

# contact



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## Tough news in Q1 report

2-5



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Commercial  
release  
for MMS

10-11



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Network transmits  
heartrhythm

14-16

no. **8**  
May 2,  
2002

Ericsson takes over  
mobile network 7  
Joint center  
for deliveries 8-9  
Harmonizing  
the brand message 20  
AXD 301 - for the  
thousandth time 22-23



# Concentration of operations

Another reorganization has now taken place. A new business unit was born on May 1, when Multi-Service Networks merged with Mobile Systems. The name is BU Systems and it is managed by Bert Nordberg.

Johan Bergendahl assumes a key position in the new business unit. His first task will be to manage the integration process for the units. The new head of the Global Services Business Unit is Karl-Henrik Sundström, until now head of the Australia & New Zealand market unit.

The R&D activities in Multi-Service Networks and Mobile Systems will be moved to the Core Units.

AXE Classic, TDMA and PDC are product lines that are at the end of their product life cycles, whereby the need for new development has ceased. For this reason, they will be transferred to Global Services to secure a continued profitability.

The merger of the business units will lead to redundancies due to the synergies that will arise. The lay-offs that will be made are a further step in Ericsson's efficiency efforts. The main objective of the changes is to enable Ericsson to improve its service to customers, while also creating the strongest and most competitive solution for the next generation of network solutions. This is a reorganization and change process that requires a high level of flexibility from the employees and tries people's patience. *Contact* questioned Per-Arne Sandström to receive an explanation as to why the management finds this action necessary.

**Why have you announced this in connection with a financial report – is it an act of panic to satisfy the financial markets?**

"No, we are responding to the demands of the market. And in this context I want to stress that this is an aggressive move to retain our position as the world leader in our business – not an act of panic. This is a change in response to the demands in the market. Many of our major customers look for integrated wireline and wireless solutions.

"Our customers are mainly interested in optimization and maintenance in regard to mature product lines. This means that we will shift focus from our customers' new investments to their operating expenses by providing them with a profitable service offerings. At the same time the merger of the BUs makes it possible for Ericsson to further push down costs."

**Do you think that the organization has the energy and motivation to go through another organizational change?**

"I can see that this is tough for many people. We conducted a major reorganization six months ago. The organization has also been working hard with the Efficiency Program for the past year. I realize this is

difficult for many of our managers and employees. However, we really have no other choice than to continuously review and improve our operations."

**Does this announcement change Ericsson's strategies and objectives?**

"No, we always work with our customers' needs in mind. This step is in response to that, and shows the trend towards the importance of operational expenses service offerings. Over time this means that we will have to build further competence in the service business."

**Is Ericsson's current organization a failure?**

"No, most people agree about the logic that exists in the current organization. However, we have proved to be ineffective at communicating roles and areas of responsibility.

"By implementing this change, we will achieve synergies and further clarify areas of responsibility within the organization by transferring all research and development to the core units."

**Is this a merger of two BUs on equal terms?**

"Yes, this is a merger of two important businesses for Ericsson. We see how our customers increasingly ask for our ability to handle integrated fixed and mobile solutions. The Engine concept, where we migrate our 170 million installed fixed lines of circuit switching into the IP world, is another strength out of which our entire system business will gain strong leverage."

**Why is Bert Nordberg being appointed head of the new BU?**

"Bert Nordberg is the right person for the difficult times in which we find ourselves. His management ability and experience will be required in the merger of the two business units. He has the capacity to prioritize efficiency and profitability. In the current situation, when we are forming a new BU, we need Bert's capacity and management talents. In these difficult times we are fortunate to have Bert Nordberg with his management qualities and the track record needed to integrate the two organizations with efficiency and profitability in focus."

**Why not Einar Lindquist?**

"Einar has decided to leave the company. It is his decision and it emerged while the plans for the new Business Unit were formed."

**Who will be part of your Management Team?**

"This announcement doesn't mean a substantial change. Bert Nordberg is already a member of the team and Karl-Henrik Sundström will join as soon as he is installed here in Stockholm."

**What will happen now?**

"The daily operations in the Business Units will continue as normal until further notice. Meanwhile we have to anchor our new ways of working with customers and suppliers, while reviewing our resources and matching them with our needs."

SARA MORGE

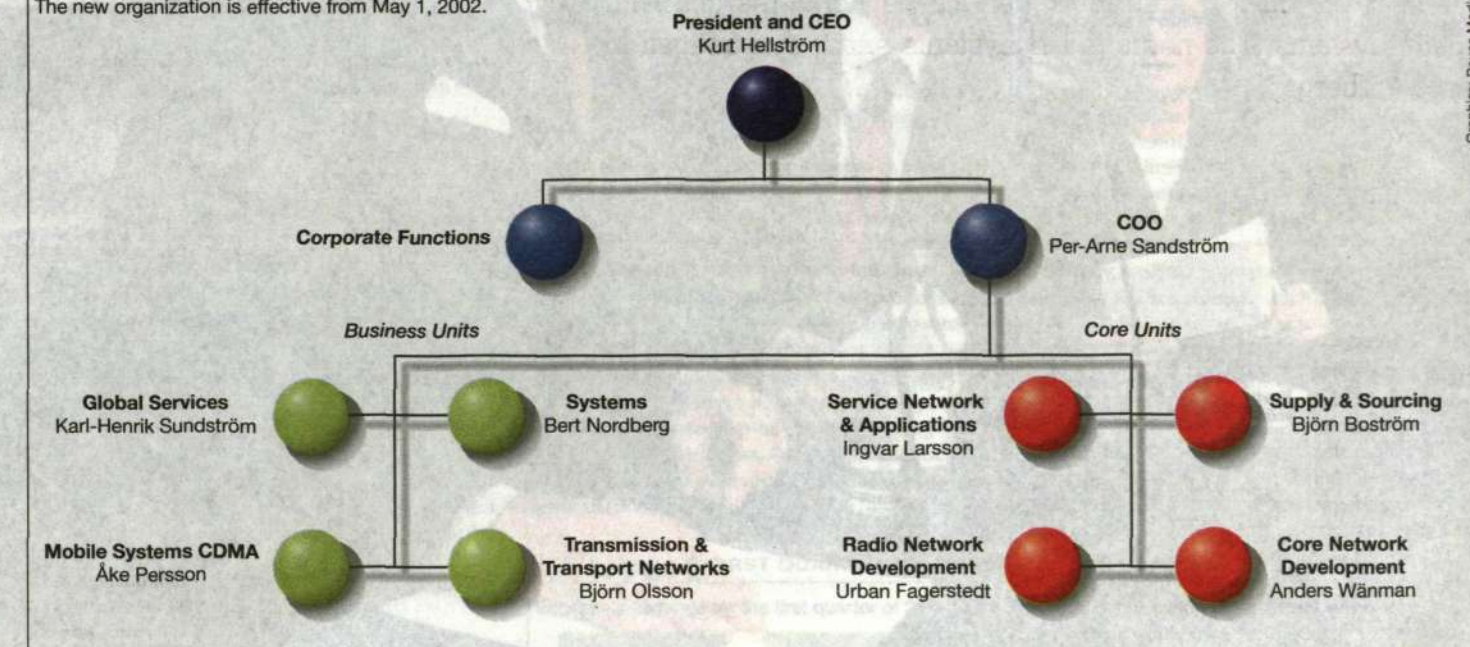
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PER ZETTERQUIST

# when two become one

## THE NEW BU/CU ERICSSON ORGANIZATION

The new organization is effective from May 1, 2002.



## Bert Nordberg sees benefits of rapid merger

The merger of the two business units will be completed quickly. Bert Nordberg, head of the new business unit, expects the integration efforts to be fully completed before midsummer.

"During my twenty years as a manager, I have definitely learned the importance of rapid and efficient implementation," he says.

Bert Nordberg believes that the merger was necessary and that it will generate major benefits to both the customers and Ericsson.

"As I see it, the foremost gain from the merger is that we will have a cross-fertilization of our various competencies. We will also be able to make our organization more efficient and reduce administrative costs."

Bert Nordberg also emphasizes the importance of maintaining confidence in the future – understanding that the down turn in telecom does not mean that the industry has collapsed. Instead, he believes that it is more the case that the telecom industry has matured and that Ericsson must adapt its operations to a mature market.

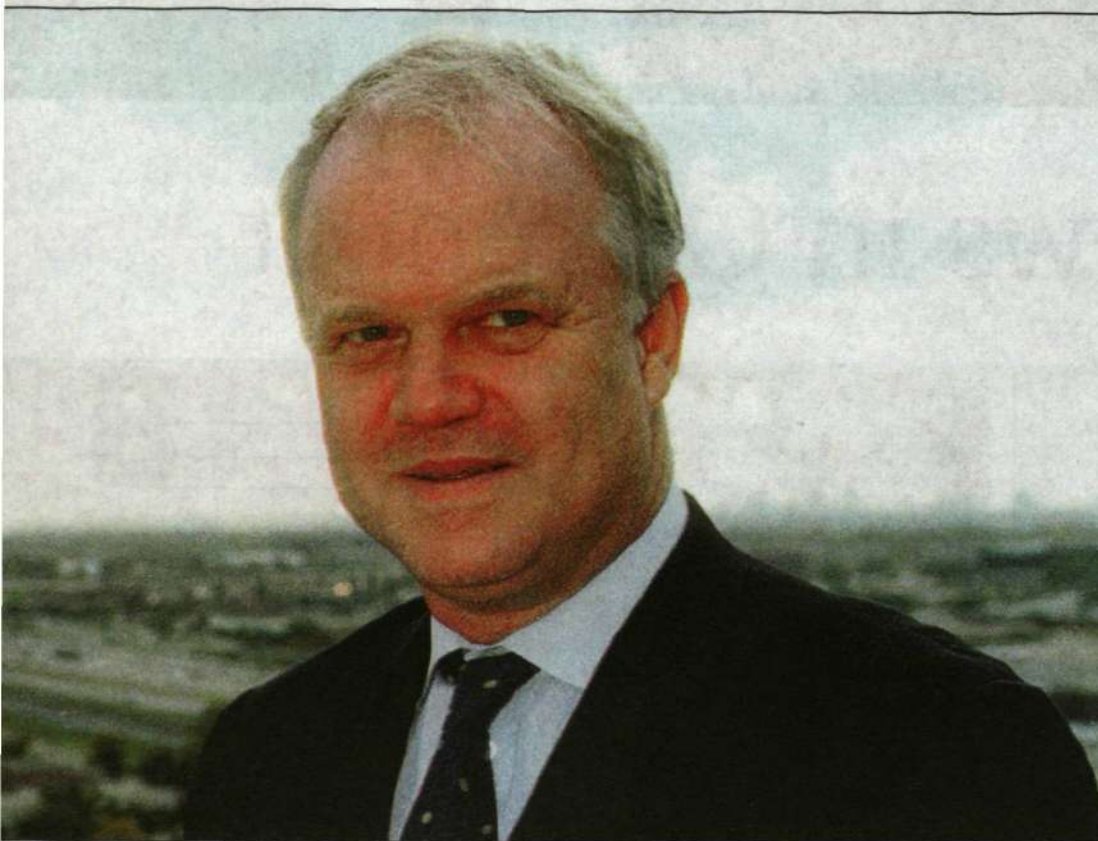
"We have fantastic strength in our leading market position and we must learn to use it better. It is of the utmost importance that we assume a strong position in relation to our customers."

"We must accept that times are difficult. It is a matter of adapting costs and putting all our energy into our growth areas. I have complete confidence in my employees in the process of reversing the downturn and restoring systems to profitability."

SARA MORGE



Bert Nordberg emphasizes the importance of maintaining confidence in the future despite the downturn in the industry.



Per-Arne Sandström, Ericsson's COO, does not consider the new merger as a result of the interim report but rather as a proactive measure.

PHOTO: ALEXANDER FARNSWORTH





Ericsson's Vice President for External Relations Pia Gideon, President Kurt Hellström and newly appointed Chairman of the Board Michael Treschow confirmed an anticipated loss when Ericsson presented its first quarter interim report for 2002.

PHOTO: LEIF RUNE JANSSON/SCANPIX

# More tough challenges ahead for Ericsson

It is not yet possible to say when the market will make a turnaround. Difficult economic times will continue. This is the most important conclusion to be drawn from the first quarter interim report.

