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PHOTO: ECKE KÜLLER

Further layoffs on difficult road ahead

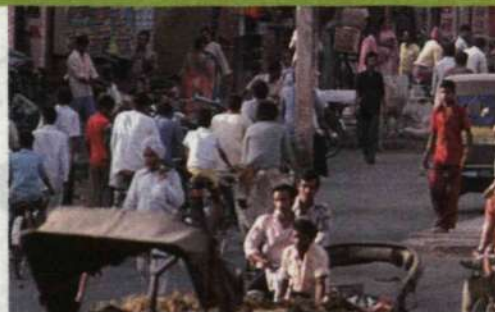
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PHOTO: FERNANDO MORENO

Shared ideas breed success

16-17



Huge market for mobile telephony

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Major new platforms deal

Ericsson has signed a second contract to supply GPRS mobile handset platforms to TCL Mobile Communication Ltd., China's biggest domestic mobile handset supplier. Ericsson Mobile Platforms will supply technology for TCL Mobile's handset product development and production.

The first contract between the two parties was signed in July.

"The extension of our cooperation with Ericsson Mobile Platforms will enable TCL Mobile to bring the latest technology to the market quickly to further increase the value of our offering to Chinese consumers," says Dr. Wan Mingjian, CEO of TCL Mobile.

"Combined with our strength in design, manu-

facturing and sales and marketing, this will reinforce our leading position in the Chinese market."

"China has not only become the largest mobile phone market worldwide but also one of the most advanced thanks to the early adoption of GPRS and multimedia functionality," adds Jan Pantzar, vice president Sales and Marketing, Ericsson Mobile Platforms. "We are pleased to expand our cooperation with TCL Mobile to include platforms so that they can launch products on the market with superior functionality for multimedia messaging."

Under the agreement, TCL Mobile Communication is developing value-added 2.5G GPRS phones based on Ericsson's core mobile handset technology.

ELIN AHLDÉN

elin.ahlden@lme.ericsson.se



Boris Nemsic, president of operator Austria Mobilkom and Market Manager Hannes Ametsreiter name collaboration with Ericsson as crucial for the company's ability to launch 3G ahead of the target date.

PHOTO: HARALD EISENBERGER

Austrian launch ahead of schedule

Mobile operator Austria Mobilkom launched its 3G network on September 30 – a year ahead of its target date. Ericsson is one of the operator's two suppliers.

The operator Austria Mobilkom inaugurated its network by streaming a video clip between the cities of Vienna and Graz. The newly started 3G network covers large parts of the country, embracing approximately 25 percent of the country's population from the outset.

In order to secure services and content for the new network, the operator has initiated collaboration with partners such as the Austrian television channel ORF and the Reuters news agency.

"Our successful cooperation with Ericsson has been crucial to our success in achieving our business targets," says Boris Nemsic, president of Austria Mobilkom.

JESPER MOTT

jesper.mott@lme.ericsson.se

Ericsson delivers GSM to Mexico

Telcel Mexico has now launched the country's first GSM network, with Ericsson as its supplier. The network comprises 55 cities in Mexico, where about 20 percent of the population use mobile phones. To date, applications mainly include voice services, but the broader variety of applications offered by GSM will gradually lead the way to GPRS. The transition also means promising business opportunities for Sony Ericsson. With a number of new and exciting phones, end users could be enticed to switch to GSM from TDMA. Telcel is Mexico's largest operator and belongs to the Américas Móvil group.

Extended responsibility for New Zealand operation

Operator Telecom New Zealand and Ericsson are extending the contract that makes Ericsson responsible for the operation of Telecom New Zealand's TDMA network. Under the extended contract, Ericsson will operate the network until 2007.

"We have extended the contract by two years and have taken on broader responsibilities," says Maxwell Young, head of Services at Ericsson in New Zealand.



A WCDMA 1900 RBS is wrapped in pink for delivery.

Base station on market trial in the US

Fifteen WCDMA 1900 Radio Base stations have been shipped from Ericsson in Gävle to AT&T in the US for a market trial. The test network will be in the Dallas, Texas area. Ericsson has already passed one checkpoint, and the next one requires a cluster of ten Radio base stations to be up and running in the test network by the end of October. 50 base stations should be operational by the end of November. The overall project will see 100 base stations and other equipment installed in Dallas, Texas, by the end of December. Ericsson is aiming to win the contract for AT&T's commercial 3G network.

Engine gains ground in Norway and Nicaragua

In quick succession, Ericsson has secured two important sales contracts for its Engine solution for multi-service networks. The Norwegian operator Telenor Networks and Nicaraguan Enitel have both chosen Ericsson as their supplier. Telenor will initially upgrade its transit network and develop the network for ADSL. Enitel's agreement with Ericsson will provide the operator with 50,000 fixed lines and Engine will be integrated with the GSM network it has already delivered. The networks will use the SDH optical backbone-network technology and microwave technology from Ericsson.

License agreement with new customer in Taiwan

Ericsson Technology Licensing has entered a licensing agreement with chip manufacturer VIA Technologies Inc. in Taiwan. VIA has bought the right to use Ericsson's Bluetooth offering, Bluetooth Intellectual Property (IP), in its production of both radio and base-band chips.

Enduring tough decisions

Notice of layoffs, closures or sales of development centers and a new record low for the Ericsson share – there has been a lot of gloomy news over the past two weeks. Some of the difficult but decisive measures are now being implemented in the company's quest to be profitable despite the prevailing market situation.

"This is a difficult situation, and no one will come through it unaffected," says Per-Arne Sandström, Ericsson's chief operating officer. "However, these measures are necessary in order to achieve profitability sometime during 2003. For that to happen, we must continue to reduce our costs and increase our revenue."

The review of Ericsson's operations has resulted in a number of measures. A few of them have been presented during recent weeks.

The layoffs announced in Sweden during the past two weeks are part of the personnel reductions announced by the management in conjunction with the first and second quarterly reports this year. The objective is to reduce the workforce to less than 60,000 during 2003.

The closure of the development centers in Nuremberg in Germany, Enschede in the Netherlands, and Melbourne, Sydney and Perth in Australia, is also a consequence of the consolidation and concentration strategy presented earlier. In brief, the strategy is aimed at a smaller product portfolio, fewer development centers and assigning principal responsibility for each product to main sites. The objective is for the number

of R&D centers to be reduced from 80 to fewer than 40 during the year.

Another result of the same strategy is that Wipro Limited will take over the design centers in Bangalore, Hyderabad and New Delhi in India. Per-Arne Sandström explains the management's approach in identifying which centers will be sold.

"When we allow a partner to take over the development and/or production process, it is a matter of business-related, volume-related and, sometimes, geographic benefits. For example, Ericsson is no longer bound by a number of fixed costs. It also becomes easier to rapidly increase or reduce volumes in proportion to demand. We also take into consideration which countries and cities have a plentiful supply of engineers, as well as the cost per man-hour."

Many employees find it difficult to settle down to work and find motivation when there are constant announcements of various kinds of change. When will they stop receiving news about layoffs and closure of operations?



"This is a difficult situation and no one will come through it unaffected," says Per-Arne Sandström, chief operating officer at Ericsson. He explains that the layoffs and closures announced recently are necessary for Ericsson to be able to achieve profitability sometime during 2003.

"No company can ever stop rationalizing its operations – that's something that has to be undertaken continuously. Reorganizations are not something we do for the fun of it, they are the result of a market where conditions are constantly changing. But obviously, things are more difficult than usual at the moment and I hope to be able to make more positive announcements in the future," says Per-Arne Sandström.

He is convinced that the telecom market is a growth market in the long term.

"Ericsson has well-conceived visions and strategies. We have a leading position in the market and extremely favorable customer relationships throughout the world, we shouldn't forget that. It is time for us to roll up our sleeves and struggle through the current downturn."

ULRIKA NYBÄCK

ulrika.nyback@lme.ericsson.se



During the past two weeks, employees have received a lot of gloomy news, including layoffs and the closure of development centers in several locations. However, these are necessary measures for pulling through the prevailing market situation.

PHOTO: GUNNAR ÅSK

Belt is tightened further

"We have progressed rather far with efficiency measures for our product-development operations," said Jan Uddenfeldt, Ericsson's senior vice president, Technology, at the annual ETC meeting that was held in Stockholm at the end of September.

In conjunction with the Ericsson Technology Council (ETC) meeting, at which the top 100 managers in the area of technology gathered to agree on strategies and product plans, further cutbacks were announced. The design centers in Australia, as well as Enschede, in the Netherlands, and Nuremberg, in Germany, will be closed and there are plans to sell development operations in India. In addition to these measures, it can be added that Ericsson recently established a new partnership with Tieto Enator, which will take over research and development in Karlstad, Umeå, Luleå and Skellefteå, in Sweden. There will also be extended cooperation with Teleca through an agreement in Norway.

