception of war, few phenomena can be as devastating to modern society as a long-term power outage. Power supplies, accordingly, represent one of the critical issues as we approach the Year 2000, an issue of particular importance to Ericsson

Efforts are now being made throughout the company to secure total functionality over that mystical New Year's Eve night next year. Ericsson is also working in close cooperation with power supply companies and others.

Allan Lundberg, technical director of Svenska Kraftnät, allayed the

worst fears of Ericsson employees in November when he guaranteed functionality of the Swedish and Norwegian electrical supply network.

The main grid, he said, is prepared for the conversion.

Weak links found among major suppliers have been identified and remedied.

For the most part, the system is controlled by a certain course of events, not by time, which means it will not be affected when the clock strikes midnight on December 31, 1999.

Mr. Lundberg would, not, however, guarantee the conversion readiness of regional and local networks.

There are about 400 power supply companies in Sweden today (a result of deregulation), he explained, and not all have progressed to the same level of readiness, Mr. Lundberg said.

The Y2K Compliance issue becomes even more critical when we look inside the walls of Ericsson.

"We have very good control over our properties, and some redundancies have been created for critical systems, but we must exercise a degree of special caution concerning functionality in leased premises," explains Leif Lenman of Ericsson Real Estate & Services. "In the event of a power outage, all local computers would immediately shut down, but

the telephones would work for a few hours. Reserve power is essential, accordingly."

Leif Lenman also says Svenska Kraftnät has encouraged Ericsson to visit local power companies, and Ericsson Real Estate & Services was the first company in Sweden to audit Stockholm Energi Elnät.

The audit revealed some weaknesses, ambiguous interfaces, for example, but certain strengths were also found, typified by clearly defined action plans to be implemented in the event of natural disaster.

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Thord Andersson

A working Christmas

It's Christmas time again. Just as many Ericsson employees are preparing for Christmas vacation, some Ericsson workers will be spending Christmas keeping production going at full capacity. Contact called around to a few plants and found that several will be staying open or are only closing for a couple of days.

The employees in Nynäshamn can look forward to spending a Christmas Eve in the plant. Antenna-related products for mobile telephone systems, which are produced there, have been flying off the shelves. Despite running production seven days a week, around-the-clock using temporary employees and overtime work, there will be no vacation at Christmas. Currently, they are getting some help from the plant in Lynchburg.

The cable plant in Hudiksvall will not be closing during the Christmas or New Year's holidays either. The cable manufacturers in Falun, on the other hand, will be getting a long holiday before returning to around-the-clock production in January.

Great pressure in Linköping

The mobile telephone plant in Linköping will be operating during the week between Christmas and the New Year. The plant has brought in extra personnel and office workers have been helping out in the plant. Over the actual Christmas holiday, maintenance will be carried out on the production system.

Mobile telephone assemblers in Kumla will, on the other hand, have time off between Christmas and the New Year, during which time the plant will undergo re-



Not only Santa works during Christmas. Several of Ericsson's plants will remain open. Photo: Pressens bild

modeling. But even they have been under heavy pressure prior to Christmas.

Nor are there any long rest breaks in Visby. Large outgoing shipments are needed before the end of the year, requiring full production during the Christmas holidays. Some people are working overtime in Visby and the plant has hired temporary workers. Office workers are also being used in production.

The mobile telephone plant in

Lynchburg, is assembling one product line during the days between Christmas and the New Year. AT&T has ordered a large number of KF788 (Ditto Emilia telephones). The employees were actually going to work more, but the IT group needs to work on the distribution system over the holidays.

Essential with a break

"A break during Christmas is essential for the atmosphere here. Many

employees have worked seven days a week without any vacation at all, since August," says Brian Kelly at the mobile telephone plant in Lynchburg.

"The only days we have been closed since starting up in August have been the Labor Day holiday in September and Thanksgiving in November".

Mia Widell Örnung

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IN BRIEF

Greece to continue with Erieye

► In the middle of December it became clear that the Greek armed forces had chosen to initiate final negotiations with Ericsson Microwave Systems regarding four complete systems of Ericsson's Erieye reconnaissance radar.

If negotiations lead to a contract, it will be one of Ericsson's single largest orders ever. It could be worth SEK 4 billion.

The radar will be mounted on Brazilian EMB 145 jet aircraft.

This decision is the first export success for the European industrial cooperation formed between Ericsson and the French Thomson-CSF, which was initiated in March 1998.

Network monitoring in Singapore

► Ericsson has signed a contract with StarHub, a new operator for fixed and mobile convergent services in Singapore. The order is worth USD 5.5 million and involves a complete network monitoring system.

The system locates and corrects network failures, regardless of the brand or network technology.

Installation will begin next August and will be fully operational in January 2000.

GSM expansion in Guangxi

► Ericsson has signed a contract, valued USD 160 million, with Guangxi Post and Telecommunications Administration in China for an expansion of their GSM network.

Guangxi PTA has made seven expansions of their mobile TACS and GSM networks since 1992. The eighth phase began at the beginning of 1998.

When the work is complete, the network will have a capacity of 1.6 million lines, or double the current number of 800,000.

Equipment is being supplied by Ericsson's joint-venture company in China, Nanjing Ericsson Communications.

Advances in South Africa

► The past autumn has been eventful for Ericsson in South Africa. Ericsson was recently chosen by the operator, MTN Uganda, to supply its new GSM 900 network.

The companies behind MTN Uganda include MTN South Africa, the Swedish company Telia and a number of local partners. The license which the operator received last spring provides the opportunity to offer both fixed and mobile telephony.

Ericsson has sold GSM networks to several African nations. In addition to Uganda, Ericsson has also sold to Botswana, Ghana, Libya, Madagascar, Rwanda, South Africa, Swaziland and Zimbabwe. That provides good roaming opportunities on the African continent.

Ericsson is also a part of a project to provide rural areas access to telecom. This is a joint venture together with the South African operator Telkom. Ericsson and Telkom are also sponsors of the Centre of Excellence in Rural Telecommunications, which is operated at the University in Durban-Westville, and at the M L Sultan Technikon technical school.

Turbo-charged Net with new modem

A group of research and development engineers at Ericsson have developed a modem capable of data speeds of 25 megabits/s over copper wiring. The modem, which uses VDSL technology, was demonstrated for the first time at Ericsson's broadband lab at Kungens Kurva south of Stockholm.

With the demo system called BRAVO (Broadband Residential Access using VDSL and Opto), Ericsson's Access Application Lab wants to show the capability and services that the latest transmission technology can offer. In this case, both home terminals connected by copper wire and network terminals connected by optic cable were used. The prototype modem is capable of transmitting HDTV, multiple TV channels, video, telephony and data services at super-fast speeds. Although the prototype was fully functional, it may be several years before a finished product is launched in the market.

"Our task is primarily to develop leading-edge technology for broadband transmission in the access net-



Henrik Almeida's team of research and development engineers have produced an extremely fast modem for copper networks. Photo: Håkan Wike

work and build up expertise in this area," says Henrik Almeida, who became head of the Access Application Lab in September. "It is then up to product developers to decide whether the prototype can become a viable commercial product."

At the lab, researchers work with the entire process, from algorithms to prototypes, which creates a unique competence within the

group, which in addition to Henrik Almeida, consists of research and development engineers. Each staff member takes responsibility in the development chain for a specific area of expertise in broadband transmission. Malte Fridén works with fiber optics and the integration of various systems. He explains that what distinguishes the lab's work from other product developers' is that they can take greater technical risks and improvise more.

"One of our goals is to generate new knowledge, and testing the limits for what is possible is also an important result," he notes.

His colleague Magnus Svevar agrees but emphasizes that it is also important for the lab to produce functional prototypes, which are necessary to facilitate understanding and close collaboration with product developers.

"You miss a lot if you just produce a report or a thesis," he argues. "It is always easier to continue to develop a prototype, and it is also easier to believe in the theory when you see that it works in practice."

Unlike ADSL (Asymmetric Digital Subscriber Line), VDSL trans-

FACTS ABOUT VDSL

VDSL Very high-speed Digital Subscriber Line

Bit rate: 13-52 Mbit/s downstream (to receiver), 2-26 Mbit/s upstream (from receiver)

Cable length: 300-1,500 m, depending on bit rate

mission supports both asymmetric and symmetric communications. This dual nature makes it possible to adapt the transmission technique to the application being used. At its maximum, VDSL is capable of transmission speeds up to 52 Mbit/s over twisted-pair copper, but the standard will not be finalized for at least a year. The Access Application Lab, however, strongly believes in the new technology.

"With VDSL, you gain greater flexibility. Leased lines can be replaced, and data communication can be made more cost-efficient for business customers, who want to use the access network for such applications, as videoconferencing and electronic commerce," concludes Karl Soukup.

Thomas Hedlund

INDUSTRY'S FIRST SiGe LNA ACHIEVES 0.9dB NF

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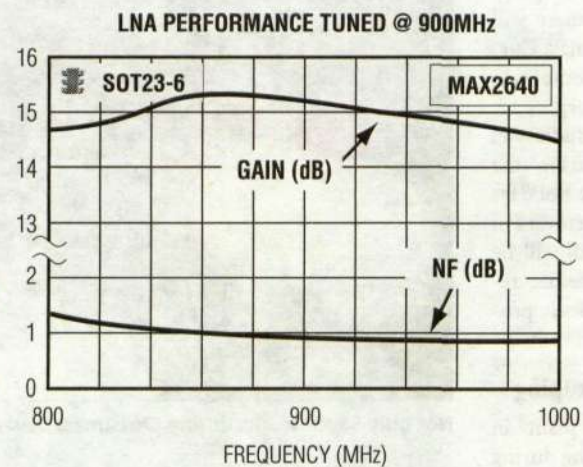
MAX2640 Low Noise Amplifier 400MHz to 1500MHz Operation

Applications:

- ◆ 400/900MHz ISM Radios
- ◆ Cellular/Cordless Phones
- ◆ Two-Way Pagers
- ◆ Wireless Data

GaAs-Like Performance @ 900MHz

- ◆ NF = 0.9dB
(50Ω Matched)
- ◆ Gain = 15.1dB
- ◆ IIP3 = -10dBm
- ◆ I/O VSWR < 1.8:1
- ◆ 3V, 3.5mA



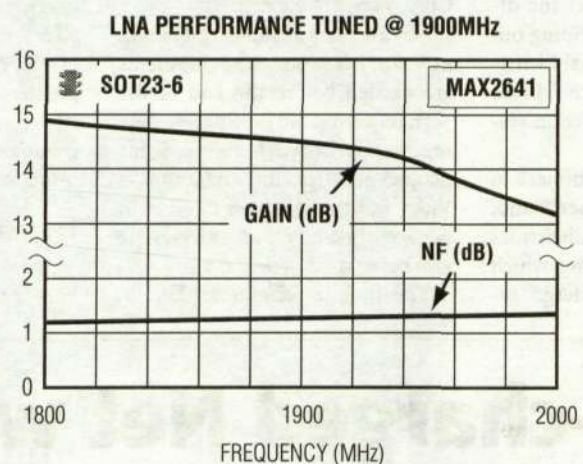
MAX2641 Low Noise Amplifier 1400MHz to 2500MHz Operation

Applications:

- ◆ GPS Receivers
- ◆ PCS Handsets
- ◆ WLANs
- ◆ 2.4GHz ISM Radios

GaAs-Like Performance @ 1900MHz

- ◆ NF = 1.3dB
(50Ω Matched)
- ◆ Gain = 14.4dB
- ◆ IIP3 = -4dBm
- ◆ I/O VSWR < 1.7:1
- ◆ 3V, 3.5mA



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Harmonization supports new mobile standards

Ericsson has put forth a proposal that harmonizes the WCDMA and cdma2000 technologies for third-generation mobile telephone systems. The proposal simplifies the manufacture of mobile telephones that work on both systems.

The proposal is based on lowering the so-called chip rate in the WCDMA system from the current 4.096 Mcps to 3.84 Mcps.

"This results in an only marginal reduction of performance in the WCDMA system, which remains unchanged in other respects. The advantage is that we create opportunities for cost-effective solutions for our customers and end-users," notes Åke Persson, marketing manager for the Mobile Systems business area.

Works on two systems

Ericsson's proposal enables all industry players to cost-efficiently produce dual-mode telephones that work on both WCDMA and cdma2000 systems and support global roaming.

"We recognize that there is a need for different standards for next-generation mobile telephone systems," says Åke Persson. "As a supplier, it is our responsibility to



Ericsson's proposal to harmonize the WCDMA and cdma2000 technologies for third-generation mobile telephone systems will benefit end-users. The proposal allows industry players to cost-efficiently produce mobile phones that work in both systems and support global roaming. Illustration: Magnus Bard

support a market-driven standardization in this area. Our proposal provides a foundation for a harmonization of the various standards within IMT2000, which will benefit both operators and end-users."

Ericsson has been working for some time to harmonize third-generation mobile telephone standards.

First to be harmonized were WCDMA and GSM, followed by

TDMA IS-136 (D-AMPS). Both GSM and D-AMPS systems are now able to use the new broadband services required in IMT 2000 systems.

The next generation systems

A total of ten standards bodies from around the world have submitted proposals for the next generation of mobile telephone systems to ITU, the International Telecommunications Union. Six

of the proposals are based on WCDMA, developed by Ericsson, Nokia and other suppliers. The ITU is now considering Ericsson's new proposal.

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America Online challenges Microsoft

Microsoft is the software giant with a near-monopoly position.

Now Internet service provider America Online is buying Netscape to become the company that poses the most serious threat to Microsoft.

Bobby Chang, analyst specializing in North America, gives us his view of what this merger may mean.

In November, America Online announced that it was acquiring Netscape for USD 4.28 billion. The purchase is being financed through a share exchange. In addition, America Online is entering a three-year agreement with Sun Microsystems to jointly market software packages to support electronic commerce and to sell Netscape's software.

Control the entire market

This landmark acquisition has an impact on the whole Internet industry, since Netscape and Microsoft in practice control the entire Internet market. America Online, the world's largest provider of Internet services, will now make the Netscape client available to all of its 14 million America Online users.

The Netscape share price immediately jumped USD 10 on the news. America Online and Mi-

crosoft are not going to allow a third major browser to succeed in the market.

This deal also gives America Online huge leverage over cable TV companies that wish to integrate Netscape's browser into decoders and other equipment. From a strategic perspective, it is also important that America Online strengthens its role in high-speed Internet services offered by cable TV and telephone companies.

Strong Internet trio

The alliance with Sun supports America Online's "AOL Everywhere" strategy. Sun strives to be the dominant player in Internet equipment and software.

According to the agreement, which runs for three years, America Online will purchase computers and services from Sun, while Sun will purchase licenses for Netscape's software, which it will market. Now that Sun is able to use Netscape's software, competitors, such as IBM, Compaq and Hewlett Packard may be forced to seek partners to stay in the game.

Alternatives to Microsoft

For ordinary Internet users, the deal creates an alternative to Microsoft. Together, Netscape and Sun have a complete product portfolio including everything from a web browser to servers and

applications for electronic commerce. Netscape now gains stability, resources, sales, support — Sun is immediately creating a sales force of several hundred people for Netscape products — and a broad product portfolio that only a major supplier can offer.

A big threat

In operating systems, Microsoft still wants every computer in the world to run Windows. However, the America Online-Netscape alliance is a threat here as well. The combination of Netscape Navigator and Sun's Java programming language allows developers to create applications for all platforms, not just Windows. IBM, Oracle and Novell already support Java. These companies hope that Java will become the standard for PCs, mobile phones, TV decoders and servers.

A new standard

Another threat to Microsoft is the joint-venture company Symbian, in which Ericsson, Motorola, Nokia, Philips and Psion are working together to create a standard for terminals for mobile communications. The third challenge comes from the competing operating system Linux, which is supported by Intel, Computer Associates and other heavyweights. Linux implements a superset of

the POSIX standard, which is derived from Unix.

However, America Online's purchase of Netscape is also good news for Microsoft. The company is using the merger as a weapon in the ongoing trial in which Microsoft is charged with violating U.S. antitrust laws. Microsoft now argues that the America Online-Netscape merger shows how quickly the competitive landscape changes and is moving to dismiss the charges.

No experience

What are the threats to the merger? First, the deal must be approved by the Federal Trade Commission (FTC) and the companies' boards. Second, America Online has no experience of developing and marketing enterprise software or dealing with corporate customers. America Online must concentrate on electronic commerce with a focus on business-to-business. In addition, the company must lose its low-quality image and improve customer service.

Finally, America Online is a marketer, while Netscape is an innovator.

Can Virginia-based America Online retain Netscape's Silicon Valley engineers? This will be a cultural challenge. Its human resources are the only real asset that Netscape has.

COLUMN

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Restructuring heats up

The ongoing restructuring of telecom companies reflects changes in the industry. The traditional distinctions between data and telecommunications and between public and private networks are becoming irrelevant.

As customers increasingly demand integrated solutions, the IT and telecom industries are seeing a rapid convergence of technologies.

The new organization announced by Ericsson is one example of adjusting to what we call the new telecom world.

Ericsson is not the only major data or telecom company to do so. Alcatel is now focusing on telecommunications and cables and, like Ericsson, is reorganizing into three customer segments with centralized support functions.

Broaden their leadership

Nokia has been focused on telecommunications for many years. To revitalize the company, top executives were recently shuffled into new positions.

The objective is to broaden their leadership abilities and to introduce new management ideas in an otherwise unchanged organization.

Siemens is embarking on the most major restructuring in the company's 150-year history.

Some 15 percent of operations, primarily in components, will be sold. In its new form, Siemens purports to be the only company in the world to combine all IT and telecom operations under one roof.

Similar patterns

Restructuring of Lucent Technologies and Nortel follow similar patterns with similar objectives.

Nortel's reorganization is in large part intended to take advantage of the company's recent acquisition of the data communications company Bay Networks.

Lucent's reorganization, on the other hand, is more a question of acquiring a number of smaller datacom companies and integrating them with Lucent's core operations.

The trends are clear: a strong focus on telecommunications, greater control by executive management, one interface for the customer and a blending of public and private network solutions.

So who is best prepared for the challenges of the dawning new telecom world? The answer is all, some or perhaps none of the above, but rather data and media-related companies.

Santa is superior

One thing is clear. When it comes to efficiency, time-to-market and customer satisfaction, no one comes close to Santa Claus. How else can you explain why he is able to visit 1.5 billion homes in just 48 hours? If you know the answer, send it to us (ebin@lme.ericsson.se).

The best submission will naturally be awarded a prize. Finally, have a very happy holiday season.

Raitis Sedlenieks is an analyst at the corporate unit for business development.

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The pioneers of Open Source

The team behind Ericsson's robust web server, Eddie, represents a whole new business philosophy for Ericsson. The product software was recently released as Open Source on the Internet, meaning the source code is freely available to anyone wishing to improve the product.

In four months, five people succeeded in developing a product that can render a website completely reliable. The solution behind robust, scalable servers is crucial for Internet commerce. Having a website that will not break down is extremely important – for Internet operators (ISPs), Internet banks, web hotels and Internet-based databases.

"In two years, we expect there will be ten to twelve million servers on the Internet. In a conservative estimate, ten percent of them operate critical web applications that must not break down. This gives an idea of the type of market we must reach," says Jane Walerud, business developer for Eddie, which has been available on the Internet since the beginning of November.



Jane Walerud

New business strategy

The product is Ericsson's first Open Source venture, and is part of an entirely new strategy to win market share. The development system on which Eddie is based, Erlang/OTP, has also been released as Open Source.

This means that anyone, without restriction, can produce commercial applications of the software and the system.

"Freeware has long been available on the Internet. Now, however, everyone is talking about Open Source software.



Joakim Grebenö

The basic idea is that anyone can help to find bugs and fix them, which means the software develops quickly," says Joakim Grebenö, manager of the "innovation cell," or team, that developed Eddie.

"We do not charge for the basic Eddie product. Our focus is on selling accessory products once we're established in the market," explains Joakim Grebenö.

Undying server

In releasing software as Open Source, Ericsson is in good company, but it is one of the first large corporations to release core technology in this manner.

Previously, Netscape released the client program, Communicator, as Open Source, and the source codes to the Apache web server and the Linux operating system are also available on the net.

The Eddie software operates in a webserver network. The idea is that if a server fails, web service is auto-



Ericsson's pioneers in Open Source: Joakim Grebenö, Magnus Fröberg, Jane Walerud and Patrik Winroth, the team that developed the robust Web server, Eddie – Ericsson's first product to be set free on the Internet. The business concept is to impact the market and establish the product quickly. Absent from the photo is Anders Dahlin.

Photo: Gunnar Ask

matically transferred to another server with the same function. The solution consists of four parts: a DNS server which via a WAN controls every machine on the Net; an intelligent http gateway that chooses which server can best handle a certain task; an application that ensures that the other servers take over when one fails; and, a replication application that ensures that all machines are updated simultaneously.

Crucial for the Eddie group's decision to set the software free was that software giants IBM and Hewlett-Packard produced competing server solutions this past summer.

"We simply don't have their marketing channels for this type of product. Therefore, we consider this our

chance to market ourselves quickly on a broad front," says Jane Walerud.

She considers Open Source an area for computer specialists, many of whom think it fun and useful for their careers to devote free time to improving developing products.

"Our customers are corporate computer specialists who are quite willing to obtain new items from the net. On the very first day after the launch, we were in contact with people who wanted to help develop Eddie. We are now coordinating this work at the same time as we establish ourselves in the market," Jane Walerud explains.

Nils Sundström

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THE COMPONENTS OF EDDIE

Load-balancing DNS: (Domain Name Server): Like a databank that connects the correct web address with the best IP address.

Application for IP address migration: Automatically transfers IP addresses and servers from a dis-functional to a functional server.

Intelligent http gateway: A load-balancing server that manages traffic on local networks and chooses the server best suited for the task at hand.

Replication software: Ensures that several computers have the same information.

Rapid move from idea to product

It began as a brainwave. Joakim Grebenö submitted a proposal to the Ericsson Innovation Management Group for building robust, scalable servers.

A business plan was approved and special independent unit formed, which allowed the project to develop rapidly.

"This is a good example of how we should handle business ideas that do not fit in with Ericsson's present structure and business units. It's all about daring to do something new, meet customers and behave as an independent organization," says Andreas Jönsson, who with Magnus Braxell at Innovation Management, was involved with the Eddie team at an early stage, under the auspices of the former Infocom business area.

Joakim Grebenö, then with the Erlang/OTP Laboratory in Älvsjö (Stockholm), succeeded in making people listen to his idea, and was able to launch a so-called innovation cell last February.

The mission was to produce – in

cooperation with a hand-picked team – a prototype, a business plan and reference customers.

"We were helped a great deal by Bjarne Däcker, manager of the Data-logi Laboratory, and by reusing much of what the OTP Lab had accomplished for similar systems," Joakim Grebenö explains.

Since its inception, the Eddie team has been forced to shift its business focus several times before the recent product launch.

"This shows how quickly changes occur in the market and how important it is to be sensitive to them," explains Jane Walerud, who drafted the business plan.

The Eddie operations are continuing in the form of a small business within New and Special Business Operations – it is the new business unit of the Operators business segment.

A special product unit – Business Innovation – has been established to promote and develop creative new business ideas.

Nils Sundström

www.eddieware.org.

New business unit a hub for ideas

Ericsson devotes considerable resources to product renewal. A new unit has been established within the Operators business segment, for example, to test and develop new business ideas which for various reasons do not fit in other business units. The unit will serve as a hub for the promotion and support of creative suggestions within the company.

"The idea is to pick up on and develop new business ideas. With today's rapid development in data and telecommunications, it is important that we stretch ourselves outside our traditional product areas, to continue to be successful in the future as well," says Jöran Hoff, who is in charge of the new business unit – New and Special Business Operations – which employs about 1,200 persons worldwide.

The business unit includes unit for new products such as Wireless LANs or the combined mobile radio and GSM phone, GSM Pro, and well-established operations such as Mobitex, Fixed Radio Access and paging systems.

Promotes innovative ideas

The special unit, Business Innovation, is devoted to the systematic testing of new business ideas. The unit is already running several projects, such as Eddie, the robust web server.

The operations also serve as a school for managers and entrepreneurs within the company – so-called intrapreneurs – since it provides them the opportunity to conduct projects that may eventually become core Ericsson operations.

"This is yet another way to foster a long-term creative climate within the company. Many business units already operate functions such as Innovation Management to test new ideas. New product suggestions that do not fit in with a unit's operations can be analyzed and tested in an Innovation Management context.

Similarly, new ideas from the Ericsson Research unit, or from outside the company, can also be tested," says Anders Friman, Business Innovation manager.

The "intrapreneurs" play an important role in transforming new and perhaps eccentric business ideas from vision to reality. Their job is to analyze the market, evaluate the business potential of the ideas, develop prototypes and introduce the products to the market.

"The flow of ideas is healthy. The most important thing is to find the right people, the people who are genuinely interested in running a project. This task often requires that you work counter-current, against established norms and organizational structures," says Anders Friman.

Network of enthusiasts

A network of "intrapreneurs" is currently in the making within Ericsson, and it includes both experienced and inexperienced "intrapreneurs" of different ages.