Ericsson still faces several difficult challenges this year. As expected, the company reported a significant loss for the first quarter. What is worse, however, is the fact that the market is not getting close to the turnaround that had been hoped for. Instead, Ericsson now anticipates that the market will decline by more than 10 percent this year.

"The situation we find ourselves in is the same throughout the entire industry. Both operators and vendors are currently struggling, and we see that there are going to be changes when it comes to which of the players will survive. In Europe, operators are struggling to manage their debts following the 3G auctions. You could say that European operators are, in effect, being taxed at around USD 120 billion. While they are doing good business, their debt burdens are such that they

cannot afford to make new investments," says Ericsson President and CEO Kurt Hellström.

The problems being experienced by operators are rubbing off on suppliers and, as a market leader, Ericsson has been especially hard hit. Management has therefore decided to take several important measures. One is a company reorganization effective May 1 (see interview with Per-Arne Sandström on page 2), another is additional savings with cost reductions as a consequence. A third measure is a new rights offering that will add approximately USD 3 billion to the company's coffers (see adjacent article).

Cost reductions this year will result in savings of SEK 10 billion and affect 10,000 employees, evenly divided between Sweden and other countries. Of those, 3,000 have already left the company this year. Taken together, these measures will result in Ericsson having around 75,000 employees by the end of this year.

It is currently not possible to say in which areas cut-backs will be made, but it is clear that the coordination gains that will be realized with the formation of the new Systems Business Unit will account for a significant portion.

If no discernable improvements occur, further cost reductions of the same magnitude will be made next

year, which would result in a total of 65,000 Ericsson employees by the end of 2003.

No profits will be seen this year. Earlier, an operating margin of at least five percent had been anticipated, but that goal has now been eliminated.

"We're going to have a loss this year. On the other hand, we believe that we will be back on the plus side again sometime next year," says Executive Vice President and Chief Financial Officer Sten Fornell.

Ericsson is not offering any forecasts for the future, one of the reasons being restrictions in conjunction with the proposed rights offering, so as not to affect this important process.

The interim report does offer some positive signs. One of those is the fact that Ericsson has increased its market share for GSM systems. Orders received have also increased, albeit from a very low level, but that is nevertheless a sign that the situation has not grown worse. In addition, Sony Ericsson broke even and even reported a small profit.

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# Continued losses but increased sales

Order bookings were down 40 percent during the first quarter of 2002 compared with the corresponding period in 2001. However, orders increased by 10 percent compared with the fourth quarter of 2001. The adjusted loss before tax was SEK 5.4 billion, compared with a loss of SEK 4.9 billion for the first quarter one year ago.

Overall, orders during the period January–March 2002 totaled SEK 41.9 billion. That compares with SEK 69.3 billion during the same period in 2001. Sales during the first quarter of this year totaled SEK 37.0 billion, a 26 percent decline from sales of SEK 49.8 billion during the first quarter in 2001.

## Downturn slows

While orders at the Mobile Systems business unit declined compared with the year-earlier quarter, they increased 11 percent compared with the fourth quarter of 2001.

According to market analysts, this is an indication that the industry downturn is slowing. The US, China and Sweden, as well as several emerging markets, such as Saudi Arabia and India, showed improvements over the corresponding period last year. On the other hand, Western Europe, Japan and most of Latin America remained weak.

The adjusted operating loss for Systems – that is both

mobile and fixed networks – was SEK 2.9 billion (2001, income: 2.0 billion), resulting in an operating margin of minus 9 percent (+4 percent).

The change is mainly attributable to lower sales and excess capacity costs.

## Services expand

This is attributable particularly to unfavorable developments within multi-service networks and significantly lower demand for traditional circuit-switching equipment, especially in Latin America.

The Engine solution for upgrading circuit-switching networks to next generation packet-switching capability continued to develop favorably, including breakthrough contracts in China, Germany and Africa. However, it was not sufficient to offset the downturn in conventional fixed-line switches.

Ericsson's services business continues to grow and now accounts for 24 percent of all sales. About half of those sales were for systems integration, network operations outsourcing and advisory services – expanding areas of operation which, in combination, grew by more than 25 percent.

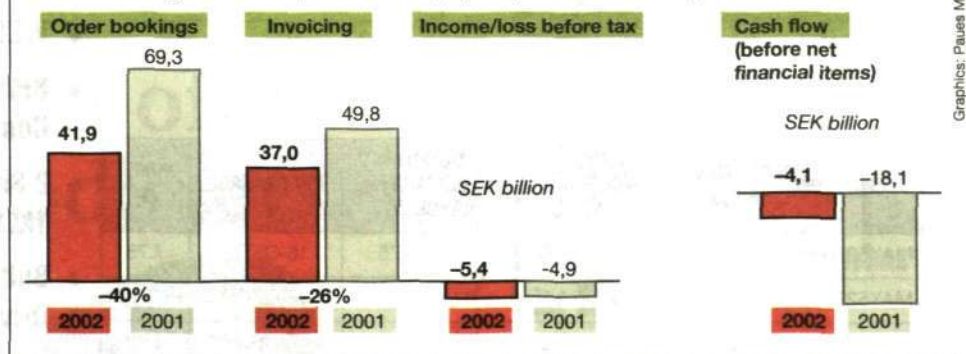
Sony Ericsson, the new joint venture mobile phone company, is off to a good start, reporting a break-even result for the first quarter, which is earlier than anticipated. This is due, in part, to successful sales of phones with color screens (the T68 and the C1002S in Japan) and the successful restructuring of phone operations.

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## FIRST QUARTER 2002 (Q1)

Ericsson's earnings for the first quarter of 2002 (Q1) compared with the first quarter in 2001.



# Share issue to yield SEK 30 billion

A strong financial basis is required in order for Ericsson to retain and strengthen its leading market position. Through a proposed rights offering, Ericsson's Board of Directors intends to raise approximately SEK 30 billion. The board has called an Extraordinary General Meeting of shareholders on June 6. The rights offering is expected to be conducted before the end of the third quarter.

"Despite the turbulence that is affecting the current telecom market, we are convinced that our mobile systems position has never been stronger. Ericsson is a world leader when it comes to 2G, 2.5G and 3G. In order to capitalize on our strong position, we also need to have a strong financial position."



Michael Treschow

This is how Michael Treschow, Ericsson's Chairman, explained the proposed rights offering at a press conference that was held in conjunction with the announcement of the first quarter results.

Ericsson is hoping that its leading market position, combined with internal cost reductions, will result in a further strengthening of the company's strategic position until operators start investing again.

An injection of SEK 30 billion would provide the company with greater flexibility should the market

downturn prove to be longer or deeper than anticipated.

Details regarding the proposed rights offering will be announced at a later date.

The proposal is that both series A and series B shares will carry rights to subscribe for new series B shares.

Industrivärden and Investor, who together hold approximately 7 percent of the capital and approximately 67 percent of the votes in Ericsson, have expressed their full support for the proposed rights offering.

Until the end of the subscription period, special care must be taken regarding information issued by Ericsson. This is similar to the silent period that exists prior to each year-end closing.

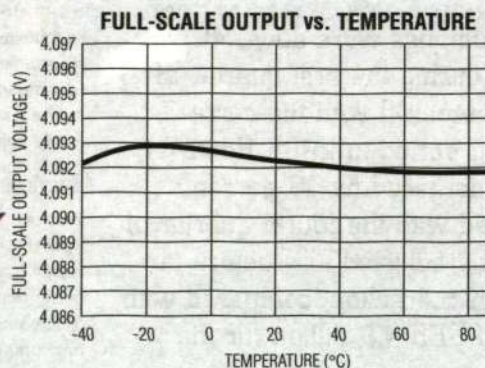
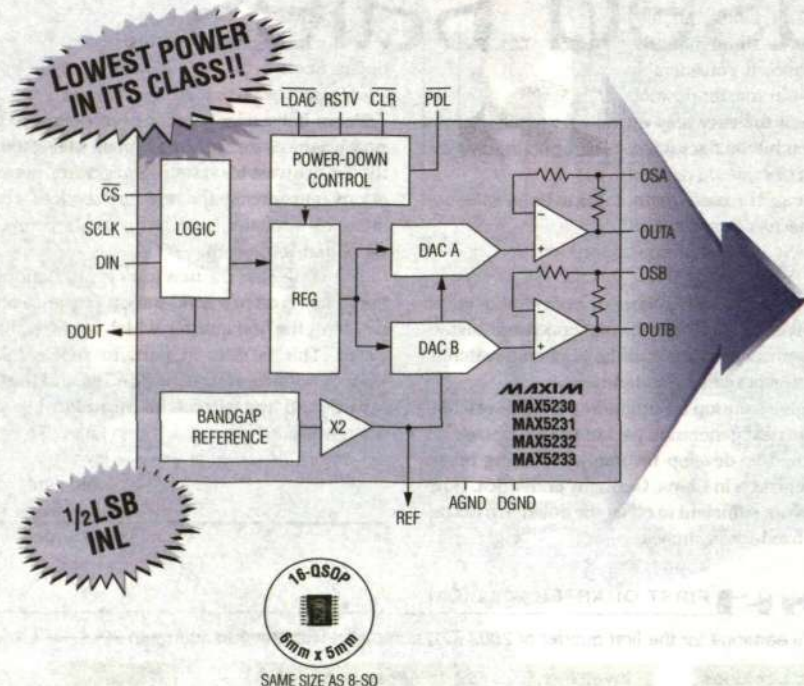
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# Major agreement with Dutch Telfort

Dutch operator Telfort has assigned Ericsson to assume operation of the company's wireless network. The agreement is the largest operation and support contract ever between a telecom supplier and an operator.

Ericsson will take over day-to-day network operation from Telfort for GSM, GPRS and UMTS (3G). As part of the transfer, Ericsson will also assume responsibility for the planning, design and servicing of the network. Telfort is still the owner of the network, however, and retains full control of all associated rights. Both parties describe the agreement as "a natural step for each company toward the telecom industry of the future."

"This is a new step in our strategy of focusing more on our business operations. It will be easier to give our customer the service they want when we are focusing less on managing difficult, complex technology. The network is not part of our core operations; on the other hand, it is at the core of our business. Moreover, this is a measure that will enable us

to reduce our costs," says Ton aan de Stegge, president of Telfort.

"This is an extremely significant agreement, not only for Ericsson Netherlands but also for our business throughout the Benelux region. It considerably strengthens our market position and enables us to better keep up with the continuous fluctuation of demand for products and services," says Jef Keustermans, head of Ericsson's Benelux market unit (the Netherlands, Belgium and Luxembourg).

Ericsson currently has about 30 similar contracts with other operators worldwide – none as extensive as the one with Telfort. To date, the agreement between Ericsson and Telfort is still a "Declaration of Intent." The final contract is to be signed in July 2002.



Jef Keustermans

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## Telfort

The Telfort company of the Netherlands currently has 1.3 million subscribers attached to its wireless network. In 2001, it became the first GPRS operator in the Netherlands. Telfort is a wholly

owned subsidiary of the listed telecom group, mm02, which also includes the UK-based BT Cellnet, German company VIA Interkom, the Irish Digifone and Manx Telecom on the Isle of Man.

# New Bluetooth offer to mobile producers

Ericsson Technology Licensing in Lund has launched a total concept aimed at mobile phone producers who are interested in buying Bluetooth.

The concept is being marketed under the name Bluetooth Mobile Phone Suite and involves the customer buying a complete Bluetooth solution from Ericsson Technology Licensing.

"The customer receives help with everything that is required to integrate Bluetooth with their mobile phones. We take care of everything from designing the base band to helping the customer with the tests that are required so that the final result can be called Bluetooth," says Johan Åkesson, marketing manager at Ericsson Technology Licensing.

He believes that the global market for Bluetooth is now demanding total solutions instead of partial solutions.

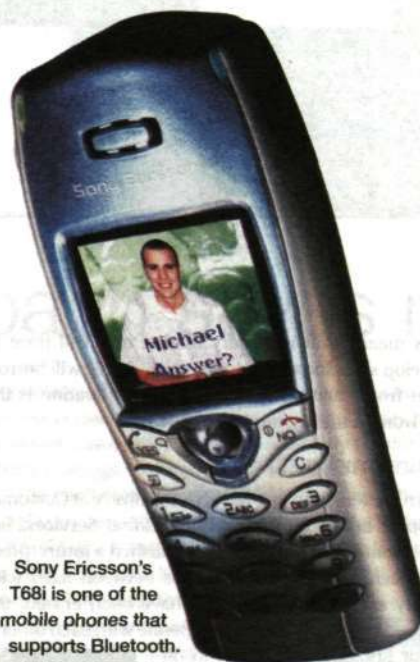
"Bluetooth is entering the mass-production phase. This year, other major companies, including IBM and Microsoft, have launched consumer products that contain Bluetooth.