"We are going through a turbulent period at the moment and I understand that all of our competent employees, who are so committed to their work, are finding this difficult," says Jan Uddenfeldt.

The reasons for these measures is that research and development, like many other units within Ericsson, grew too large during the good times. Now that the entire company is being slimmed, several measures are being taken to shrink product development and to make operations more efficient. Outsourcing and partnerships are two methods.

Efficiency also in methods

"We are reducing our costs not only by reducing the number of development centers, but also by making our methods and tools more efficient and reducing the IS/IT costs," says Jan Uddenfeldt. "In addition, we will have a stricter order of priority regarding the products in which we invest."

To date, the total development budget has been reduced by about 30 percent over one and a half years and the number of centers has declined from approximately 80 to less than 40.

The strategy of building on fewer technology platforms, primarily CPP and TSP, remains and there are now plans for how this will be implemented. CPP is used for transport within access and core networks and TSP is a server platform for services and control of networks. Productivity will also be increased by introducing modern tools and modern work methods, while reducing the number of tools in order to lower IS/IT costs. The product prioritization is aimed at having fewer products in the development phase and transferring more to the maintenance phase.

"Much has already been achieved in this respect," says Jan Uddenfeldt.

First with 3G products

Despite all the savings, Ericsson is maintaining its planned schedule for the new 3G products.

"We are delivering a large amount," says Jan Uddenfeldt. "We were first with WCDMA and delivered several



For Jan Uddenfeldt, Ericsson's senior vice president, Technology, stricter prioritization of products is an important feature of efficiency efforts.

PHOTO: ECKE KÖLLER

WHAT HAS HAPPENED

The concentration of Ericsson's research and development is now entering its implementation phase. The following has happened recently:

- Swedish-Finnish IT consultant Tieto Enator is to take over development operations in Karlstad, Luleå, Umeå and Skellefteå, in Sweden.
- Wipro Ltd. has signed a letter of intent to take over centers in Bangalore, Hyderabad and New Delhi, in India.

- The core unit Core Network Development is pulling out of operations in Madrid, in Spain, while the core unit Service Networks and Applications will continue its work there.

- The units in Melbourne, Sydney and Perth, in Australia, will be closed.
- The development units in Enschede, in the Netherlands, and Nuremberg, in Germany, will be closed.

thousand base stations to Japan, where J-Phone has a system in operation. We will soon start up EDGE in the US and we have products for CDMA2000 out in the field."

In saying this, Jan Uddenfeldt wants to emphasize that Ericsson's development operations retain their world-leading position, although activities are being

concentrated in fewer locations, consultants have been removed and parts of the operations have been outsourced.

LARS CEDERQUIST

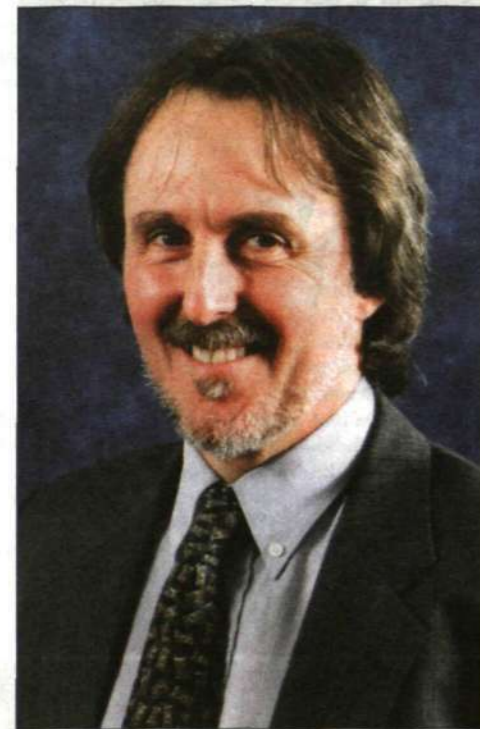
lars.cederquist@ime.ericsson.se

Out with hierarchy, in with effective leadership

Ericsson is being pruned in every possible way, as flexibility is tomorrow's lead star. Not only the sides and the size are being trimmed, the number of layers

is diminished. The days of the big clumsy organization are over, as the organizational structure is flattened. In the modern company it's all about teamwork.

Keeping the team fit to fight



Management isn't about anybody's right to a career. It's about the company's needs for the right management skills

Tony Devlin

To deal with the turbulent situation in the company, Ericsson Systems Expertise (EEI) in Ireland has decided to take on a new adjusted view on management. By treating the Company Management Team simply as members of a one-year project, hierarchy is out the door.

"We have accepted that management is situational. Management isn't about anybody's right to a career. It's about the company's needs for the right management skills," says Tony Devlin, member of the EEI Management Team.

The industry is in a constant process of change. To remain flexible and successful in this industry, Ireland-based EEI decided to radically change the way in which the company is run. EEI has aimed to change itself from a functionally driven organization to one, that prioritizes product and project activities and performance. Therefore the number of managers has been substantially reduced and instead of the classic static management group, they have chosen a model in which the management is regarded as a one-year team.

"We have created a baseline where just five percent of people are involved in direct management and supervision with a further five percent in support roles. Everyone else must be directly involved in product development. We see this as a necessary change if we are to keep up with developments and remain a strong player," says Michael Gallagher, head of EEI.

No promises

When the current Company Management Team line-up was established, the only criteria was what competencies would be required to lead the company through the coming season. The designated team members were asked if they wanted to be on the team and carry out a very tough job for a period of one year, no promises after that.

We live in a society where hierarchical structures are accepted, and sometimes even highly valued. Careers are expected to resemble ladders on which individuals climb up one rung at a time at regular intervals.

"In the business world, we pay a great deal of attention to desk size, lengths of titles, gold cards, et cetera. It sounds much better to say you are the intergalactic emperor of something than to say you work with change management at Ericsson," says Tony Devlin.

The hallmark of a large and stable organization is that it has many management layers. Employees who

are promoted to a certain level tend to stay there until it's time to advance to the next level. Tony Devlin thinks this is a mentality that Ericsson must let go of. Everyone has to accept that careers can look like sine curves, with ups and downs.

He is of the opinion that this kind of approach to management makes it easier to form groups, complete projects and start new ones. Without always having to think that so-and-so should have a management position at such-and-such a level.

"Instead, we can appoint the individuals we really need in the positions where we need them at the moment. Ladder thinking makes the organization unwieldy."

Helping according to ability

Tony Devlin compares today's situation with an aircraft that has just encountered severe turbulence, and is in danger of crashing.

In his view, there would be no time to discuss who should steer the aircraft to safety. Everyone would have to help out, which could mean performing tasks unrelated to one's own position.

"The battle must be fought where the battle is. We mustn't be afraid to get our hands dirty: we have to remember where the real job is being done and help out when needed. This means that we sometimes have to act outside our regular zones. But I think we all become a little bit more multi-skilled by this."

It has not been easy to obtain support for this approach. Some people feel threatened. Status consciousness has been the most difficult wall to penetrate. Still, Tony Devlin feels that the Irish actually prefer a less hierarchical organization.

"I think this is probably a way of working that appeals to the Irish spirit. We are rather creative and flexible team players. And if EEI is to make a positive contribution to Ericsson's performance, we cannot afford to be ineffective."

SARA MORGE
sara.morge@lme.ericsson.se



The EEI Company Management Team plays for one year only. When the current Company Management Team line-up was established, the only criterion was what competencies would be required to lead the company through the coming season.

ILLUSTRATION: ANNA ANDRÉN

Effective leadership



Bert Nordberg's reorganized Business Unit Systems has limited the number of management layers to three.

PHOTO: PELLE HALLERT

Flatter is better for Systems

Last spring, Bert Nordberg promised that his Business Unit Systems would have a new flat organization, with fewer managers and fewer hierarchical levels. Contact has checked back to see how this reorganization has progressed and whether he dared to implement the drastic changes he advocated.

BU Systems' new organization is smaller, more efficient and has fewer managers. Seven management levels have been reduced to three and there are now 93 managers instead of 320 – a reduction that is not only an effect of the general personnel cutbacks.

"If we want to be a company of the future, we can't work as a line dictatorship. Everything here is based on teamwork," says Bert Nordberg.

In order to attain a functioning organization, the division of responsibility must be crystal clear. This is why there is one person with end-to-end responsibility for every function.

"It has also meant that we have regained customer pressure in R&D operations. We have shortened the process, thereby moving closer to the customer."

It is expensive for a company to have employees and Bert Nordberg considers it a waste of resources to lock expertise into a single position and assignment.