"The new ideas span such a wide field of know-how that it is impossible to collect them all in one unit. The efficient assessment and support of all the ideas contributed requires a network-based organization. At Business Innovation, we aim to be the axis creating new business opportunities within the business segment, and we welcome anyone who thinks that sounds exciting," says Anders Friman.

An important part of encouraging innovation and entrepreneurship is the "small-company approach" taken for the new ideas.

"Our economic resources allow us to run the projects as small companies within the large company. Operating as independent units also generates greater enthusiasm and flexibility to respond to market changes."

Nils Sundström

☺ <http://nsbo.ericsson.se>



Daring to go counter-current. Innovativeness and an entrepreneurial spirit are essential for agility in the growing new telecom world. Jöran Hoff is manager of the new business unit created to develop and test new business ideas. To the right: Anders Friman, manager of the new Business Innovation unit.

Photo: Gunnar Ask

Motivating entrepreneurs

Ericsson and several other large Swedish corporations are launching a know-how development program in the form of a consortium. The program, which is run by the Chalmers Technical Institute, is intended to promote and train qualified entrepreneurs within the member companies.

The program, called "Creating New Business," starts in February 1999 and will run for a year and a half. The consortium, including Ericsson, Akzo Nobel, Perstorp, Telia Research and Volvo, aims to develop the participants' know-how and help them attract new business to their companies' core areas. Four representatives from each company will participate in the program for half a year. Each group will devote

itself to one current project. Based on a business concept, the group will develop a business plan and test a product's technical and commercial viability.

"It is an excellent way for us to promote our entrepreneurial operations and make contact with other industries facing the same problems and possibilities regarding tomorrow's business and business systems," says Anders Friman, manager of Ericsson Business Innovation and member of the steering group for the new consortium.

The program also includes team training and workshops. The instruction weeks will be held in Stockholm, Palo Alto, California, and Boston, Massachusetts.

Nils Sundström



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KUNGL. TEKNISKA HÖGSKOLAN

Global giants, celebrities and sly old foxes. They're all represented in Mexico's recently privatized telecom market. And in the midst of the world's telecom elite, there are new operators.

"During the next three years, we estimate that 4.5 million lines will be installed. Mexico is a major growth market for Ericsson. But half of the lines are dependent on supplier financing," says Raul Lucido head of strategic planning and information at Ericsson in Mexico.

Mexico

a country in transition

Two years have passed since Mexico opened its telecom market to free competition. At the time, 17 new operators have received a concession to provide long-distance services. Four of them have now captured the largest market shares. In the mobile telephony sector, six new mobile operators were granted licenses to start operations in May, but some of them have still not paid for their licenses.

Ericsson has a strong position as a telecom supplier in Mexico. Half of the market's operators have selected Ericsson and, of particular importance, Ericsson has a joint history working with Telmex, the incumbent telecom operator. Ericsson entered the Mexican market back in 1904, when the company decided to cross swords with ITT of the U.S. in competition for the position as Mexico's leading telecom operator. In 1948, the two operators joined forces and established Telmex.

Market image lives on

Telephony became synonymous with Ericsson. To some extent, the company's original image lives to this day, although more than 40 years have passed since Ericsson divested its ownership interest in Telmex and despite the influx of many Ericsson competitors into the Mexican market.

To retain its position as the leading supplier of telecommunications solutions to new operators, Ericsson will have to make completely new and concerted efforts. Ericsson will have to help new operators with technological expertise and strategies. The company must also recognize and accept that some of the new operators are dependent on financing support.

"Of the 4.5 million lines that we believe will be installed over the next three years, 50 percent will be dependent on supplier financing. We have lost two or three contracts at the last minute because Ericsson did not match the financial assistance offered by Nortel or Lucent, which have granted financing up to 100 or 150 percent," says Raul Lucido.

The crucial issue for new operators is to find a strategic partner. Ericsson and Miditel, one of the new operators for long-distance service and mobile telephony, have signed a letter of intent whereby Ericsson will deliver GSM equipment to Miditel, which has been granted a mobile telephone operator's license. The company has still not paid for the license, however, as it continues to look for a suitable strategic partner.



Raul Lucido

Important with a suitable partner

"Although it's important for the operator to find a suitable partner, it would naturally be preferable if the partner accepts Ericsson as a telecom supplier," says Sergio Robledo who is responsible for the new customer Miditel.

Ericsson in Mexico is now focused on the establishment of GSM in the Mexican market. The company wants to create a balance between existing D-AMPS network and GSM. The balance would also offer significant benefits for Europeans who travel to Mexico. GSM penetration in the Mexican market would also establish a foothold in Latin America. In many respects, Mexico is a model country for many nations in Latin America, especially in Central America and the Caribbean.

New conditions with a free market and several more operators have triggered major changes at Ericsson in Mexico.

"A year ago, we introduced a new organization structure to improve our ability to serve customers. We now have Key Account Managers and New Account Managers, which makes it much easier to work in close cooperation with our customers," Raul Lucido continues.

"We based our organization on the same philosophy that characterizes changes in Ericsson's corporate structure."

MOBILE AND WIRELESS OPERATORS:

Televisa/Pegaso - CDMA mobile telephone standard supplied by Qualcomm. Televisa is still in the starting blocks, poised to begin operations in the spring of 1999.

Lusacel - CDMA provided by Lucent.

SPC - Looking for a partner and has not yet bought its license.

Miditel - Looking for a partner and has still not paid for the license. Ericsson is the likely supplier.

Telcel - D-AMPS, with Ericsson as the major supplier.

Wired telephony:

17 operators were scheduled to begin operations when the telecom market was opened to free competition in January 1997. Today, four main operators remain in the market.

Telmex - With 60 percent of the market and Ericsson as its supplier.

Avantel - Backed by MCI Worldcom.

Alestra - Supported by AT&T and supplied by Lucent.

Miditel - With Ericsson as the main supplier.

Mexico has welcomed Ericsson's strong corporate focus on markets and customers, as reflected in the new corporate structure.

"I think it's good that Ericsson's new structure is more customer-oriented. Fast deliveries are critical to customer satisfaction. It's been a problem, at times, getting products delivered quickly enough" says Lilianna Salas, GSM marketing associate, who works with the new operator Miditel.

Mexico's new approach to free competition, however, is not the only reason for major changes in the country. The peso crisis in 1994 led to a 6-percent decline in GDP. The following year was characterized by weak investments in Mexico's infrastructure. But the tide has turned, and both GDP and telecom growth



are expected to reach 2 to 4 percent this year.

"We also see potential for new business opportunities, particularly within IP services. Approximately one million people in Mexico are now linked to the Internet, and about four million Mexicans have computers," says Raul Lucido.

Mia Widell Örnung
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Traditional values are still a mainstay in Mexico, but developments are progressing rapidly. The new situation with an open telecom market and several new operators has spurred many major changes at Ericsson in Mexico. Photo: Ulf Berglund

COLUMN

Mexico moving forward

Mia Widell Örnung
mia.widell@lme.ericsson.se



Things are definitely moving forward in Mexico. The blanket of smog that once covered this city of 18 million residents is gone. There are fewer beggars staring at passers-by. No longer are there gaping potholes in the middle of highways and major thoroughfares. And there's a significant reduction in the piles of household waste strewn alongside the beautiful mountain roads leading toward Taxco.

Not to say the air is pure and clean, or that social inequality has simply been eliminated. But progress has definitely been made over the past 10 years, since the time I lived in Mexico for a brief period.

In those days, it was not uncommon to see the city covered in choking smog. I can recall more than once when schools were forced to close for a week or two in January because of extremely high air pollution levels. Today, the country's entire fleet of automobiles and trucks has been replaced, and older vehicles are banned from the roads one day a week.

When I was living here in 1987, motorists seemed to concentrate more on avoiding gaping craters in the roadways than on the city's traffic lights. A much higher priority now seems to be focused on the country's infrastructure. Better and safer roads are being built. The Diamond Highway from Mexico City to Acapulco is an example. New highways have reduced travel time by one or two hours, depending on whether the driver is Mexican or a Swedish tourist.

The country's former protectionism policies have been replaced by a more open society. Privatization and deregulation have characterized certain sectors of the business world during recent years. Mexico has breathed new life into its economy following the peso's nosedive in 1994-95.

The World Bank has expressed confidence in the country and granted Mexico additional credits last year. The telecommunications market has also been deregulated, and not just marginally. Since January 1997, several new

operators providing long-distance service have established operations, and six new mobile telecom operators have or soon will establish telecom operations in the Mexican market.

Hopefully, the country's new-found free competitive spirit will generate sales of more telephones because there is certainly a glaring need. Despite its ranking as one of Latin America's model countries, Mexico has one of the region's lowest telephone density ratings. Only slightly more than 10 percent of the country's residents have a telephone. The country clearly offers significant growth potential.

As a result, when Ericsson identified Mexico in conjunction with its recent interim report as one of the world's most promising growth markets, I was inclined to agree. It may seem incongruous in view of all the reports of uncertainty surrounding the economies of Latin American countries, but it's completely logical for me after two visits to Mexico separated by a span of 10 years.

Customer initiated Y2K efforts

Ericsson in Mexico is well aware of the new millennium that looms larger with each day. But the company did not take a more serious view of Y2K problems until Telmex, the country's government-owned telecom operator, started to ask a large number of questions.

"We didn't have the answers, and that's when we realized the true gravity of the new millennium issue," says José Luis Castaneda, manager of TIM2000, a special millennium project now being conducted by Ericsson in Mexico.

And that's exactly what the Mexican company has done. An action committee was appointed, and a control group was established under a project manager with broad decision-

making powers. Nothing would be overlooked or allowed to slip through the cracks. Today, less than one year later, Ericsson in Mexico ranks as one of Ericsson's most thoroughly prepared companies as the year 2000 approaches.

"We realized we could not operate through an informal organization; we also recognized the need to appoint designated persons in every unit to assume responsibility for the TIM 2000 project. We obtained support from every business unit manager by including them in a large control group. They were asked to approve allocations of resources to participate in TIM2000, the name we attached to the project," explains José.

The project group soon realized that problems surrounding year-2000 compliance issues would involve much more hard work than any of them had imagined. The group was divided into two sections. One was assigned the task of handling Ericsson's internal systems and buildings. The other would concentrate on Ericsson's customers and products. New resources were also created to support TIM2000.

"The first step involved concerted efforts to make people in our organization aware of the Y2K dilemma. Without awareness and broad acceptance, our efforts would have been fruitless."

The control group designed a new logo, organized a project kick-off in February and the

Mexican company's internal newspaper ran a series of articles about the project.

"We conducted a complete inventory of all our products in Central America and drew up time plans with every customer."

Jose Luis Castaneda leafs through long lists of upgrades and tests.

"Once we have tested a product at a customer site, we can refer to the test in our contacts with other customers. We have completed a test of the AXE Local 6 in Panama, for example, that we now use in other markets. We have also reached agreements with most customers concerning upgrades and other modifications. We have made considerable progress, and we now know what has to be done. I have also

Mia Widell Örnung

20 years with Gripen

The first Gripen export order is almost in hand. In November, South Africa selected the aircraft as its first choice for updating the country's air force. A final decision is expected in March 1999. Ericsson has been involved with the project since its inception in 1980. Several of the systems which make the Gripen the world's most advanced operational fighter, were developed by Ericsson

Size has been the biggest challenge. Trying to build so many different functions into such a small aircraft. One example is the presentation system.

"We have created a system that gives the pilot a very good picture of the situation, combining flight and radar information," says Hans Brandtberg of Ericsson Saab Avionics.

Hans Brandtberg has been involved with the Gripen since 1979. Now, almost 20 years later, he has received yet another sign of the project's success.

"The pending deal with South Africa feels very good. Contrary to what has been reported in the media, it didn't take long to reel in the first Gripen export deal."

During the 1970s, Hans participated in the work to design a new fighter aircraft. After several years, however, the project was tabled and a decision was instead made regarding a replacement

for the Viggen aircraft system, which would soon be out of date. Discussions between Saab and the Swedish Air Force led to the idea of building a single fighter aircraft that could handle intercept, attack or reconnaissance missions.

A preliminary study and evaluation phase was conducted during the summer of 1980 and Hans, who was employed at what is now Ericsson Microwave, participated in the work to design the pilot presentation system which utilizes computerized displays.

"It was an innovative study and we came up with quite a few unique solutions. We decided early on that the new aircraft would have three displays in the cockpit, rather than the two found



Hans Brandtberg

in Viggen. We also came up with the idea for an unusually large line of sight indicator where information for the pilot would be projected onto a glass plate in front of the windshield."

A bid was submitted to military authorities in the middle of 1981. The order for development of the first Gripen aircraft series came the following summer.

Over the years that Hans has worked on the Gripen, quite a number of system updates have been made.

Technologies available at the beginning of the project which subsequently became outdated, have been replaced with new ones.

Cheaper with digital technology

"The biggest difference is that digital technology has become so much smaller and less expensive over the years. Technological developments have provided us with new opportunities requiring suppliers and customers to remain in close contact regarding upgrades. One example of these rapid developments is a module used in a graphics generator which originally required four different printed board assemblies. Today, the same task is handled using half a board."

New advances have also been made in presen-

The greatest challenge with the Gripen project, according to Hans Brandtberg, has been finding room for so many functions in such a small aircraft. "The positive reactions we've received from the pilots, are the most important sign that we have succeeded. They are very satisfied with the aircraft and with our presentation system."



The radar - pioneering work

When the Gripen was ordered in 1982, it was impossible to build the aircraft's radar. The advanced requirements could not be met using the technology available at the time.

"We were counting on rapid technological developments and we were right. The radar system which was delivered ten years later, easily fulfilled the requirements," says Ingvar Sundström.

In 1980, when the study and design work for the Gripen began, Ingvar Sundström was working with signal and data processing at what is now Ericsson Microwave. He was employed by

the flight systems division, which received the task of developing the signal processing for the aircraft's radar system.

Challenging task

"It was a challenging task. The customer, the Swedish Defense Materiel Administration, realized that if Sweden was to be able to afford a new

aircraft system, costs had to be significantly reduced compared with previous models. The conclusion reached was that the next aircraft, the Gripen, was to be small with only 60 percent of the weight and volume of the Viggen system."

The order, which arrived on July 1, 1982, specified



Ingvar Sundström

that the aircraft's radar system - including antenna and pulse generation and signal processing units - was to weigh 158 kilograms. This was a considerable reduction compared with Viggen's system which weighed over 270 kilograms.

Radar system

"The system that had been ordered was simply not feasible with the technology available in 1982," says Ingvar Sundström. "There was simply not enough room in the space allocated for

tation technology. The monochrome cathode-ray tube screens used in the first version of the Gripen have been replaced by flat, color liquid-crystal displays in the third series. It is the same technology that is used in laptop computers. Color allows for more options in the presentation of information.

Greatest challenge

The greatest challenge with the Gripen project, according to Hans Brandtberg, has been finding room for so many functions in such a small aircraft. Looking back, now that the first aircraft have been put into active service in the Swedish Air Force and the first export deal is almost at hand, he can conclude that the project has been very successful.

"The positive reactions we've received from the pilots, are the most important sign that we have succeeded. They are very satisfied with the aircraft and with our presentation system."

Niclas Henningsson

Microwave and Ericsson Saab Avionics. So what has Ericsson's contribution consisted of?

Contact looked into the Ericsson systems found on the Gripen and met with two people who have been involved with the project since the very beginning. Hans Brandtberg and Ingvar Sundström have both worked on the Gripen since 1979.

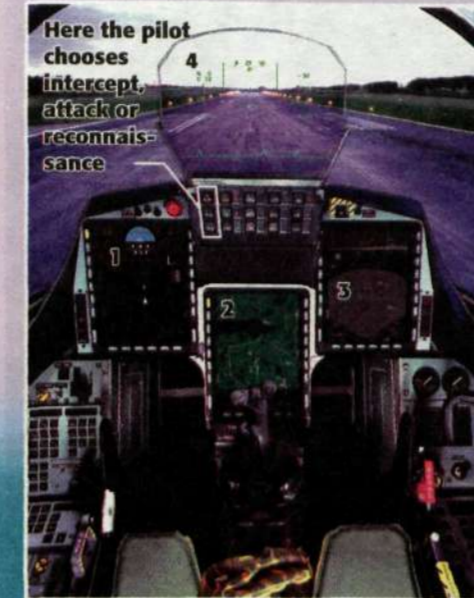
ERICSSON SAAB AVIONICS

Ericsson Saab Avionics (ESB) was formed on January 1, 1997, when portions of Ericsson Microwave Systems, Saab Dynamics and Saab Military Aircraft were combined.

The operation consists primarily of developing electronics for the Gripen. Other ESB products include:

1. Presentation and registration system EP-17
2. Electronic warfare system EWS 39
3. Computers
4. Rudder servos
5. Miscellaneous sensors and mechanics
6. Cockpit panels
7. A number of services within the field of electromagnetic technology.

ERICSSON'S PART IN JAS 39 GRIPEN



Here the pilot chooses intercept, attack or reconnaissance

Presentation System EP-17

Description: Three color displays with 10.4" liquid-crystal displays and a line-of-sight (HUD) display on a transparent glass panel.

1. **Flight data display:** Information for maneuvering the aircraft, such as course, airspeed, altitude and aircraft attitude.
2. **Tactical display:** The tactical situation, with the aircraft's course, symbols for targets, threats and obstacles presented on an electronic map.
3. **Multisensor display:** Information from radar and other sensors displayed for intercept, attack and recon missions.
4. **Line-of-sight (heads up) display (HUD):** For situations when the pilot must have his head up to look. Shows information for sighting and firing of weapons as well as flight and navigation information.

Developed by: ESB

How the system works: The Presentation System processes information from the aircraft's flight, tactical and navigation systems and presents them in manner which helps the pilot make the correct decision. Concurrently, data, images and sound are registered in a digital memory cassette.



Weight: 13,5 kg

Height: 35 cm

30 cm

20 cm

System Computer MACS

Description: The Gripen's brain. Heart of the aircraft's tactical system.

- Contains functions for navigation, combat control and sighting, among others.
- Monitors and coordinates the aircraft's other computers.
- Registers and files events during flight.

Developed by: EMW

Specifications:

- Processors: 3 266 MHz PowerPC
- Bulk memory: 160 Mb, expandable to 320 Mb
- Program memory: 32 Mb
- RAM: 64 Mb

Note: Contains key information and similar to Gripen's "black box" is red and white striped so that it can be found quickly after an accident.

How the computer works: The computer processes all information directly. Therefore, it has three processors operating in parallel. **Decisive:** all processors must have the exact same time to be able to distribute tasks among themselves.



JAS 39 Gripen

The world's only fourth-generation combat aircraft in active service. A multi-role aircraft. The same platform is used for intercept (aerial targets), attack (land and sea targets) and reconnaissance.

- Length: 14.1 m
 - Wingspan: 8.4 m
 - Takeoff weight: about 8 tons
 - Speed: Supersonic at all altitudes
- All data about equipment applies to the third series.



Antenna Rotating platform ø 600 mm

Gross weight: 25 kg

INTERCEPT

A number of different modes for target detection and tracking of targets in the air.

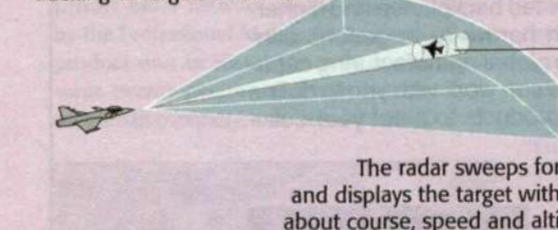


Illustration: Jonas Dagson

The radar sweeps forward and displays the target with data about course, speed and altitude.

Radar System PS-05

Description: The radar comprises a directional antenna installed on a rotating platform in the nose of the aircraft as well as units for generating radar pulses and for data processing of the echoes.

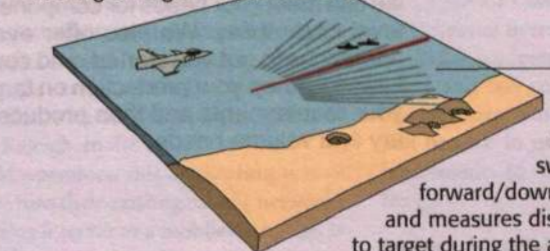
- Detects, tracks and generates data about air, sea and land targets.
- Generated data applied for targeting of weapons.

The radar's various modes is a prerequisite for the Gripen's ability to switch between intercept, attack and reconnaissance. The pilot selects the mission type with the push of a button. (See photo of cockpit display)

Developed by: EMW (Doppler radar, core of the target acquisition system)

ATTACK

A number of different modes for target detection and tracking of targets on the sea or land.



Radar sweeps forward/downward and measures distance to target during the attack.

Electronic Warfare System EWS 39

Description: System comprises two parts:

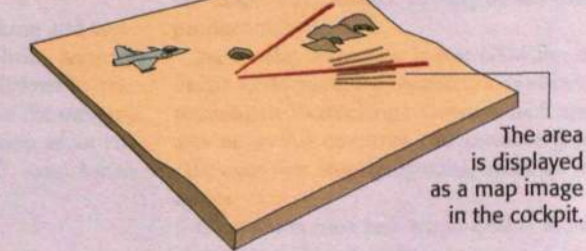
1. **Warnings system:** Equipment that provides a warning when own aircraft is being scanned by radar. The radar signal is analyzed and categorized using a database. Counter measures are selected automatically.
2. **Jamming system:** Equipment to interfere with aircraft and ground radar. An extra jamming pod can be mounted under the aircraft for certain missions.

- **Masking:** Jamming to prevent detection.
- **Deception:** Jamming signals manipulate radar echo and create a false target.
- **Diversion:** Create false targets by release metal chaff (nylon thread) to confuse the echo.

Developed by: ESB. Subsuppliers: CelsiusTech Electronics, EMW, Saab and Saab Dynamics.

RECONNAISSANCE

Radar sweeps across the ground and creates a map image of the scanned area.



The area is displayed as a map image in the cockpit.

ERICSSON MICROWAVE SYSTEMS AB

Ericsson Microwave Systems (EMW) has been developing radar for aviation applications since the mid-1950s. For the Gripen project, the company is contributing:

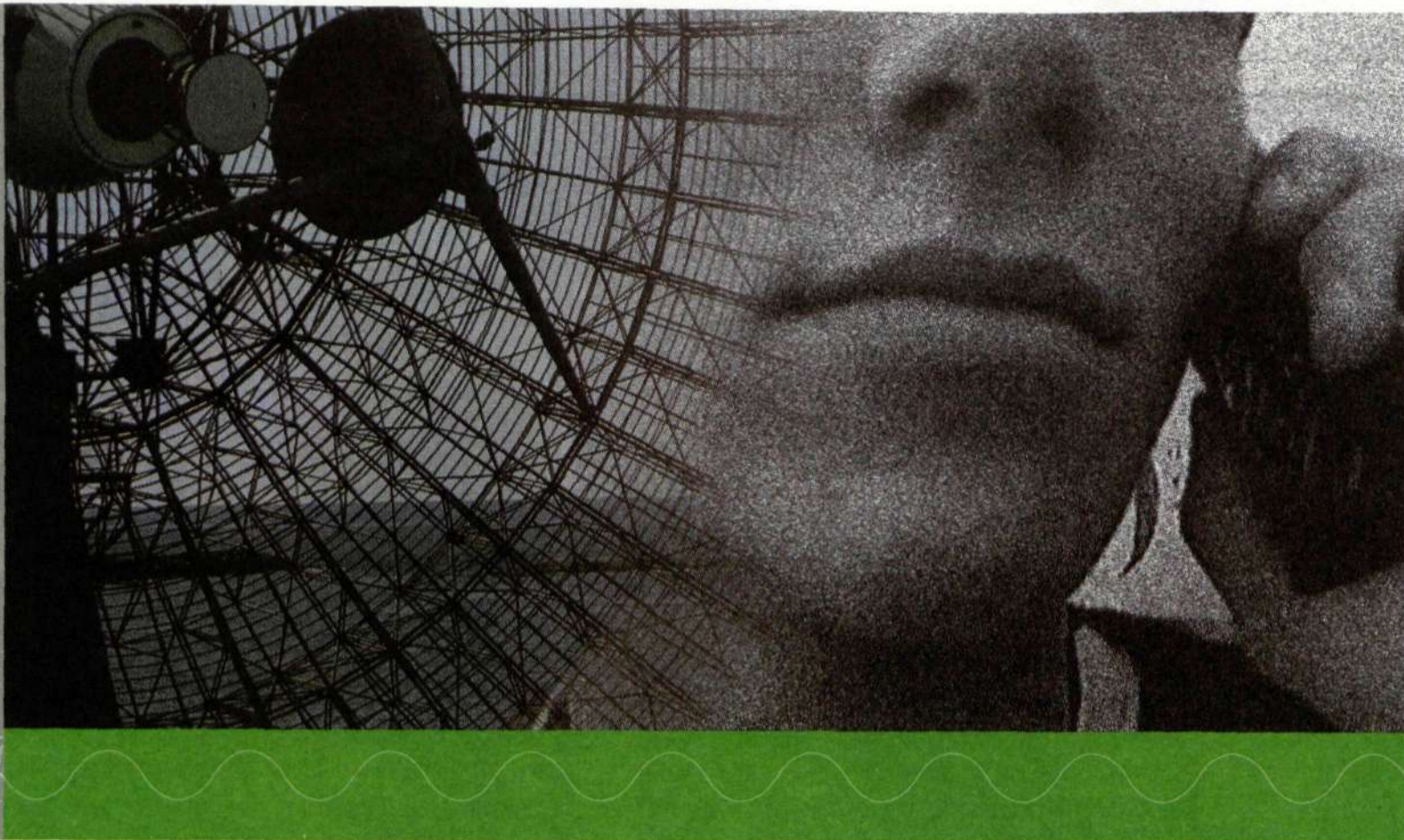
1. A radar system which includes antenna, radar pulse generator, power amplifier, RF head, transmitter/control unit, and signal and data processing unit

2. Standard computer systems which are used as system computers as well as for display and radar systems.

Ericsson Microwave System's subsidiary, Ericsson A/S in Halden, is contributing certain hardware and software development to the third series of Gripen.