"However, if mass production is to be really profitable for the companies, we must be able to offer them solutions that will help them keep production costs down."

According to Johan Åkesson, the price per Bluetooth unit for customers will be several times lower



Johan Åkesson



Sony Ericsson's T68i is one of the mobile phones that supports Bluetooth.

if they opt for the Bluetooth Mobile Phone Suite, compared with buying each part separately."

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## Engine Integral deal with 9Telecom

Ericsson has signed a three-year Engine Integral frame agreement with 9Telecom that includes telephony servers, media gateways and services. Implementation is already under way in the south of France.

Critical to clinching the deal was Engine Integral's ability to operate with the existing AXE network and to offer the possibility to migrate existing AXE:s into the Telephony Server.

Joint technical work groups were also successfully set up between Ericsson and 9Telecom to define the network architecture for the first phase of the project – Engine South – and to tackle all related technical issues.

9Telecom was created in 1998 and is an affiliate of Telecom Italia. The company has been an Ericsson IN and AXE customer for three years. 9Telecom serves the residential market with fixed telephony services and is one of three new operators in this market in France.

## AXE 810 launched with first operator

On the weekend of April 12–15, American telco Cingular West became the first operator to start using the new Ericsson AXE 810 switch. It took place in the heartland of technology, in Cingular's GSM 1900 network in California and Nevada. The new wireless switch was connected up to existing BSCs, which are control units for a number of radio base stations. The entire operation start went well, and heavy traffic got under way on Monday without a hitch.

So after two years of development, the new AXE generation is now up and running. The special characteristics of the AXE 810 are that it is very compact and energy-efficient, a very powerful group selector, programmable commercial processors and an ATM interface that is compatible with 3G.

In the pipeline is the Chinese city of Wuxi, north of Shanghai, which has about five million inhabitants. Wuxi will soon be connected up to mobile switches such as BSCs and HLR (Home Location Register) nodes, which are based on the AXE 810 switch.

## IT equipment inventory via Harvest II

Harvest was launched in April 2000 with the goal of improving support for computer users and simultaneously reducing Ericsson's IT-related expenses. It included outsourcing the operation of local helpdesks. In Sweden, the project has developed into Harvest II, according to which Compaq purchases the IT equipment and later leases it back to Ericsson. An automatic inventory is being conducted to ensure that Ericsson obtains the correct price for the hardware. In order for this process to succeed, all employees must turn off their computers when they go home at the end of the day. Employees who register their computers themselves via the intranet have a chance to win cinema tickets.

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## New GPRS order to Slovakia

The largest Slovakian wireless operator, Euro-Tel Bratislava, has selected Ericsson Slovakia as supplier of its GPRS system. Delivery of the equipment started as early as in November 2001, and the two companies are now cooperating on testing the equipment's compatibility with Mobile Internet applications.

According to Marián Bezák, key account manager for EuroTel, the operator is most interested in applications for companies. Ericsson has previously delivered GSM equipment to EuroTel.



# Joint centers provide better service

To increase flexibility and reduce costs for software deliveries and support, an even more global Ericsson has been created. The business units will now cooperate in six regional delivery and support centers.

The organization, from January this year, will include all five business units, with Mobile Systems, Multi-Service Networks and Global Services as the main drivers. Approximately 2,500 employees will be affected by the change.

In the past, Mobile Systems and Multi-Service Networks operated what were largely their own support centers for software deliveries and support around the world. Cooperation between fixed and mobile operations was inadequate. Global Services conducted some cooperation with both business units, however.

## Need for greater efficiency

The mobile and fixed sectors previously used different forms of support, processes and work tools. With the establishment of this organization, work will now be conducted in accordance with common processes and tools, which will result in reduced costs.

"Multi-Service Networks has been forced to increase the efficiency of its operations, and the business unit has developed experience that will benefit work in the mobile sector," explains Lotti Steenbuch-Kvisterud, manager of Product and Solution Support at Mobile Systems.



Lotti Steenbuch-Kvisterud

She sees a major advantage in the new structure, based partly on the opportunities for greater flexibility that will be created.

"When 3G starts to gain real momentum, we will be able to receive help from employees that normally work with fixed telephony. Conversely, if Engine starts to achieve more rapid growth, we will be able to help there," she says.

Dick Frid, who recently changed jobs but was previously chief of integrations within Solutions and Supply at Multi-Service Networks, also see many advantages with the new organization.

"In addition to lower fixed costs, it will now be possible to develop skills more naturally at the different regional centers. By having one center involved in the final phase of development work on a new product, it will also be able to develop the skills and expertise necessary to support the product.



Dick Frid

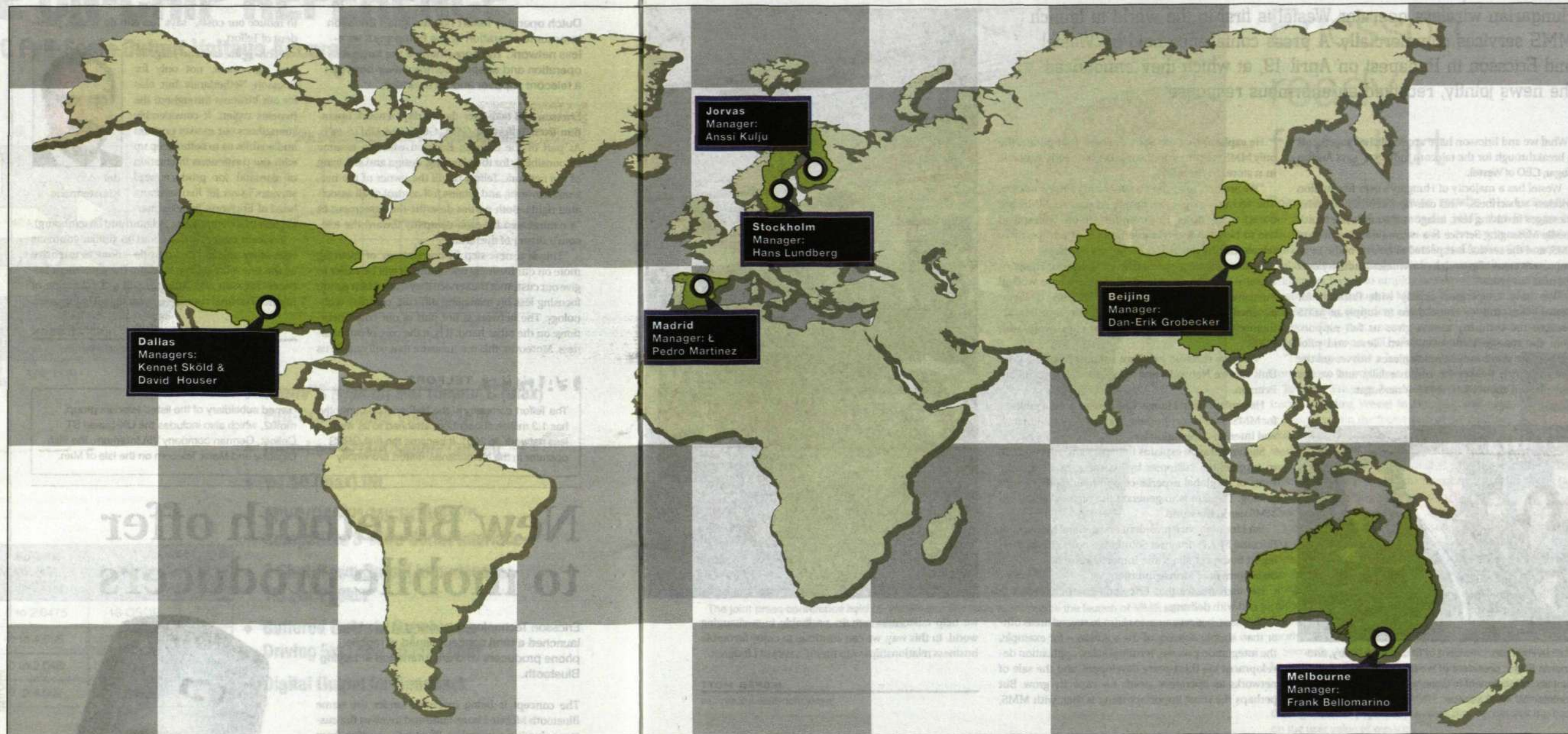


ILLUSTRATION: PAUES MEDIA

This means that not every market unit will have to develop skills for all products, instead they will borrow skills from each other as needed. Cooperation is the key word in the organization," he says.

## Future-proof method

Björn Wedén, manager of Service Delivery at Customer Support and Education within Global Services, believes that Ericsson has now established a future-proof approach. When the boundaries between fixed telephony and mobile telephony have been erased, the business units will have to cooperate with each other.

For Ericsson companies in different parts of the world, this organization will provide a more efficient work method, since their personnel will have to rely on the services of only one support center, instead of several, as in the past.

"The employees at our various



Björn Wedén

centers will now be afforded opportunities to broaden their competence through practical applications, and the need for training courses, accordingly, will be reduced," explains Björn Wedén.

Software deliveries account for about 70 percent of activities at the regional centers, with software support accounting for about 30 percent. Most of the support activities consist of second-line support, or internal support within Ericsson. First-line support, involving direct customer support activities, is managed primarily from Ericsson's local companies in different parts of the world.

At a meeting in Kista a few weeks ago, Lotti Steenbuch-Kvisterud, Dick Frid and Björn Wedén and the managers of the six regional centers formulated objectives for their operations. Similar meetings will be held every other month, supplemented by conference calls every other week.

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## Focused approach saves money

Ericsson in Melbourne, Australia, provides an excellent base for the new RSSC organization. Frank Bellomarino, head of the regional center there, says that cooperation between Mobile Systems, Multi-Service Networks and Global Services, had already begun before the implementation of the organization from January this year.

"The three business units are already represented here through their previously separate supply and support centers. We have been working towards this form of organization for some time now. With the new RSSC structure, the benefits will be more numerous than we had earlier thought possible.

"The common goals for RSSC involve a more focused approach throughout the organization, since everyone applies



Frank Bellomarino

the same guiding principles in their work. Communications across the old business unit boundaries have increased substantially and this is already resulting in distinct savings," he says, and concludes:

"The challenge is to consolidate all of the different supply processes that we use, enabling further savings."

Anssi Kulju is head of the regional center in Jorvas, Finland. Like Frank Bellomarino, he sees many advantages with this organization.

"I see very significant opportunities for streamlining our approach. The challenge now is to utilize the advantages of our two worlds, fixed and mobile telephony," says Anssi Kulju.

With the selection of the Jorvas delivery and support center in one of Ericsson's six regional centers, its areas of responsibility will be



Anssi Kulju

broadened through cooperation with the Ericsson centers in the UK and Germany that handle first-line support, comprising software deliveries and support for major customers such as Vodafone, BT Cellnet, One2One in the UK and Vodafone D2 in Germany.

"We were recently visited by the managers of the Ericsson support centers in the UK and Germany. We formulated guidelines for the budget and planned resources. Our goal, through a program of close cooperation, is to continue to provide high-quality support for Ericsson's major customers in the UK and Germany," says Anssi Kulju.

"In addition to support, we may also be asked to participate in other activities, such as, First Office Applications (FOA), at customer sites. It's extremely important to maintain the skills and expertise levels of our employees," he adds.

GUNILLA TAMM



# Hungary first in the

Hungarian wireless operator Westel is first in the world to launch MMS services commercially. A press conference held by Westel and Ericsson in Budapest on April 19, at which they announced the news jointly, received an enormous response.

"What we and Ericsson have accomplished together is a breakthrough for the telecom industry," says Andras Sugar, CEO of Westel.

Westel has a majority of Hungary's over five million wireless subscribers, who can now send and receive messages involving text, image and sound. The Multimedia Messaging Service is a natural development of SMS, and the service is expected to be one of the most important areas of growth in the wireless industry over the next few years.

"We have cooperated closely with Ericsson for twelve years, and we chose them to supply of MMS because the company always gives us full support, from the management level down. Tests and pilot projects are under way in many places, but we are the first to launch the service commercially, and we are very pleased about that," says Andras Sugar.