"I would just like to say to those who think things were better before – and these people still exist – the day we decide that we can afford to not utilize our employees' complete expertise, is the day we can return to the old imperial palace. In the good old days we could resolve problems using our wallets. We now have to get to the root of all problems by ourselves, which means using teamwork."

Naturally, there are also drawbacks in the new organization. People who have lost their management positions have, in some cases, felt that they have had their toes stepped on and that they have been downgraded.

"However, I have nevertheless found that there has been surprisingly few complaints – most people have understood the necessity of this change."

For Bert Nordberg personally, the issue is often one of feeling inadequate, since a flat organization requires his presence more frequently in many different places. Another difficulty is that the management group is so large.

"It's alright, but it requires strict discipline at meetings if anything is to be done. We also hold many small meetings, where only those directly affected take part."

The work processes have at all times been the basis for the design of the organization. Bert Nordberg compares the processes with society's laws and regulations – the entire foundation on which the organization rests. The new organization is not something he invented alone. The guidelines to a certain extent were prepared with help from the academic world.

"According to Stockholm's Royal Institute of Technology, tomorrow's companies look just like this. The days of the industrial proprietor are gone. Incidentally, I have just noticed that Siemens has implemented a reorganization that looks suspiciously like ours," says Bert Nordberg with a smile.

3G standards brought together in Gävle

Making 3G production as cost-effective as possible is the goal for the project now being conducted to start up production of equipment for CDMA2000 at Ericsson's plant in Gävle in Sweden. Equipment for WCDMA and NTT DoCoMo of Japan's variation of 3G is already produced at the plant.

Ericsson builds its products for the two 3G systems, WCDMA and CDMA2000, largely on common technology platforms. This means that several of the products that are included in the systems are produced in the same way. Therefore, there are cost-savings to be realized and this is also the reason why the Gävle plant is now starting to produce the BSC 11-20, which is the control unit for the base stations for CDMA2000.

"Production was initiated in the US, then in May the decision was made to transfer production to Gävle in Sweden on grounds of efficiency," says Todd Norman, at Ericsson in San Diego, in the US, where he is responsible for New Product Introduction (NPI).

In addition to Todd Norman, some key persons, such as test technicians, production developers and purchasers from San Diego, have been in Gävle to transfer their know-how to their colleagues there. Jonas Jonasson, who is project manager at the production unit at the Gävle plant, emphasizes that there are many common features in the manufacture of control units for WCDMA and CDMA2000 base stations.

"The mechanics and method of construction are the same for our WCDMA base stations. The circuit board is also the same. This means lower costs for logistics and purchasing. The project has proceeded well and cooperation with San Diego has been excellent. We have a flexible way of working here at the plant and this gives us resources to produce various products," says Jonas Jonasson.

With the addition of the control unit for the CDMA base station, Ericsson's plant in Gävle is probably the only location in the world where equipment for all 3G standards is produced.

GUNILLA TAMM

gunilla.tamm@lme.ericsson.se

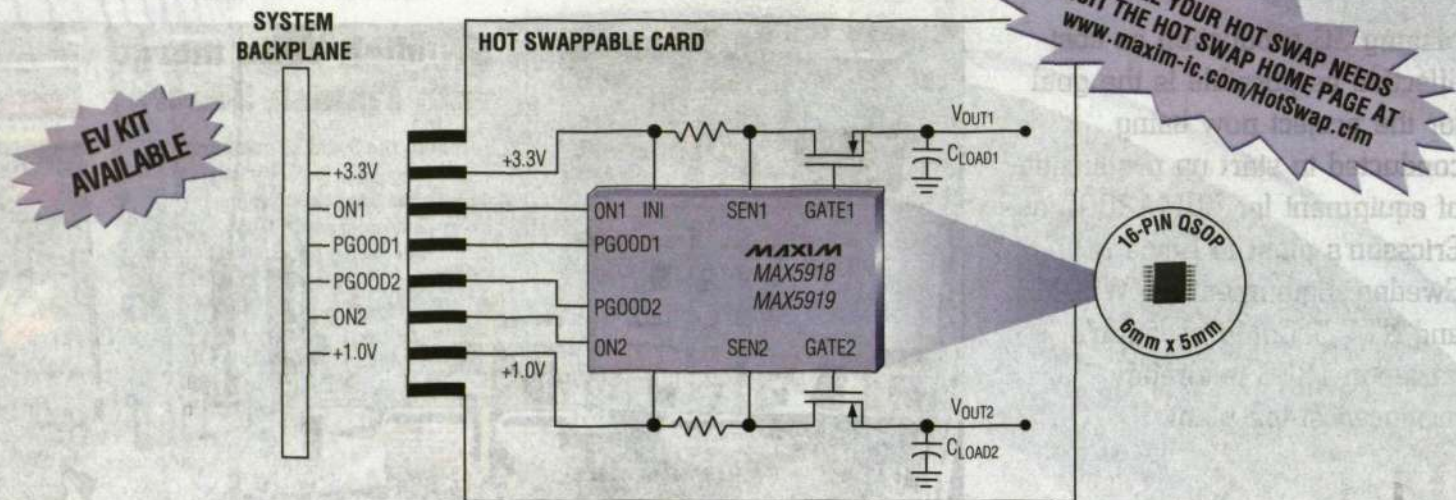
Jonas Jonasson on the left, together with Todd Norman at the control unit for CDMA base stations in Gävle, Sweden.



PHOTO: J-BILD

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2. Circuit Breaker Threshold	25mV	50mV	Improves system efficiency; reduces voltage drop headroom
3. VariableSpeed/ BiLevel™ Fault Protection	Yes	No	1) Prevents nuisance trips due to system noise and load transients. 2) Improves system reliability by providing a fast response to excessive load current and short-circuit conditions.
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†1000-up recommended resale. Price provided is for design guidance and is FOB USA. International prices will differ due to local duties, taxes, and exchange rates. VariableSpeed/BiLevel is a trademark of Maxim Integrated Products, Inc.

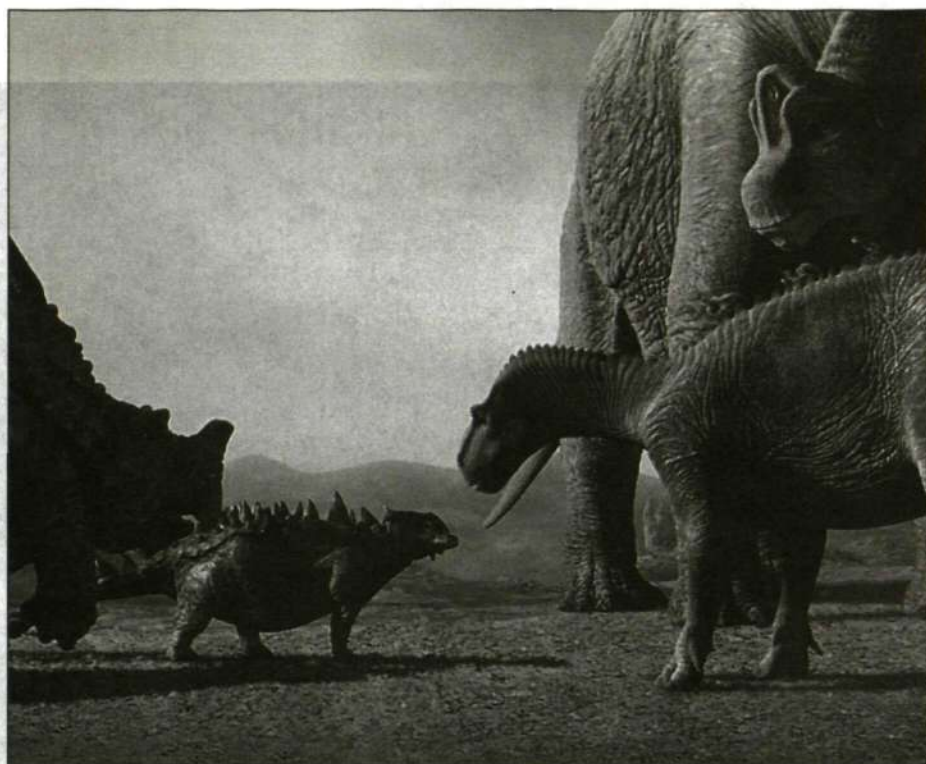
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Nigel Deighton compares the largest operators with the dinosaurs. Not all of them will die out, however: those that are flexible and adapt to the new world will survive.

PHOTO: PRESSENS BILD

Turning the dinosaurs

Analyst Nigel Deighton of Gartner Research is glad to see that the world of the operators is becoming more dynamic. But, as he says, it will take time for the dinosaurs to turn.

Nigel Deighton is fairly sure as to what the future will bring to the operators. By 2006, he foresees a retrenchment in original markets by operators such as T-Mobile, Vodafone and Orange. Some dominant players – the dinosaurs – will be stronger, while others will disappear. In Germany, he estimates that the current six operators will soon be down to the original four.