Niclas Henningsson

Anritsu offers a broad range of measuring products for modern communication technology like mobile radio, optical fiber, ATM/SDH, RF and microwave communications, as well as general-purpose instruments such as network and spectrum analysers, signal generators and power meters.



As a partner it's just as important to receive as it is to send the right signals.



Anritsu

As one of Ericsson's partners we have to be good at interpreting signals. Being sharp when it comes to internal as well as external needs and viewpoints is essential.

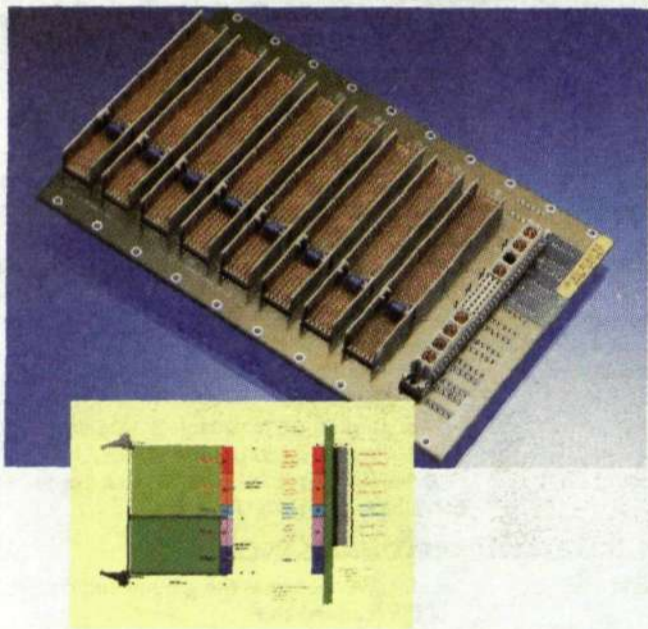
The dynamics and complexity of the market mean that we must co-operate even more if we are to offer competitive products and services. We meet the demands made upon us, wherever we are. Local

knowledge, along with local support, is becoming increasingly important. And that's where we come in: Every moment of the day and all over the world!

Anritsu is a global company that offers measurement and test systems for the development and production of mobile radios as well as terminals, optical fibre and digital transmission, and microwave communication. As a partner we want to provide somet-

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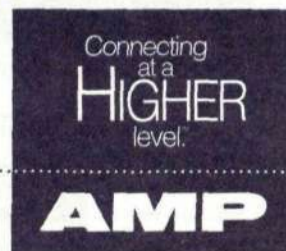
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One unit – with two functions

Small, handy and durable. Ericsson's new GSM Pro application offers a mobile radio and a mobile telephone in the same terminal. This opens up completely new possibilities for both users and operators.

Sture Molin, from Gullspångs Kraft, radios all of his colleagues in the forests outside of Örebro. He needs a sky lift in order to make a switch-over on a signal tower. With a single call, he is able to reach eight different people. And the same terminal can also be used as an ordinary GSM telephone.

"Very practical. And the mobile radio speakerphone function is very handy when one needs to work with both hands free," says Sture Molin, who has tested the new GSM Pro technology in collaboration with Ericsson and Telia.

Two become one

Gullspångs Kraft is one of Sweden's largest electrical utilities with over 60,000 kilometers of power lines. Mobile radios are a necessity for making group calls and alarms, but since operations are spread out over the entire country through a number of joint power companies, the utility uses various mobile radio communications frequencies in different areas.

"This means that most of our maintenance vehicles also have mobile telephones installed, and most technicians also have their own personal mobile telephones. With GSM Pro, we can have both a mobile radio and a mobile telephone in the same terminal," says Göran Johansson, who oversees telecom matters at Gullspångs Kraft.

He can readily envision GSM technology, in applications such as GSM Pro, replacing mobile radios in the future.

"The group call function allows people to decide who will be included in a conversation. Also, everybody gets the same information at the same time, without having to assemble in a certain place, or be in a limited, geographic area," says Göran Johansson.

Lots of interest

GSM Pro, which is based on existing consumer technology, created a great deal of interest when it was first unveiled at the international CeBIT trade show last spring.

The application, which is revolutionizing the private radio network market, was developed by the Professional Mobile Radio over Cellular product unit in Kista. The unit, consisting of some twenty people, currently operates as its own small company, a so-called innovative cell.



They look like ordinary mobile telephones on the outside, but with more robust and durable casings. Johan Berg, manager of the Professional Mobile Radio over Cellular product unit, shows off the new GSM Pro which, even before its launch, has already attracted a great deal of interest.

Photos: Nyhetstjänst



Special mobile radio functions such as group call and alarm will become a reality in GSM networks using Ericsson's new GSM Pro application. Sture Molin, of Gullspångs Kraft, was one of the testers who tried out the new mobile terminals which contain both speaker phone and push-button speech functions.

"That gives us the opportunity to act quickly and have total responsibility for the market as well as product and system management," says product unit manager Johan Bergh, who explains that the terminals are being developed in conjunction with the design departments in Lund and Raleigh, in the U.S.

For GSM operators, this application is easy to integrate into their existing mobile networks by connecting a server to a mobile exchange. It also provides operators the opportunity to

reach a new target audience which are not currently private customers.

"Potential users include trucking and construction companies, municipalities, security firms and bus companies. Additionally, rescue organizations, the police and the military will be able to use the application as an enhancement to their systems," says Johan Bergh.

Large potential market

There are currently over 40 million mobile radio users worldwide. In many cases, they are utilizing older systems which will need to be replaced in the near future. Private radio networks are also expensive to build.

"With our application, companies can forgo seeking licenses, investing in base stations or operating their own networks."

"In this system, everything is ready to go once they order their terminals and a subscription. In addition, users can take advantage of technological developments in GSM, such as

faster data transmission speeds and packet data," emphasizes Anders Gratorp of GSM Pro product management.

Yet another advantage is that GSM Pro can utilize GSM roaming capabilities worldwide, meaning that a trucking company which operates in several countries can conduct group calls over very large geographic areas, for example.

Connection time and sound quality are the same as in GSM networks.

"The application also provides larger companies with the option of creating their own communication control centers where a person, using a PC, can direct telephone traffic and provide assistance to users in the field," says Anders Gratorp.

Tests are now underway to also add positioning to the application. GSM Pro is expected to be market-ready by the middle of 1999.

Nils Sundström

nils.sundstrom@era.ericsson.se

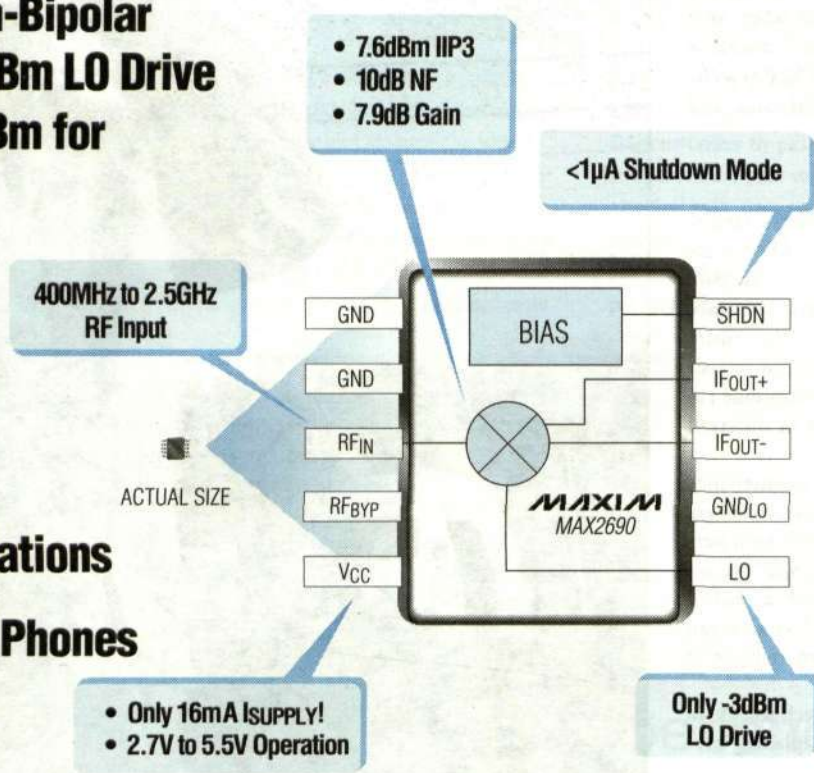
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Ideal for portable communication systems, the MAX2690 offers high input IP3 and low noise, allowing for more RF gain and better system sensitivity at much lower currents, with differential or single-ended outputs. The MAX2690 is available in the 10-pin μ MAX package, with a footprint of only 3.0mm x 5.11mm (0.12in x 0.20in).

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Meeting customers on the Web

What does the latest model cost? Is it dangerous to use a mobile phone? About 400 questions stream into Ericsson via the Web every week - and that's only in Europe. Sara Granstedt in Lund is one of the persons who provides the answers.

Ericsson's web site on the Internet offers customers an opportunity to ask questions about mobile phones and data accessories. A very large number of answers is already available on the Web, but consumers can also e-mail questions and comments. Increasing numbers of customers are starting to communicate with Ericsson via the electronic medium. The company's major helpdesks reply to e-mail in Asia, Europe and North America.

"When we started in 1996, we received about 50 e-mail transmissions every week. Today, the stream of e-mail has increased to about 400 per week in Europe alone. Approximately the same number of transmissions is received in the U.S.," says Sara Granstedt, who works at the international helpdesk managed by Customer Services in Lund.

10,000th question

Sara Granstedt has personified Ericsson on the Internet for a long time, with responsibility for consumer questions received from Europe, the Middle East and Africa. She recently answered the 10,000th question she and her colleagues in Lund have received through the years. The work is now being coordinated with local helpdesks in 20 other European countries. The fundamental rule is to answer all questions within 24 hours - a service greatly appreciated by customers.

"The answers we provide and the manner in which we provide them are also extremely important factors. Regardless of who sends the reply, all letters should be formulated in the same way. All replies are saved and regarded as written statements issued by Ericsson," Sara Granstedt explains.

All incoming questions are treated equally - no questions are considered too simple or too stupid to answer. And to ensure that nothing is misinterpreted by the customer, the answers often include references to Ericsson's official documents on the Internet. The policy of including



The fundamental rule is to send e-mail replies to customers within 24 hours. Sara Granstedt discusses helpdesk queries with Roland Wilke, who handles technical questions sent to the international helpdesk in Lund.

Photo: Lars Åström

references applies to questions concerning mobile phone health and security risks, for example.

The most common questions usually concern prices for new models, mobile data connections, software upgrades, how to find various functions and how to program different melodies on mobile phones.

"Our new consumer page contains instructions explaining how to program segments of more than 100 melodies as mobile phone ring signals," continues Sara Granstedt.

The web site (<http://mobile.ericsson.com>) also contains a guide that helps consumers find their way among Ericsson's different mobile phones. After simply checking their various

needs, a number of proposals appear with suitable models.

Passing on information

"Some people who write to the helpdesk also suggest various ways to make improvements. We forward their comments to the right department in the organization for evaluation and reply. Even if we are working on a solution within a specific area in which a customer suggests improvements, there are strict regulations governing what we are allowed to reply." Consumers are not the only parties that receive help via the Web. A special information network called the Customer Services Partner

Network has also been created to provide additional support for external service partners, local helpdesks and retailers. About 1,000 users in Europe can now access customized information, order spare parts and upgrade their software via the Net.

"It's an important information tool for our partners and the beginning of a larger Partner Network that will also allow them to order products via the Net," says Roland Wilke, who handles technical questions received by the international helpdesk in Lund.

Nils Sundström

nils.sundstrom@era.ericsson.se

Robert's telephone survived free fall

► Robert Polak of Slovakia dropped his mobile telephone down a stairwell; it fell five stories to a concrete floor below.

Naturally, the telephone broke into several pieces. But after he put the pieces together again, Robert's phone worked perfectly.

Many people contact Ericsson's helpdesk to tell stories about Ericsson products. Robert Polak is one of them.

In his e-mail letter to the helpdesk, he used digital pictures to help recreate and describe the entire series of events.

"I thought it might be interesting for Ericsson's development engineers to see what was actually broken and how easy it was to fix," says Robert Polak.

With the help of some glue, a screwdriver and a soldering iron, Robert repaired his telephone, a GA318, tightening the battery holder and antenna, which came loose in the fall.



1. Robert Polak dropped his mobile phone, a GA318, down the stairwell of his office building in Slovakia. The phone fell five stories to a concrete floor below.



2. The antenna, battery holder and other components were jarred loose by the crash.



3. Robert glued, soldered and screwed the phone back together.

Photos: Robert Polak



4. The display indicated there was life left in the phone.



5. And it worked. Robert Polak described the entire series of events via e-mail to Ericsson's consumer web site.

Other surprised mobile phone customers...

► Bengt Paulsson sent an e-mail recently from the west coast of Sweden, telling the helpdesk he lost his 688 in a wooded area last autumn. One month later, he found the phone under 20 cm of snow by the side of a forest road. "When I got home," he wrote, "I dried the phone and put it on charge. And to my amazement: it worked perfectly. The only tell-tale signs of its ordeal were a few scratches on the battery and antenna. I also had to reset the date and time."

Rikkie Gajadhur of Kwa-Zulu Natal Province in South Africa wrote to tell the story of how he dropped his mobile phone 50 meters off the side of a cliff. The phone was scratched fairly extensively, and the battery and SIM card were missing. "When I arrived home, I tested the phone with a new battery and SIM card, and it worked perfectly. That's what I call a good product!"

Nils Sundström

Nils Sundström



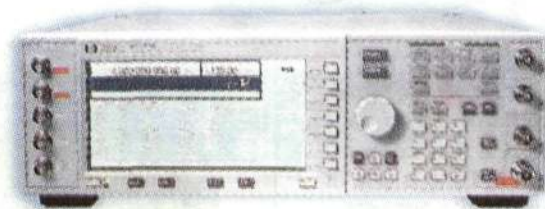
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[SPARE BEDROOM]



[HOTEL ROOM ON FAMILY VACATION]



Being an engineer is an occupation that's pretty tough to leave at the office. So the last thing you need is test equipment that won't do what you need it to.

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The result? You spend less time dealing with inadequate test equipment and more time finding the perfect design. And hopefully free up some of that cherished vacation time to spend with the kids in the wading pool.

For a free application note, *Custom Digital Modulation with the HP ESG-D Series Real-time I/Q Baseband Generator*, or for more information, call HP on one of the numbers listed below, or visit us at www.hp.com/go/wireless

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AT ERICSSON

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Contact: Ron Johnston, Director Business Development tfn: +46 8 7640789 e-mail: ron.johnston@era.ericsson.se Application: BUSINESS MANAGER, New products Henrik Cronmark, SG/ERA/YH Ericsson Radio Systems, S-164 80 STOCKHOLM

For more info about RWLL please look at: <http://rwll.ericsson.se/>

international

Ericsson Eurolab, the R&D centre in Herzogenrath-Aachen in Germany, offers the following challenging career opportunities:

CIRCUIT SWITCHING SYSTEM HOUSE (CSS) EED/X

Our System House CSS is part of the huge GSM family and involved in nearly all activities from requirement definition to customer supply and support around the Circuit Switching System (CSS) of AXE/CME20. For further support of our teams we are looking for

ASSISTANT PROJECT MANAGER (CSS)

● The CSSG project office at EED is responsible for all Ericsson GSM Circuit Switching projects from TGO up to GA. In addition, the related MSC/VLR-node level projects are run from here. We have the responsibility for overall CSS/GSM resource management, CSS/GSM project road-map establishment and coordination of all MCS/VLR development operations based at EED, EUS, ERA, LMF and IXG.

The Assistant Project Manager will support the Main Project Manager and take responsibility for associated projects.

QUALITY COORDINATOR

● The role of the quality coordinator within the CSSG Project Office is mainly targeted towards our international operations: you will assist the CSSG project team in defining and achieving the project goals and you will be involved in the operations development activities with our design centers in Greece, Finland, Sweden, Spain, Germany and the USA.

You will perform different investigations in relation to our projects, establish a common measurement and benchmarking for the international operations by integrating corporate quality initiatives (e.g. ESSI), RMOG quality initiatives and LDC's quality activities into one concept. Previous project management experience would be an advantage.

Contact: Human Resources Simon Seebass EED.EEDSIMS +49.2407.575-163 or EED/X/RTC, Thomas Funke, EED.EEDTFU, +49.2407.575-546

FUNCTION TEST COORDINATOR (CSS)

● The EED/X/P department is responsible for 1/APT products, the design of the Mobile Switching Subsystem (MSS) within the Circuit Switching System (CSS) System House as well as Function Test and Maintenance for the designed products in MSS.

For the next project R8.0 our project Team is looking for a function test analyzer (TG1 to TG2)/function test coordinator (TG2 to MS8).

Your main tasks as Function Test Analyzer are to analyze the function test impacts of the new functionality, defining a test strategy, preparing the Master Test Plan, preparing the AD-plan and following it up throughout the project and to closely work together with the project manager and the STE coordinator.

Later on as a Function Test Coordinator your main tasks are to coordinate all test related issues, being the TCM contact person, coordinating test plant setup and to closely work together also with the Overall Function Test Leader.

You should have at least 3 years experience in testing in simulated environment and target system testing. You should have a good understanding how a design or test project is run, be very good in communication and be the driving force in a project team.

The system group within X/P CSS-design department has the product responsibility for the mobile application 1/APT 210 25 and the subsystem MSS within the CME20 / CME40 switching system. We also run the product committees for these products, PC-1/ATP and MSS, and perform system studies. For further support of our system group we are looking for a

SYSTEM DESIGNER (CSS)

● As a System Designer your main tasks include: Participation in prestudy, feasibility- and quick studies. PRIM & CNI handling. Writing of technical reports.

Contact No. 20 1998

Updated December 17

in sweden

Ericsson Hewlett-Packard Telecommunications AB, Mölndal

MANAGER - GLOBAL SUPPORT

Global Support is part of EHPT Customer Services organisation. It has the responsibility for worldwide support service delivery to all our channel partners. This is done through our five regional Customer Services organisations. Support is of strategic importance for EHPTs expanding customer base. It covers all EHPT product portfolio.

● We are now looking for a manager for our Global Support organisation.

You will be responsible for development of EHPT support offerings and support process, worldwide delivery performance, tools, customer satisfaction including reviews with customers, total financial result including budget. It also includes suppliers support agreements as well as agreements with different product development organisations. Another part of your responsibility is to support sales of support services.

We expect you to have good experience and knowledge about Telecom management systems or large IT solutions as well as the service business. We want you to have strong drive and energy level, proven leadership capability in developing operations, business and people as well as experience of establishing and maintaining excellent customer relations. Travel is part of the job.

The organisation is today approx. 15 persons in own organisation and 15 - 20 persons in regional Customer Services organisations frontline support located in Dallas, São Paulo, Kuala Lumpur, Melbourne and Mölndal.

The position is based in Mölndal, Sweden. You will report to the general manager for EHPT Customer Services.

Contact: Håkan Bolmsjö, general manager for Customer Services, by email hakan.bolmsjo@ehpt.com Sven Ljungren, present manager for Global Support, by email Sven.Ljungren@ehpt.com Application latest 981220: Ericsson Hewlett-Packard Telecommunications AB Kjerstin Ljungqvist Box 333 SE-431 24 Mölndal, Sweden email Kjerstin.Ljungqvist@ehpt.com Tel +46 31 7462606

Ericsson Radio Systems AB, Kista

SOFTWARE DESIGN MANAGER, PACKET SWITCHING SYSTEMS

The Product Unit Packet Switching Systems is a part of Ericsson Radio Systems AB in Kista. We develop and market packet data solutions for GSM and the next generation mobile telephony system UMTS.

Product Group UMTS Packet Switching Systems has the mission to provide profitable and competitive UMTS packet switching products to mobile operators all over the world.

The unit has a bottom line product responsibility and consists of product management, system management and design departments. UMTS packet is about bringing together two of the most exciting and fast growing areas of technology: wireless communication and internet based services.

● As a Software Design Manager you will be part of a small and creative team, with ambition to make the ever best wireless connection, to the future datacom networks. Our goal is to design a UMTS system that efficiently support Web browsing, Vertical applications Voice over IP, and Multimedia.

We are now in the process of building the organisation for design, with the aim to have designers with broad IP-competence as well as with an interest in not only design but also system aspects. The design organisation will work with de-

velopment in a state of the art design environment.

Your work will be to build and establish the organisation. One prioritised area is to find and recruit more talented colleagues.

You will also be active in setting the development environment. You have an experience of design and a genuine interest for methods and tools. You also have knowledge within datacom. It is an asset if you also have knowledge within telecom.

Contact: Pär Sörme, phone: +46 8 757 14 83 par.sorme@era.ericsson.se Application: Ericsson Radio Systems AB KI/ERA/LK/HS Susanne Holmene 164 80 STOCKHOLM susanne.holmene@era.ericsson.se

Ericsson Radio Systems AB, Kista

RESPONSIBLE FOR RMOA HUMAN RESOURCES AND OPERATIONAL DEVELOPMENT

Business Unit Cellular Systems - American Standards (RMOA) develop and market complete wireless communication solutions based on the D-AMPS/AMPS standard. Presently, nearly 50% of the world's wireless subscribers are connected to D-AMPS/AMPS systems.

● You will on business unit level be heading our Human Resources and Operational Development unit, and be a member of RMOA management team.

The success of RMOA depends critically on achieving and maintaining high levels of competence for the organization as a whole, and for the individuals working within it. Developing and coordinating processes globally that achieve this will be your main responsibility.

Operational Development is responsible for developing, implementing and measuring the effectiveness of policies, and the best methods/tools to achieve shortened lead-time, improvement in productivity and quick adaptation to changing markets and customer needs.

Human Resources ensure that we achieve our objective to employ the best people and be the best employer.

Contact: RMOAC Björn Olsson, +46-8 404 3958 Application: Ericsson Radio Systems AB, AH/HS Elisabeth Ljungberg, 164 80 STOCKHOLM elisabeth.ljungberg@era.ericsson.se

Ericsson Radio Systems AB, Kista

QUALITY COORDINATOR - QUALITY ASSURANCE TOTAL PROJECTS

Mobile Systems - American Standards is one of the fastest growing business units within Ericsson Radio Systems. We are expanding rapidly and many challenges await us.

To secure good quality within the total projects for development of the wireless network products a project independent quality function is needed. This job will involve many international contacts.

● The quality coordinators role is to: support the project managers in quality questions and methods. lead TG assessments. perform quality audits of the projects.

You should have experience from modern quality work, project management. Experience from the different functional areas within product development would be highly advantageous. You should also have an analytic and creative mind and also a customer oriented way of thinking.

Fluency in English is required. You will be placed in the Operational Development unit within Product Unit Wireless Networks.

Contact: Eva Malmberg, phone +46 8 757 01 80, memoid.ERA.ERAEM Application: Ericsson Radio Systems AB ERA/AH/H Anette Spångberg 164 80 STOCKHOLM

Ericsson Radio Systems AB, Kista

BUSINESS MANAGER FOR GSM EUROPE

The RMOG business continues to expand rapidly. We at Business Management, Europe and Africa (ERA/LG) are therefore looking for additional senior Business Managers. We would like to get in touch with you who like speed, meeting people, learning about other cultures and last but not least, Doing Business!

● You will be responsible for one more customer accounts within Europe, the unit works with accounts in Belgium, Holland, Switzerland, Spain and some other countries. Your main interface will be the local Ericsson companies and their management. Together you will build relations, set short and long-term objectives, drive the business and follow up on results. You will also play a key role in bringing new solutions to the market that means that conducting Business Development is a part of your work as well. We want to emphasize the focus on sales of solutions rather than "boxes".

As a Business Manager you work in a team of 5-6 persons and to your assistance you have units for Operational Support and Business Development. You will report to the Business Director. The job is related with frequent travel within Europe.

Your formal education and experience consists of Academic degree and at least 10 years of working experience whereof 3-4 years from the IT industry.

Telecom experience is of course a plus. You are fluent, written and oral in English, other languages are beneficial.

As individual you like to do business and have developed a good social skill and understanding in doing business with other cultures. Other key words to you are Initiative, Drive, Ambition, Quality and Fun.