He explains that the Sony Ericsson T68i phone, the only MMS telephone in the market, is already available in 41 stores in Hungary.

"We are now focusing on generating a mass market. The technology is very simple to use, so MMS will attract many users. However, for a more widespread use to become reality, more models of mid-segment telephones are needed," says Andras Sugar.

Staffan Pehrson, president of Ericsson Hungary, explains that the employees in Hungary have worked intensively since September 2001, when the deal was clinched. Ericsson and the customer together set themselves the goal of being the first in the world with MMS.

"We have received excellent support from the Core Unit Service Networks and Applications," says Staffan Pehrson.

He explains that Hungary is ideal as a pilot country for MMS. SMS is very popular, mobile penetration high and Internet penetration low.

Staffan Pehrson explains that Ericsson will continue to support the customer by assisting them with the fruits of its global experience and helping them with pricing. The aim is to generate the highest GPRS and MMS use in the world.

Jan Lindgren, vice president and general manager of Ericsson Mobile Internet Solutions, spoke at the meeting in Budapest about the importance of MMS in the development of Mobile Internet.

He also stresses that Ericsson's commitments will not end with delivery.

"Ericsson has revenues to claim in several areas other than simply delivery of the solution – for example, the integration process, terminal sales, application development via third-party developers, and the sale of networks as operators' needs for capacity grow. But perhaps the most important thing is that, with MMS,



The joint press conference held by Westel and Ericsson to announce the launch of MMS attracted considerable attention from the media.

PHOTO: EDINA LISZTES

we help customers remain profitable in a changing world. In this way, we can continue to enjoy favorable business relationships with them," says Jan Lindgren.

JESPER MOTT

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## Potentially huge operator revenue from

MMS, Multimedia Messaging Service, is on its way to being launched in the market.

"MMS has everything it needs to succeed, but operators must have a well-conceived business plan in place," says Lars Ljunggren, in charge of the introduction of Ericsson's MMS solution.

SMS was a success, and MMS will build on that success. Sony Ericsson was the first to launch phones that support MMS (the T68i and the P800), and they have cameras that can be hooked up to a cellphone or are built into a phone (as in the P800). Ericsson also offers a complete MMS solution for operators.

"During the year, we will see the first commercial launches and several mobile phones that support MMS, but things won't really pick up until next year," says Lars Ljunggren. "For the operators, however, the most important thing is to have a well-planned strategy for the launch – which users they are targeting, which services are most suitable, and how they plan to charge for the services."

MMS can be divided into two groups: person-to-person communication and sending information from a content supplier to a person. In the latter case, the information might be news, weather reports, stock market data, as well as music, advertising, and so on, sent from a server to a receiver.

The first MMS users will probably have large contact networks and be interested in communicating and being seen.

They will in turn influence others who may be interested in trying new things. Applications might be music, games and images, personal services and information.

"MMS offers people a unique possibility of quickly sharing their experience and their feelings," says Lars Ljunggren. "Consequently, we are strong believers in the service whereby a camera built into a mobile phone sends snapshots or more personal greeting cards. This service could also become commercially significant – for example, for real estate brokers who could take

photographs of a house and quickly pass them on to prospective purchasers."

Concerning transmitted information from content suppliers, Ericsson believes in the potential of entertainment such as music (the week's hit single), ring signals or short sound clips. Users could also subscribe to certain information, indicating in their user profile that at a certain time they would like the latest news or the latest events in a certain area. Such services could also be connected to positioning technology which makes it possible to provide local information on traffic, weather, et cetera.

A critical question for MMS is how the service may generate revenue for operators and content suppliers. This is not about selling MMS technology but rather the services made possible by the technology. SMS has shown that people are willing to pay for certain services. A likely payment model would be that users pay for service provided rather than for a number of bytes. The exact price level is impossible to say –

# world with MMS

## Ericsson ready for start

**Energetic marketing gives results.** This is clear from the 20 commercial contracts for MMS that Ericsson has obtained to date. Niklas Rosvall, who works with strategic marketing at the Service Networks and Applications core unit, explains that the strength lies in the comprehensive solution.

Ericsson began to employ customer interviews and early-stage demonstrations of MMS as early as 2000. More deliberate marketing, including a live demonstration at CeBIT, began in 2001. This year, many operators will be choosing their supplier, and most will be launching MMS in 2003.

"This shows what a long journey it has been from start to launch," says Niklas Rosvall.

To date, Ericsson has 20 commercial contracts, including Westel in Hungary and nine operators within the framework of the contract with Vodafone. There are also 80 test systems installed at various locations throughout the world. Half of these are installed at Ericsson Mobility World and half at the premises of operators such as China Mobile, Sunrise and Telefonica.

Ericsson's comprehensive solution is the company's strength in relation to the competition. The factors that determine whether the operator can succeed with MMS services can be considered as three points: First, there is the question of whether customers will have access to telephones and other terminals on which they can send and receive MMS. This includes reverse compatibility – that older phones can receive and display simplified versions of the messages.

Secondly, MMS has to be easy to use: users should never have to study the technology.

Thirdly, its use must be stimulated in several ways – for example, through cooperation with content creators, or through flexible payment schemes that permit pricing based on the user value of services.

"We supply operators with all of these success factors, and our comprehensive solution has definitely helped us become the leading MMS supplier," says Niklas Rosvall.

As to what regards payment solutions for MMS, Ericsson's customers can charge by the kilobyte, by message sent or received, or by a fixed monthly rate. Another strength in Ericsson's offering is the option of using MMS with prepaid subscriptions.

"Young people with large social networks often use prepaid subscriptions, and they will be a front-line troupe in the use of MMS. Ericsson is the first to offer the possibility of secure prepaid subscriptions for MMS. Both the operator and the user benefit from the fact that we offer real-time payment – that is, no messages are sent or received unless the card is charged with sufficient funds. We consider all the details, and operators are highly appreciative of this fact."

MMS can be launched over existing GPRS networks. Niklas Rosvall calls this equipment an accessory to GPRS. As MMS traffic grows, so does demand for more network capacity. However, launching the service is easy.

"Being able to launch first, see how things work out and then increase network capacity appeals to the operator," says Niklas Rosvall.



Niklas Rosvall

## games and images

however, a reasonable guess would be five times the price of sending one SMS person to person, since MMS makes the content more attractive by adding images and sound.

"It is extremely important that the operators decide on a business model and a method of distributing revenue among all parties involved," says Lars Ljunggren. "For person-to-person, essentially the entire revenue goes to the operator, whereas for content-to-person, there are many conceivable ways in which the funds could be distributed. For example, content suppliers might offer prerelease listening to new music at a certain price, which customers would then recover as a discount when they purchased the recording in a store."

Another key issue for MMS is to ensure that users can trust that MMS messages are really received by their addressee. In this regard, MMS suppliers are working intensively, within the

framework of an "Interoperability Forum," to harmonize the technology so that all users can communicate with each other regardless of cellphone and operator.

This effort also ensures that MMS adapts itself to the capacity of the receiver's phone. This means that a user with a cellphone that can receive SMS can use the Internet or WAP to view messages sent as MMS.

Finally, Lars Ljunggren sees a future scenario in which MMS will work in combination with Multimedia-On-Demand – streaming multimedia to cellphones. In this scenario, an MMS could be sent as advertising for, say, a lengthy music video or front-page article that the user wants to stream down to his or her cellphone from a content supplier.

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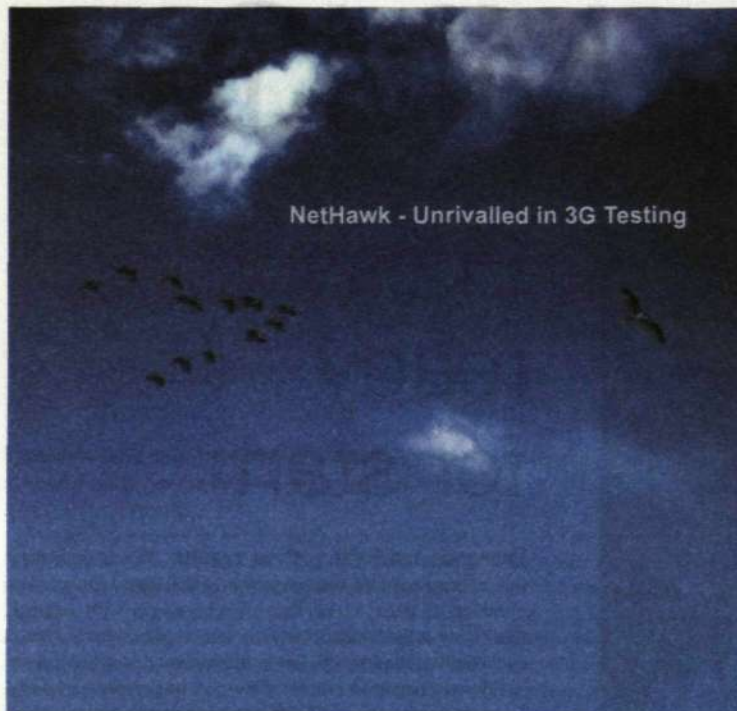
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According to Roger Entner, the operator has to give customers a warm and cozy feeling. This makes them more likely to resist competitors' siren calls.

ILLUSTRATION: HELENA HALVARSSON

## Important to reduce churn

Disloyal customers are a problem for many mobile operators. The subscribers jump between operators to find optimal terms and conditions. However, there are ways of retaining them, advises Roger Entner of the Yankee Group.

Churn rate is defined as the ratio of monthly subscriber losses to the present subscriber number. Monitoring churn and trying to keep it at a low level has become crucial for operators in the mature market.

"Anyone without a churn-reducing program will be out of business within five years," says Roger Entner, author of the report *Wireless Customer Retention*: holding back the river.

Why is this the case?

"When an industry enters maturity, the only way of getting more clients is luring them away from your competitors, and this is what your competitors will do if you have no churn-reducing program," he says.

Getting new customers is also expensive, from USD 240 to USD 430 each in the case of US carriers, according to Roger Entner. Investing in an existing customer base is a lot cheaper.

"Even more important is that every churning customer dilutes your brand equity. The customers realize that what you provide is the same as everyone else and you become a commodity. In that case, the only way of competing is by price – which is the worst possible scenario," says Roger Entner.

When he surveyed the US market and its six largest mobile operators over one quarter, he found that their churn rate was from 2 to 5 percent per

month. On an annual basis, this corresponds to an average of one-third to one-half of the customers.

Although the operators are becoming aware of the problem, surprisingly little is being done about it. The key is to provide the right offerings and to do this at the right time.

"Timing is critical. If the customer has already decided to leave, the battle is as good as lost. If a move is made three months earlier (or even before), the situation is different," explains Roger Entner.

The longer you wait, the more the customer demands. "Do you want me to stay? OK, what will I receive in return?"

Verizon Wireless has a good strategy: after two years, customers receive USD 100 to buy a new, better phone, if they stay another two years. Sprint PCS lets customers choose from three rewards after six months: a 10-percent discount on their next invoice, a mobile phone accessory, or one month's free Internet access. This only costs Sprint between USD 1 and USD 10, but helps to generate "a warm and cozy feeling towards the operator," according to Roger Entner.

Contract customers represent 85 percent of the US mobile market. With prepaid customers, it is more difficult to counteract churn. But there are ways.

"Now that the introduction of data services has begun, the operators have rich opportunities to offer exclusive content. If I watch Channel one on TV instead of Channel two, it's because only that channel has what I really want. It should be exactly the same with mobile operators," concludes Roger Entner.

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The report on churn can be found on:

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### TIPS FOR OPERATORS

- Every carrier needs a customer retention program.
- Be proactive rather than reactive – timing is everything in churn reduction.
- Lifetime value of subscribers is about to be-

come a key metric. Carriers should therefore look less at margins and more at total revenues.

- Don't play with price points – this will only introduce another price war.

## Nokia better than expected

Nokia started off the year's quarterly earnings reports by exceeding market expectations. Nokia generated a net profit of USD 766 million. However, sales and net profit were 12 percent lower than in the year-earlier period.

Nokia's phone operations performed better than expected, whereas the infrastructure business did less well than anticipated.

## Sales dropped for Motorola

Motorola certainly reported a net loss of USD 174 million. However, this was better than analysts' expectations. The net loss in the first quarter of 2001 was USD 211 million.

During the year, however, sales dropped 20 percent to USD 6 billion. Sales in Motorola's semiconductor operations fell 26 percent, but order inflow rose 18 percent, which is a sign of better times ahead.