Greater flexibility

This development will make for some flexibility in a so far rather static market, and Nigel Deighton welcomes it.

"One thing we'll see is more Mobile Virtual Network Operators (MVNOs), such as Virgin. They have clear niche markets and clearly identified market segments, and will pose a new challenge for the original operators, who will have to go after users and MVNOs at the same time," he says.

The flexibility of the Virtual operators is bound to challenge the dinosaurs, and may create some interesting tension. When asked which operators he finds especially interesting, he names Hutchison, Virgin, and the "potential powerhouse" NTT DoCoMo.

"It's all about how quickly the larger operators

make the transition. Their mindsets are the greatest challenge to 3G," he says, referring to the operators' need to realize that they do not primarily sell technology, but lifestyle.

"Success will belong to those who understand this. The MVNOs already have, always adding either very large or very compelling value to their services while the dinosaurs are still mainly selling technology."

As an example, Nigel Deighton mentions the way different operators have approached MMS.

"They should talk about how it targets a certain lifestyle, in other words primarily the youth. It's about being constantly connected and able to create your own content, but the catch isn't the technology. People are interested in getting self esteem and the esteem of others, and that's what they are willing to pay for."

Crippling prices

As for recent development among the operators, for example France Telecom pulling out of MobilCom, Nigel Deighton is not surprised, and he refers to MobilCom's EUR 400 million emergency loan from the German government as "political engineering" – something that will only give the troubled operator "a stay of execution."

"The effect we'd really hoped for was that the German government would realize that the 3G license prices crippled the entire industry. But so far, that hasn't happened," he observes.



Nigel Deighton

ELIN AHLDÉN

elin.ahlden@ime.ericsson.se

Motorola and Siemens in collaboration talks

Motorola and Siemens may be close to reaching a settlement whereby Motorola will take over the Siemens mobile phone operations. In exchange, Motorola will transfer most of its mobile systems operations to Siemens.

The story was reported in the Crains Chicago Business online newspaper, which claims to have obtained the information from well-informed sources.

If the deal is finalized, Motorola will acquire a 25-percent share of the world market for mobile phones. Siemens, for its part, will gain access to Motorola's CDMA technology, which would pave the way for an expansion for Siemens in China and the US.

Swedish Telia merge with Finnish Sonera

Formally, the Swedish company Telia is purchasing Finland's Sonera, forming the largest telecom operator in the Nordic region. The company name will be TeliaSonera, but it will be called Telia in Sweden, Sonera in Finland and Netcom in Norway. The company's president and chief executive officer will be current Telia president Anders Igel, while Sonera boss Harri Koponen will be deputy CEO.



Anders Igel

The merger is expected to produce annual synergy gains of SEK 2.3 billion, approximately USD 200 million, already by year-end 2005.

In a press release about the merger, Telia explains that TeliaSonera will primarily provide communications services, and develop from a technology-oriented company into a more customer-oriented one.

The company also sees opportunities for expansion in Russia, its goal being that Russia will eventually form part of the company's home market.

Spain relaxes conditions for 3G

The Spanish government is currently reviewing its conditions for 3G licenses. Initially, it may decide to drop the requirement of a bank guarantee that operators are forced to obtain.

"If we can pay back the bank guarantees, the operators' financial situation will be much better," says a government spokesman in the Financial Times.

The four license-holders Telefónica Móviles, Vodafone, Amena and Xfera have paid a total of almost USD 5.5 billion (EUR 6 billion) in bank guarantees alone, in addition to the license fees. Spanish licenses cost an average of USD 120 million (EUR 134 million) a piece.

Breton new head of France Telecom

Thierry Breton is the new president and chairman of the board of France Telecom.

He is an engineer, and was most recently employed by Thomson Multimedia.

Thierry Breton has made himself known for having turned a moribund Thomson Multimedia into a highly successful enterprise.

The stock market reacted favorably to the news of Thierry Breton's appointment, despite the fact that he has said he wants to take two months to analyze the company before drafting a plan to save the finances of France Telecom.



Thierry Breton



India's huge population has attracted many new operators. The number of wireline network subscribers is only 4 percent, with mobile subscribers totaling a mere 1 percent. However, growth is rapid and, by the end of 2003, the country is expected to have 18 million mobile subscribers, a figure that is forecast to reach 50 million within four years.

Only 1 percent of India's population owns a mobile phone. This fact, combined with improved conditions provided by the authorities, has attracted many new operators. This year, Ericsson in India will install thousands of base stations for 18 new mobile networks in the country. Following the deregulation of the telecom market, there is now full competition for one billion potential customers. Coping with rapid installation and obtaining market shares in new areas are the most important targets this year for the local company.

Major market attracts new operators

India is currently in a major expansion phase for telecom in general and the build-out of mobile networks in particular. This is largely explained by the altered regulations for operators and the auctioning of four new GSM licenses for each state. In 1999, the country's telecom regulator decided to replace high annual license fees with a demand for a percentage of operators' profits.

Increased competition has resulted in lower call charges for all types of calls. Today, Indian operators offer some of the world's lowest charges for mobile calls.

The fact that the majority of the population lacks access to either a fixed or mobile phone is probably the strongest reason behind operators' interest in this market.

The number of subscribers in the wireline network is a mere 4 percent and the corresponding figure for mobile services is only 1 percent. However, growth is rapid and by the close of 2003, the country is expected to have 18 million mobile subscribers and within four years, this figure is forecast to increase to 50 million.

The struggle for potential subscribers has been fierce – so fierce that Jan Campbell, country manager for Ericsson in India, believes that certain operators will not survive in the long term. In pace with the increasing number of operators in the market, pressure on telecom suppliers has also grown.

"For Ericsson to be able to maintain its leading position in the Indian market, we must be able to deliver large volumes with great speed. Requirements for solutions to be cost efficient are also greater. Given the competition and pricing pressure under which we are currently working, it is necessary for us to be extremely thorough," Jan Campbell stresses.

ULRIKA NYBÄCK

Rapid network expansion greatest challenge

In India, Ericsson has set its sights for the next two years. The goals are: to grow faster than the market, maintain a leading position in GSM, secure a couple of CDMA contracts within a year and, in the long term, sell various broadband solutions.

So says Jan Campbell, responsible for all of Ericsson's operations in India.

"We must be on the ball in many areas. It is important to capture the largest possible market share. We are well-positioned in GSM, delivering to 60 percent of the operators who secured rights to new GSM licenses in 2001," he asserts.

He is careful to underline the extensive efforts that have been made to survey the market, identifying which operators have solid business plans and thereby favorable chances for long-term survival.

Record-quick build-out

One of the greatest challenges is fulfilling the build-out of the 18 new networks for which the company has signed contracts.

"This is more than we have built during the past six years of GSM operations in this country," says Jan Campbell.



Jan Campbell, head of Ericsson in India, has no doubts that the local company will manage the build-out of the 18 new networks for which it has signed contracts.

He has no doubts about the local company's ability to complete this assignment. During the spring, Ericsson in India delivered, installed and tested about 500 base stations during a period of four months for operator Hutchison. Careful goal-oriented planning and efficient internal processes have been key terms in operations during recent years and have provided favorable results.

During the past two years, Ericsson in India has only recruited 40 new employees (with a total of 390 employees in the market unit), while business nearly has tripled in the same period.

Achievable goal

To cope with the high build-out rate, the company has, to a certain extent, brought in subcontractors to install and test networks. This practice is set to continue.

According to Jan Campbell, the target of growing more rapidly than the market will be feasible during the coming year.

"Since we are building so many new networks, our market share will increase further. In GSM, we currently hold about 40 percent of the market and in wireline networks our share corresponds to approximately 10 percent."

In a longer-term perspective, the country manager perceives further business opportunities in India in addition to GSM. CDMA and broadband solutions represent two of these.

Several of the new national operators are taking steps to be able to offer broadband connections via fiber-optic networks. An example is Reliance, which has laid 67,000 kilometers of fiber-optic cables across India.

"Ericsson has a splendid product portfolio, including IP and broadband solutions, enabling us to capture substantial market share in the future," says Jan Campbell.

In certain Indian states, end users can use their regular phones within a fairly wide area, such as an entire city. Operators offering this type of mobility employ CDMA networks. The local company has therefore set a target of securing its first CDMA contract within a year.

Looks forward

Despite the sometimes rigorous tasks of the next few years, Jan Campbell looks forward to continuing to work in a market where demand is extensive.

"The next two years will be exciting and interesting. Right now, we need strong backing from other parts of the Ericsson organization.

"In some cases, for example, we need unique base-station configurations and other country-specific solutions," he concludes.