Contact: Thomas Schullström, phone +46 8 757 19 97 Application: ERICSSON RADIO SYSTEMS AB LGHS Ingela Vikenfolk 164 80 STOCKHOLM ingela.vikenfolk@era.ericsson.se

Ericsson Radio Systems AB, Sundbyberg.

Fixed Radio Access, RWLL, is a business unit responsible for access solutions which connect subscribers to the fixed network via radio. Today, Ericsson is the world leader in this field.

BUSINESS MANAGER NEW PRODUCTS

● The unit Business Development is looking for a mature Business Manager who will be responsible for finding, developing and achieving profitable business with customers in new product areas, initially with FCTs.

FCTs, Fixed Cellular terminals, provide a means of profitably using spare cellular capacity, offering operators opportunities for developing fixed as well as mobile business. The applications of FCTs include residential, business, telemetry and pay-phones and technologies include NMT, TACS and GSM.

The main responsibility for our Business Managers is to facilitate the business process from identification of the business opportunity to signed contract and to create profitability as well as customer value and satisfaction.

The position also offers challenges in: product marketing, establishing relationships within Ericsson's worldwide salesmachine, co-ordination of marketing and technical information, co-ordination of local support needs, product promotion in a variety of forums, competition analysis, preparation of tenders and proposals, secure good criteria for sale, ensure project profitability, and of course everything else that occurs in a small, growing business.

The real challenge for a result driven entrepreneur!

As a suitable candidate you are an Ericsson employee with at least three years of experience in the area of switching systems. Ideally, you should be familiar with 1/APT mobile applications. Good knowledge of mobile telephony system and in Data communications is a clear advantage.

Being initiative, self-driven and showing good analytic abilities as well as good communication and cooperation skills are important personal qualities. In addition you should be able to cope with a high work pressure.

If you enjoy demanding work and can respond well to significant challenges and responsibilities, why not become a member of our team? We have the responsibility for the Software development for the mobile switching system within the GSM-standard. We are looking for

SOFTWARE DESIGN ENGINEERS (CSS)

● We are working with the GSM-system in the area of the MSS, dealing with the design, development and test of telecom software or design complete telecom systems. Programming experience e.g. (C++, C), background in telecommunications preferred with a working knowledge of structural design methods is required for this position. Relevant Ericsson experience is a plus.

If you are interested in joining a young and international team and you have good communication as well as good interpersonal skills.

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STE TEST ENGINEER (CSS)

● The position is located in the CME 20 SS STE Support Group under TCM. The group is responsible for supporting STE activities within CSS and AMC in the area of function test, design maintenance and longer term Methods&Tools issues affecting testing. This central STE support group will not only support EED but also other LDC's that perform CME20 SS related test and maintenance activities.

As a suitable candidate, you have experience in AXE function testing or design maintenance. Experience with MGTS PASM, TSS 2000, TTCN and C coding is of added value. You also have to be service minded and prepared to quickly take new assignments.

In this position you will have the opportunity to travel, perform new tools evaluations, come up with new testing strategies and increase your network throughout Ericsson.

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GPRS SYSTEM TESTERS (CSS)

● The X/ST section takes the responsibility for the GPRS Indus Project, FRIGG1 being the first main release.

The GPRS System Testers are mainly responsible for planning, implementing and executing Industrialisation tests needed to integrate and verify the new functionality on node level as well as on GSM network level.

Further activities are to issue and follow up requirements for test configuration and simulation tools and to build up competence in order to strengthen EED's competence in this area.

As a suitable candidate you have a profound testing experience and an interest in a challenging project where almost everything is new - new technology, new interfaces, new tools etc. In this position you will need strong analytical and communication skills as well as a very good knowledge of general telecommunications, GSM system and GPRS interfaces. Experience with test/debugging of software in a Unix environment (C, Erlang), data communication and BSC experience is a clear advantage. You will have to be flexible, team oriented and able to work under pressure.

Contact: Human Resources Simon Seebass +49 2407 575 163 EED.EEDSIMS or EED/X/STC Klaus Boeckers +49 2407 575 181 EED.EEDKLB

EXPERIENCED TROUBLE SHOOTERS FOR GLOBAL SUPPORT OF THE NO.1 AXE APPLICATION

● The Product Line Maintenance section takes central responsibility for the worldwide CME20 Switching System. It is considered as a primary competence center for CME20 SS.

Our strong resources reflect our responsibility for trouble-shooting and testing on system level. Your contribution to the Help Desk team is excel-

lent testing and trouble shooting experience in mobile AXE switching systems and their latest developments, commitment to provide solutions to our customers and team spirit. Develop your skills and develop your future with the CME20 Switching System Product Line Maintenance team. Opportunities for travelling, networking, personal and technical development are outstanding. Watch yourself make a global impact with your efforts.

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AXE MOBILE CORE SYSTEM HOUSE (AMC) EED/U

AXE MOBILE CORE, THE PLATFORM FOR ALL DIGITAL MOBILE SYSTEMS

AXE Mobile Core System House is responsible for development of core products used commonly by all Ericsson's digital mobile systems i.e. CME20 (GSM), CMS30 (PDC), CMS40 (PCS) and CMS88 (D-AMPS). The AMC System House at EED consists of the AMC operations and the design & test department. For further support of our teams we are looking for

GROUP LEADER AMC VERIFICATION (AMC)

● The activities of the group will be function test (target and simulated environment), System Integration Test and AMC maintenance test. This group will also include the FT and SIT leaders on AMC level.

The general responsibility of the group manager is to plan, lead and supervise the operations of the test group in AMC. The main authorities and tasks are to perform appraisals, participate in recruitment, introduce new personnel and do competence development of the staff. It also includes to plan, establish and supervise the groups test activities and generate test strategies, quality assurance e.g fulfilling the goals and resource planning.

As a suitable candidate, you are an Ericsson employee and should have good function test knowledge. You should be familiar in working in projects. Any managerial experience (e.g. as group manager, team leader or project manager) or experience in the traffic control area is a clear advantage.

SYSTEM MAINTENANCE ENGINEERS (AMC)

● Your main authorities and tasks are to perform analysis of complex system faults and find a solution to these faults. This may involve travel to the customer sites, which can be in any country where AMC is in use. You would be expected to have knowledge in at least one mobile application system, and a broad AXE knowledge, detailed knowledge in at least two sub-systems is advantageous. You are expected to learn and develop across all the mobile applications. Key words on your personality, would be pro-active, self-initiative, outgoing, and result oriented. You would also be goal oriented and willing to share knowledge with others.

As a suitable candidate you have good knowledge of mobile telephone systems, you are flexible, show initiative and have good communication & cooperation skills. The ability to work under pressure is also an important personal quality. Experiences from System Verification/Test are a clear advantage.

SYSTEM TEST ENGINEERS (AMC)

● Your main authorities and tasks are to perform System Integration Test of AMC products. This includes activities like Load test, Stability test, Robustness test and Accuracy test. Main areas are today IN, Datacom and ISDN. You will work with the definition and execution of SIT as well as trouble shooting on the faults found.

As a suitable candidate you have good knowledge of mobile telephone systems, you are flexible, show initiative and have good communication & cooperation skills. The ability to work under pressure is also an important personal quality. Experiences from System Verification/Test are a clear advantage.

The AXE Mobile Network department, within our AMC System House, will reinforce our Test unit for the AXE Mobile Core (AMC). The AMC consists of the core subsystems that are common to the mobile applications CME20, CMS30, CMS40 and CMS88.

The TEST unit will have as main responsibilities to perform verification of the AMC product components and have an active role in AMC customer support activities. The unit will furthermore also be responsible for verification project both on main (AMC) as well as subproject level. These projects perform in an international and intra-culture environment and is covering a vast range of development areas at the leading edge of technol-

ogy, such as IS DN, IN and Internet accesses. To strengthen our activities we are looking for

SYSTEM TEST LEADER (AMC)

● Your main authorities and tasks are to plan, coordinate and follow-up of System Integration test activities in the Overall AMC projects. Furthermore you will also be the interface towards associated verification projects in project related matters and of course you will coach the team.

As a suitable candidate you have good knowledge of mobile telephone systems, you are flexible, show initiative and have good communication & cooperation, skills. The ability to work under pressure is also an important personal quality. Furthermore, fluency in written and spoken English is required. You should be familiar with System Verification/Test and/or Customer Support. Previous managerial experience, e.g. as Projectleader/Testleader is a clear advantage.

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AXE10 DATACOM ENGINEER (AMC)

● The border between Telecommunication and Datacommunication is becoming more and more diffuse. AMC needs to strengthen the competence in the datacom area focusing especially on Mobile interworking and TCP/IP. We need a person who can represent AMC on the system level and who can contribute to the evolution of datacom within AXE10.

Your job would be to perform datacom system studies, investigations and to develop datacom strategies. Some of the results could then be objects for prototyping in a lab environment. You will cooperate with colleagues within the Mobile Applications, PN and UAB.

We are looking for a system or software engineer with at least 4 years of Ericsson experience, preferable TCP/IP and/or mobile Datacom experience.

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STRATEGIC PRODUCT MANAGER (AMC)

● The Strategic Product Manager will be responsible for the product planning of product areas concerned as: ISDN Access (PRA, BA, V 5.2, ...), Network Signall.

Within product planning, you define the direction of the development of the AMC products based on your assessment of the competitiveness and economical performance of the product over the entire life-cycle.

You inspect requirement specifications and approve function specifications. For your product area(s) you prepare the financial frame agreements with the Local Design Centers and order the development and maintenance work of AMC products. Review of the financial agreements proposed by other business units is also included.

As a suitable candidate you should have a technical background with at least 3 years of job experience, preferably in systems design and/or project management.

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SOURCE SYSTEM DESIGNER (AMC)

● The general responsibility as source system designer is to prepare source system-documentation and maintain the source system. It also includes investigations of new tools and methods that could be used in the source system handling area. The new challenge will be to introduce the products related to System 108, which is the system architecture that will be used in the future. A task that is growing in importance is the product handling coordination that needs to be done towards the different system modules being part of AMC, and also towards the users of the AMC products.

As a source system designer you will be involved in all phases of the AMC projects, since it is becoming more and more important to discuss system structures early in the projects. In the AMC projects there is always one source system designer appointed as team leader taking the responsibility for the tasks related to the handling of the source system in the project.

We are looking for an engineer with 2-4 years experience from software design or system design in an AM based system.

CHAIRMAN FOR PC-AXE106MOBILE (AMC)

● The AMC system groups are responsible for the system development of the core products that are common for Ericsson's mobile systems. Running PC-AXE 106 Mobile, PC-XSS 210 25 as well as overall technical coordination of the projects in AMC are responsibility areas of the system groups.

PC-AXE106Mobile is responsible for the inspections of System IPs and IPs impacting two or more system modules. This is done with representation from the mobile systems and the system modules. The forum also inspects product documents written on system level.

Since AMC is currently introducing the System 108 architecture, PC-AXE106 Mobile will play an important role in forming how the future inspection forum will work, and what kind of responsibilities it shall have.

As a PC-AXE106Mobile chairman, you need to have a good understanding of the AM principles and experience from several system modules. Experience as chairman or permanent member in a product committee, at least on sub system level is also required. Experience from different platforms (such as AXE, Cello, TelORB or AP) is also desirable.

Contact: Human Resources Simon Seebass Phone: 02407/575-163 Memo: EED.EEDSIMS or AMC System Kristina Martelius Phone: 02407/575-692 Memo: EED.EEDNKA

AMC PROJECT MANAGER

● The AMC project office has a dynamic group managing key projects at the core of all mobile applications. These overall projects encompass subprojects and associated projects in the Netherlands, USA, Ireland, Finland, Sweden, Norway, England, Spain, Italy, Germany and Greece covering a vast range of development areas at the leading edge of technology. Your task will be leading a large mobile telephone system project with full responsibility for fulfillment to our customer.

Requirements: Degree in Engineering with specialisation in telecommunications or equivalent. At least four years work experience in technical aspects of telecommunications. Three years of proven experience in project management and good knowledge of PROPS, project planning, budgeting and management methods. Good knowledge of mobile systems and Ericsson business practices would be an advantage. Travelling is a natural part of the job.

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GENERAL PACKET RADIO SERVICES SYSTEM HOUSE (GPRS) EED/D

The Systemhouse GPRS (General Packet Radio Services) is responsible for the development, verification, support and supply of products in the field of GPRS. GPRS is aiming for the combination of data communication and mobility. GPRS is currently standardized as an extension of GSM. The department EED/D is responsible for the development and maintenance of the GPRS core systems OMS and PXM and for the GPRS applications VLR, SMS and PTM. For further support of our teams we are looking for

GPRS SENIOR SOFTWARE DESIGNERS

● The main tasks for the position are:
either design of the GPRS bearer service (SMS, VLR, class A/B mobile support)
or O&M product development (OMS, PXM)

The job is performed in teams with a large degree of responsibility and authority, comprising all parts of the product life cycle from early requirement analysis up to maintenance after GA. There will be a close cooperation with the I&V subproject at EED. Thus, we have the opportunity to see our products being integrated and verified in the real GSM datacom network. As the GPRS organization is still rather young, there is the freedom to be pioneer for processes, system architecture, usage of programming languages and platforms. On the other hand, we have well defined projects and clear delivery deadlines for our assignments. For the GPRS bearer service, the languages ER-LANG, C and JAVA are used. O&M applies C++, JAVA, ERLANG and the CORBA architecture. We are looking for persons with proven experience in the technical domain and a strong team orientation. A solid SW engineering background is a requirement. Either local or expat contracts can be offered for these positions.

Contact: Human Resources Simon Seebass EED.EEDSIMS +49-2407-575-163 or GPRS Design Manager Andreas Daun EED.EEDAND +49-2407-575-418

Ericsson US.

AXE and OSS Troubleshooters needed in U.S.A., Totowa, New Jersey, 15 minutes from New York City.

AXE TROUBLESHOOTERS

● We are currently seeking qualified engineers who can support GSM CMS40 for our two customers located on the East Coast of the U.S.A., Omnipoint and Sprint. The qualified candidate should already be working in a customer support organization or verification department. The candidate should possess an in depth knowledge of Troubleshooting AXE problems using Test System, Plexview, and knowledge of ASA code. In addition, knowledge of how to use MHS and MSS is desired. We are looking for immediate short term resources, 6 months, and long term resources throughout the beginning of 1999. The area of expertise for AXE Troubleshooters are in MSC and BSC.

OSS TROUBLESHOOTERS

● We are currently looking for two OSS troubleshooters. They must already be working in a OSS support role, or in Design. The successful candidate should possess in depth UNIX knowledge, and be familiar with Sybase. Candidates with BGW, SOG or SMAS experience will be considered.

This is an excellent opportunity for professional, personal and cultural enrichment. Travel, on rotational call and team spirit are a requirement.

Contact: Customer Care Manager, David DiMenichi at +1 973 890 3596 or Memo EUS.EUSDDI or Resource Recruiter, Heather Nordin at +1 770 565 6991 or Memo EUS.QUSHENO

Ericsson Lebanon SARL, Beirut, Lebanon**SERVICE PROCESS & SERVICE POINT SUPPORT****TECHNICAL SUPPORT MANAGER, IN LEBANON/SYRIA & JORDAN**

● As a Technical Support Manager, you will be responsible to follow up the quality within the Local market concerning all BT products & forward quality information/reporting to Customer Service Manager. You shall implement & control all marketing activities & new service concepts to fit the needs in the market & secure a high customer

satisfaction. As well as, supporting & controlling local service partners on all levels (Repair quality, financial & administrative activities).

You will have full responsibility to coordinate training demand & offering. To swap stock control & responsible for the local technical evaluation/investigation of reported problems from service partners.

EDUCATION & COMPETENCE REQUIREMENTS: Engineering level (electronics or electrotechnics), preferably with experience from Ericsson, Radio and/or Electronic Consumer Product, with a technical character (with some commercial flavors), as well as very good communication and PC skills. Minimum 2 to 4 years experience. Fluent in English & Arabic Languages and good interpersonal skills.

Contact: Lars Ahlbom, Finance & Administration Director, Ericsson Lebanon Phone: +961 1 488 000 or 961 3 348899 memo: STL.STLLARS Or Christine Andrea, Human Resources Manager, Ericsson Lebanon Phone: +961 1 488 000 or 961 3 316565 memo ID: STL.STLXTIN

Ericsson Radio Systems AB, Malaysia - TMS**MARKETING MANAGER FRAUD SOLUTIONS**

Telecom Management Solutions (TMS) was formed in 1997 as part of Ericsson's increased focus on professional services and non-traditional business areas. Working within Ericsson Mobile Systems, we offer systems and consultancy services to mobile operators within Customer Management, Network Management and Management Consulting.

The regional TMS office in Kuala Lumpur, Malaysia was started in April of 1998 and is responsible for the business in the Asia Pacific region.

● We now have a job opening within the Customer Management area as a Marketing Manager Fraud Solutions to be filled by a sales oriented and entrepreneurial person with the right background:

As a marketing manager you will be responsible for building up our business, of fraud solutions to telecom operators, in the Asia Pacific region. We offer both, internally developed systems and services, as well as systems and services from external partners that we have supply agreements with.

You will ensure customer buy-in for our systems and services together with our local account teams and you will have an overall responsibility

for following projects through till completion. I.e., you will work very closely with Ericsson's partners, account managers and customers. You must be able to travel extensively.

As a marketing manager, in addition to the general requirements, you will have: Experience of fraud protection systems or fraud consulting for telecom operators or from working for a telecom operator in the fraud prevention department. Experience in handling contract negotiations and in outlining proposals. International marketing experience.

YOUR PROFILE: To be successful, we believe that you are the type of person who: Can recognise and create opportunities, as well as act upon them. Is goal oriented and flexible. Is motivated by responsibility. Can prioritise. Enjoys working both independently and as part of a team. Is culturally aware. Has strong organisational skills. Has strong communication skills, both in oral and written English. Has administrative and report writing skills.

MARKETING MANAGER BILLING SOLUTIONS

● We now have a job opening within the Customer Management area as a Marketing Manager Billing Solutions to be filled by a sales oriented and entrepreneurial person with the right background:

As a marketing manager you will be responsible for building up our business, of billing solutions to telecom operators, in the Asia Pacific region. We offer both, internally developed systems and services, as well as systems and services from external partners that we have supply agreements with.

You will ensure customer buy-in for our systems and services together with our local account teams and you will have an overall responsibility for following projects through till completion. I.e., you will work very closely with Ericsson's partners, account managers and customers. You must be able to travel extensively.

As a marketing manager, in addition to the general requirements, you will have: Experience of billing systems or billing consulting for telecom operators or from working for a telecom operator with billing systems. Experience in handling contract negotiations and in outlining proposals. International marketing experience.

YOUR PROFILE: To be successful, we believe that you are the type of person who: Can recognise and create opportunities, as well as act upon them. Is goal oriented and flexible. Is motivated by responsibility. Can prioritise. Enjoys working

both independently and as part of a team. Is culturally aware. Has strong organisational skills. Has strong communication skills, both in oral and written English. Has administrative and report writing skills.

Contact: Gunnar Svahn, General Manager Asia Pacific, phone +60 3 708-7075 e-mail: ecm.ecmgss@memo.ericsson.se or Stefan Johansson, phone +46 8 40 43619 Application: Ericsson Radio Systems AB NHS Towa Raak 164 80 STOCKHOLM e-mail: towa.raak@era.ericsson.se

Ericsson Czech Republic Spol. S R.O.**PROGRESSIVE PRAGUE - PM**

The Czech Republic is in a relatively unique state of development. The two existing GSM operators have done well during the economic boom and now the authorities have decided to release a third GSM license in June 1999. Since Ericsson does not supply any of the present networks, and we have a solid established company with headquarters in Prague, we are well positioned to become the supplier. To pursue this high priority opportunity we need a number of additional core three members to work within the New Account organisation in our Czech Market unit.

GSM - IMPLEMENTATION PROJECT

● As the Project Manager you will make solid project plans that surpass one of our key prospect's high technical expectations. You will be a part of the GSM 1800 New Account organisation, and exploit all of Ericsson's product and implementation advantages over our competitors to position the account to win the license and to bypass the incumbents on the Czech market. To do this you need to use all your GSM implementation experience, creativity, and team-working ability. The concrete work consists of turnkey project planning, professional presentations, offers and a contract specification.

The first tool to handle this is the streamlined fast organisation with only smart people. The second tool is a solid support from ERA Stockholm. The third tool is your experience and entrepreneurship.

GSM - MARKETING AND BID MANAGER

● As the Marketing Manager you will surpass one of our key prospect's high expectations. You will

Sven Christer Nilsson ...

... has said:

Ericsson's mission is to understand the needs and opportunities of our customers and to provide appropriate communications solutions and to early enter into new high growth areas such as the wireless Internet/Intranet for systems terminals and services, and the fast growing carrier-class network solutions including real-time IP/VoIP.

- We are working close to the customer.
- We are working within the high growth areas.

Do you want to be a part of the new Ericsson?

In that case join us at UAB/B/VZ.

Our unit comprises approx. 23 people with the main responsibility for troubleshooting and fault correction within the AXE Control System.

Tasks

A number of new products in our area of responsibility will be released in the near future. As a result it is necessary to strengthen our unit with more Troubleshooters.

What do you want to work with us as a troubleshooter?

We can offer you work in a stimulating environment with troubleshooting challenges in close cooperation with software designers, hardware designers and microprogrammers.

We will give you the opportunity to broaden your overall view of the APZ Control System.

The work is done at our premises in Älvsjö and, if you are interested, there are opportunities of taking part in on-site support at our customers around the world.

For more information, please contact

Kenth Wentzell, phone 727 36 62
Mail: kenth.wentzell@uab.ericsson.se
Arne Bergman, phone 727 3621
Mail: arne.bergman@uab.ericsson.se

Send your application to:

Ericsson Utvecklings AB
Att P/A Annelie Josefsson
Box 1505, 125 25 Älvsjö



Make yourself heard.

ERICSSON 

be a part of the GSM 1800 New Account organisation, and lead the marketing Core 3 team towards the customer account through the pre-license, bid and negotiation phases. Through excellent customer and internal contacts you will organise, motivate and together with the Core 3 create top quality customer solutions. The team is responsible for consolidated bottom line. The function includes leadership and work for the completion of market plans, complex offers, contracts, and forecasts.

The first tool to handle this is the streamlined fast organisation with only smart people. The second tool is a solid infrastructure and support from RMOG. The third tool is your result orientation and self-motivation.

To be successful you need to be a proactive, experienced, and team-working human. You have a M.Sc. or equivalent with at least five years working experience and desirably four of those years within cellular infrastructure. Ability to build excellent relations and drive for results.

GSM - TECHNICAL MANAGER

● As the Technical Manager you will create total solutions that surpass one of our key prospect's high technical expectations.

You will be a part of the GSM 1800 New Account organisation, and exploit all of Ericsson's product and implementation advantages over our competitors to position the account to win the license and to bypass the incumbents on the Czech market.

To do this you need to use all your GSM experience, creativity, and team-working ability.

The concrete work consists of investigations, technical co-ordination, brainstorming, professional presentations, offers and a contract specification.

The first tool to handle this is the streamlined fast organisation with only smart people. The second tool is a solid support from ERA Stockholm. The third tool is your talent and time.

To be successful you need to be a proactive, experienced, and team-working human. You have a M.Sc. or equivalent with at least five years working experience and desirably four of those years within cellular infrastructure.

Ability to build excellent relations and drive for team based results.

Whatever you know today, you will learn something!

Contact: ECZ/RC Andre Grce +420 2 6119 4326
Application: Ericsson Czech Republic spol. s r.o.
ECZ/HC Martina Huitfeldt U michelske skoly 10
140 00 Prague 4 martina.huitfeldt@sea.ericsson.se

Ericsson Spain, S.A.

R&D CENTRE IN SPAIN

Opportunities for R&D centre in Spain.
Responsibility on the research and definition of GSM network solutions and third generation.

SYSTEM ENGINEER

● Main responsibilities: Research and definition for solutions of GSM network and third generation (UMTS) in the following areas: Client management. Possible working areas: GSM-D, AMPS-PDC. Data communication. Platform and database technologies.

Competence requirements: Telecom engineer. At least three years experience in a similar position. Signalling protocol IS 41 and MAP knowledge would be appreciated.

SOFTWARE DESIGNER

● Main responsibilities: Development and testing of products for GSM network. Functional requirements analysis. Implementation, function test and maintenance of the products. Definition of the characteristics and dimensioning of the network. Operational management of the products and market support.

Competence requirements: Telecom or computer engineer. Knowledge on C, C++, database and communication protocols TCP/IP and X25. One year experience on a similar position. Knowledge on SDL and UML would be appreciated.

MAIN PROJECT MANAGER FOR THE GSM DATABASE PRODUCTS

● Main responsibilities: Project management (mainly SW design and functional test of the new GSM database products phase) with the following activities: Pre-study and viability phase. Working on the project until the final functional test. Collaboration with the whole project in EED (Germany). Participation in other projects of the unit.

Competence requirements: Engineers. Experience on design project management and function test in an international environment, and preferable with AXE-10. Props knowledge.

INTERNATIONAL CENTRE OF GSM SERVICE IN SPAIN

Group of professionals responsible for the adaptation, verification and integration of the GSM system for our clients.