## Lucent cuts more jobs

The world's largest telecommunications equipment maker Lucent Technologies reported a net loss for the quarter ended March 31 of USD 535 million, compared with a loss of almost USD 3.69 billion a year ago.

Lucent said it would cut its workforce to close to 50,000 by the end of September from 56,000, but that earnings in next quarter will improve assuming no change in revenues.

"There's no question Lucent is making improvements. They've managed to prove that they can hold their own", analyst Tom Lauria told Reuters.

## Bluetooth now standard

The international standards institute (IEEE) has finally approved Bluetooth technology and given it the name IEEE 802.15.1. Bluetooth is used for cordless technology over short distances.

A Bluetooth-equipped headset. This technology has finally become an approved standard.



## What do you do to keep your customers?

Johan Holmgren, head of corporate communications at Vodafone in Sweden, says that the company has a range of programs in place, which he can't describe for reasons of competition.

"However, our systems tell us when someone is likely to churn, so we can take countermeasures, such as mailing special offers," he says.

"We can also respond when a customer calls to cancel his or her subscription."



Johan Holmgren

According to Okan Karagoz, who is in charge of international press at Turkcell in Turkey, churn is not a major problem for Turkcell.

"Our effective customer segmentation and tariff strategy has limited churn mainly to involuntary, operator initiated disconnects due to non-payment of bills," says Okan Karagoz.

"The entry of two new operators into the Turkish mobile market during 2001 has had no significant impact on Turkcell's market position."





# Heart patients prefer the comfort of home

Inger Thomsen and Erik Lunild are among the 1,600 people living with heart conditions in the Danish province of North Jutland. In September, they will take part in a first test of a system for monitoring heart patients in their own homes.

Inger Thomsen, who retired some years ago, lives with her husband in a residential neighborhood in the Danish city of Aalborg. They live in a comfortable home, with living-room shelves crammed with photographs of children, grandchildren and themselves. The hall and the kitchen are filled with the aroma of freshly baked bread and the kitchen window faces a well-tended garden already dotted with the first flowers of spring.

Inger Thomsen explains how she began to feel the symptoms of her heart condition three years ago.

"It started with a feeling of pressure in my chest I and felt my pulse suddenly start to race. I called a doctor and he diagnosed atrial fibrillation," she says.

Right now her heart is beating normally, but the problem could suddenly recur.

Egon Toft is a senior physician in charge of the cardiology department of the Aalborg Hospital. He explains that Inger's heart dysfunction is an illness that lends itself to remote monitoring.

"Obviously, patients who are to be monitored in their home environments cannot have illnesses requiring immediate attention. Since hospital personnel regularly check the data on how the patients are doing, we would find out quickly if someone with, say, atrial fibrillation, experienced changes in his or her heart rhythm. If problems arose, an ambulance could reach the person in good time," he says. (About the system: see fact box)

Egon Toft lists the advantages he sees in remote monitoring of heart patients.

"Most patients want to be discharged from the hospital as soon as possible – they feel better and more secure in their home environment. Moreover, studies show that patients who can be treated in their homes recover more quickly," he says.

"Another advantage of remote monitoring is that it frees up more hospital beds. This enables us to treat more people and shorten the wait for certain treatments," he explains. "We also acquire better knowledge of how different types of medication work in conjunction with the lighter forms of



Erik Lunild woke up one night with his heart racing, and he thought he was going to suffocate. In December last year he was committed to Aalborg Hospital for treatment and monitoring. Erik thinks it would be nice to be at home, knowing that the hospital personnel continued to monitor his heart rhythm from afar.

exercise and stress, to which the patient is subjected in the home environment."

He estimates that of the 1,000 heart patients admitted to Aalborg Hospital every year, about 500 could be monitored remotely.

At the time of this writing, Erik Lunild is being treated for heart problems at Aalborg Hospital. He was admitted in December 2001, for monitoring and medication.

"I woke up one night and my heart was racing. I felt like I was suffocating. Some months before, I had felt unusually tired and found myself winded after minor exertion like walking the dog," he says, pulling open his dressing-gown to display the electrodes that are attached to his chest to register his heartbeat.

Erik Lunild says that he wants to go home as soon as his condition becomes more stable.

"That would feel so much better. I have everything there, you see – my television, my books, my wife and my children," Inger Thomsen expresses the same desire.

"Yes, surely it's quite natural that you'd rather be at home. At the hospital, not only are you sick, you feel sick, too."

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Inger Thomsen lives in Aalborg, Denmark. Right now she feels well, but her diagnosis of atrial fibrillation means that her heart could start to race at any moment. She is pictured here testing a prototype of the remote-monitoring solution, which, if everything proceeds according to plan, will be launched in March 2003. "Yes, surely it's quite natural that you'd rather be at home. At the hospital, not only are you sick, you feel sick, too," she says.

PHOTO: JESPER VOLDGAARD

## HOW THE SYSTEM WORKS

Remote monitoring of heart patients takes place using small electrodes, to register the heart beat, which are placed on the patient's chest. Information about the patient's heart rhythm is sent via a GPRS network to a server at the hospital.

This enables physicians and nurses to remotely monitor the patient's condition. The system registers information on the heart rhythm, blood pressure and the amount of oxygen in the blood.





Bluetooth technology, a mobile phone and a GPRS network are three key components of the solution that will soon make it possible to monitor heart patients at home. Ericsson Denmark believes that remote monitoring offers major business opportunities.



At the beginning of next year, it will be possible to send information about a patient's heartbeat from the home, via a GPRS network, to a hospital server. Here, Else Kreutz, a nurse at Aalborg Hospital, looks at a prototype display showing the heart rhythm, blood pressure and amount of oxygen in the blood.

PHOTO: JESPER VOLDGAARD

## "This is the beginning of a revolution in telemedicine"

**Projects involving telemedicine** – the integration of medical or preventive care with telecommunications – are being carried out at several locations worldwide. Among the most advanced of these projects is the solution for monitoring heart patients at home, which was developed in Aalborg, in Denmark.

The system is currently being tested in a lab environment, and initial trials involving 150 heart patients began in September 2001. All of the partners in the project expect that the system will be ready to be placed in operation in March 2003.

The system is being developed as a cooperative effort involving five partners – Ericsson Denmark, Aalborg Hospital, telecom operator Sonofon, Aalborg University and Danica Biomedical (which develops ECG equipment).

The project has received research grants from the Danish government's "Digital North Jutland" initiative.

Ib Byder is head of Ericsson in Denmark. He explains why this project is important for the company.

"Ericsson Denmark wants to demonstrate the wide range of potential applications of Bluetooth, and medical care is a critical area. It is important that the company continues to drive development and find new business opportunities," he says.

Yousef Jasemian at Ericsson Denmark is one of the initiators of the project. His doctoral thesis was about remote monitoring of heart patients – an idea that the project is developing further.

In November 2001, the local Ericsson company appointed a special task force, thus launching the project. The company contacted a number of parties that indicated an interest in developing the solution further.

Ericsson has driven the project since then.

"This is in fact the first ever application of Bluetooth and GPRS technologies in medical care. The fact that

a hospital is involved in developing the concept is important and unique," says Yousef Jasemian.

Ib Byder and Yousef Jasemian are both hoping that the heart patient project will inspire others to invest in telemedicine and remote monitoring in the future.

"Remote monitoring could be used to send information about a car engine to an auto body shop, or about a dishwasher, or a home furnace. Even animal husbandry is a conceivable area of application," says Ib Byder.

Egon Toft is a senior physician in charge of the cardiology department of Aalborg Hospital. He is extremely optimistic about the system's future development potential.

"I don't think anyone has really understood the enormous potential of telemedicine. Just look at the development that has taken place in telecommunications during the past few years – practically revolutionary. I believe there will be a similar revolution in telemedicine and remote monitoring. It's going to be big, and it's going to happen soon," he says.

ULRIKA NYBÄCK

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Ericsson in Denmark, Aalborg Hospital, the operator Sonofon, Aalborg University and Danica Biomedical are jointly developing the solution for remote monitoring. Pictured, from left: Tine Ipsen of Ericsson in Denmark, Egon Toft, senior physician at Aalborg Hospital, Yousef Jasemian and Ib Byder, both of Ericsson in Denmark.



# Platforms taking off

Ericsson Mobile Platforms is doing well. Since its startup in September, the company has attracted three more customers, and others are on the way. This shows that the idea of selling technical expertise to wireless manufacturers is working.

When Ericsson Mobile Platforms, EMP, started operating in September, the intention was to broaden the customer base for Ericsson's expertise in wireless telephony. Recent developments show that the thinking was correct.

The idea is to sell recipes explaining how to make a mobile phone or similar product – for example, a PC card for wireless communications in a portable computer. The customer purchases a solution involving circuits and software that can later be adapted and used to construct a complete product.

To date, there are four customers purchasing EMP's solutions for their products. Two of them – Sony Ericsson and the Korea-based LG – are among the ten largest wireless manufacturers in the world. The other two are the Finnish company Benetton, a niche manufacturer of advanced telephone models, including models with built-in GPS technology, and the Taiwanese company, GVC, which focuses mainly on the Asian market.

"These first six months have been overwhelming. With these four customers, two large and two small, we can really say we have had a breakthrough," says Tord Wingren, president of Ericsson Mobile Platforms.



Tord Wingren

## License generates more

Ericsson has the largest portfolio in the market in terms of intellectual property rights for 2.5G and 3G – that is, patents, trade mark protection, copyright, et cetera. Part of this portfolio is brought to market through Ericsson Mobile Platforms.

According to the business model, the customer must first pay a fee to gain access to Ericsson's technology and patents via the purchased platform solution. In addition, the customer pays a license fee for each unit manufactured and sold.

"It's a good system, since it also motivates us to create attractive, high-quality solutions for our customers," says Tord Wingren.

## A changed market

Further contracts are expected in the near future and Tord Wingren believes there has been a change in the market scenario.

"The market share of the ten largest manufacturers has shrunk to 90 percent. This indicates that the market has become fragmented, and new, smaller players have entered," says Tord Wingren.

Some of these are manufacturers without a brand name of their own, who develop and design telephones for other players. It is therefore expected that in the future we will see new mobile phone brands coming from companies that we currently associate with entirely different products and services.

"We believe that operators will be interested in selling telephones, specially equipped with exclusive applications, under their own brand names. We know



The products of Ericsson Mobile Platforms are increasingly demanded by customers. Here, at the integration lab in Lund, Sweden, object leader Dimitrios Triantafyllidis tests first-layer software for the UMTS platform.

PHOTO: JAN NORDEN

## ERICSSON MOBILE PLATFORMS

At present, the unit sells three platform models: two GPRS variants and one UMTS solution.

- GPRS Generation 2 supports GSM/GPRS, color display and polyphonic signals.
- GPRS Generation 3 has four-band GSM/GPRS, support for larger displays, camera, stereo sound, Java and polyphonic signals.

- The UMTS platform also works for GSM/GPRS. It has full support for video and multimedia applications such as streaming video, stereo sound, video telephony, camera et cetera. It also supports Java J2ME and positioning standards such as GPS.

that this is being discussed by certain operators. Other new players could be well-known consumer brands. Take Swatch or Montblanc, the makers of clocks and pens. You can be sure they've got marketing people working on how they might take advantage of the mobile phone market," says Carl-Johan Ivarsson, vice president, Product Management.



Carl-Johan Ivarsson

Overall, the trend points toward major opportunities for Ericsson Mobile Platforms.

"We have considerable expertise, we are well-acquainted with our customers' requirements, and we've already shown that our solutions work. So we're altogether highly optimistic about the year to come," says Tord Wingren.

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## New way to check market for services

**New opportunities** are created when operators have the test tool in their own hands.

"Suddenly, they have a new alternative to conduct user tests and market surveys," says Patrik Claesson, sales manager for the tool.

Imagine that you are an operator about to launch a new Mobile Internet service. It's tested and ready for rollout, so you know its functionality is acceptable. But maybe you and your targeted end-users do not share the same demands.

"What is a reasonable response time? Are users really willing to wait five seconds for a service to start?" Patrik Claesson offers as two examples.

The tool also enables operators to ask their users what they want, allowing them to try different versions and telling them what customers are prepared to pay for in terms of services.

A new and more concrete method to study market potential for new services, quite simply.