This year, Ericsson is installing thousands of base stations in 18 new mobile networks in India. This is part of a system in Hutchison's network.

ULRIKA NYBÄCK
ulrika.nyback@lme.ericsson.se

ERICSSON IN INDIA

- Ericsson began GSM operations in India in 1995
- Share of GSM market: approximately 40 percent
- Share of wireline networks: about 10 percent
- Number of employees: 390 within the market unit
- Development centers in Bangalore, New Delhi and Hyderabad are being sold to Wipro Ltd.
- Other sales: MINI-LINK, switches for both wireline and mobile networks, and 1.3 million fixed lines
- Within datacom, the company has sold the Tigris Multi Service Access Platform





Bharti's mobile operations go by the name of AirTel. A total of 25 percent of India's mobile subscribers are connected and the number of customers increases significantly each month. Shown here is part of Bharti's mobile network in the city of Haridwar.

"We regard Ericsson as the telecom suppliers' Rolls-Royce"

Bharti is one of the largest and most rapidly expanding operators in India today. Sunil Bharti Mittal, chairman at the company, describes Bharti's rapid growth and its close cooperation with Ericsson.

"Bharti was a small company when we began cooperation with Ericsson and today we are one of the most rapidly growing operators in the country. The fact is that one in two new subscribers join us. We are proud of and satisfied with our unique cooperation with Ericsson, a company we usually call the Rolls-Royce of mobile technology suppliers," says Sunil Bharti Mittal at Bharti.



Sunil Bharti Mittal

Since it was formed 1995, Bharti has built GSM networks in 15 Indian states and Ericsson has supplied systems for ten of these. Cooperation between the companies was initiated in 1995 and has grown each year since then.

The most intensive phase of the cooperation to date was reached in 2001, when six new networks were launched in less than seven months. The network build-out comprised about 1,000 base stations and radio links (MINI-LINK), as well as a large number of AXE nodes, and was larger than the operator's total earlier network build-out.

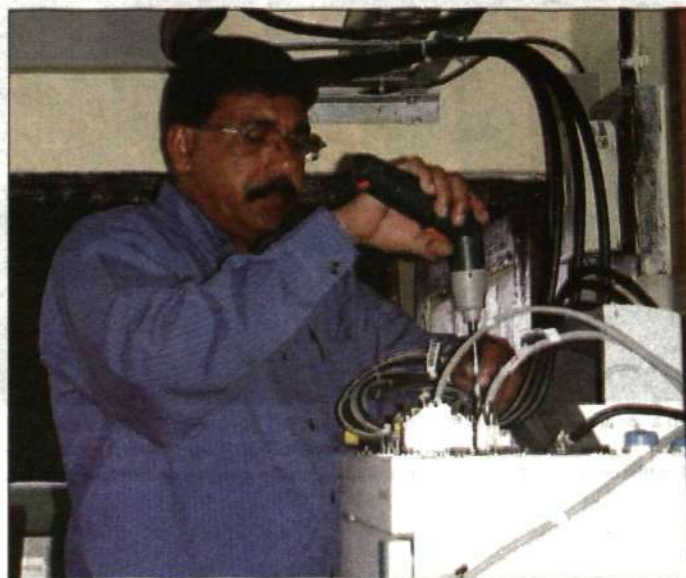
Craig Hosken is key account manager for Bharti at Ericsson in India. He explains how he and his colleagues succeeded in implementing such a rapid network build-out.

"Within our organization, we have very clearly defined roles and areas of responsibility, which means that it is easier to achieve established goals. We appoint a project manager with total responsibility for each mobile network, which means that everything moves faster. Last, but not least, it is the difficult and intense work conducted by extremely competent employees that has helped us to complete this," says Craig Hosken.



Craig Hosken

Bharti's goal for 2003 is to secure more licenses for other



Tester Pharook Muhammed working on the installation of a base station in Bharti's mobile network in the town of Chandigarh. Since it was formed in 1995, the operator has built GSM networks in 15 Indian states. Ericsson has supplied systems for ten of these.

PHOTO: SATYAJIT DEB

regions, launch new services, such as GPRS, and new pre-paid services, as well as increasing the number of subscribers in its networks.

"Considering what we have achieved to date, I hope that Ericsson in India will continue to supply and install systems, products and solutions for the new networks that Bharti plans to build," says Craig Hosken.

ULRIKA NYBÄCK

ulrika.nyback@lme.ericsson.se

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The management group for the new patent organization consists of Kasim Alfalahi, head of licensing, Gabriele Mohsler, head of the patent unit for core networks, Monica Magnusson, head of the patent unit for radio networks, and Måns Ekelöf, who is in charge of the entire organization. Above: Anders Onshage, head of the patent unit for the EMP/EBT mobile platform.

PHOTO: ECKE KÜLLER

Businesslike approach to patents and licenses

"Two years ago, we earned no revenue from our patents and licenses. Today, we are earning considerable sums that are booked directly as profit," says Måns Ekelöf, head of Ericsson's licenses and patents unit, which is currently undergoing reorganization to become even more business focused.

Intellectual Property Rights (IPR), which primarily involve selling patents and licenses (licenses convey the right to use patents), are growing increasingly important to companies. The US remains at the forefront of developments but Europe has awoken to the trend and is well on the way to catching up.

"This also applies to Ericsson, which has become a leader in its field within a short space of time," says Måns Ekelöf. "A great deal of money can be earned from useful patents and it is time that we were paid, in the form of licensing, for all of the research and development we have invested in refining telecommunications technologies."

Naturally, the number of patent applications has fallen recently due to the deep recession. Companies can no longer afford to invest as much in research and development.

"Of course this is also true of Ericsson," says Måns Ekelöf. "Although we do not feel any direct financial effect because we are simultaneously shifting from quantity to quality. We are investing more in patents which we see as promising investments."

The new organization currently being implemented and which applies as of October 1, is intended to increase revenues from IPR and to reduce costs.

"Through their amazing efforts, a small group of knowledgeable and goal-oriented individuals has managed to achieve considerable license revenues during the past year. We now intend to increase these revenues further."

Only the best will do

This will involve a firmer prioritization whereby backing is provided for efforts providing earnings. This means that cross licensing, whereby companies exchange patents with one another, is of less interest if it does not provide income. On the other hand, it is of interest to sell licenses to companies with weaker patent portfolios, which in practice involves most companies since Ericsson has, perhaps, the strongest patent portfolio in the industry. In this context, it is worth mentioning that the greatest value of Ericsson's patent portfolio is its strategic value, making it possible to use cross licensing to avoid having to pay royalties to other companies.

Costs are to be reduced – in part through improved efficiency in the organization with fewer units and simplified decision-making processes and, in part, by substantially reducing dependency on expensive external consultants and bureaus.

"Naturally, the latter entails an increased workload for personnel, but also that we grow stronger and are able to take command of the process. This should be a spur for all of us," says Måns Ekelöf.

Patents and licenses in a single unit

Organizationally the change entails the patent and license units being merged. Patents and licenses are regarded as belonging together in the same way that product development belongs together with product sales. It is therefore natural that they be integrated with one another.

At the same time, Måns Ekelöf is eager to stress that this does not mean that the entire operation will be centralized, rather that those with expertise in patents should remain an integrated part of the development organization. A large part of this expertise is spread throughout the world.

No personnel reductions are imminent since these were implemented previously and a significantly smaller number of people will now have a larger amount of work to perform. This is to be made possible by means of various improvements in efficiency.

"When I began here a year and a half ago, I decided that Ericsson would attain a world-class standard in IPR within three years. We are well on the way thanks to fantastic efforts by a large number of people. Already we are considered to be a leading licensing company," says Måns Ekelöf.

LARS CEDERQUIST

lars.cederquist@ime.ericsson.se



Between the presentations, Ericsson's partners demonstrated mobile services for participants at the Mobile Internet Forum.

PHOTO: FERNANDO MORENO

Forum inspires ideas

In an emerging mobile services market shared experience could mean double success. Operators and content providers in the market area EMEA recently met in Spain to learn from each other at Ericsson's fourth Mobile Internet Forum.

The Ericsson-building in Madrid is alive with activity. It is time for the EMEA Mobile Internet Forum, a two-day conference that aims to speed up the introduction of new services into the market. Badges with each participant's name and company are spread out on a table. Turkcell, Vodafone, Sony Music, Amena, Sport One – representation is broad from a geographical as well as industry perspective. Men and women in dark sober suits walk in the through the glass doors and claim their badges before they hurry on into the pride of Ericsson Spain – the ultra modern ComCenter demonstration and conference facility.

Driving developments

The target group for the conference is primarily managers in marketing, sales and development of mobile services. The initiative has been taken by the Mobile Internet Drive Team, an EMEA network intended to push the development of the Mobile Internet forward. Veikko Sepp leads the network, which was started a year and a half ago.