CELL PLANNER ENGINEER

● Main responsibilities: Coverage planning. Base station sites survey and validation. RF field measurements. Optimisation of cell coverage.

Competence requirements: Telecom engineers. Knowledge on the telecom system. 2 years experience on similar activities related to GSM network would be appreciated.

SUPPORT ENGINEER FOR GSM

● Main responsibilities: Study and solving complex problems in SW and HW, assisting clients' sites. Lead new products test, checking their implementation. Co-ordinate the analysis and follow-up of the Trouble Reports. Take part of the updates and lead the client presentations.

Competence requirements: Telecom engineers. Between 2 and 3 years experience in a similar position, Trouble Shooter activities and direct interface with the client. GSM and IN Knowledge. Knowledge on AXE, UNIX, TCP/IP and X25 would be appreciated.

For all these positions a high English level is required

Contact: Irene Gómez, ECE.ECEIHL, E-mail: igomez@madrid.ericsson.se

MET, Paris, France

ASV TESTER

● MISSION: Verify the Application Systems and their update packages (CN-A / AC-A) before delivery to customer.

MAIN ACTIVITIES: To be able to prepare the test activities (analysis, planning,...). To design and write the ASV Test Instructions. To execute the Test Instructions in real environment (System Test Plant). To detect the software faults and write the Trouble Reports. To be able to investigate the reasons for the faults and propose corrections or palliative solutions (Trouble-Shooting). To be able to provide support to other testers. To contribute to test efficiency improvements and to test optimization.

REQUIRED BACKGROUND AND EXPERIENCE
TRAINING: Basic AXE training. Basic Telephony. AXE 10 introduction. PLEX / ASA language. Basic environment (SUN WS, MHS/TRtool, PRIM, APStools, PROPS, TENUX, ...) Specific AXE Test training. Tester 1, Tester 2. Test tools (IGEN, UP-SIM, ...)

PREVIOUS EXPERIENCE: Minimum required: Good real-time programming knowledge. 2 years experience in ASV test projects in AXE 10.

Additional experience: AXE Training Tester 3. ASV test in Fixed Network. testing experience in signalling, protocols, IN, ...

Good knowledge of english is a must, french knowledge would be appreciate.

Contact: Human Resources
Syliane.Lapeyre@met.fr MET.METSLE

Ericsson Caribbean, San Juan, Puerto Rico

OSS TECHNICAL ASSISTANT SPECIALIST

● Job description We are looking for an "OSS System Expert" to work with OSS implementation and maintenance support for Puerto Rico, Jamaica, Grand Cayman and other Caribbean customers soon to follow. To qualify, you must have worked with installation/support of OSS systems for at least 2 years and have a broad knowledge of Unix HW & SW, Sybase Administration, X.25, TCP/IP, TMOS platform and CMS8800 OSS Applications, System Administration and troubleshooting.

Requirements: Will be part of the support team in our FSC handling OSS matters, having as main responsibilities to participate in the on-call schedule to handle Emergency Situations, Implementation of new releases and corrections, and Trouble Report Handling. Person should be self-motivated and work easily with minimal supervision as well as within a team to achieve goals and customer requirements.

Good knowledge of English is a must, Spanish knowledge will be appreciated.

Initial contract: 1 yr. Expat (negotiable for 2 yrs.) Excellent benefits.

Contact: latest 990228: Jerry L. Barrera, Director, Caribbean FSC jerry.barrera@ericsson.com

Ericsson Australia Pty, Ltd.

MSC SYSTEMS SUPPORT ENGINEERS

The service business towards Vodafone is growing and new service opportunities are emerging.

This is providing new openings for MSC Support Engineers in this exciting team specialising in digital mobile (GSM). Currently there are a number of positions available in Australia.

● Key Skills: Technical support on GSM network elements. Experienced trouble report investigator. Experienced fault finder. Ability to prepare software packages for delivery. Involvement in major projects for implementation of new technology. Ability to forge and develop strong customer relationships. Analysing fault trends and recommending improvements.

Desired Attributes: At least two years experience in the areas above: Service culture. Flexibility and ability to work as a team member. High level of self motivation.

The successful applicant can expect a challenging position working as part of a team towards a demanding and growing customer.

The position is based in Melbourne, however there may be a requirement to travel to customer sites and interstate.

Contact: latest 981231: Mike Novak +61 3 9243 3075. Application: Linda Digance, SL Broadmeadows Memo ID EPA.EPALDI

Ericsson Telecom Sdn Bhd, Malaysia

MARKETING MANAGERS FOR ASIA CENTRE

The PN Asia Centre in Kuala Lumpur, Malaysia, has been established in the 3rd quarter of 1998 and forms together with other regional units the Ericsson Support Centre (ESM). It is successfully implementing a marketing approach that focuses on the operator's decision makers key issues and translates them to a value proposition. The approach has been developed with various customers in the region and we intend to further expand it to other accounts.

● We are therefore looking for 3 Marketing Managers who can drive account acquisition projects in teams with our local companies in Asia. The project starts from a thorough situation analysis and develops into a business case and a solution proposal. You will then secure the continuation of the marketing effort up to the contract acquisition.

This demanding job requires much the right kind of people, who can think in the terms of a customer's senior management, have a broad understanding of telecommunication networks and the industry's trends and have excellent business case development experience.

You should have a Master's degree in Engineering and/or Business Administration and 3-5 years experience in marketing telecommunication solutions. You should further be fluent in English and have outstanding communication skills.

Contact: Alec Tavel, +60 3 708 7322, memo: ECM.ECMALEC (e-mail: alec.tavel@ericsson.com)
Application: Jacqueline Harding PN Asia Centre, 3rd floor, Block C, Wisma Ericsson Jalan SS 7/19, Kelana Jaya 47301 Petaling Jaya, Malaysia or by e-mail: ecmjack@xchg.emy.ericsson.se

Ericsson Australia Pty, Ltd.

CSO FIXED NETWORK SUPPORT ENGINEER AUSTRALIAN SERVICES

The Telstra Fixed Network Customer Support Office (CSO) is seeking the services of Support Engineers for ongoing roles. The roles are to take on responsibility for Trouble Report (TR) handling and/or Help Desk activities towards the Telstra Fixed Network in various competency areas (see attributes) associated with the AXE platform.

● Key Skills: As an Experienced Support Engineer in the Telstra Fixed Network CSO within competence teams perform the following: Investigate, analyse, solve and answer TR's related to the AXE system Telstra Fixed. Network platform. Provide Help Desk assistance to end and internal customers for technical issues at times. Provide technical assistance and participate in Design/Fastrack/ASR projects for new platform products/features when required. Provide technical advice/solutions to end customer. Perform correction handling activities

Attributes: High level of technical understanding of AXE APT and/or specific competence in APZ, Network Intelligence, Digital Access (ISDN-E, V5.2 etc..) Excellent customer focus. Comfortable with interfacing with the customer. Ability to work under pressure. Ability to work in a team environment

The successful applicants can expect challenging positions towards EPA's largest customer. The positions are based in Melbourne (Broadmeadows) in the Telstra CSO.

Contact: Peter Zelensky x 2231, memo EPA.EPA-PRZ. Application latest 981224: Linda Digance EPALDI, EPA/SL at Broadmeadows.

Guangdong Ericsson Telecommunication Engineering Co.Ltd., China - GUC

TAKE THE CHALLENGES IN CHINA

Latest news: China becomes Ericsson's largest market in the world!

Guangdong Ericsson Telecom Engineering Co. Ltd (GUC) is a joint venture company based in Guangzhou and offers its professional service to Region South, the most dynamic part of our business in China. Why not take the challenge to grow with us? Now at GUC we have the following openings for you:

SENIOR BSC/BTS ENGINEER

● Responsible for BSS support and Supply Centre in China Southern region. Have minimum 5 years experience with Ericsson and 3 years supply process. Familiar with CN-A, AC-A, system upgrade packages assemble, verification and FOA. BSS experience is a must. fluent English and good interpersonal skills.

SENIOR BSC/BTS SUPPORT ENGINEER

● Responsible for customer support in China Southern region within BSC/BTS area. Have minimum of 5 years experience with Ericsson AXE and 3 years with BSC/BTS support. Able to handle CSR/TR handling and on emergency call. fluent English and good interpersonal skills.

SENIOR SUPPORT ENGINEER MSC, TACS & AMPS/D-AMPS

● Responsible for customer support in the South China Region with TACS & AMPS/D-AMPS MSC/MTX. Have experience of CSR/TR handling and customer training on TACS/AMPS MSC and HLR. At least 3 years experience in Ericsson. fluent English and good interpersonal skills.

SENIOR SUPPORT ENGINEER RBS, TACS & AMPS/D-AMPS

● Responsible for customer support in the South China Region in the area of TACS & AMPS/D-AMPS RBS 883, 889, 882/D and 884/D. Familiar with issues as trouble-shooting, corrective actions and customer training on RBS-equipment and cell-data/planning. At least 3 years experience in Ericsson. fluent English and good interpersonal skills.

SENIOR SUPPORT ENGINEER

● Responsible for customer support in the South China Region within GSM. Familiar with activities such as trouble-shooting and general trouble report handling. Experience with maintenance (AS-, CNA-, ACA- and ECA-handling) and customer training. At least 3 years experience in Ericsson. fluent English and good interpersonal skills.

Contact: GUC/H Sharon Yuan (Memoid: ETC.GUC-SHYU) Tel: +86 20 85538868 ext. 20848 or or GUC/H Tracy Gu (Memoid: ETC.GUCTRGU) Tel: +86 20 85538868 ext. 20848 Fax: +86 20 8553 6193 or 85536191

DT ENGINEER

● Minimum 3 years DT experience in CME20. Good knowledge in GMSC, MSC, BSC, HLR DT. Committed to transfer knowledge and train local engineer. fluent English and good interpersonal skills.

SENIOR ENGINEER

● must have over 5 years Ericsson switch experience in mobile. have experience in ASR & implementation, AS upgrade. have system trouble shooting experience. CME 20 experience preferred. Good APZ 212 & IOG 11 handling experience. Good knowledge of CME20 DT. Good AXE O&M experience. fluent English and good interpersonal skills.

SYSTEM INTEGRATION ENGINEER

● Minimum 3 years GSM switch implementation experience. Good experience in handling of APZ 212 & IOG 11B. Have ASR, system upgrade experience. Good knowledge in GMSC, MSC, BSC or HLR. Good knowledge of DT. Committed to transfer knowledge and train local engineer. fluent English and good interpersonal skills.

Contact: GUC/H Jasmin Xu (Memoid: ETC.GUC-JAXU) Tel: +86 20 85538868 ext. 20813 Fax: +86 20 8553 6193 or 85536191

Ericsson Lebanon SARL, Beirut, Lebanon

LOCAL PRODUCT MANAGER

● As a local product manager you shall give product technical support during marketing, sales, ne-

gotiation phases, after sales activities. You will be the technical consultant during Core 3 and must therefore have a broad technical knowledge.

You will be responsible for the co-ordination of planning and dimensioning activities related to the products and systems supplied by Ericsson Radio systems and to be in charge of dimensioning of the assigned Network Elements. Help the customers to get more knowledge about Ericsson's products by holding seminars and presentations of new or enhanced products and features.

In the sales/negotiation phase you shall initiate Technical and Functional Analysis and define a Traffic model, dimensioning, capacity/memory calculations, and update of Network Design.

Minimum 5 years experience with Ericsson systems especially (GSM and IN). Fluent English and good interpersonal skills.

Contact: John Hamze, Mobile Network Design Manager, Ericsson Lebanon Phone: +961 1 488 000 memo STL.STLJOHA e-mail: JOHN.HAMZE@ERICSSON.COM Or contact: Bjorn Fredriksson, KAM FTML, Phone: +961 1 488 000 memo STL.STLBJORN

Ericsson Systems Expertise Limited, Infocom Management Solutions Centre, Athlone, Ireland

DESIGNERS / TESTERS - TRANSCODER APPLICATIONS

At Infocom Management Solutions Centre (IMSC) within Ericsson Systems Expertise Limited, Athlone, Ireland, we have exciting opportunities for designers and testers working in our mobile area on Transcoder application development.

● You should have previously worked in the mobile area in design or test. It is important that you have a working knowledge of one of the digital mobile standards (D-AMPS, GSM, and PDC) and the nodes involved.

You will be responsible for helping to build mobile competence within the group and you will have the opportunity of working with Transcoder application development across the three current digital standards and also next generation IP and WCDMA systems. These positions are based on a one year contract within IMSC.

Application latest 981223: Michael McGann, Michael.McGann@ericsson.com Human Resource Manager Ericsson Systems Expertise Limited, Ericsson Software Campus, Athlone, Co. Westmeath, Ireland.

Ericsson Australia Ltd

TENDER/BID SUPPORT

● The Customer Configuration Centre - Asia Pacific, is looking for experienced staff to provide tender/offer support to Local Companies and Market Units for new business opportunities in Asia Pacific and South Asia markets.

Reporting to the Manager Tender/Bid Support, you will be responsible for working across all key suppliers and service providers, gathering technical and commercial inputs, then proposing and documenting complete solutions to meet LC and MU business needs. QUALITY, TIMELINESS and COST EFFECTIVE solutions for input to tenders and offers will be your KEY focus.

Strategic communication with internal/external customers, stakeholders and peer groups will be fundamental to your success and some international travel is envisaged. Previous experience in managing customer relationships and tenders/projects is fundamental to this role. Cultural awareness and knowledge of the Asia-Pacific region will be well regarded.

Looking for a change of focus, exciting challenges and significant career development potential, then this is the role for you.

Key attributes required by the successful applicants are: Experience in managing Tenders/Bids for major projects. Broad business skills covering commercial and sales/marketing. Excellent organisational and communication skills. Demonstrated leadership ability. Strong Customer management skills. A DRIVE TO MEET GOALS, ON TIME!!

CUSTOMER PROJECT MANAGERS

● The Customer Configuration Centre - Asia Pacific, requires experienced Engineers and Project Managers to join our new and dynamic team in the role of Customer Project Manager. As the single point of accountability for completing customer orders on time and on budget, you will provide TOTAL project management solutions to customers in Asia-Pacific and South Asia markets using a network of local and regional suppliers of products and services.

Looking for a change of focus, exciting challenges and significant career development potential, then this is the role for you.

Key attributes required by the successful applicant are: Significant experience in Ericsson projects, preferably in project leader role. Excellent

organisational and communication skills. Ability to lead sub-project teams comprised of key staff from both technical and customer / commercial backgrounds. Significant experience in dealing with customers. Knowledge of the Australian and Regional markets will be well regarded. Good understanding of the PROPS methodology.

NOTE! These positions are being offered on LOCAL CONTRACT conditions

Application: EPA.EPARSC, Rod Scott.

Ericsson de Bolivia S.A.

SENIOR PROJECT MANAGER

● As a Senior Project Manager you are responsible for that Ericsson's commitments to our customers are realized in time and with good quality, and that our project management function is managed and developed in order to maintain high quality project management services. Our main product is D-AMPS infrastructure and services. We also supply fixed radio access and PTSN systems to the Bolivian market.

You are a creative and driving person with good leadership skills and a solid background in project management. You have a strong interest in both the commercial and the technical aspects of our business and you possess the ability to create excellent customer relationships. Since we are a small team, you must be organized and systematic but flexible and you do not hesitate to roll up your sleeves when needed.

Candidates for the position should have a formal education in electrical engineering and/or business administration. Excellent English and a good command of Spanish/Italian is a further advantage.

We can offer you a long-term contract with location in La Paz, a very comfortable, safe and interesting place to live, with or without accompanying family.

Contact: Peter Holmertz, Operations Manager, peter.holmertz@ericsson.com Eva Moberg Vargas, HR Manager, EBB.EBBEVA Phone: +591 2 312233, Fax: +591 8 112279 Application latest 981218: Ericsson de Bolivia Telecomunicaciones S.A. Attention: Departamento de Recursos Humanos Casilla de Correos No 648 La Paz

Ericsson Radio Systems AB, Sundbyberg

NEXT CHALLENGE - SLOVAKIA
RMOG have a new GSM customer in Slovakia. We therefore preparing the future organisation in our local company SBB. Following position is open and on long-term contract conditions based in Bratislava.

KAM - KEY ACCOUNT MANAGER

● As an Account Manager you will work with the sales and customer order flow and be responsible for fulfilling the customer's high expectations. You will be a part of the marketing and sales team towards the customer account. Create and maintain Market Plans, responsible for meeting or exceeding sales booking objectives, billing quotas and consolidated profitability targets, maintain and negotiate contracts. Responsible for budgets and forecasts and establish long-term partnerships between our customer and Ericsson.

Preferably you should have a M.Sc. in Engineering and you should have at least five years working experience and desirably 4 years with cellular communications and preferably with GSM marketing experience. Ability to build excellent relations and drive for results.

Contact: Ulf Borison, phone +46 8 757 15 80, memoid ERAC.ERAUBOR Anita Malmström Wallner, Human Resources, phone +46 8 404 24 29 Application: Ericsson Radio Systems AB SG/ERA/LP/HA Siw-Britt Johansson, 164 80 STOCKHOLM siw-britt.johansson@era.ericsson.se

Ericsson Telecommunications Sdn Bhd, Malaysia

NEW ACCOUNTS MANAGER

● As a leader for a highly professional team, you will develop new accounts in the Malaysian market. The area of development is in all kinds of licensed operations, with focus on cellular and data networks as well as ISP services.

We are looking for someone who has social skills coupled with team-oriented leadership qualities and entrepreneurial mindset.

We offer a challenging, international environment, in a market that is set on a vision of becoming the leading provider in the new telecoms world.

Contact: Roland Bjorlin pem.pemrobj@memo.ericsson.se Phone : 60-3-706 7505 or Britt Alexanderson ecm.ecmbritt@memo.ericsson.se Phone : 60-3-708 7145 Application: Ericsson Telecommunications Sdn Bhd Wisma Ericsson Kelana Centre Point Jalan SS7/19, Kelana Jaya

47301 Petaling Jaya Selangor Darul Ehsan MALAYSIA

LM Ericsson Libya branch

FINANCE MANAGER/CONTROLLER

Ericsson have been active in Libya for more than 30 years. At present we are active in Public Network projects, A GSM Mobile Networks project, and two dedicated network projects. We also have a business network department and separate units for HR/administration, Logistics and Camp Service. At present we are 120 employees, whereof 21 expatriate staff. All expats live in our well-maintained camp 25 km south of Tripoli, with swimmingpool, club House, tennis court, Sport-Hall, etc.

● For our branch office in Libya we need to recruit a person who will manage and develop the Finance and Purchasing department.

Areas of responsibility for the department includes: financial planning, information and control; external financial reporting and tax matters as required by Libyan laws; company payroll and salary administration. Areas of responsibility includes also a Travel/air-ticket booking function as well as an IT & Network support function. You will have five competent colleagues in your team.

The successful candidate should have management experience from a finance department, good Ericsson knowledge, with relevant degree/diploma. You should have good command of the English language, written as well as spoken. Previous international experience is a strong plus factor.

Contact: Hakan Johansson, GM; Oscar Wallsten, FM, memo TKX.TKXWALL, or Tommy Frederiksen, HR. Phone +218 22 308 00, fax 308 05.

LM Ericsson Ltd. Dublin

SOFTWARE CENTRE VACANCIES

The Software Centre (SWC) is part of a programme within ETX Public Networks to rationalise the handling of AXE software deliveries to our customers. The centre builds and delivers the Market Application Systems to Public Network's customers in Europe and the Middle East. The Centre is located in Dublin, Ireland.

PROJECT MANAGERS

● We are seeking a number of Project Managers to lead customer projects. Applicants should have at least 5 years experience gained in similar positions on projects involving AXE. The positions require a high degree of technical knowledge of AXE and may suit AXE testers or trouble shooters seeking a change of role. Ref: 0331.

AXE TESTERS & TROUBLE SHOOTERS

● We are seeking a number of AXE Testers and Trouble Shooters to supplement our existing staff. Applicants should have at least 4 years experience in AXE 10 software verification or support. Customer focus will be an important attribute of the Software Centre. Ideally, the experience will have been gained in an environment involving regular contact with end customers.

The duties will include software verification of Global and Market Application Systems, design and verification of GAS/MAS Upgrades, MAS rollout support, GAS Maintenance, GAS/MAS information publishing and development of SWC's automated testing capability.

The Software Centre represents a unique opportunity to work on AXE software from the latter stages of the Design phase, through market customisation and rollout and into the support phase. Ref: 0330.

TEST CONFIGURATION MANAGEMENT TECHNICIAN

● We are seeking someone to maintain and control the network of SWC testplants, traffic generators and tools. The applicant should have at least 4 years AXE experience and should possess sufficient trouble shooting in AXE hardware and software to be able to prepare and maintain testplants for use by SWC projects. Knowledge of TMOS systems would be an advantage. Ref: 0332

Contact: Margaret Gaffney, Employee Relations Manager, LM Ericsson Limited, Beech Hill, Clonskeagh, Dublin 4, Ireland. E-mail: Imimgy@eei.ericsson.se Application latest 04-01-99.

LM Ericsson Israel Ltd (EOI)

NETWORK PLANNING CENTER

Ericsson is currently running a Network Planning Center (NPC) towards the new GSM operator Partner in Israel. The task for Ericsson will be to build, operate and transfer the NPC. The area of responsibility covers all disciplines within Network

Design & Performance Improvement of mobile networks, i.e. Radio, Transmission and Switching. The network is currently up-and-running. Optimisation and expansion planning ongoing. Wanted Position(s):

NPC RADIO MANAGER,

● and Manage and co-ordinate all the activities related to the radio network planning and optimisation.

NPC SWITCHING & TRANSMISSION MANAGER,

● or Manage and co-ordinate all the activities related to transmission and switching network.

NPC MANAGER

Depending on the profile and experience of the applicant, a combined Radio and Switching/Transmission manager position will be considered.

Basic requirements for the positions are strong human skills, management experience, fluent in English, and solid experience from at least one of the required disciplines.

Contact: ERA/LVR/PC Ola Pettersson, tel: +46 8 404 4709 E-mail: ola.pettersson@era.ericsson.se EOI/NOM Finn Sørensen, tel: +972-54-810423 E-mail: eoi.eoifinn@mesmtpe.ericsson.se EOI/NPC John van Dalen, tel: +972-54-801933 E-mail: johnv@orange.co.il Application latest 981231: ola.pettersson@era.ericsson.se

Ericsson Telecom AB

Node and Network Solutions is a unit within Public Networks, Switching. We are about 300 persons located at TN in Midsommarkransen. Our main role is to integrate Public Network products into solutions and provide cost effective, "ready to use" AXE nodes and network solutions for fixed operators. Systems Management is a unit within Business Solutions.

SYSTEM FILE MANAGER

● The Systems Management unit is looking for an engineer (local employment or long-term contract) to be responsible for the System File used in our AM based systems.

The System File ties together the System Modules which contain SW written in High Level Plex (HLPLEX). The System File contains specifications of global procedures and type declarations which are common in the whole system.

You will have a key role in our Integration projects (e.g. Orion and future projects) which will give you excellent opportunities to gain competence and extend your contact network.

You will work in a stimulating environment together with persons with a high level of AXE competence.

A period of learning the job together with our most competent people will be offered.

Competence within Application File Management, HLPLEX or Plex design is a merit.

Contact: Helena Fredrikson TN/ETX/PN/XNS Phone: +46 8 7195218 ETXT.ETXHEFL or Paul Rogers TN/ETX/PN/XNS Phone: +46 8 6813056 ETXT.ETXPLRS

Ericsson Australia Pty.Ltd, Australia

GSM BSS/BSC SUPPORT ENGINEERS

Ericsson's digital mobile business has undergone exciting growth towards both Telstra and Vodafone. This is leading to expanded opportunities for support engineers specialising in digital mobile (GSM).

Currently positions are available in Australia towards both operators for experienced staff with BSC / BSS support experience. Positions are also available in our 'sister' unit supporting regional operators.

● Key roles are: Technical support on GSM network elements. Trouble report investigation. Software fault finding. Help desk support. Assistance with the preparation of patches and software packages for delivery. Package testing. Customer interface and liaison. Analysing fault trends and recommending improvements.

Desired Skills: At least four years experience in the following areas: Software testing and verification. TR handling. Trouble shooting. Online consultation. Able to develop software corrections to resolve escalated faults. Additionally: Flexibility and ability to work in a team. Service culture.

The successful applicant can expect a challenging position working as part of a team towards a demanding and growing customer.

The positions are based in Melbourne, however there may be a requirement to travel to customer sites and interstate.

Contact: Sue Moorhen, +61 3 9243 5283. Application latest981218: Susan Zeimbekis, P/ES, Preston, Memoid EPA.EPASUZ.

The Cobra is back - on a stamp

"The Cobra" is one of Ericsson's most famous products in modern times. It was the world's first one-piece commercial telephone handset to become an international success. In March next year, it will be featured on a Swedish postage stamp.

On December 3, Sweden Post presented all the new 1999 Swedish postage stamps at a well-attended exhibition in central Stockholm. The themes included coins, orchids, the Öresund Fixed Link, signs of the Zodiac, European national parks and "Our 20th Century."