ELIN DUNÄS

### WHAT'S NEW ABOUT THE PRODUCT?

- The product is offered to Ericsson's operators for proprietary utilization
- More advanced IP-filter handling
- Opportunities to recreate a given situation – the scenario
- Operator-specific network parameters
- Improved opportunities to demonstrate 2.5G and 3G
- Increased WCDMA simulation

With the help of a tool developed by Ericsson, operators are able to demonstrate and test Mobile Internet applications. Madeleine Beije and Patrik Claesson of Ericsson Radio Systems in Kista work with the product.

## Operators get help to

You have just established contact with the news service via your mobile when the taxi drives through a tunnel. The display goes blank and you heave a sigh of resignation – the application was obviously not subject to Ericsson's strict control procedures. Meet the group that has developed a smart, new concept to test and demonstrate Mobile Internet applications.

"In cooperation with Ericsson's test centers, we have reviewed more than 360 third-party applications, and 70 of them are already offered as services by operators throughout the world," says Mikaela Schmidt, product manager for Application Test & Evaluation Package.

She is a member of the group within Product Management at Business Unit Mobile System WCDMA and GSM that has worked for the past three years to develop and improve the concept.

Operators and suppliers of mobile applications are free to call on the services of Ericsson's test centers in

different parts of the world to find out if their applications are practically feasible, or simply to demonstrate an application for prospective customers.

About 20 of Ericsson's Mobility World Centers have access to the tool.

Starting this spring, the product is now also offered directly to operators via Ericsson's market units.

"This represents part of our efforts to strengthen relations between Ericsson and the operators," explains Mikaela Schmidt.

A new, improved version has also been developed

to monitor sessions, that is transitions between present and future mobile networks – GPRS, EDGE and WCDMA.

### Saves money

Telecom operators have expressed keen interest in the new tool, according to Patrik Claesson, sales manager. Customers include such well-known names as KPN, China Mobile and Vodafone.

"China Mobile has contracted Ericsson to approve all mobile services before they are launched. Vodafone has assigned us even greater responsibility, namely to find, evaluate and test services both with our test tool and live in the network," he explains proudly.

But why do operators need a tool in the first place – can't the tests be conducted just as well directly in the networks? Peter Claesson explains:

"This is a simple and cost-effective tool to carefully study an application's performance in both present and future networks. The only test requirement is a PC. It's also very easy to repeat the tests and change the parameters in the network."

Madeleine Beije is an engineer who also works on the application tests. The tool, she says, can also be used to simulate different situations. Example: how does a bank transaction function via a mobile telephone at 3:00 o'clock in the morning in the center of the city? Probably very well. But how about at 8:00 a.m. in rush hour traffic? The results of these tests provide valuable information for operators.

"Another consideration that can be tested is how the service reacts when a user switches between diffe-

## test applications

### APPLICATION TEST & EVALUATION

#### Contents:

- GATE II – a tool for testing and demonstrating Mobile Internet applications.
- MATE – an IP-based tool for detailed applications analyses.
- A database that contains all tested applications, with information about companies, et cetera.
- BusinessViewer – a tool used to simulate Mobile Internet business models.
- Knowledge exchange, support and hands-on assistance in using the product.

The database is available at: [maiappsdb.ericsson.se/](http://maiappsdb.ericsson.se/)

rent mobile networks, for example from WCDMA to a GPRS network. What happens at the moment the switch is made, and how does the service function afterwards?

### Where is Mecca?

Supported by the tool, Ericsson has been able to help service providers develop successful products. MAXIS, an operator in Malaysia, offers a service developed by the company Howtraffic that enables Muslims away from their homes to graphically determine the exact direction in which Mecca is situated. This is one example of how cooperation between Ericsson and an external applications developer can lead to a finished service offered by an operator.

But are there a large number of faults in the applications tested?

Madeleine Beije would not use those exact words. "It's not only a matter of faults, but also a question of

what can be improved. One example involves tests to determine how the application will react if there is a disruption in traffic. This scenario might require a large number of changes to make the application more user-friendly," she says.

"Our tools might not be able to solve all problems, but they provide excellent assistance along the way," concludes Patrik Claesson.

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Mikaela Schmidt is product manager for the entire demonstration and test package that Ericsson has developed.







Mark Ritson, professor at the London Business School, was one of the lecturers during the course aimed at communicators from throughout the world.

PHOTO: JESPER MOTT

# Communication key to strong brand

Another step has been taken in the task of renewing the Ericsson brand. In cooperation with the London Business School, Ericsson is now training the company's market communicators in brand theory, strategy and positioning.

"The brand platform must be adapted to today's operations and market conditions in order to be comprehensible. Our job is to ensure that the market communicators are all speaking the same language," explains Bill Gajda, director of Brand Management.

In November 2001, *Contact* described the new brand platform that underlies all communications from Ericsson. It encapsulates in a concise and concrete manner what Ericsson stands for, but without merely being a collection of slogans that can be expected to crop up in future advertising campaigns. Instead, it provides guidelines illustrating the message that should permeate all communications from the company, regardless of their factual content.

About 35 communicators from various parts of the world were the first to take part in the three-day training program focusing on the Ericsson brand, which was held just outside Stockholm at the beginning of April.

Bill Gajda is one of those responsible for the course, as well as being directly involved in certain course components. He explains that course participants focus on positioning the brand, which means placing it in today's context, taking into account customers, competitors and the market situation in general.

"The course covers both external and internal communication. We go over the templates for advertising

campaigns and events and prepare guidelines for communication with the media. However, the brand must first be built up from within the company. Accordingly, internal communicators must convey what Ericsson stands for and encourage our employees to serve as ambassadors and strengthen our message," says Bill Gajda.

The course is the first in a series that will be organized worldwide. Later this year, similar courses will be held in the US and Asia. The course participants include communicators from corporate level, the market areas, business units and core units in all parts of the world.

"In a company as large as Ericsson, it is vital that we all speak the same language," emphasizes Bill Gajda. "The groups we have formed will be able to give each other support, discuss ideas and provide feedback when they return to their day-to-day jobs."

Mark Ritson, professor of Marketing at the London Business School, one of the ten best schools of economics and business administration in the world, instructs the course participants in the theory of

marketing and brand-building. He also gives examples of how other companies function and discusses what Ericsson can learn from previous experience. Mark Ritson cooperated with Bill Gajda's working group to develop the course.

"Participants in the course learn the importance of measuring the results of their efforts. This is crucial for enabling them to reach conclusions about marketing and market communication," explains Mark Ritson. "We also look at how to divide the market into segments and how to undertake integrated market communication."

One of the course participants is Tu Min, corporate communications manager at Ericsson in China.

"This is exactly the right time to conduct these courses, since Ericsson has recently switched to being a company with a business-to-business orientation," comments Tu Min.

She thinks the course provides inspiration and encourages participants to reflect on the importance of measuring the results of market-communication efforts. She also emphasizes the importance of discussing how the brand should be positioned in different markets.

"Since communication has many cultural implications, it is important to speak in a manner that persuades people to listen," concludes Tu Min.



Mark Ritson



Tu Min

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# WPP – a platform for packet data nodes

Ericsson's nodes for packet data in GPRS and WCDMA networks are in large part based on the proprietary platform WPP (Wireless Packet Platform). WPP leverages the best available hardware and is optimized for packet data applications.

As GSM operators now add packet data to their networks with GPRS, they are adding GSNs (GPRS Support Nodes) to the network that consist of an SGSN (Serving GPRS Support Node) and a GGSN (Gateway GPRS Support Node). SGSN is a packet data switch corresponding to the Mobile Switching Center (MSC) in GSM networks, while GGSN provides a gateway to the Internet and other networks. SGSN nodes are based on WPP, while the GGSN employs Juniper's routing technology.

Sales of GPRS nodes are now taking off. Ericsson, which has about 45 percent of the market, is delivering 15 to 20 WPP nodes each week. Some 40 operators currently offer commercial GPRS services based on WPP. In total, Ericsson has sold about 750 WPP nodes, of which 700 are used for GPRS and 50 were delivered to J-Phone for its Packet PDC service for the Japanese PDC (Personal Digital Cellular) standard.

"J-Phone launched its commercial packet data service in March of this year. To date, the WPP-based packet nodes have exceeded the operator's expectations with respect to stability and performance," reports Jörgen Engström, head of system and product management at the WPP unit at Ericsson Mobile Data Design in Gothenburg, Sweden.



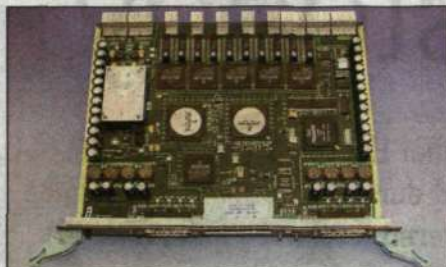
Jörgen Engström

## Open system handles IP routing

WPP is similar in many respects to Ericsson's AXE, CPP and TSP technical platforms. It is scalable and consists of a cabinet with one or two magazines, each accommodating 21 processor or interface boards with Gigabit Ethernet communication on the back plane. It is robust and redundant with respect to both internal functionality and external communication. What distinguishes WPP from the other platforms is that it is based entirely on commercial hardware and software. Another important characteristic is that it can handle IP routing, which is essential for packet data traffic.

WPP is a multi-processor environment that is optimized for packet data. It includes both Sparc processors running the Solaris operating system on General Processing Boards (at least two per node for redundancy) that control traffic and Power PC processors running the VxWorks real-time operating system on interface boards that handle different types of traffic (IP, E1/T1, ATM, SS7 and Ethernet).

"Because the interface cards not only shuffle traffic, but also perform advanced processing, we decided to let the core WPP component, which is the DPE (Distributed Processing Environment) software that



The single-slot Ethernet switch with a switching capacity of 2 x 22 Gigabit will be a world-leading component.

provides the link between the hardware and the applications, control and monitor all processors and operating systems," says Jörgen Engström.

Residing above the DPE are the platform applications, which include Erlang/OTP (Open Telecom Platform), SS7 signaling for the telephone network, data communication for E1/T1, ATM, Ethernet and other interfaces, and IP routing for the backbone, access and O&M (Operation & Maintenance) networks, which is what primarily distinguishes WPP from other platforms.

## Major enhancements in next version

WPP is now at version five, which was released to operators with GSN nodes in the summer of 2001.

"The next version, WPP6, which is expected to be ready by the end of 2002, will be a major boost for the GSN," says Jörgen Engström. "We will increase capacity by more than 80 percent with new hardware and improved software so there will be no equivalent among competitors. We also expect to be able to transport about 100,000 IP packets per second and interface.

"Many parts of the routing sub-system will also be improved, and we are working hard to increase stability. A new component in WPP6, which will be a world-leader, is PEBv3, which is a single-slot Ethernet switch with a switching capacity of 2 times 22 Gigabits."

Some 170 persons work with various parts of the platform at the product and development unit Ericsson Mobile Data Design in Gothenburg. In addition, work is conducted jointly with Ericsson Infotech in Karlstad, Sweden on SS7 development.

"Our strength is that we have extensive expertise and an ability to purchase the best commercial components and cost-efficiently customize them for the highly redundant and high-performance systems that we require," concludes Jan Backman, system designer for WPP.



Jan Backman

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## Next 3GPP version to support IP multimedia

The development of the 3G standards for WCDMA and GSM are being coordinated through 3GPP, the 3rd Generation Partnership Project, an industry body that is now working hard to complete the fifth version of the specification, which will include support for multimedia over IP. Specifications for a number of functions to be included in 3GPP Release 5 are already complete. For WCDMA, for example, these include High-Speed Downlink Packet Access (HSDPA) and IP transport in the radio network, as well as WCDMA for the 1800 and 1900 MHz bands.

Many functions are still under development, however, including the IP Multimedia subsystem (IMS), which will give WCDMA and GPRS/EDGE IP Multimedia capabilities, meaning that SIP (Session Initiation Protocol) signaling can be used between the client (terminal) and the server (network) and naturally also from client to client. SIP, which is a protocol for applications, is also used in CDMA2000. Release 5 will support non-real time services, such as chat, whiteboard and video, while 3GPP Release 6 will support real-time IP multimedia services. Because IMS is very complex, the IETF (Internet Engineering Task Force) will not be able to complete the IMS-related protocols until June 2002. Ericsson is contributing very actively to standardization work in both 3GPP and IETF.