"This industry is in the very starting phase with all these new services, so it is very important to spread the

first success stories as fast as possible. The Mobile Internet Forum has proven to be a highly effective way of doing just that," he explains.

It is time to begin and the one hundred or so participants take their seats to listen to the manager of the Spanish company, Ingemar Naeve, and the head of the EMEA market area, Mats Dahlin, open the conference. After this, it is time for invited content suppliers and operators to outline their launches and cooperative projects. One subject that is high on the agenda is MMS, and operators from Spain, Turkey and Switzerland share the experiences of their launches. Many presentations highlight the end-user's perspective as a key factor for successful marketing. A representative from Spanish operator Telefónica Móviles stresses that the services and not the technology must be in focus, citing an internal survey showing that nine out of ten end-users do not know what is meant by "data services." Another important matter concerns how to bill for services. On this point, Slovenian opera-



Veikko Sepp

tor Mobitel provides an example of an open payment system, which it has found to work well. Between presentations, participants are able to walk around the demonstration center and try out services from various Ericsson partners.

"The intention is to create an open forum where operators and content suppliers can share experiences and discuss forms of collaboration. We don't want to tell our customers what they should do, instead we facilitate communication and thus cooperation between the various players," explains Veikko Sepp.

Ericsson as a catalyst

For Ericsson, it is naturally a matter of increasing traffic in the networks and, in the longer term, creating a need for new 3G networks. However, by arranging the Mobile Internet Forum, the company demonstrates that it is much more than simply a supplier of technology. Global presence and many years of experience allow Ericsson to work as a sort of catalyst between different players, helping them identify profitable partnerships and business opportunities.

"The technology for the new services is in place, now it is a question of marketing them and finding useful ways of sharing the revenue. We all share the same target and, rather than each of us baking a small cake of our own, we must work together to bake a big one that we can all share," says Veikko Sepp.

TONYA LILBURN

tonya.lilburn@lme.ericsson

ComCenter attracts customers

It is coffee break time at the Mobile Internet Forum, and the ComCenter demonstration center fills up with people keen to try out the applications on display. Among them stands Beatriz Lara, director of Business Development at Global Services in Spain and proud "mother" of the ComCenter. It was she who, together with country manager Ingemar Naeve, decided that it was time to change the market's perception of Ericsson.

"We had a very strong market position, but we were not properly recognized as leaders. So we felt that we needed to improve the image of ourselves as suppliers of solutions and services and not only technology," says Beatriz Lara.

The answer was ComCenter, a meeting place for the telecommunications industry with the ambition to serve not only Spain, but the whole market area. The center offers a GSM network with GPRS, ADSL, transmission, as well as all sorts of wireline and wireless solutions in Ericsson's portfolio. It can host anything from events like the Mobile Internet Forum to training, demonstrations and other sales and marketing activities.

"Now we can show the customer what is possible instead of telling them. We can offer real tests of the applications that are developed at Ericsson Mobility World, or the customer can bring along its own application and test it in our network."

The ComCenter is staffed with a well-trained team of professionals and visitors are greatly impressed by the organization and atmosphere. Beatriz Lara says she has definitely noticed a change in the general attitude toward Ericsson. The company is perceived less as the anonymous equipment supplier, and more as a consultant with valuable experience and opinions. And customers are eager to come.

"I even get calls sometimes from companies that say: 'Hey, haven't we been invited to your ComCenter yet?' As a sales person I know how valuable this is. There is power in getting people to come to you," concludes Beatriz Lara.



Beatriz Lara wants the ComCenter to be an industry meeting-place for the whole market area.

TONYA LILBURN

Bangkok summit addressed business growth

Business operations were in focus when a number of key persons working on Ericsson's sales in Asia-Pacific met for the two-day Business Growth Summit, held recently in Bangkok, Thailand. The aim of the seminar was to inspire, motivate, exchange experiences and increase knowledge of Ericsson's ability to assist customers on the road to increased growth.

One of the catchwords at the Business Management Conference (BMC), held in Frankfurt, Germany, in the spring, was "business". "Business growth" was also the main issue underlined by Ragnar Bäck, head of market area Asia-Pacific, in his opening address at the summit in Bangkok.

The topics on the agenda included cooperating with customers to find new routes to profitability and extending relations with customers. Ways in which Ericsson can transform current business opportunities into signed contracts were also discussed. Forums or "tracks," based on the various topics were arranged during the event. One of them was entitled "Mobile Voice and Data Traffic Growth," in which Kurt Sillén, head of Ericsson Mobility World, reported on services that can generate more traffic and revenue for operators. He also reported a number of success stories, as positive examples of how traffic in mobile networks can be increased.

Eva Fredriksson, key account manager for Far EasTone, participated on behalf of Ericsson in Taiwan.

"Taiwan has the world's highest mobile penetration and many subscribers have several SIM cards, using the one that currently offers best value for money. Increasing the volume of conventional voice traffic is therefore perhaps not as attractive for an operator like Far EasTone as finding solutions to encourage increased use of new Mobile Internet services. Circuit-switched services are also of interest because it is quite simply important to persuade subscribers to use their mobiles for services other than conventional voice," she explains.

Deepak Mahajan from Ericsson in India found the two days of seminars highly interesting and instructive.

"It was rewarding to hear about the 'total solution' concept rather than just products well supported by different business cases and success stories. Attending the Business Growth Summit has made me richer, seeing many 'best practices' followed in other market units, and it has made my network broader which is extremely valuable to me," he said.

This was the first time a summit of this kind, with business growth as its focus, has been organized. There are plans to arrange the same summit for the Europe, the Middle East and Africa and the Americas market areas later in the year.

The Business Growth Summit in Bangkok was followed by a one-day conference for key account managers in Asia-Pacific.



Eva Fredriksson

THREE VOICES

What is your company doing to promote mobile services? How did you benefit from the meeting?

Ramūnas Šablinskas, Omnitel:

"We've been in the business since 1995 and are among the pioneers in Europe when it comes to mobile services. We have a relatively good understanding of what our customers need and try to provide them with the appropriate services at the right time.

"It has been a great opportunity to meet others within the industry and to exchange ideas, experiences and news. The presentations were very focused and provided many good answers. It was interesting to hear how operators have solved problems in different ways."



Klaus Kindl, Sony Music:

"We try to find appropriate solutions that can increase data traffic over operators' networks and help stimulate business. Currently, we are working together with Ericsson in Austria to develop a wireless distribution platform for music and other content.

"It is important for us content providers to understand operators so that we are able to offer appropriate solutions. That is why it is incredibly valuable to meet, put one's cards on the table and learn from each other's experiences. We have received important confirmation that we are on the right track. Now we have to make sure that we can move ahead as quickly as possible."



Angel Garcia, Telefónica Móviles:

"We are working very hard with the Mobile Internet, not only with messaging services, but also with WAP and GPRS. We recently made an agreement with NTT DoCoMo to launch i-Mode and more services and content here in Spain.

"I've been able to meet various players in the market, hear differing opinions and ideas about how to launch and operate services. For us, the most important message is that we have to focus on our customers and work with third parties to quickly release the very best services onto the market."



A hundred nations under one roof

Strong team spirit, increased efficiency and faster decision-making typify the work performed by the market area Europe, Middle East and Africa (EMEA). The area, where boundaries between market units and companies are becoming increasingly blurred, accounts for half of all Ericsson sales.

Ericsson reorganized on October 1 of last year, combining five market areas into three. The former market area Central Europe, Middle East and Africa was merged with Western Europe to form EMEA.

"Our market area consists of 14 market units that encompass a hundred countries," says Mats Dahlin, head of EMEA. "Central management for the market area is small, consisting of just a few individuals."



Mats Dahlin

Initially, EMEA comprised some 14,000 employees. Since then, this number has fallen to approximately 10,000 today with additional personnel reductions ongoing.

"In the past, every market unit worked independently to a large extent," says Mats Dahlin.

"Key to the new market area was collaboration across boundaries right from the outset, and examining the opportunities that existed within all of these markets together. Today, with the difficult situation in the telecom market, such collaboration is not merely important, it is essential."

Monthly work shops

The heads of EMEA's market units meet once a month. Global customer unit heads, representatives from Sony Ericsson and, frequently, business unit heads also attend these meetings. In conjunction with these monthly meetings, work shops are also held during which market-related issues are discussed. Topics might include customer relations, how to increase voice traffic or what can be done in order to generate momentum in the Mobile Internet market.

"This is a good opportunity to share interesting ideas and experiences. Our market area encompasses countries that are very different from one another in terms of things like mobile phone penetration, which is much higher in Western Europe compared with Africa," says Mats Dahlin.

Although Western Europe has been hard-hit by the telecom crisis, other market units within EMEA are doing fairly well.