Four Swedish inventions

The latter series of stamps includes four Swedish inventions in the forefront of industrial progress: LM Ericsson's cobra telephone of 1956, accompanied by Nils Bohlin's three-point Volvo seat belt, Asea's high-tension cables and switchgear and Tetra Pak's pyramid milk carton.

"These stamps are designed

to arouse a sense of pleasure and personal involvement, reflecting society and our everyday lives. But the most important point is that we should enjoy sticking them on our letters and putting them in our stamp collections," says Sweden Post's Director General, Ulf Dahlsten.

And that is exactly what the Our 20th Century series does. The idea is to present events which made history. The designs include scenes from Ingmar Bergman films, the war years in Sweden, the first SAS flight across the Atlantic in 1946, world championship boxer Ingemar Johansson, and Jussi Björling, one of the world's greatest operatic tenors.

The stamps



The Ericofon is part of Sweden Post's "Our 20th Century" series of postage stamps.

in the Our 20th Century series were designed by Gustav Malmfors.

Ten stamps for domestic mail

They are printed in offset and issued in books of ten stamps for domestic letters. The initial stamping date is March 11. Anyone interested can prepare "first-day" letters and send them to philatelically-minded friends or customers on this date.

Thord Andersson

thord.andersson@ebc.ericsson

The name is Ericofon

Forty years ago, any Ericsson employee who ventured to say "cobra" when referring to the new telephone with all its components encased in a single unit would have risked an accusation of "professional misconduct."

Ericsson's official designation was the "Ericofon." But the general public referred to it as "the cobra", and that is the designation which stuck when the Ericofon became famous and ultimately acquired collector status. The cobra's soft, classic lines, typical of the '50s, continue to make it a beauty.

The Ericofon was launched in 1956, and was immediately successful. Demand grew rapidly.

The major export markets were the US, Italy, Australia, Brazil and Switzerland. About 20 percent of output was reserved for the Swedish market.

In addition to being compact, the Ericofon weighed less than the receiver of a conventional desk telephone of the time. It is easy to see why the Museum of Modern Art in New York selected the Ericofon as one of the best designs of the 20th century.

One of my acquaintances says that she threw away her cobra when the new push-button phones were introduced - something she now bitterly regrets. Another friend has one for decorative purposes, and still uses it as an extension phone.

Thord Andersson

The first Ericofon was presented at the Swedish PTT's 100th anniversary in November, 1953. It was launched commercially in 1956.



A historic phone from the 1950s

Attempts to develop a one-piece telephone were made before the Second World War - for example in Germany and the United States. Ericsson patented an upright model in 1941, invented by Hugo Blomberg and Ralph Lysell. Hans Kraepelin developed a horizontal phone - the Unifon - which was presented in 1944.

But the Ericofon did not emerge until the early 1950s, following further development of the 1941 telephone in the late 1940s. A technical group headed by Gösta Thames was formed for this project in the spring of 1949. The first version of the Ericofon was completed in time for Swedish Telecom's 100th anniversary in November 1953.

The casing comprised two inverted halves which were glued together. It was patented and styled by Gösta Thames. After 1958, the casing was injection molded in one piece and acquired slightly greater curvature of the neck.

By 1982, the Karlskrona plant had produced 2.5 million Ericofons. Sweden Post has undoubtedly selected a product worthy of inclusion in its series of stamps depicting Swedish inventions at the forefront of technology and design.

Thord Andersson

UPCOMING

Until Jan. 31: Ericsson's system for wireless LAN will be demonstrated at Stockholm Arlanda airport and at the Hi-Tech building in Stockholm.

Jan. 28: Ericsson's Annual Report will be presented. At this time, Ericsson's corporate management will provide more information on how the company plans to continue its rationalization measures.

Jan. 30: Interest payment due for convertible loans. See <http://inside.ericsson.se/converti.htm>

Feb. 11: The year's first issue of Contact will present information on the Annual Report and rationalization measures.

UPDATE

Ericsson has presented a solution to complete the harmonization of third-generation mobile communications standards that will create a smooth migration path from all of today's systems for all operators and phone manufacturers worldwide.

Jan-Åke Kark leaves Ericsson to be general manager for Swedish operator Telia. Today he is head of Ericsson Microwave Systems.

NEW ASSIGNMENTS

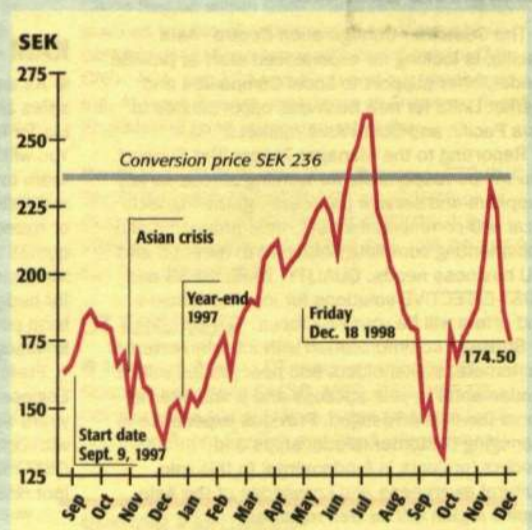
Michael Ricks has been appointed managing director for Ericsson China. John Gilbertson will retire on December 31.

Anil Raj has been appointed president of Ericsson in India. Rolf Granström will return to Stockholm as vice president responsible for corporate market coordination and corporate officer for India.

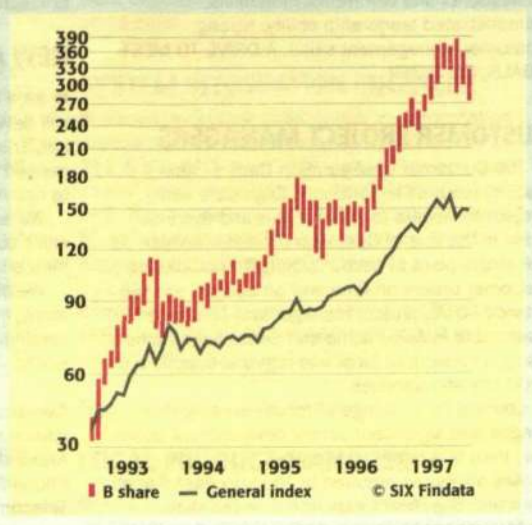
Berit Edlund has been appointed manager of human resources at the Public Networks business unit.

Martin Kirke will be responsible for personnel issues in the Europe, Middle East and Africa market area.

THE ERICSSON B SHARE



An Extraordinary General Meeting of shareholders on September 9, 1997, approved a proposed convertible debenture program. The conversion period extends through June 30, 2003. For additional information, access the web site: <http://inside.ericsson.se/converti.htm>





**GAMES AND TELECOM
BECOME ONE PAGE 4**

ACCESS

Jan. 99

POWER-UP WITH IT NEWWS

**COMPETITIVE
THROUGH KNOWLEDGE**

EDGE



**THE HUNT FOR
UNIVERSAL
ACCESS**

PAGE 2

**"PLAYING IN THE NEW MARKET REQUIRES FRESH
THINKING"**

PAGE 14

Hewlett-Packard's Lewis Platt, Oracle's Larry Ellison, Microsoft's Bill Gates, Nokia's Jorma Ollila, Ericsson's Sven-Christer Nilsson, Motorola's Christopher Galvin – they all understand that the data and communications devices of the future must be user-friendly and reliable.

And gadgets must be able to communicate with gadgets, anytime, anywhere, by any means – without cords.

The hunt is becoming more intense – the hunt for universal access. Join us for a report on the situation.

LET'S MAKE IT SIMPLE THE HUNT FOR UNIVERSAL ACCESS

The biggest demand of end users, whether they are at companies and/or in the home (and that distinction is becoming more and more fuzzy), is crystal clear to every helpdesk and support department all over the world: keep it simple. And each device should be able to communicate with the others. Everywhere. At any time. By any means? Almost.

Bill Gates does not believe that Windows will be the dominant operating system, because “the operating system of the future will look nothing like today’s. Customers are not going to be satisfied with that.” This realization has brought Microsoft together with Qualcomm, whose slogan is “We’re Building the Wireless World.” The task of their joint venture, WirelessKnowledge, is to integrate Microsoft’s mini operating system CE with a long list of wireless Qualcomm products.

SYMBIAN IS another joint venture in which Ericsson, Motorola and Nokia are developing the EPOC operating system along with British Psion. Not surprisingly, Gates’ arch-enemy, Larry Ellison, has added his company, Oracle, to the Symbian venture.

“Ericsson’s objective as a partner in Symbian is to create a user interface that is adapted to the mobile environment,” said Jan Ahrenbring, mobile phone marketing manager at Ericsson Mobile Communications.

Ericsson’s and Nokia’s new Wide Access Protocol mobile phone standard is supporting the evolution of mobile phones in the direction of portable computer terminals. With such a terminal you

will be able to make payments using an account tied to the mobile phone’s supplier identity module (SIM) card.

“Mobility is a key factor in Ericsson’s success. People are increasingly handling information while on the go,” Mr. Ahrenbring observed.

But he does not believe in any single all-purpose operating system for all devices and all situations, which many people are hoping for today. There is no need for one single key to all information and communications, even if computing power is being introduced to more and more devices.

“Users have different needs in different situations and the operating systems must be adapted to that. In your car, you will need a bare bones operating system that provides fast, compressed information. You may want to get stock prices, but not surf the Internet.”

LEW PLATT, head of Ericsson’s old partner Hewlett-Packard, says that the PC is a “pretty crude device, hard to use, and so ‘general purpose’ that very few of us use more than 5 percent of its capability. You’d be better off with an appliance that is cheaper, smaller, and does the special-purpose job that you’re doing.” One example is the small CapShare 910 scanner that Mr. Platt recently introduced in San Francisco, which he said can scan up to 50 pages and then move that information into any device that is infrared transfer-enabled.

“This can literally squirt the data into a phone or printer,” Mr. Platt said enthusiastically, as reported on CNET News. “Just as we have hundreds of specific-purpose electrical appliances in the world



Larry Ellison



Lew Platt



Jorma Ollila

Lew Platt: "We're headed toward a world full of digital appliances."



Sven-Christer Nilsson



Sir David Potter, Psion



Bill Gates

today, we will have hundreds of these appliances. You don't hear people complaining about lots of electrical appliances – I think we're headed toward a world full of digital appliances."

HP will supply processors to power the appliances but also the computers on the back end to host those services, Mr. Platt said.

Symbian is hoping that the mobile phone will be the device consumers choose to handle most of their communications: mobile and wireless.

THE COMPETITION between Microsoft and Symbian has been characterized as a war for the communications market between the computer and the telephone. Mr. Ahrenbring would like to tone down this view:

"Sure, we compete with Microsoft, but it is not a war. As an individual company, we cannot start to develop an operating system. But naturally, we want the system we invest in to become dominant in the market."

The partners in Symbian, with their 70 percent share of the world's mobile telephone market, can offer operating system giant Microsoft some stiff competition. Microsoft, meanwhile, is investing in turning the computer into a telephone and breaking into the mobile market with the WirelessKnowledge operating system, designed for mobile data communications and Internet connections in collaboration with the mobile phone company Qualcomm and a number of telecom operators.

Microsoft, too, is toning down its differences and competition

with Ericsson, Nokia and Motorola. To Microsoft, the competitors in Symbian are also its prospective customers. Ericsson is also one of Microsoft's major customers. All Ericsson employees will shortly be using Microsoft's e-mail client, Outlook.

"They want to make mobile phones, not operating systems, don't they?" Microsoft President Steve Ballmer said of the Symbian partners in a recent interview in the Swedish business weekly *Veckans Affärer*.

Competition is heating up in the mobile market because of its explosive growth. Of the 360 million mobile phones that some forecasts say will be sold in the year 2002, upwards of 20 percent will be smart phones with enhanced computer capabilities.

THE WINNERS IN THIS MARKET will be those that keep all their options open: to new developments, to what device wins out as a personal information manager, to the winning standards. Also to what companies will be competitors and what companies might become partners – now and in the future.

@ To learn more, visit:
www.symbian.com and www.bluetooth.com

@ Read about the objectives of Microsoft's and Qualcomm's WirelessKnowledge! Press release in full:
<http://www.qualcomm.com/news/pr981110c.html>



You just bought a SONY PlayStation for your children and think they will be happy with it. Forget it.

Learn how to spell Dreamcast – the game console that brings together the computer game industry with telecoms and datacoms and that is now being launched with a USD 500 million advertising budget.

JUST MARRIED: GAMES + TELECOMS =

LOVE!

SONY's new console features the Windows CE operating system, a Yamaha sound card, world class graphics, a modem and the performance of a PC. Or, how about: "3 million polygons per second?"

Sony has sold almost 40 million PlayStations.

Small wonder that telecom executives start drooling when SEGA, which is about to challenge SONY following its fiasco with the Saturn games console, adds a modem to its new Dreamcast console.

NEW OPPORTUNITIES open up, now that game consoles have modems. Kent Bogestam, Ericsson Internet Payment Systems explained:

"We are developing a payment system for the Internet that enables computer game companies to find new customers in a new market. Instead of buying the games in stores, you can buy them on the Internet. This gives us a new distribution channel and new payment systems. It no longer has to cost a large sum of money to play. You pay only when you play the game. This way you can break down resistance to buying new products."

ERICSSON HAS BEEN WORKING with the Daydream computer game company for a long time (see *Access* Sept. 98 p. 21-22!). At Ericsson, it is no longer "unacceptable" to view the computer game industry as a field worthy of competing in. Mark Jefford-Baker, Ericsson IP Services, Data

Networks:

"On-line players are an important user group for Internet service providers and telecom operators. They generate regular traffic and many players buy game software, hardware and other products on-line. Ericsson's expertise in the area of speech via IP enables us to offer speech as an integrated element of a game environment for multiple users."

"THE MARKET FOR GAMES is beginning to look like the world of sports," said Henrik Bergquist of Ericsson IP Services in Älvsjö. And when games are equated with sports and there is big money involved, everything must be optimized – from the joystick to the Internet connection. Internet-based games where you can log in and just watch are coming. For quite some time it has been possible to record interesting passages for review after the match.

Back in 1995 Henrik Bergquist, together with four buddies, became European champion in "X-Pilots," competing against 20 other teams from various parts of Europe.

SONY will soon be launching its PlayStation II and this is just the beginning of a race between various console makers, where the ability to be on-line, on the Net, and download updates and new games will be a central feature.

At that point we will see completely new coalitions and corporate alliances. For instance, Motorola is working with VM Labs on a wideband media processor. Called Blackbird, it will down-

load new software and updates and configure them automatically.

BLACKBIRD'S PROCESSOR is faster than a 1,000Mhz Pentium II would be (if it existed). According to industry observers it has "the potential to revolutionize the home entertainment industry in the next few years." The head of VM Labs, Richard Miller, is an Atari alumnus and several others involved in the project have a computer game industry background.

But – how come a game console can cost only a few hundred dollars while a PC or Mac costs twice as much?

The answer is built-in processors. A built-in processor with super performance costs about USD 100. Pentium II costs between USD 200 and 800, even though its performance is not much different. Intel just knows how to charge a good price.

The performance of built-in processors is escalating at the same rate as in the PC world. Production runs in the millions bring prices down.

Relations between companies in the fields of telecom, datacom and now "playcom" is beginning to resemble diplomacy: "The enemy of my enemy is my friend."

MICROSOFT IS DOING everything it can to distribute its CE operating system to the computer game world. And when Ericsson joins forces with Motorola, Oracle, Nokia and Psion to develop an operating system for mobile phones, you wonder who is next in line at the altar. What could Ericsson possibly contribute to wireless games? Lots!

@ To learn more, contact:

harald.hynell@etc.ericsson.se

mark.jefford-baker@ericsson.com

If there is something in this article you don't understand – ask your children or younger siblings!

EN INGLÉS, ESPAÑOL Y CHINO

www.ericsson.com/accessmagazine/spanish

REVISTA TI DE ERICSSON

ERICSSON



POWERED BY ERICSSON, DI.SE BRINGS STOCK QUOTES STRAIGHT TO YOU

di.se – the Web site of the Swedish business daily *Dagens Industri* – is working together with Ericsson to develop a compressed Web site for users of pocket computer such as Ericsson's MC 16, with its mobile connection to the Internet. It is called di.se – Powered by Ericsson.

"Images and other heavy information will be stripped away so that the user does not have to wait. The interface is intuitive and easy to understand," said Mattias Sundström, who works with systems integration at Ericsson Data-Business Consulting.

"To speed up transmission we use a product called WebOnAir Filter Proxy, developed by Ericsson Eurolab, which filters and compresses the information."

Fifty-four percent of Swedes own company stocks, directly or indirectly through mutual funds. Their interest in continuous access to stock market information is increasing all the time.

"The target group is 450,000 people in the *Dagens Industri* sphere of interest, who want to keep up and act on buy and sell signals. Speed is crucial, so we have stripped away everything that can weigh down the messages and slow their speed," said Lars Stahre, of *Dagens Industri*'s di.se. He is very pleased with the solution.

The system is being tested on 100 users in the di.se sphere. Ericsson is working on a similar project with the Scandinavian Airlines System (SAS) that will make it easier for people to make airline reservations.

@To learn more, contact:
mattias.sundstrom@edt.ericsson.se or lars.stahre@di.se

@To learn more about the WebOnAir Filter proxy, contact
manke.andersson@ericsson.com



ERICSSON THE INTERNET SUPPLIER BUILDING

INFORMATION SUPER HIGHWAYS

BASED ENTIRELY ON IP

When Ericsson presents itself as an Internet company, it is as a supplier of both infrastructure and services at all levels.

"We supply a complete superhighway system for communications and Internet technology," said Staffan Lindholm, head of the IP Services product unit at Ericsson Datacom Network & IP Services.

The infrastructure – electronic superhighways made up of ATM switches and routers – is the roadway. Access routers of various kinds are the on and off ramps. Applications and solutions that make it possible to communicate and transmit information are the vehicles. "Sometimes the roadway lies on solid ground, sometimes we have to build bridges to get where we want to go – wirelessly," Mr. Lindholm continued, "and that is how the future service we call Wireless Internet fits into our product line."

This image of Ericsson the Internet supplier was the one featured at Internet World Scandinavia. Today, Sweden has become the most computer- and Internet-intensive country in the world. Finland has the highest density of mobile phones, closely followed by Sweden. This makes Scandinavia an important market for Ericsson the Internet supplier.

The Internet Protocol (IP) technology is the foundation of Ericsson's Internet businesses. Ericsson supplies efficient infrastructure for both data and IP communications. IP routers from Ericsson's recent American acquisition ACC create rapid connections.

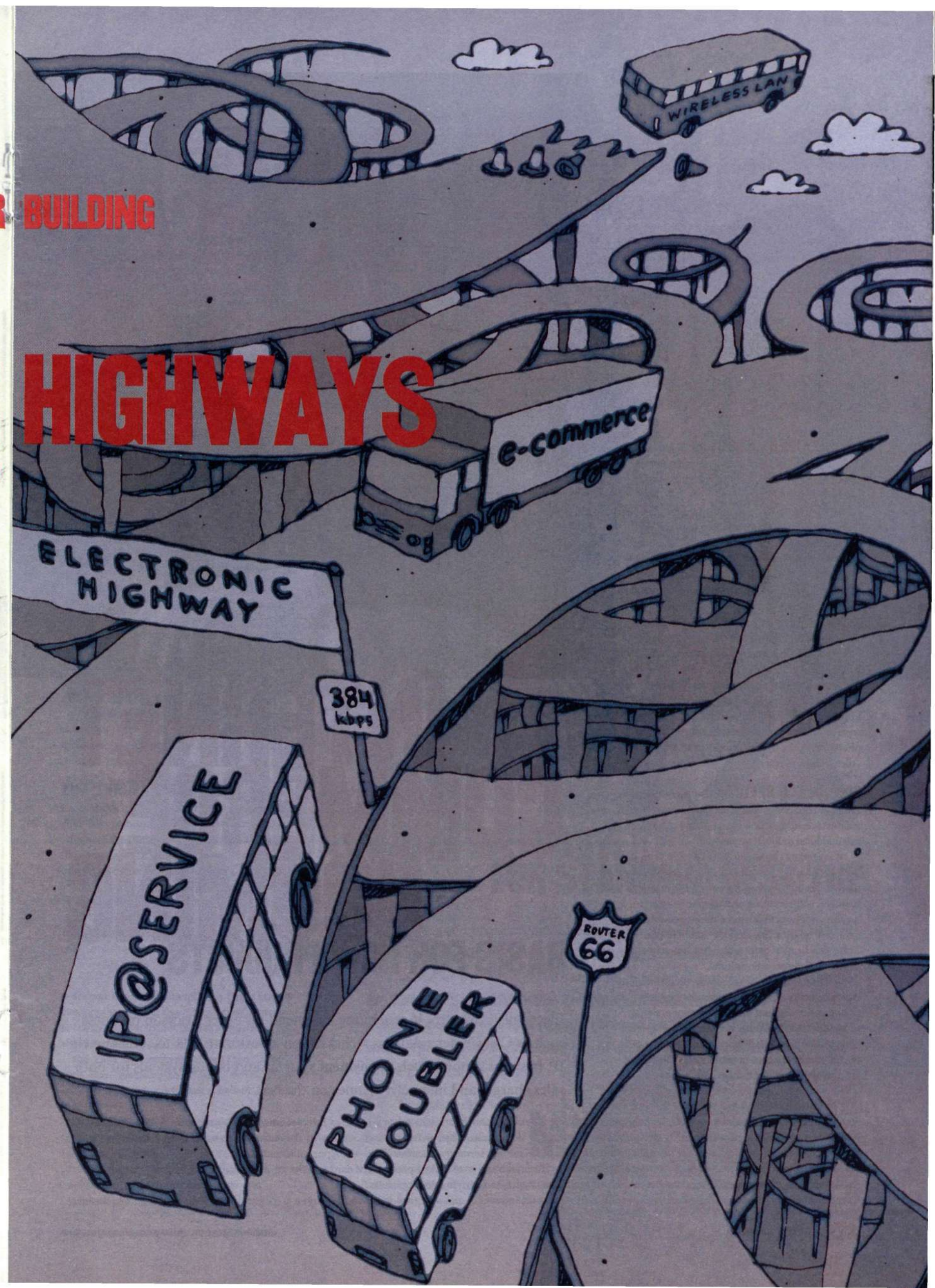
EXAMPLES OF ERICSSON'S INTERNET CAPABILITIES are IP telephony and products like Phone Doubler™ for those who want to surf the Net and talk on the same line at the same time. IP@service™ is a service and IP platform that makes it possible to out-source IT: allowing a telecom operator to manage a company's intranet.

"Electronic commerce in merchandise is still just an advanced form of mail-order business, even if the potential is large," Mr. Lindholm observed.

Standards for e-commerce have not yet been finalized, and the market is hesitating. Ericsson has solutions that allow payment of both small and large amounts via the Internet, whether to buy merchandise, download a video or pay for games played on the Net.

The new products are superimposed on existing telephone networks by means of new software and new systems. The technology is invisible. Users don't have to know what is actually happening.

An IP call to a colleague a few miles away in Sweden can equally well be routed via New York as via the Älvsjö district of Stockholm. Regardless of whether it is a conversation between people in Australia or Sweden or anywhere else, the system will invisibly select the best route.



The technology as such is not important. What is important is security and simplicity, which can create the preconditions that allow e-commerce to take off in earnest. And user-friendliness.

"The simple, user-friendly interfaces provided by Mosaic and Netscape are what triggered the explosive growth of the Internet. It can happen again with IP in telecom networks. Developments are driven by the potential to carry more information in IP networks – a combination of sound, images and speech – than in traditional telecom networks.

USER-FRIENDLINESS must be developed further. "Perhaps we should reduce the number of choices consumers have. Some products may be too technically sophisticated."

Rapid progress is continuing, and Mr. Lindholm is expecting major changes with regard to connections. When everyone is connected continuously, we will need communications tools that offer more choices. The demand for freedom of choice is driving wireless developments toward a wireless Internet.

"The market is not ready yet. But the basic technology is available and as soon as speed increases, wireless Internet will grow rapidly," Mr. Lindholm said.

Ericsson's Enterprise Networks is now marketing a complete IP-based corporate solution. Small and medium-sized companies can replace or supplement their exchange-based telephone networks with a Voice over IP system – voice telephony via IP.

FOR SMALL OFFICES that do not wish to invest in telephony infrastructure, Ericsson has products designed for making phone calls via existing local data networks.

"A company can use its PC as a telephone, with Web-based support for old and new telephone services such as Personal Number, directory searches, call-rerouting and telephone operator services. Services that can be developed into complete multimedia services," said Gunilla Fransson, head of IP product development at Ericsson Enterprise Solutions.

As an alternative for those who do not wish to use their PC as a phone, an IP-based desktop phone and a wireless, unlicensed phone, similar to wireless DECT phones, are under development. Using IP bridges, it will be possible to make calls via the public telecom network as well as to regular non-IP based telephones.

@To learn more, contact:
staffan.lindholm@etx.ericsson.se
gunilla.fransson@ebc.ericsson.se

@To read more:
www.ericsson.se/datacom
www.ericsson.se/liptelephony



INTERNET COMMERCE BOOMING

BASIS FOR NEW PRODUCTS

Electronic commerce is generating a demand for other Ericsson products such as Call Center solutions – clicking on a button to talk to someone via IP, business support such as payment systems and billing systems for both sales charges and interactive games on the Net.