## Wurlitzer saves time and money

Wurlitzer is a newly developed joint platform for production etching of circuit boards for 3G radio mobile systems that now allows the plant in Gävle, in northern Sweden, to test prototype boards, as well. This is good news for development projects.

The name Wurlitzer comes from American jukeboxes of the 1950s in which many records could be placed. Providing a common foundation and a well functioning work method for all circuit boards was also the goal for the joint platform.

"With the new generic platform, we have developed test programs for about 30 different circuit boards," says Hans Sundling, project manager for Wurlitzer.

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## Technical platforms go on global tour

Ericsson's core unit Core Network Development continues its global road show for market units and global customer units to present the advances being made in the development of the AXE, CPP, TSP and WPP technical platforms. Some 30 marketing units have been visited to date, with Dallas and Seattle in the US and Düsseldorf, in Germany, next in line. The objective is to open a dialogue with the market.

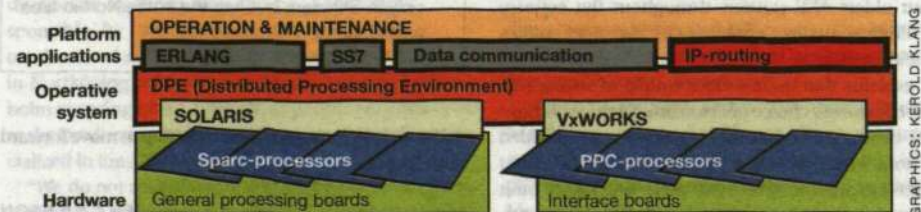
## tech tip

ECN codes work the same way as country codes. By entering the ECN code before the internal number, calling costs are substantially reduced. You can also phone a switchboard via ECN. If you wish to phone Ericsson in Hungary, for example, enter the ECN code 928 followed by the exchange number 199. All ECN codes can be found at:

© phone.ericsson.se/voice/services/ecn/ecncode.shtml

To make it easier for others to determine your ECN code, make sure that it is included with your internal number under Phone numbers/Business in your Outlook profile. To update your Outlook profile, go to:

© ewa-al.ericsson.se/user





# Engine's heart beating steady

The most recent interim report shows that Engine is continuing to sell. Ten new Engine contracts were secured during the first three months of this year and Ericsson recently delivered its thousandth AXD 301 multi-service switch. The latest customer is France Telecom, which bought a total of 16 nodes for its Engine Integral network. The network will soon be put into operation in France.

"This feels really great. We now have a sufficiently large number of switches installed around the world that we are beginning to have a really good market presence," says Bengt Lagerstedt, product manager for AXD 301.



Bengt Lagerstedt

"AXD 301 is a so-called ATM switch/node and unites IP (Internet Protocol) and ATM transport technology in the Engine concept. The node is frequently cited as 'the heart of Engine.'

"Comparing Engine to the human body is a fitting description," says Bengt Lagerstedt.

AXE serves as the brain of Engine. AXE analyzes and directs the actual telephone call in a certain direction, while AXD 301 is responsible for transporting the call. The product has sold at an even and steady pace ever since the first node left the Norrköping plant in autumn 1998.

Bengt Lagerstedt is not especially surprised to see that interest has remained steady.

"The AXD 301 provides the foundation for operators to combine voice, data and video communications within the same network. The product also has considerable capacity, while physically taking up very little space."

To date, more than 50 operators have purchased the node as part of the Engine concept, including Vodafone, BT, Skanova and, most recently, France Telecom.

"We've worked together with France Telecom for a number of years and they have tested several of our products in their network. Now they have purchased a total of 16 AXD 301 nodes for their Engine Integral 1.0 network in France and soon they will begin testing the network commercially by redirecting a portion of telephone traffic in their transit network to AXD 301 nodes."

Bengt Lagerstedt believes that sales of AXD 301 will continue to be strong and has noticed an increased interest in ATM.

"During the IP boom a couple of years ago, there was not as much interest in ATM. Although all of the IP networks implemented included ATM transport to direct the flow of traffic, it was really just IP that people were interested in."

"Now we are finding that operators have started going back to ATM, probably because the technology offers the functionality that they are seeking. It also



makes it possible to differentiate between various applications in the network and still maintain a high level of quality for the services."

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## ATM

ATM stands for Asynchronous Transfer Mode. It is a data transport technology that enables subscribers to receive voice and data services over a single network.

# Skanova replaces AXE with Engine nodes

Swedish network provider Skanova is in the process of replacing its traditional AXE stations in Sweden with Ericsson's AXD 301 nodes. Skanova expects to have full Engine functionality in its network by the beginning of next year.

"We would like to have a nationwide Engine network in Sweden and have divided the upgrade process into two stages. The first stage involved establishing an operator's network, upon which we only handle intermediary traffic in the form of overseas traffic and operator traffic," says Stefan Andersson, who is responsible for telephony development at Skanova.

The operator network is comprised of Ericsson

Engine equipment and consists of two telephony servers situated in Stockholm along with 26 media gateways. These media gateways are located throughout Sweden and are charged with transporting voice/data information around the country. Now that the network is fully operational, Skanova is working on the next stage.

"Stage two consists of an Engine Integral 2.0 network, which we believe will become operational at the beginning of next year. At that point, we will be replacing our oldest AXE stations throughout the country with Engine nodes, enabling us to fully utilize Engine's functionality."

He explains that there were a couple of strong reasons for Skanova's choice of Ericsson's Engine solution:

"We compared it to other suppliers and decided that, from a technical standpoint, Engine had what we were looking for. Moreover, we've previously built up a large portion of our network with Ericsson equip-

- 12:14:41 SKANOVA
- Skanova has been in existence for two years and is legally a secondary company of Swedish operator Telia.
  - The company calls itself a network wholesaler and sells network capacity and services for data and telephony, both internally at Telia as well as to other operators and suppliers.
  - Currently, Skanova has a telephone network only in Sweden, but has the entire Nordic area as its market.

ment, so it feels like a natural next step to move forward with Engine."

JENZ NILSSON

# Katrineholm celebrates thousandth node

Ericsson's Katrineholm plant, in central Sweden, is where most of the assembly work on AXD 301 systems is performed. It is also where important final testing is conducted prior to finished nodes being installed at a customer site. On Thursday, April 4, the one-thousandth AXD 301 switch left Ericsson's AXD Node Assembly line in Katrineholm. Employees celebrated with coffee and cake and Ingemar Nyström, head of system products at Katrineholm, wore a satisfied smile.

"This means a great deal to us. The AXD 301 is our largest volume product and the one we are currently working the most on here at node assembly. That's why it feels nice to have now delivered 1,000 units," he says.

Ingemar Nyström has monitored the product since its introduction in 1998. He was also responsible for the approximately one hundred nodes that were shipped from the plant in Norrköping prior to operations moving to Katrineholm in spring 1999. Currently, 27 people are employed at the production unit at Katrineholm, which has specialized in the AXD 301.

"We do not manufacture any of the parts ourselves. Instead, we assemble complete nodes out of materials



Ingemar Nyström

that we have purchased. Of course, the biggest and most demanding aspect is all of the testing we do before a node reaches a customer."

Tests of node alarm systems are especially comprehensive, as are tests of traffic at high temperatures. It is a time-consuming process - every customer has specific wishes and requirements for what a node is capable of doing.

Ericsson's node assembly operations in Katrineholm celebrated the delivery of the thousandth AXD 301 node on April 4. Kerstin Hedlund and Jessica Blom, who work as production planners for the node, help themselves to cake.

PHOTO: SARA BODEMYR

"Things have become somewhat more uniform since Ericsson launched its Engine concept. But if we look back at the first thousand nodes, one can find considerable variation in the design of functions."

There have never been any significant problems in keeping up with deliveries.

"However, when AXD 301 version 4.0 was launched during the middle of the vacation period last year, we had to work extra hard both day and night. But everyone contributed to the effort so there was never really any risk of a problem," he says.

The crew that works on the AXD 301 is now so familiar with their product that not even a considerable increase in deliveries worries Ingemar Nyström.

"No, with the expertise that we have here today, we should be able to manage a delivery rate of around 100 AXD systems a month."

JENZ NILSSON

Örjan Björkdahl and Fredrik Hagman, of Ericsson Node Assembly in Katrineholm, organize the system of cables in the nodes that are included in the latest shipment to France Telecom.

PHOTO: TOMAS NILSSON





PHOTO: GUNNAR ASK

Jun Toh successfully completed a project that many people thought was impossible. She managed the implementation of the "Learning Management System," a global system to coordinate and evaluate all courses and training programs offered by Ericsson Education. The system provides employees with a comprehensive oversight of which courses are offered, and enables managers to see which courses are popular and others they might consider discontinuing.

#### JUN TOH

**Name:** Jun Toh  
**Age:** 40  
**Born:** In Malaysia  
**Current status:** Recently completed the implementation of the global Learning Management System at 17 Ericsson Education training centers.  
**Education:** Degree in Computer Science; Master's Degree in Business Administration and Doctorate in Business Administration.  
**Previous employment:** Operated her own consulting company for seven years and worked for different companies in IT related areas, business development and consulting services.  
**Professional dream:** To be a chief learning officer and to increase knowledge of intellectual properties.

# Strong will made the impossible possible

When Jun Toh was assigned the task of implementing a global system to coordinate and evaluate all training courses and programs offered by Ericsson Education, people believed she couldn't possibly succeed. Today, 18 months later, 17 training centers in 15 countries are using the global Learning Management System. In the future, it is hoped that operators will also be able to use the system.

Jun Toh worked as total project manager for integration of the new system. She believes the strong resistance she initially encountered when local companies were asked to install the Learning Management System (LMS) was due to the beliefs of most companies that solutions they were using functioned adequately. In addition, the system was installed during a difficult time for employees, with personnel cutbacks and cost-reduction measures. Many people simply did not have the energy to deal with this new task. However, the opposition soon began to decline. Local companies that used the global Learning Management System for

a while quickly recognized its advantages, and most of them are very satisfied today, according to Jun Toh.

"The system provides employees with a good oversight over courses that are offered by Ericsson Education, what they cost, and the countries in which they are offered. Managers and project leaders receive excellent insight into which courses are the most popular and which courses they might want to discontinue," she says.

The 17 training centers currently using the system are linked to a common real-time database. This means that all reporting statistics, such as

how many people have booked a certain course, are always up-to-date. The various courses can be booked directly via the intranet. Efforts to allow more training centers to use the same global system are now in progress, while another 18 centers are preparing for installation in the near future.

The product training portal is included as part of Ericsson Education's offering, and one of its goals is to also allow operators and other external customers to use the same booking system now used by Ericsson employees (the portal is in Ericsson University's offerings).

#### Integration nothing new

Jun Toh was born and raised in Malaysia. Integration of training systems is not a new job area for her. Contact met Jun Toh for the first time at Ericsson in Petaling Jaya in Malaysia two years ago, shortly after she launched a system for Internet-based interactive learning.

After a period during which she devoted all her energy to work, Jun Toh is now taking a break. She plans to start with a well-earned vacation in Europe that she has looked forward to for a long

time. She will return to Malaysia in August, since her foreign contract could not be extended. She doesn't have a job waiting at Ericsson in Malaysia, but she is not particularly concerned.

"Everything feels pretty good right now. I am satisfied with what I have accomplished in Sweden, and it will be nice to go home again. But I regret leaving the friends I have made here in Sweden."

#### If you were to start a new foreign contract, is there anything you would do differently?

"I'm disappointed that I didn't learn to speak Swedish. When you work so hard on a project, other areas suffer the consequences and, unfortunately, I haven't had very much time to myself. If I'm ever offered another foreign contract, I would take the time to broaden my horizons, attend different courses and learn more about the country's culture," she says.

#### Every day like a game

Jun Toh also says she will probably never again have the strength to manage such a demanding project, but her sponsors and supervisors at Eric-

son in Stockholm have their doubts. Perhaps it's her approach to work that gives her the strength to manage large and, at times, difficult projects.

"I try to approach every workday as something that is enjoyable, it's almost like a game. It makes everything more exciting and interesting, and provides a source of strength and energy," she says.

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Jun Toh believes it is important to broaden one's horizons. However, she is a little disappointed that she was unable to learn Swedish during the assignment.



# Microcell uses GPRS to reach companies

In seven years, the Canadian mobile operator, Microcell, has established the Fido mobile service as one of the strongest brands in Canada. To become Canada's first GPRS operator, Microcell enlisted the help of Ericsson, which was exclusively responsible for supplying the network. Microcell wants to use GPRS to leap into the enterprise market.