Mats Dahlin points to Eastern Europe, Central Asia and the Middle East. In central Europe, several MMS contracts have been signed.

The various market units within the market area hold extensive expertise. Forming groups that work across market and company lines is the best way to take advantage of that expertise.

The EMEA market area consists of 14 market units and one hundred different countries. Although there are significant differences among the nations, there is significant collaboration across market unit lines. Together they are exploring opportunities that exist within their markets.

One example is the Mobile Internet Drive group that was formed last autumn. It is overseen by Veiko Sepp, president of Ericsson in Estonia, a company that has made great progress with Mobile Internet. (Read more on page 16.)

Inspiration from popular contest

Another example is the Business Partnership program, an initiative of Ericsson in Turkey. (See adjacent article.)

The Talk Time contest, a successful initiative undertaken by the market unit DACH (Germany, Austria, Switzerland and Liechtenstein), encouraged employees to submit proposals for how to increase talk time on mobile phones.

The contest extended beyond the boundaries of EMEA and was open for proposals from employees anywhere within the company.

Yet another good example is the Customer Solution and Sales Support program that Ericsson in Croatia initiated under the leadership of Gordana Kovačević.

EMEA collaborates with the other two market areas at Ericsson. Current areas of collaboration include common customer issues and the Business Partnership Program.

"The EMEA organization works well, although organizational issues are complicated and there is always room for improvement. We are therefore continuing to develop the organization in order to become even more flexible and utilize joint resources more effectively. The goal of our organization and all of our work is to support our customers in an optimal manner," says Mats Dahlin.

GUNILLA TAMM
gunilla.tamm@ime.ericsson.se



ILLUSTRATION: HELENA HALVARSSON

Understanding the needs of clients

In order to strengthen KAM groups in EMEA, a Business Partnership program has been established. The goal has been to increase understanding for the needs of customers and to reinforce their opinion of Ericsson as a long-term business partner. Ericsson in Turkey assumed a leading role in this program.

Edvard Gavefalk, who is Global Account Manager for a large GSM customer in Africa, was one of the participants.

"The program was good and provided excellent training, with the right level of support. It was an outstanding opportunity to meet other account managers and share experiences. The program provided a mixture of methodology and more hands-on tasks. The cases we worked on were interesting since they dealt with different kinds of customers and businesses. In addition, a connection existed, or was created, be-

tween the cases and Ericsson's strategic relationships with customers. The program was divided up into two parts with homework in-between. Many of the tasks were implemented by virtual groups.

"The program was started and concluded at Mobility World's facility at Ericsson in Turkey," says Edvard Gavefalk.

"The first phase of the program that was concluded a few months ago, consisted of about 150 participants and was very much appreciated," says Petter Andersson, who is responsible for the program aimed at marketing and salespeople in EMEA. He is currently planning a follow-up to the program in conjunction with Ericsson University and the various marketing units within EMEA.

GUNILLA TAMM

The program provided excellent training, with the right level of support

Edvard Gavefalk



Graphics: Pewes Media

The EMEA market area consists of Europe, the Middle East and Africa. Its largest market unit, according to geographic area, is Eastern Europe and Central Asia, which accounts for one seventh of the earth's surface.

Local presence is the key

In just one year, the number of mobile phone subscribers has increased 90 percent in this area, which encompasses eleven time zones, comprises one-seventh of the world's surface and has a population of 250 million. We're talking about the Eastern Europe and Central Asia market unit, where Ericsson holds a strong market position and is making profitable business deals.

"Many of the countries in our market unit have well-educated populations and are experiencing relatively strong economic growth. This is especially true of Russia and Ukraine, which have talented engineers and scientists working in areas such as the aerospace industry," explains Björn Hemstad, head of the market unit Eastern Europe and Central Asia.



Björn Hemstad

The twelve-country unit includes Russia, Belarus, the Caucasus and Central Asia. Of the twelve, Ericsson conducts business in nine and has local representation in seven. The unit also has resources located in Croatia and Sweden. Currently, the market unit employs 450 persons, a number that will probably drop slightly.

"In these areas, it is very important to establish and maintain good relationships, not only with customers but also with the authorities. A local presence is critical in order for us to be able to live up to our goal of understanding markets better than our competitors," explains Björn Hemstad.

There are 23.5 million mobile phone subscribers in Eastern Europe and Central Asia, with penetration rates ranging from a few percent to 38 percent in Moscow.

In terms of subscribers, Ericsson holds an approximately 33-percent market share. When it comes to deliveries to the area, however, the figure is higher at 45 percent. The explanation lies in the fact that Ericsson delivers equipment to operators who have not yet put their mobile phone networks into commercial operation.

"Russia is our largest market. We supply equipment to all three of the major mobile phone operators. Other large markets include Ukraine and Belarus. One of our customers operates networks in Azerbaijan, Georgia and Kazakhstan," says Björn Hemstad.

Fixed telephony is currently growing faster than mobile telephony, which is due to the fact that capacity is being expanded for both voice and data, as well as the special attention being paid to long-distance traffic. The market unit has been delivering fixed network products to its markets in conjunction with Ericsson in Croatia for a long time, especially to Russia. Another example where Ericsson has been successful is the market for long distance transmissions is Ukraine, where it holds more than 80 percent of the market.

"Based on our strong position in the mobile sector,



Several countries within the market unit Eastern Europe and Central Asia are experiencing relatively strong economic growth. Both Russia and Ukraine have their own aerospace industries, which this space-age monument in Moscow serves to highlight.

we have opportunities to also make inroads into the fixed sector, offering integrated solutions for mobile and fixed telephony. It is a strength to be able to work with Ericsson's entire product portfolio," says Björn Hemstad.

Things are going well for the Eastern Europe and Central Asia market unit, all aspects of the operation are profitable and business is being done.

Björn Hemstad raises a word of caution, however.

"Competition is becoming increasingly fierce, with new competitors from China emerging and growing stronger. That is why it is so important that we take advantage of our local presence and learn to understand the requirements of our customers better than our competitors," he says.

GUNILLA TAMM

gunilla.tamm@ime.ericsson.se

Major assignments in Saudi Arabia

"Of the twelve countries that are included in the market unit Middle East, Saudi Arabia is the market that is expanding most. In two years, Ericsson has secured orders valued at more than USD 1.1 billion from the Saudi GSM operator, Saudi Telephone Company (STC)," says Cesare Avenia, head of the market unit.

In August this year, the market unit Middle East had a total of 729 employees at the ten offices that operate within the unit.

The United Arab Emirates has the highest penetration for mobile phones at 57 percent. With 17 percent penetration, Saudi Arabia has the highest number of subscribers, slightly more than four million.

"Saudi Arabia, with the telecom operator STC, is undoubtedly Ericsson's largest market in the area. In February 2000, we secured a contract for USD 300 million and in August 2001, a further order for about

USD 820 million. This means that our most important assignment this year has been to supply the equipment ordered and complete the installations. The number of GSM subscribers in STC's network is growing all the time," says Cesare Avenia.

STC, which is the only GSM operator in Saudi Arabia, launched prepaid cards in April, a service that is highly appreciated and has resulted in such effects as an increase in telephone sales.

Saudi Arabia is an old market for Ericsson in terms of mobile telephony. This was the country where the

company's first NMT 450 system was taken into commercial operation in September 1981, a month before Sweden and the Nordic countries.

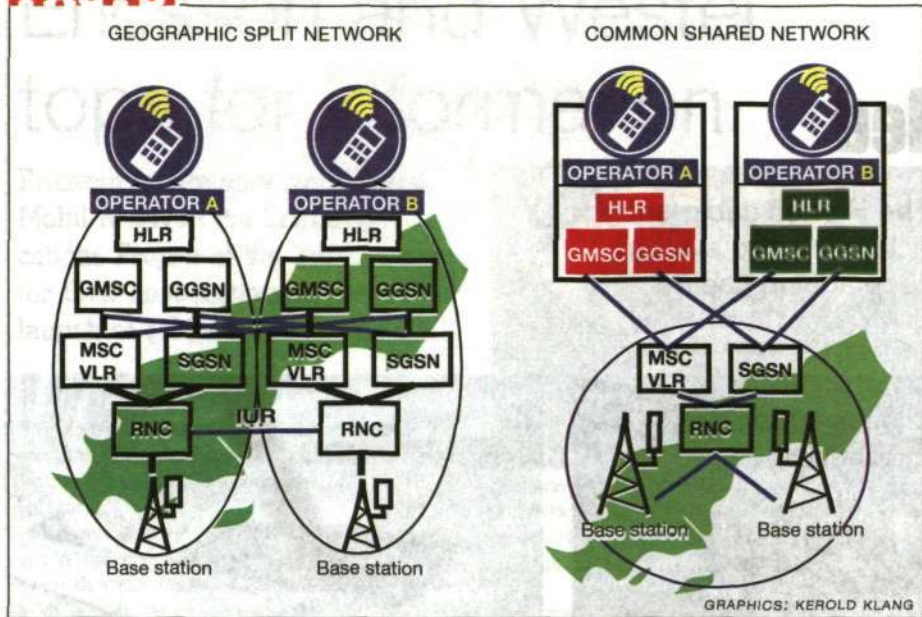
In addition to the orders from Saudi Arabia, during the past six months Ericsson has secured orders for the expansion of the GSM network in the United Arab Emirates and Bahrain. In the latter country, this also includes the introduction of MMS.