"Mobile connections will create a boom in Internet commerce by 2002," said Ann-Catrine Appelquist, head of Business@I-net, one of the business areas of Ericsson Business Consulting, formerly Ericsson Data. Ms. Appelquist continued:

"Payments via your mobile phone's SIM card and the advantages of being able to order at any time, anywhere is driving developments."

As an Internet company, Ericsson obviously plays a large part in defining what Ericsson Business

Consulting does. And Business@I-net is a high-priority area, focusing on electronic commerce.

The emphasis on the Internet is changing the focus of the entire business operation from working with telecom operators and providing infrastructure for other Ericsson units to crafting Internet solutions.

"THIS IS A NATURAL EXTENSION

of our work with systems integration," Ms. Appelquist said. "Ten years ago we integrated products. Today we integrate platforms. The solutions are what are important, not the products."

Electronic commerce requires that platforms, networks and connections meet higher standards. "It also requires simple, user-friendly technology. If it is too hard to shop on the Net, people will not buy. It's that simple."

MS. APPELQUIST told about a project to create a global marketplace on the Net for a major European player. "We are developing an interface together with Ericsson's CyberLab in New York and Ericsson Professional Services in Canada, based on technology that they have developed for an Internet-based jeweler."

Families and the consumer market are important for business on the Web. They will drive developments. The development of technology is affecting individuals.

"Digital TV is creating a central communications unit that will be reaching into the homes of those who do not have a computer," Ms. Appelquist said.

AND THE MARKET is changing too, all the time. Today's operator may be an electronic merchandiser tomorrow. Today's customer was a competitor yesterday and may be a supplier tomorrow. This is affecting both the way we do business and the entire structure of society.

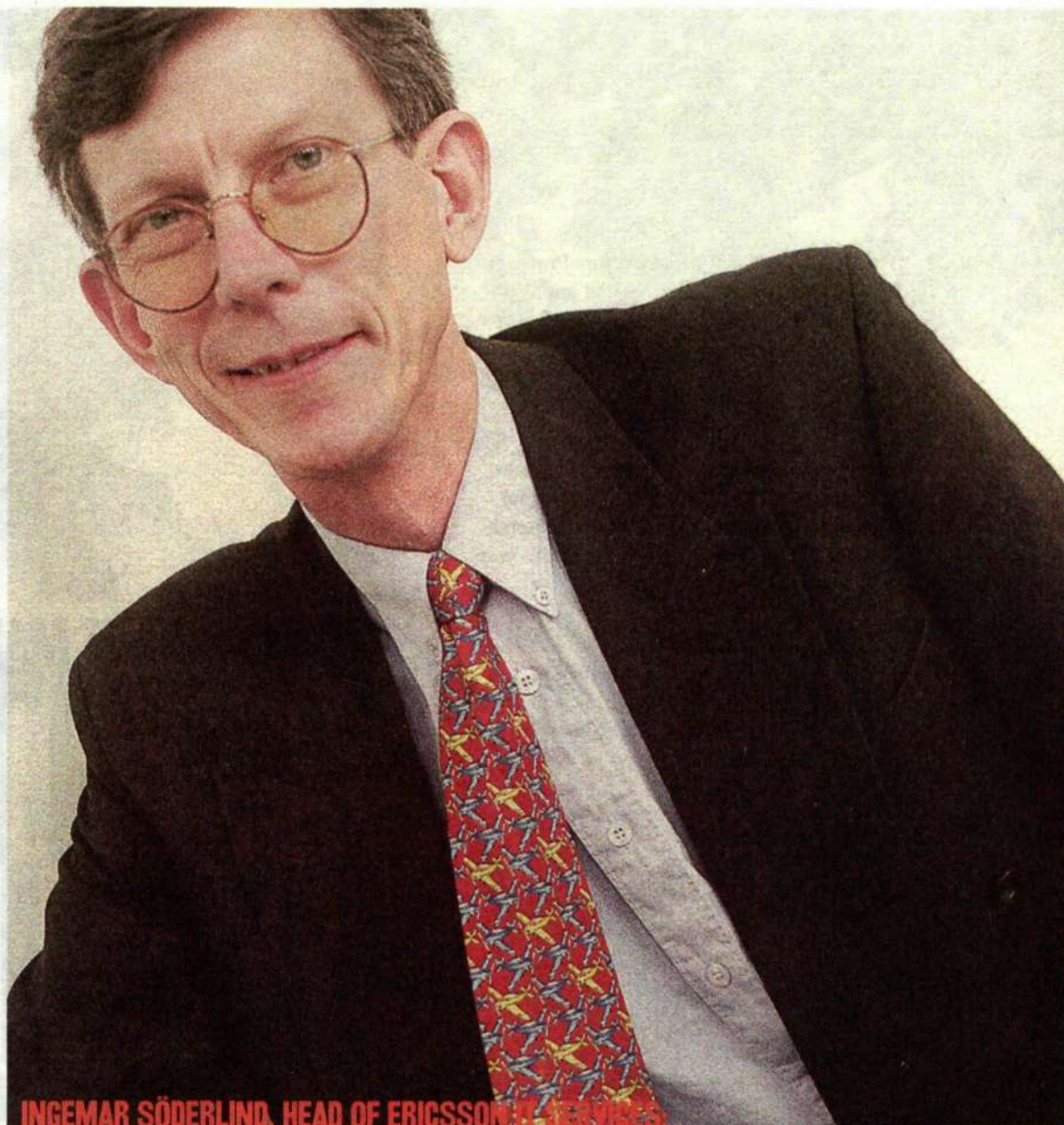
"Ericsson's task is to help develop the society of tomorrow."

@ To learn more, contact:
am-catrine.appelquist@edt.ericsson.se

Ericsson Business Consulting consists of the Ericsson Business Consulting and Ericsson IT Services divisions (see adjacent article).

The task of Business Consulting is to work with business solutions, consulting services, systems integration and systems management.

The business areas are Business@I-net (electronic commerce), Business Platforms (network solutions), Business Solutions (Call Center solutions) and Business Consulting (business management and leadership).



INGEMAR SÖDERLIND, HEAD OF ERICSSON IT SERVICES

Y2K IS THE BEST ADVERTISEMENT FOR STANDARD DESK TOP

"The year 2000 problem must be nipped in the bud during the first half of 1999, and the best way to solve it is through centrally distributed software. This is one of our strongest arguments in favor of rapid implementation of the Ericsson Standard Office Environment (ESOE) worldwide."

Mr. Söderlind will lead Ericsson IT Services into the new millennium, with responsibility for creating world class IT and efficient services for the entire Ericsson Group.

He brought a little yellow slip of paper to our meeting, on which he had listed the four most important issues facing him and Ericsson IT Services: the Ericsson Global Infrastructure Program (EGIP), the global organization, ensuring that IT is a way to make work more efficient and conduct business better, and preparing the IT environment for the new millennium.

"A lot of work remains to be done; work that obviously will have priority during the time that's left before year 2000. The more people who adopt the Ericsson Standard Office Environment (ESOE), the better the transition will work, since ESOE offers us complete control of employees' PC environments.

"The Ericsson Global Infrastructure Program (EGIP) includes numerous services and improvements that we are implementing at Ericsson. We must win people's understanding and acceptance of these projects – they are among the keys to our vision of world class IT," Mr. Söderlind said and continued:

"These services enable Ericsson employees to be more efficient. They lay an IT foundation for improvements of our business processes. Several of the services also facilitate the transition to year 2000."

THE NEW GLOBAL ORGANIZATION, symbolized by the three hubs in Stockholm, Dallas and Kuala Lumpur is a precondition for Ericsson IT Services to be able to offer the support needed in the future by one of the world's largest IT companies.

Mr. Söderlind has an M.Sc. degree in engineering and has worked at Ericsson Data since 1995. He has devoted the last two years to Global Service Provider and the development of the new three-hub organization.

"With the new network and the new organization, we are demonstrating that geography no longer matters. The vision that all users shall have a 24-hour phone number where they can reach us 365 days a year will soon be a reality."

THE ESSENCE of the third item on Mr. Söderlind's list, IT efficiency, is to provide local IT organizations an opportunity to work more effectively, enabling them to take advantage of the effects of the standardization that is the result of EGIP.

"We must free up capacity for business," Mr. Söderlind said.

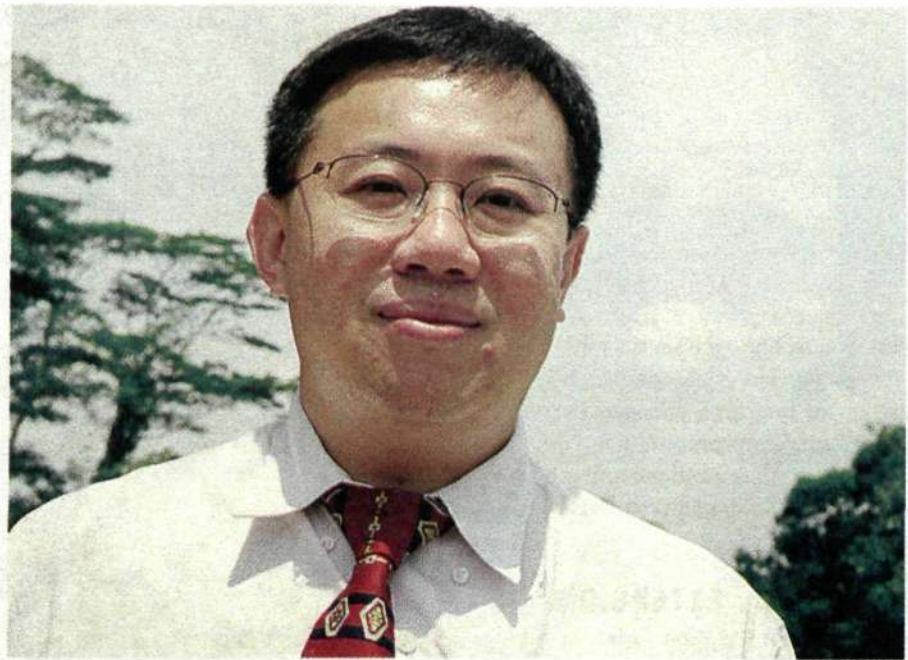
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TELE2 AND TELIA COMMENT ON ERICSSON'S INTERNET PRODUCTS: "PROFESSIONAL, FAST, WELL ORGANIZED"

"Ericsson has many resources and is remarkably well organized. When we had to speed up to meet our deadline, we had no problem. They treated us in a very professional way," said Martin Svahn, NetCom/Tele2's manager for the Ericsson product known as Phone Doubler. Tele2, a Swedish telecom operator, is marketing this product under the name Dubbel-linjen (The Double Line) and Mr. Svahn is very pleased with it.

Like many other customers, he visited Ericsson's stand at Internet World Scandinavia. And like many others, he is watching closely as Ericsson moves toward the future.

"Ericsson has to succeed. It takes time to turn a supertanker around, but I am pleasantly surprised by how nimble they are," said Lars Atle-gård of Telia PubliCom, another Swedish operating company.



ANDREW NG, IT MANAGER IN SINGAPORE ON

IT AS A HYGIENE FACTOR

"Taking a shower is nice, but you can skip it for a few days. When you stink, the company will make you shower! Information technology works the same way. You can skip learning it, but the company will make you learn because it is essential to survival."

When Ericsson's Singapore IT manager Andrew Ng talks about new technology, he likes to use drastic metaphors such as this. In this case, he was also talking about Ericsson as a company that is working on the Internet, time and the Internet paradigm.

"We have become used to selling hardware. We must now position ourselves in the IT world by developing and selling more IT and IP products and solutions that are easy to use and by selling them through IP channels. We should use the Internet as one more channel and a business medium – it's that simple."

Andrew Ng Chee Wei was born in Kuala Lumpur, Malaysia, is an Australian citizen and lives in Singapore. Mr. Ng joined Ericsson in 1994 having worked at Digital, among others, with development of routers similar to what Cisco is selling now. He has a 16 month-old son and likes to play tennis and listen to classical music.

HIS ANSWER to the question of how IT should be used to create more time with the customer, making Ericsson more profitable, was to quickly bring out his MC 16, the small Ericsson digital assistant. While he synched up the MC 16 to his model 888 mobile phone with an infrared signal, he kept talking:

"Ericsson must very quickly develop IT solutions for business problems. The extranet that Ericsson has set up with Singapore Telecom is one example."

This is one way to "lock in" the customer in a positive way. The customer itself can monitor how the telephone exchange it purchased from Ericsson is working. This is similar to the way DHL

Worldwide Express enables its customers to track their packages from start to finish. This builds confidence and is extremely cost-effective and reliable.

"Later on we will add purchase orders to this extranet," Mr. Ng added. "We must 'eat our own dog food,' be quicker at implementing standardized processes and set up our own web. Most of our customers already have solutions based on the SAP R/3 business support system, but we don't. Our employees need subsidized access to the latest Ericsson products quickly – it is an image issue that we ourselves must always use our own products. But first, we must develop products that are so good that users do not want to return them.

"ONE EXAMPLE of IT at Ericsson Singapore might be the preparation of a large tender. People join us from all over the world and we work together intensively for a short time. We have to be productive right away; we cannot afford to wait. That is why it is necessary to have a standard desktop, with the same mail functions, systems and software. This saves time and provides better service. Persuading people is not about selling Internet or Microsoft devices, but about selling solutions and services at reasonable prices."

The goal of one internal Ericsson Singapore IT project is to define service levels as part of all internal customer contracts. A when, where, how, who and why for service. Each service has its own reference number. Soon, it will be possible to use the Web to locate information about these services, from order to delivery.

Should Ericsson sell through e-commerce?

"Of course. And just like when I order a PC on the Web, I expect that my telephone will be delivered the way I want it, within a few days.

"Unless Ericsson quickly starts selling on the Web, Nokia will do so with its products," Mr. Ng pointed out. "Electronic commerce is now being strongly encouraged by the Singapore government. It wants to build an information society and has passed laws requiring wideband to be available to all households in all new apartment buildings. Ericsson must be there, 'just a click away' from its customers.

"THE AIM of Ericsson's IT products and services must be to make it easier for our customers to work on their own and have more time to work with their customers."

Mr. Ng is also the coordinator of several other projects: wireless ATM, multimedia via GSM, the next generation of PDAs (personal digital assistants of the MC 16 type), personal voice controlled digital secretaries and adaptation of new technology to Chinese characters.

"IT people must learn more about business and business people must learn more about IT," Mr. Ng said.

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AGE: 30 JOB: IT PROJECT MANAGER, ERICSSON SINGAPORE

"IT drives everything these days, more or less. Things are moving fast in this phenomenal information society. IT is the biggest factor to consider when you want to make information more visible and help people become better educated. IT is changing the way we look at things, the way we do things – such as our banking, and how we do business with our customers – our entire attitude... We can streamline processes. It used to be that it took a long time for a customer's order to pass through all the steps, and sometimes it got buried along the way... At a personal level, I think of IT as a "liberator" of time. IT allows us to work when we want to. The important thing is not when I work, but that the work gets done. Sometimes it will be a wise decision to go for a bike ride during the day and make up for it by working at night."

ERICSSON'S JOURNEY TO **THE NEW** **TELECOMS WORLD** REQUIRES FRESH THINKING

The journey to the new telecoms world has just begun. Ericsson will be a leading player in this new market.

"Nobody knows what the goal looks like, because no one has been there," said Haijo Pietersma, Ericsson Executive Vice President, Enterprise Solutions Business Segment.

Haijo Pietersma is a man who is not afraid of challenges. For example, he has elected to move to Sweden and of course you can't know ahead of time how that will work out. Now he is charting a course toward an unknown destination in the new telecoms world. It is the journey itself that is the goal, the challenge.

"And I like to be challenged – and to challenge others. To think out of the box – think new, think different," he said.

Mr. Pietersma spoke about this with enthusiasm. In his spare time he likes to read books with a philosophical or mathematical bent, to force himself to think in new directions.

THIS IS IMPORTANT to Ericsson Enterprise Solutions, which will be creating its own market with a new product range for companies. The foundation is the information and communications technology, which is creating a brand new playing field for Ericsson.

"This does not have to become Ericsson's biggest market, but certainly the most innovative," Mr. Pietersma said. As he received us in his office in Nacka Strand east of Stockholm he chose his words with care, sometimes philosophically. But he quickly emphasized that anyone who wants to play in this new market must be able to offer the best solutions.

"In order to do that, you must master the technology yourself. And you do that best by using it yourself, by learning to take advantage of it."

This makes information and communications technology a key factor for success in the new market.

"Ericsson's customers need solutions that make them more efficient, so they can communicate anywhere, anytime, and develop new customer relationships with the help of intranets and extranets. All of this requires or is based on information

and communications technology."

Mr. Pietersma is deliberately choosing not to use the term information technology (IT). He wants to extend this concept to include communications as well, with mobility as a key word.

Mr. Pietersma also pointed out that information and communications technology is not just a precondition for the solutions offered by Ericsson Enterprise Solutions. Together with knowledge, technology improves Ericsson's competitiveness in the new market.

"WE NEED KNOWLEDGE in order to judge what are the best solutions, knowledge to combine products – from Ericsson or elsewhere – into the best solutions, and knowledge to select the best products for these solutions, even if those products are not our own."

Knowledge about the customer is crucial to be able to offer solutions that make them more efficient. We must take advantage of, process and transfer Ericsson's knowledge capital.

Technology and knowledge drive developments. This is affecting working methods and revolutionizing the way people think, both at Ericsson and at its competitors.

"THE BIG QUESTION is not what we should do – but what skills we should develop in order to drive developments. We must stop thinking in terms of products and instead ask ourselves what role we want to play."

Mr. Pietersma is very clear about the role Enterprise Solutions should play in the new telecoms world: "A catalyst for demand when mobility is being integrated with data communications and brand new preconditions for our business are being created."



"Technology and knowledge drive developments. This is affecting working methods and revolutionizing the way people think, both at Ericsson and at its competitors."

ACCESS

INTERVIEW



Ericsson is showing the way into this new world, especially by the way it works and uses information and communications technology.

"By being early adopters ourselves, by quickly embracing new opportunities afforded by technical developments, we create the market for integrated solutions in the new telecoms world."

Mr. Pietersma emphasized that this does not require a large, self-assured organization. "On the contrary. It requires a fleet-footed, innovative – yes, revolutionary – organization."

SUCCESS WILL BE DETERMINED by knowledge and the ability to use it. Knowledge is becoming a strategic instrument. Traditionally, Ericsson has made money by providing transaction capabilities, but today value grows out of knowledge about the customer.

Amazon.com is one example of a company that creates value, not merely by sending the right book to the right customer, but by taking advantage of the customer intelligence that the transaction provides. This creates an opportunity to offer additional products based on the customer's consumption pattern.

"That's worth much more than the value of the transaction itself.

"We must be able to take advantage of the lead we gain when we use our knowledge of the new technology."

To be a market leader, you must know what is going on in the market. This requires a network outside Ericsson as well.

"Ericsson used to be a centrally controlled monolith that based its operation mostly on one product: large telephone exchanges."

Now everyone is talking about networks and open platforms for open systems.

"We must become a company that offers our customers a

wide selection of opportunities and solutions."

Renewing our competitive strength and business thinking requires changes.

"Information and communications technology will play a key role the innovation process too. Our customers must understand how we are using the new opportunities. We must persuade them to think: 'Let's get Ericsson to help us with that.' They should see us as a leading supplier of solutions for the new market."

ERICSSON BUSINESS CONSULTING, which grew out of Ericsson Data, will play a key role, both in the development of information and communications technology applications and when it comes to contributing the necessary knowledge for new solutions and business development.

"As a global knowledge company, we must use information and communications technology as a powerful tool in our own operations. We are our own best benchmark. This is a credibility issue as well.

"We should be proud of our knowledge, proud not only of what we have produced ourselves, but also of what we have brought in from outside. Being knowledgeable enough to use what others have created – and to make money from it."

Ericsson's strength is its ability to apply knowledge to create solutions and to do it in different regions, with different partners.

"That's a strength that Cisco, Nortel, Lucent or Nokia don't have. Our collective expertise creates an entirely new playing field," Mr. Pietersma said.

And that's where he feels at home – where the rules are not predetermined, where no one knows for sure what will happen.

"WE MUST BE OPEN to new opportunities. That's important for managers too. They must supply their employees with energy and opportunities to explore new fields.

In Mr. Pietersma's opinion, leadership means mobilizing an organization to develop successfully. A company that wants to become a leader in its marketplace must develop its leadership.

"I don't believe in controlling leadership, I believe in stimulating people's curiosity about new tasks, new goals. When you are curious, you are not afraid," Mr. Pietersma said.

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HAIJO PIETERSMA: **Born:** the Netherlands, 1953. **Job:** head of Ericsson Enterprise Solutions, employed at Ericsson since 1978, both in Sweden and in the Netherlands. **Head of Ericsson in the Netherlands, 1994–1998.** **Workplace:** Nacka Strand, just east of Stockholm, Ericsson Enterprise Solutions. **Family:** married, two daughters aged 16 and 19. The older one lives in the Netherlands. **Leisure activities:**

Spends time with family; does not travel. "I do that so much on the job." Reading – philosophy and mathematics interest him the most. **Right now:** A comparison between the worlds of music (Bach), graphics (Escher) and mathematics (Gödel). "It is interesting to see how all three take a mathematical approach to their respective fields."

CYBERLAB ON-LINE DIRECT LINK TO SILICON ALLEY

CyberLab New York, Ericsson's interface with small Silicon Alley start-ups in order to facilitate joint projects and successful partnerships, is launching an on-line Internet presence in January. Its purpose is to develop additional opportunities for interesting partnerships, with speed and flexibility as key ingredients.

"When we meet with companies to explore exciting projects, we often start at a high level, but it is important to our success that we meet people at other levels in these companies. The president of a global financial services company may not be the person who will use the technology. That's why we also want to involve those who need the technology to do their work," said Donna Campbell, head of CyberLab New York.

It is easier to contact someone via the Net than to look up the right person among Ericsson's 130,000 employees.

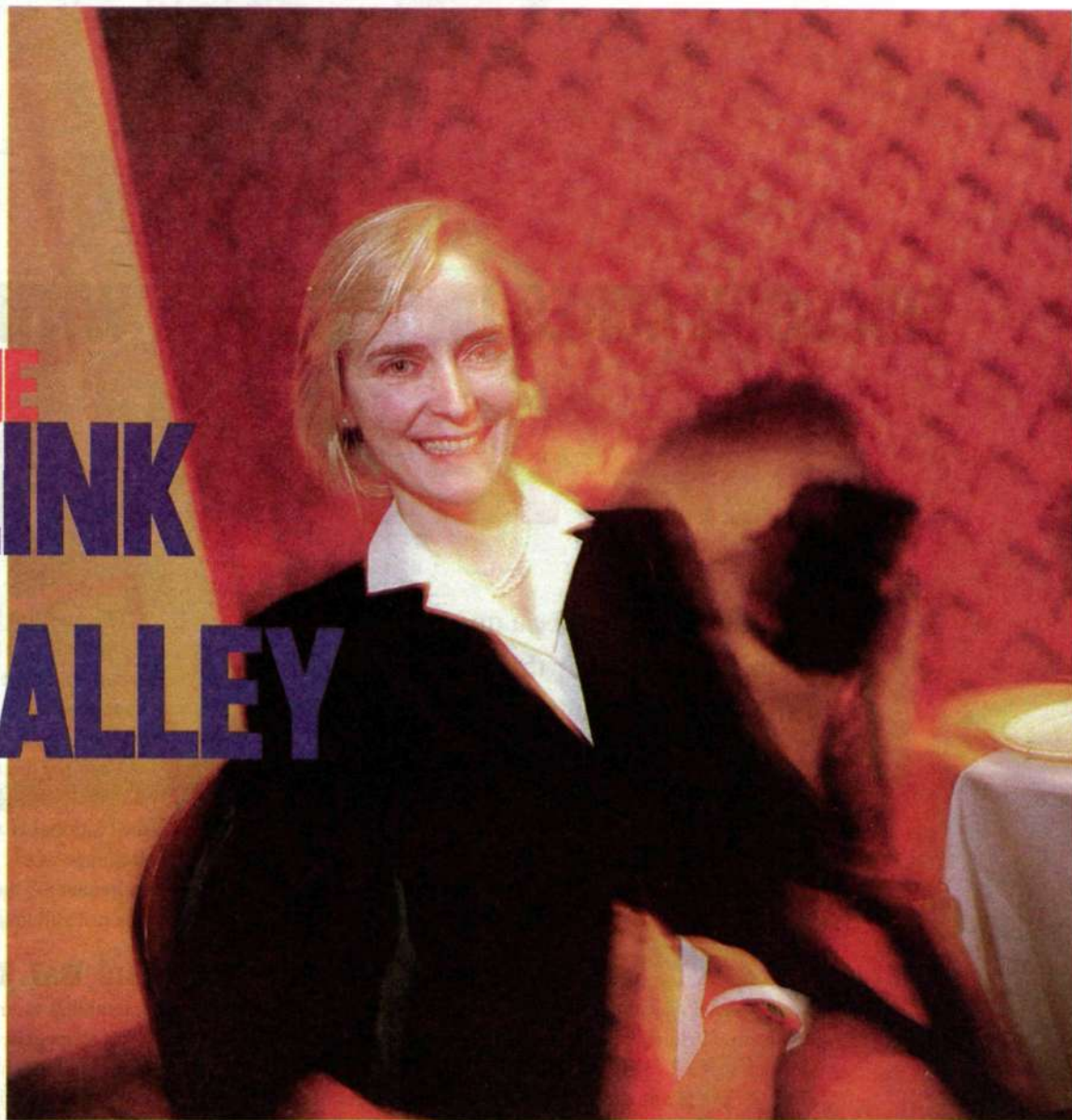
"CyberLab on-line will create a direct link between Silicon Alley and all of Ericsson's research and development operations."