Ericsson is Microcell's most important supplier and has been ever since the operator received its license in 1995. Ericsson supplied GSM to the provinces of Quebec and Ontario, areas that are home to 62 percent of the Canadian population and 70 percent of Microcell's subscribers. The network opened for commercial operations in 1996. Mike Sisto is Ericsson's key account manager for Microcell.

"Microcell is sensitive to trends and enormously skilled at marketing. Fido, as its mobile service is called, is among the top ten strongest brands in Canada. One of the reasons why it has become so successful is that it attracts the mass market and has a large proportion of customers with prepaid subscriptions. They see GPRS

as an opportunity to further penetrate the enterprise market," says Mike Sisto.

## First with GPRS

The other three large mobile operators in Canada operate networks with more extensive coverage than Microcell. By being first with GPRS, they gained some advantages compared to their competitors.

Rajiv Pancholy, president and COO of Microcell Connexions, says that there has also been a strong focus on roaming agreements, and such agreements have now been reached with more than 100 GSM operators throughout the world.

"For us, GPRS means that we can offer customers



In a short time, Microcell has established the Fido mobile service as one of the strongest brands in Canada.

seamless data services at home, at work or wherever in the world they happen to be," says Rajiv Pancholy.

The build-out of GPRS commenced in the middle of 2000 and the first test call was made on November 30 of the same year. After a soft launch in June 2001, the network was launched commercially in September 2001, covering the same area as the operator's existing GSM network.

"It was exciting to make an early start with the build-out of GPRS. The challenge for us was to find people with the right expertise, since Microcell was one of the first operators in North America to deploy GPRS," says Mike Sisto.

"We managed to engage employees who had earlier worked on the build-out in Europe and who were then able to train our staff. Ericsson's global presence and our broad experience attracted Microcell."

## Cooperating to optimize

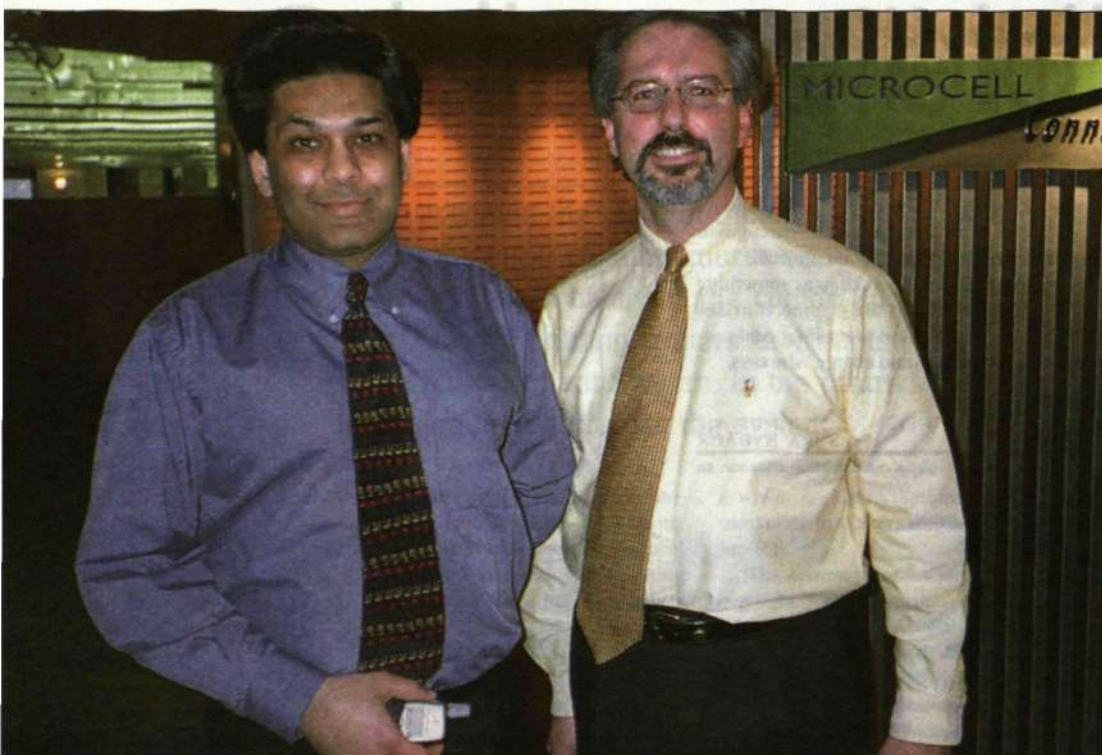
Rajiv Pancholy places great value on the training and experience that Ericsson has in various business models in different markets. The companies are continuing their cooperation to optimize the network. Since Ericsson has a contract that gives the company a portion of Microcell's revenue, the better the traffic and services in the network function, the more money Ericsson can earn.

"The GSM contract expires at the end of June and negotiations are under way to renew the agreement and maintain Ericsson's position as the dominant supplier in light of strong competition and advances made by Nortel. Ericsson remains the exclusive supplier of GPRS. We will also be positioning and offering EDGE as part of these negotiations," explains Mike Sisto.

During the first phase after the launch, Microcell has mainly focused on mobile services for companies.

Rajiv Pancholy says that there has been a favorable response for services in industries that include the transport sector and health and medical care. However, it is difficult to see the effects of the new services as yet, since the market came to a standstill in 2001.

"One thing is certain. The customers are not concerned about what the technology is called. We can't attract them by talking about GPRS, but by offering them efficient services," says Rajiv Pancholy.



Rajiv Pancholy, COO of Microcell Connexions, and Mike Sisto, Ericsson's key account manager, are continuing their cooperation with the development of GPRS services.

PHOTO: JACQUES DESHARNAIS

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# Under the same roof

A high-tech building with plenty of space for all. Ericsson in South Africa has now officially opened their new headquarters.

Ericsson employees in South Africa can now enjoy working in one of the most technologically advanced environments on the continent. The recently opened building is a living demonstration of Ericsson's products, with an "always-on" wireless multi-service network environment, supported by a wireless LAN backbone infrastructure.



Mats Dahlin cut the ribbon at the official opening ceremony. Beside him Jan Embro.

All Ericsson divisions in South Africa will be consolidated in the new Johannesburg headquarters, which will also serve as a hub for business throughout the region.

Jan Embro, head of the Ericsson Market Unit in Southern Africa, believes the company is now ideally positioned to take advantage of what he calls "immense" opportunities for operators to feed



The new 10,000 square meter building will accommodate all employees of Ericsson South Africa.

the huge demand for connectivity that is coming out of Africa.

"We see voice rather than Internet access as the 'killer application' on the African continent. A functional telephone and data network is the basis of almost all commerce today, and if you consider that only two percent of Africa's 900 million people have access to a telephone, you can see the mountain we must climb every day to overcome the information gap," he says.

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## from the archives

The first mobile phones were heavy to cart around. The 1981 Roadcom, for example, wasn't exactly designed to fit into a pocket.

In the words of a contemporary advertising brochure: "In the country, in the boat, or as a temporarily installed telephone, the Roadcom is mounted in a special table stand with built-in cassette. Roadcom is then used as an ordinary, but extraordinarily state-of-the-art, table-mounted telephone."

This was one of the first phones to be launched for the Nordic countries' NMT network.



## Mobile memories

Mobile phones have only been around a few decades, but the number of users is skyrocketing. According to statistics from the EMC World Cellular database, there are currently over one billion wireless subscribers.

What is your earliest memory of a mobile phone?

Khalil Mounir, supply manager, Service Networks and Applications:



"I got myself an Ericsson phone in the early eighties. It was heavy and clumsy, but I was very impressed about how it let you talk and move around at the same time."

Cecilia Lamm, solution marketing manager, Global Services:



"When I was a student in Lund at the beginning of the nineties, we had lectures on the Ericsson premises. There was advertising everywhere for NMT Hotline, showing executives who had their phones with them when they went fishing or played golf. You got the impression that mobile phones were very exclusive items."

Mattias Helleberg, lab technician, Ericsson AB:



"When I was a kid, my father, who was a doctor, had a mobile phone so the hospital could reach him in case of emergency. It looked like a large cooler bag. Whenever we were at the beach and it rang, you knew the fun was over."

Wiveca Hörlin, system tester, Ericsson Radio Systems:



"In the mid-eighties when I was working in the air force, we used Ericsson's NMT telephone. You would take it with you like a small suitcase, with the hand-held micro-telephone, the receiver, placed on top. Since they were so expensive, we didn't have very many."

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Patrik Löfman, Linnéa Borg, Anna Korsell and Jens Fahrbring are business administration majors at the Rudbeck upper secondary school in Stockholm. They were invited to attend Ericsson's Annual General Meeting by the Swedish Association of Share Investors and Ericsson in order to see and experience how a shareholders' meeting works.

PHOTO: GUNNAR ASK

# A class lesson in reality

Not only were shareholders and journalists in attendance at this year's Annual General Meeting. In conjunction with the Swedish Association of Share Investors, Ericsson invited a number of upper secondary school classes so that the students could see for themselves what goes on at Sweden's largest shareholders' meeting.

The first shareholders arrived at the Stockholm Globe Arena shortly after 3:00 p.m. and enjoyed the warm spring sunshine before the doors opened for this year's Annual General Meeting. Half an hour later, a steady stream of people could be seen walking the 300 meters between the subway station and the Globe Arena. As usual, the average age of participants was fairly high.

Standing near the entrance to the Globe's annex is, however, a group of older teenagers who are talking expectantly. The students are economics majors from the Rudbeck upper secondary school in Stockholm. They are here together with their teacher to learn how a general meeting of shareholders works, while at the same time learning more about Sweden's most influential company.

"This is going to be really exciting. An annual general meeting is something that you usually just read about in your textbooks. Not everyone gets the opportunity to experience one in person," says Linnéa Borg.

She and her classmates Jens Fahrbring, Patrik Löfman and Anna Korsell have all chosen to major in business administration. Their familiarity with Ericsson varies. All four associate the company primarily with mobile phones. They also know that Ericsson will be electing a new chairman at this meeting.

"I also understand that the entire telecom industry is experiencing some problems at the moment," says Jens Fahrbring.

He could easily foresee working for Ericsson in the future.

"But preferably in marketing so that I would get out and meet people. Just sitting in an office with a bunch of figures doesn't sound like fun," he says.

The line into the Globe Arena grows longer and soon it is time for the students to go inside and find some good seats. Patrik Löfman asks the undersigned how long annual meetings usually take and I reply that it varies from year to year. Mostly it depends on how many questions shareholders pose to Ericsson management. The classmates look at each other with a smile and say that they hope people will pose really difficult questions so that things won't get too boring in there.

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LARS-GÖRAN HEDIN  
corporate editor

## Long road out of the tunnel

**It finally arrived**, the much anticipated first quarter interim report. Although losses during the first three months were somewhat larger than the market had anticipated, they were still relatively well in line with what company management had previously indicated. However, Ericsson was also forced to downplay expectations of an imminent turnaround in the telecom sector. This news, which reinforced what Nokia had said a few days earlier, was a bitter pill for the market to swallow. The share price fell to SEK 27 on the Stockholm Stock Exchange.

**Admittedly, it is a difficult situation** but we have to remember that the tunnel we find ourselves in has merely become a little bit longer, and that the vehicle we are traveling in has not broken down. While Ericsson now needs to become even more efficient in order not to run out of fuel on its way towards the end of that tunnel, we demonstrated last year that we are really good at doing so. We now face the challenges of having to not only further tighten our belts, but also of finding even more intelligent and efficient ways of earning money. The reorganization currently underway is an important element in this effort, as is a continued review of all our operations.

**Although things look dark now** here inside the tunnel, it is important that we view our current situation as being in a tunnel, since tunnels have one major advantage. They are usually very easy to navigate. As long as you continue, undeterred, straight ahead, sooner or later you come out the other end. The longer you find yourself in the tunnel, the better you become at seeing in the dark, making it even easier to maintain one's bearings.

**Let's not be afraid of the dark.** We here at Ericsson are still working at a very fine company. A company that, with new resources from the proposed rights offering, will be even better equipped to seize market opportunities when we emerge from the telecom tunnel. We are the best in the world at delivering what the market needs as soon as it needs it. The underlying trends for telecom, and especially the mobile sector, indicate continued growth. Needs continue to grow. We will be there to fulfill them.

### The ericsson b share



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