Meeting on-line saves both time and money. A person in New York who has interesting ideas or new product concepts does not have to travel to Stockholm to meet people.

"There is great interest in Ericsson's wireless Internet technology. Companies realize that they must be able to offer their customers the ability to contact them "anytime, anywhere," both for electronic commerce and information services," Ms. Campbell said.

The Web site is being developed by the interactive marketing company Mercury Seven. (www.mercuryseven.com)

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ERICSSON AUSTRALIA SURFING THE CONVERGENCE WAVE

In order to reach the target of becoming market leader in the next millennium you have to walk the talk. Bart Dekker's account of a typical day at Ericsson Australia's cyberlab is also a description of the convergence between data and telecommunications.

“The moment you enter the premises, you are dazzled by posters shouting out messages of electronic commerce, multimedia, knowledge management, voice over IP, video streaming and other high tech icons that will become commonplace in the next millennium.

I have a cup of coffee with my colleague Nenad Baic while looking at some projects in the areas of IP, multimedia and communications.

Suddenly the screen is full of TV quality images and the stereo speakers are blaring. It is full screen MPEG1 video. This would really be something to webcast now that webcasting has become a regular service.

Together with our future development group, we discuss a project of transferring voice and data simultaneously over an IP link between the Melbourne and Sydney offices.

A window pops up on my laptop screen in the middle of a discussion about the business requirements and needs of a telecommunications operator who wishes to make the Internet available over their GSM network.

'I'm sorry, I have to go to another meeting. I bring up our calendars on the screen and schedule another meeting in a time slot where we are all free.'

Work on the new knowledge management system that is being integrated into our Information Technology and Telecommunications (IT&T) professional services organization is continuing.

A typical day in the Cyberlab in Melbourne.”

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ERICSSON CURES UNCERTAINTY WITH

HEALTH CARE IP SOLUTIONS

To patients, it might be a question of life or death. Then they hear this answer: "...we'll have to wait for the test results. Come back in a month."

Weeks of worry and uncertainty.

But new technology can cure this uncertainty.

Doctors and experts can review test results right away on a remote basis. The same technology is used to enable specialists to assist during operations, without being physically present.

New technology has always been crucial to advances in health care. Today, it is also helping us to bridge physical distances in health care. Telemedicine can revolutionize the growing home health care field.

Wide Path is one example of this. Ericsson, telecom operator Telia and Swedish software development company Bildanalys-system AB have worked together to create an intranet system for pathologists. This system may find much broader application in health care.

Pathologists study tissue and cell samples under the microscope. Their analysis becomes the basis for an assessment of the patient's illness and treatment.

IN MANY CASES, pathologists specialize in certain illnesses or bodily organs. They frequently solicit the opinions of other pathologists or specialists about a sample. Until now, this has been done by mail. Using Wide Path, two pathologists can study the same sample on a remote basis.

"We realized early on that this might be done via a wideband network. A new technology was developed to operate microscopes by remote control," said Peter Rydqvist of Ericsson Telecom.

Today, Wide Path is based on IP@service as an intranet platform. Communications are handled via Telia's ATM network. This works just like a video conferencing systems, but with advanced features to meet the needs of health care. This means that the same product can be used in several health care areas, for example if an expert needs to assist an operation on a remote basis.

An acid test of this technology took place this summer in Malmö, southern Sweden, during a conference for surgeons specializing in stomach and intestinal disorders.

British surgeon Bill Heal performed rectal surgery on a 60-year-old woman in an operating room at Malmö General Hospital. Conference participants could simultaneously follow the operation in real time in the conference hall. Conference participants could carry on a dialogue with Bill Heal with both sound and images. One monitor displayed the work underway in the operating room, while another displayed details of the operation itself.

"This was the first time the system was demonstrated. Many people have shown great interest in this solution," Mr. Rydqvist said.

"We may not live to see remote control operations. Someone has to physically perform the operation locally. But that person can be guided by experts via the new technology. And when it comes to keyhole surgery, it is already possible to control the operation at a distance.

When the foremost kidney expert at Huddinge University Hospital south of Stockholm was appointed professor at Rikshospitalet (the National Hospital) in Oslo, Norway, it appeared for a while as if Huddinge would lose his expertise. But by purchasing the same equipment for the Rikshospitalet in Oslo, Huddinge University Hospital can still take advantage of his expertise through Wide Path.

THIS MAY HELP solve the problem of attracting physicians, by enabling them to specialize and develop in collaboration with older, more experienced colleagues. If such opportunities can be made available on a remote basis, hospitals in rural areas may find it easier to recruit physicians and specialists.

But the really big opportunities open up when telemedicine is applied to home health care, by far the fastest-growing form of care today.

"In one project in Stockholm, care givers will carry small, portable terminals. This enables them to photograph a bedsore and the patient can receive the right medication and treatment without having to be moved out of the home.

"Early in 1999, we will be testing a complete system called Home Care in the city of Umeå, northern Sweden, in close cooperation between the hospital, the city and the county council. Through one junction, being developed by Ericsson, all health equipment in the home will be connected to the health center or emergency service center. The system includes diagnostic equipment: a bed sensor for measuring the pulse and blood pressure, a dosage device that provides the patient with the right amount of medication, a fire alarm, a security alarm and a video phone," Mr. Rydqvist said.

BY NEXT SUMMER the Umeå test will be evaluated. If the results are positive, there is every reason to believe that the Home Care system will become an important, high-volume product in the future, because the needs of the home health care market are extensive in most countries today.

With the Wide Path and Home Care systems, Ericsson is taking a giant step into the world of medicine, and into an entirely new market.

"We can connect health care needs to the development of new products and services. For this reason, we are working directly with end users. One of our aims is to shorten health care lead times. This work will also generate new business. The response from the health care community to date has been enormous," Mr. Rydqvist said.

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FASTER REPORTING WITH ERICSSON'S IP SOLUTION

Discotheque fire in Gothenburg: 60 people feared dead. Bus accident between Sala and Enköping. Bus catches fire.

When something dramatic happens, furious activity erupts in the newsrooms. The hunt for pictures has priority. The name of the game for a TV news editor is to have pictures from the accident scene or event to show in the next broadcast.

Often, a reporter and a photographer are on the scene rather quickly. The problem is the next step: Transmitting the pictures from a remote location to the central newsroom.

In Sweden today, this problem is solved by requesting a ground link to the Kaknäs TV Tower, Stockholm's tallest building. The pictures are retransmitted from there, by link or cable.

This is expensive, cumbersome and time-consuming.

ERICSSON'S SYSTEM for remote health care work may open up an opportunity in this area as well.

The solution is called Chorus ATM and involves the transmission of TV images based on IP@service and the ATM network.

"It is interesting that we can use the applications we have developed for health care in other areas. The TV companies are interested, and so are industrial companies. Basically, we are talking about remote handling of images that meets high standards of security," Mr. Rydqvist said.

The transmissions yield images of broadcast quality and high-fidelity sound quality.

NATURALLY, THIS PRODUCT can also be marketed for use in sophisticated video conferences, enabling participants can meet on a real-time basis, without the delays inherent in today's video conferencing systems.

"Among the people who want to try this technology are those who envision the opportunity to organize Chorus ATM remote conferences at airports, hotels and conference facilities," Mr. Rydqvist said.

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ERICSSON 2000 COMPETENCE CENTER LIVING IN THE FUTURE

"Ericsson's largest systems and those that are critical to its operations can handle the turn of the millennium," said Mats Nyström, Millennium Competence Center manager. Online testing of mainframe computers has just started and the goal is that verification tasks will be completed by June 30, 1999 at the latest.

"Most of the work has been successful, in large part because we started early," Mr. Nyström explained. Current efforts are aimed at securing local networks with PC and UNIX systems.

AS HEAD OF the Millennium Competence Center, Mr. Nyström works with about ten people, reporting to Business Support Systems as directed by the Ericsson Millennium Program Office.

The Millennium Competence Center develops methods and instructions to support people working on the millennium bug and provides expertise and experience. One key to success is rapid dissemination of information about the problems and their solutions to everyone concerned.

"It is important that the various millennium project managers use our tools and take advantage of our experience. There is no time for people to make their own mistakes. We have methods and offer support and can assist with inventorying, modifications and testing," Mr. Nyström explained.

THE MILLENNIUM Competence Center manages Ericsson's joint helpdesk for the many Y2K projects, the Millennium Support Center.

The Millennium Competence Center has an enormous knowledge bank with information about the problems and the millennium transition, about Ericsson's systems and about how outside suppliers are handling the problem. The Millennium Competence Center also manages a central testing facility where people are already living in the new millennium - having turned the clocks ahead.

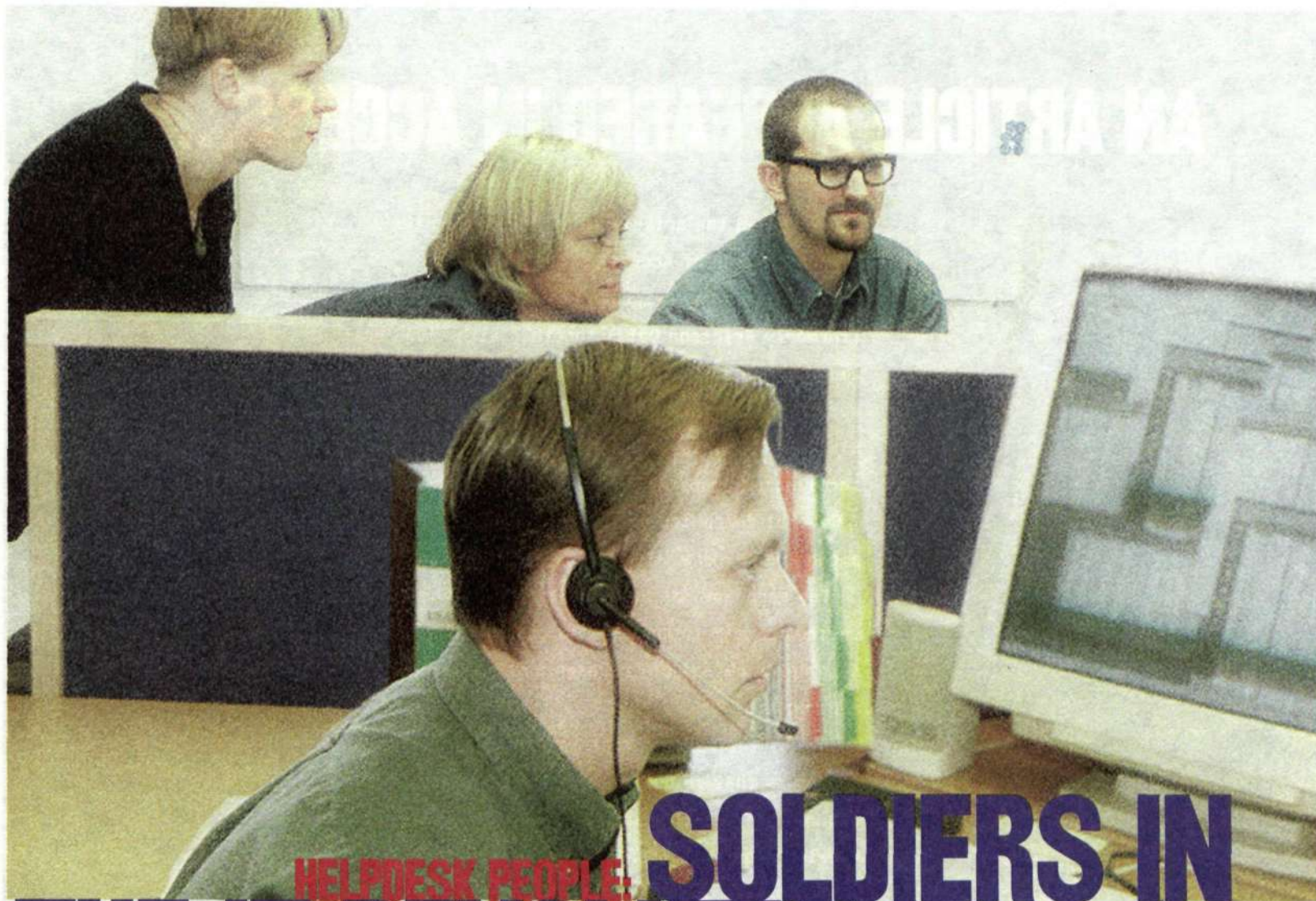
@To learn more about the Millennium Competence Center, contact:
mats.nystrom@edt.ericsson.se

@To communicate with the Millennium Support Center, write:
millennium.support.centre@ex1.edt.ericsson.se
ECN number: 850 6 2000

The advertisement features three overlapping magazine covers. The left cover is Spanish, titled 'NOTICIAS DE LM ERICSSON DATA AB'. The middle cover is Chinese, titled '爱立信DATA公司的信息'. The right cover is English, titled 'WEB ACCESS IT-MAGASINET FRÅN ERICSSON D'. The word 'ACCESS' is written in large, bold, red letters across the center of the covers. Below the covers, there is a black box with white text: '英文、西班牙文和中文版'. To the right of the covers, there is a list of icons and labels: 'NYHETER', 'ARTIKLAR', 'TIDIGARE', 'REDAKTION', 'SÖK', 'NEM', 'CYBERLAB EAST: DOMNA', 'LÄGG IN HÖGSTA VÄRDE I SILICON ALLEY'. The Ericsson logo is visible in the bottom right corner of the advertisement.

www.ericsson.com/accessmagazine/chinese

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HELPSDESK PEOPLE: SOLDIERS IN THE IT REVOLUTION

"If the helpdesk doesn't work, neither does IT," said Johnny Landgren, IT manager at Ericsson in Lund, southern Sweden.

That's why a decision has been made to raise the status of the helpdesk, or as Mr. Landgren puts it: "They should be heroes."

Mr. Landgren is IT manager at Ericsson Mobile Communications in Lund. In this capacity, he is responsible for the regional helpdesk provides support for all of Europe.

"Working on the helpdesk has been a form of punishment," Mr. Landgren said. "People have not liked it. This is totally wrong, when Ericsson's aim is to be an IT leader. The job of sitting in the server room and caressing the server should not have higher status."

MR. LANDGREN'S VISION, which is well on its way to being realized, is of an IT Support Center that is 100 percent proactive and in touch with users.

"A call to you as user might go as follows: 'Hi, this is the Support Center. Your hard disk will be full in a week.' or 'You have contacted us five times with questions about Excel. Don't you think it is time to take an Excel class?'"

The work being performed in Lund is related to another project - Global Helpdesk. Ultimately, IS/IT users at Ericsson worldwide will have just one channel for their questions. To start with, seven helpdesks are being merged into one in Europe. The Global Helpdesk will take long-term responsibility for the service and for making sure that all IS/IT services maintain quality and meet requirements.

"Ericsson is a global company and you should be able to call the helpdesk from any continent and get an answer at any time," Mr. Landgren asserted.

The goals at the helpdesk in Lund are clearly spelled out:

- Maximum 30 seconds waiting time
- 90 percent of the problems should be resolved on the phone or via the intranet
- People with wide-ranging IS/IT knowledge will be recruited

MR. LANDGREN is using Ericsson's intranet for reporting so anyone in the Group can see whether the goals of the helpdesk are being met. You can see in real time how the histograms change. At the time of our meeting, 85 percent of users were satisfied or very satisfied.

"This is a good number, considering that it was 71 percent last spring. We want it to reach 95 percent!"

The basis of the helpdesk is a helpdesk system that automatically conveys the necessary information. When a user calls, the system knows who is calling and what the caller's computer looks like, what problems it has previously experienced etc.

"IN CREATING THIS SYSTEM, we have enjoyed excellent cooperation with Ericsson Data," Mr. Landgren said. The helpdesk system will be based on a common worldwide standard, so that the work of the helpdesks can flow seamlessly across borders - and the customer won't even notice.

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AN ARTICLE APPEARED IN ACCESS...

Did you read the article on brainpower in the November issue of Access?

It reported how Ericsson Business Consulting (formerly Ericsson Data) together with "1998 Brain of the Year" Leif Edvinsson of the Skandia insurance company had developed the Cockpit Communicator and Stargate IT tools in order to measure and manage intellectual capital in companies.

Several companies outside the Ericsson Group were among the readers. Cap Gemini was one.

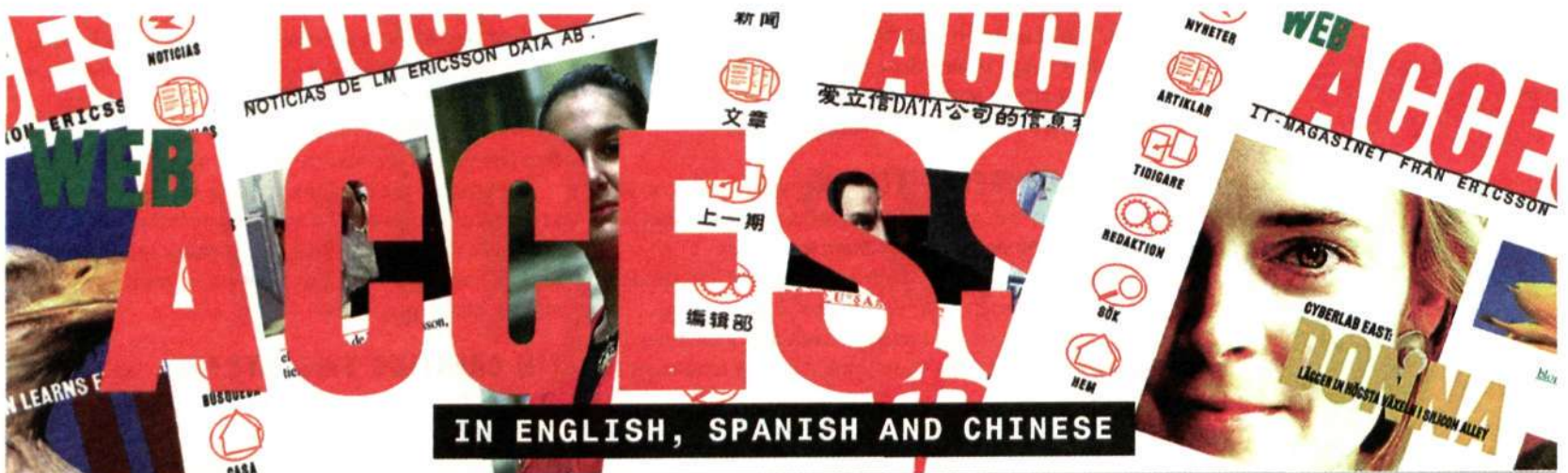
"The response has been positive. A number of new customers want to know how we can work together," said Peter Baladi of Ericsson DataBusiness Consulting and continued:

"One of the factors that make us interesting to others is that we have made a lot of progress in our own work on intellectual capital – the collective knowledge of individuals and organizations."

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peter.baladi@edt.ericsson.se

@ To read more:
<http://ericssondata.ericsson.se/b/projects/stargate>


... AND CUSTOMERS STARTED CALLING



IN ENGLISH, SPANISH AND CHINESE

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THE ERICSSON IT MAGAZINE

ERICSSON 

STANDARDIZED SOLUTIONS THAT CREATE A MORE EFFICIENT ERICSSON

The task of creating a standardized platform to make the work of Ericsson easier and more efficient, within the framework of the Ericsson Global Infrastructure Program, is underway at Ericsson Data (and at Ericsson IT Services as of January 1, 1999). The goal is to have employees work efficiently, in the same way and with the same tools throughout Ericsson – no matter where they are. The goal is to eliminate the need for support.

This goal will be achieved by working on three fronts:

The Ericsson Standard Office Environment (ESOE) standardizes workplaces, giving Ericsson a global desktop – systems and software that are alike all over Ericsson. These systems and programs are centrally distributed and updated via the Ericsson network. Employees don't have to worry about IT support. They can just keep working. Time required for support has already declined dramatically as ESOE has been launched.

The idea is that the Ericsson Standard Groupware Platform will provide all employees with the Outlook e-mail tool. Individual efficiency will increase thanks to the calendar management and planning tools that are included in Outlook.

"Later on, group efficiency will increase through virtual teams that use joint calendars and planning tools via networks," said Lars-Anders Rolfhamre of Ericsson Data/Ericsson IT Services.

Directory is a tool that allows standardization of contact information. With this tool, Ericsson will be able to keep track of how to reach all employees by name, department, room number, e-mail address, telephone number and mobile phone number. "Eventually it will help us locate conference rooms and our contact people at customer, partner and supplier companies," said Jan Grewin of Ericsson Data/Ericsson IT Services.

@ To learn more, contact:

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about Ericsson Standard Office Environment

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about Ericsson Standard Groupware Platform

jan.grewin@edt.ericsson.se
about Directory tool.

PROJECT LEADERSHIP VIA THE WEB

Project Leadership via the Web (PLW) is a tool that allows coordination, feedback and follow-up of projects. This tool facilitates communication between people who work on the same project, but are located in different parts of Ericsson. Until now, this has created problems because databases and systems have had difficulty communicating.

This new tool is part of the effort to make Ericsson's business processes and work flow more efficient – what's called Time-To-Customer and Time-To-Market.

"Project Leadership via the Web makes it easier to benefit from the lessons of previous projects and to communicate across several concurrent sub-projects," said Mathias Danielsson, "product owner" of the new tool.

The first version was developed by Ericsson Data's Web Solutions unit for Public Networks Customer Ser-

vices. The next version will be developed by the Swedish IT consulting company Information Highway AB.

"We have been working with the Ericsson Project Management Institute (EPMI), and are now working to launch PLW as a project management tool for all of Ericsson.

Mr. Danielsson emphasized that there are no expenses associated with the new tool, no licensing fees. Customer Services handles administration and support.

@ To learn more, contact:

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@ Project Leadership via the Web is available on the intranet:

<http://integration.ericsson.se/plw>

ERICSSON'S VIRTUAL OFFICE AS EASY AS AT WORK

Ericsson Virtual Office shatters physical boundaries, using wireless technology to connect mobile computer users with a company's local network and its standard systems and programs, such as Windows 95, Windows NT and Exchange. All you have to do is connect and log on; anywhere, anytime.

One server can handle many wireless users in different networks and connect them to different servers – simultaneously. The user can select which network to connect to.

Programs and systems work the same with a wireless connection as they do in a local network. You can use the same applications with a wireless connection as with a fixed one. And you use the same User ID and Password as you do in the fixed networks.

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THE EMPEROR HAS NO CLOTHES

Holding up a mirror to global companies is what Shelley Taylor & Associates does best.

"Many corporate Web sites effectively project the lack of strategic cohesion in an organization," said Shelley Taylor recently. The Web represents "a new level of transparency, which makes board rooms completely naked to the outside world."

From an investor point of view, such transparency is fabulous: with just a few clicks of a mouse, any investment group can gauge a company online and decide whether it will want to commit capital or not.

Shelley Taylor was a guest speaker at the Internet World Scandinavia conference last November. She discussed two of her reports, "Missing Links", and its follow-up, "Click here Commerce." Both reports outline the negative effects of building virtual spaces without taking branding and benchmarking practices into account.

"It has all to do with branding," Shelley Taylor remarked matter-of-factly. Without a clear strategic plan, the disparity between executive boards of companies and their Web teams is made obvious.

"YOU NOTICE WHEN KNOWLEDGE is not passed down effectively to the people actually developing the Web site. There's a huge gap between what the company is and what's being communicated to the outside world." Given the state of today's commercial

Web sites, important audiences like shareholders see a lack of strategic cohesion.

"And that will eventually translate into lower share-price premiums," Shelley Taylor affirmed.

"A Web team should include people with retail executive experience and expertise in marketing and merchandising. People who can translate this wisdom into the new medium.

"Understanding the full cycle of selling" focuses Web teams on what is most important for a company: the selling process of its products.

Customers don't want to "struggle too much to figure out how to buy things." A frustrated customer is a lost customer. The question of how easily a user can navigate a site is linked inextricably to customer satisfaction.

"SITE NAVIGATION provides the 'floor plan' of a store. Web sites are not just a linear, hierarchical experience, they're a browsing, sampling experience. Navigation is the glue that holds commercial sites together."

Shelley Taylor's findings echo what web gurus like Jakob Nielsen have been saying for years; not only do Web sites lack key navigation elements, most Web sites of today fail to communicate the essential in a company.

Shelley Taylor's question is: "Can your corporation afford not to have a corporate Web site where the customer and shareholder are not kings?"

@ To learn more, visit Shelley Taylor's Consulting Agency at: <http://www.infofarm.com>.