Cesare Avenia regards Saudi Arabia as Ericsson's largest market in the Middle East.

GUNILLA TAMM

DIFFERENT OPTIONS FOR OPERATORS



Shared networks reduce costs

Sharing networks helps operators to accelerate 3G deployment. This reduces costs, while speeding up service roll-out. Currently there are four distinct solutions that are appropriate for different situations.

Shared networks have become a way to lighten the debt burden from which many operators are suffering. Recently, the EU approved a plan put forth by the British companies T-mobile and mmO2 to share cell sites in urban environments and to supplement them with 3G, national roaming or geographically shared networks in other areas, which account for about 80 percent of the population. Sharing of networks is also planned in Germany and Sweden.

Technically there are now four solutions for sharing networks. Operators may have networks that complement each other geographically, or they may share site equipment. They may also share the entire network or just the radio network.

Geographic sharing

The simplest form, called site sharing, is already established within GSM. Operators share site equipment, such as masts, power supplies and transmission equipment, but have their own base stations. Two operators often each have their own antennas in a shared installation, thus enabling them to tilt the antennas separately for optimal coverage, which is important in WCDMA. This reduces costs for installation, operation and maintenance, as well as network planning. This solution can be used in both urban and rural areas.

"The solutions most discussed today are geographic split networks and common shared networks," relates Lambert Beekhuis, manager for Share Network Solutions at Ericsson.

The 3G networks that complement each other geographically are attractive for operators who have licenses and want to provide rural coverage more quickly.

Each operator has its own network and provides coverage through national roaming between the net-

works. According to the 3GPP standard, up to five operators can complement each other in this manner.

In geographic split networks, it is important to solve the problem of how to roam a user from the shared network to the operator's own GSM network. Ericsson provides a unique solution using a Selective Handover function for roaming the user into the correct GSM network, the name of which is also seen in the display.

Geographic split networks are similar to common shared networks in which the operators share both the radio and core networks with national roaming in common areas but with the difference that the operators each have their own license and also have their own networks with a GSM network as the base.

Inexpensive but limited

The solution best suited for operators without their own 3G license or for virtual operators is a common shared network. With this solution, the operators not only share the base station and the RNC (Radio Network Controller), but also the SGSN (Serving GPRS Support Node) for packet data, the MSC (Mobile Switching Center) and the VLR (Visitor Location Register). Each operator then has its own HLR (Home Location Register) to handle payment functions and services, as well as its own connections to external networks. Subscribers belong to their own operator, which is shown in the display, and roam in the common network. This is a solution that Ericsson is now implementing for the Swedish operators Telia and Tele2. The benefits are substantial, as long as the networks are new and the volume of traffic low.

Common shared networks for 3G are similar to the solution used in GSM for virtual operators with roaming in a host operator's network.

The fourth solution is for operators to share the physical radio network while operating separate core networks. Logically they each have their own radio network and their own frequencies. When operators are forced to use their own frequencies, this is a suitable solution. All of these solutions allow operators to migrate to their own separate networks.



Lambert Beekhuis

LARS CEDERQUIST

lars.cederquist@lme.ericsson.se

Bluetooth marches on

Within five years, every fifth car will include Bluetooth hardware, predicts a new study by Allied Business Intelligence (ABI) Inc.

Chrysler, which has already launched a handsfree option for certain models, was the first in the US, while Saab and some BMW models offer a Bluetooth handsfree in Europe. What auto makers find particularly attractive is the low cost of Bluetooth chips. Initially, telephony will be the primary application, but more advanced data services will soon arrive.

www.allnetdevices.com

Chat from the air

Verizon Airfone now offers airline passengers traveling on Airfone-equipped planes a number of modern services, including Interactive Messaging (IM), Internet chatting with two or more users, online games, news, stock quotes and other information services.

Verizon Airfone's data service JetConnect is already operating on several aircraft and is now being upgraded. As many as 46 passengers can use JetConnect by plugging in their laptops. Interactive messaging and chatting is possible with both persons on the ground and other passengers.

www.interactivemessagingplanet.com

Superb sound for ringer

This autumn, Sony Ericsson's first GSM phones with polyphonic ringers – the T300 and the P800 – will reach the market. Several competitors have already launched this technology.

"Our solution delivers better quality," says Peter Körner, who heads the Polyphonic Ringer Group at Sony Ericsson.

Polyphonic ringers allow several tones to be played simultaneously. There is an instrumental version with several different instruments and registers. Only recently has this technology become sufficiently inexpensive to be attractive. An important ingredient is the MIDI (Musical Instrument Digital Interface) format that stores sound information primarily in the form of control signals. The result is small sound files that require very little power or storage capacity.

Polyphonic sound was initially used in Japan, where there are already phones with up to 40 polyphonic channels. Everything above 16 or 18 channels, however, is really a theoretical exercise, according to Peter Körner. It is the quality of the tiny synthesizer in the phone and the frequency response of the phone that determines how good the result sounds.



The T300's 24-channel polyphonic ringers were highly appreciated during field trials.

Tips

Contribute to reducing telephony and IT costs at Ericsson. A large number of tips about how we can all help to reduce costs have now been made available on the Out IT Environment portal. The following tips come from Gunilla Ahrens, Ericsson Solutions Management:

- Use ECN numbers for internal calls
- Use Ericsson's own telephone conferencing system
- Clean up your H: drive and e-mail inbox and delete copies and old files
- Send links instead of attachments whenever possible
- Use standard software and products
- Remove access on systems that you do not need

Infosverige.ericsson.se/it_stod/our_it_environment/index_eng.asp → How you can contribute to decreasing Telephony and IT costs.

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Don't miss Ericsson's internal news show with the latest news on Ericsson and the telecom business

5minutes

Updated every Tuesday on inside.ericsson.se

Brought to you by the *Contact* editorial team

Ericsson and Westel tops for information

Ericsson in Hungary and Westel Mobil received the Communications Project of the Year award for their cooperation on the launch of MMS in Hungary.

"We often collaborate with Westel, but naturally, this was an unusually large project," says Gabriella Liptay, communications manager at Ericsson in Hungary.

The award goes to the best communications project in Hungary each year. In its motivation, the jury notes that information regarding the world's first MMS launch was so successful that as much as 67 percent of the target group was reached. Ericsson's decision to demonstrate the technology behind MMS in a pilot project already at an early stage resulted in an order from T-Mobile. The launch was covered by 25 TV stations from a total of 19 countries, and both journalists and the public had the opportunity to see MMS being demonstrated in a shop-



Ericsson's communications manager in Hungary, Gabriella Liptay, receives the award, along with Gyorgy Nemeth, Westel's communications manager.

PHOTO: JÁNOS SZEMOSI

ping center via touch-screen information and over the Internet.

"This was an opportunity to teach people more about Ericsson. We presented MMS as an appetizer for 3G," says Gabriella Liptay.

ELIN AHLDÉN

elin.ahlden@lme.ericsson.se



The EriClub committee, from left: Rim Zaïme, Rimi Ben-eradi, Aziz Serroukh, Ghizlaine Filali, Zahra Banchereau and Zouheir Nassir.

PHOTO: MUSTAPHA TORABI

Anniversary in Morocco

EriClub in Morocco had reason to celebrate its first birthday, membership has tripled since the start. The club, started with the support of former head of Ericsson in Morocco Patrick Boyeux, arranges social and cultural events and aims to bring the various nationalities among the employees together.

Some of the most appreciated events in the past year were Patrick Boyeux and piano virtuoso Bertil Lagerman's performance at the summer party, the Chabanaa party and the Aid El Kébir celebration where the lucky winner walked home with a sheep.

P800 aids 007

Even a ladies' man and super agent like James Bond occasionally needs assistance to communicate. Sony Ericsson is sponsoring the latest Bond movie, Die Another Day, scheduled to open worldwide November 20. Agent 007 himself uses the T68i, whereas R, always a step ahead, is rumored to sport a P800.

new assignments

Bengt Forss, head of Ericsson in Lithuania, is also the new head of Ericsson in Latvia.



Bengt Forss

Graham Osborne is the new head of TDMA Systems. He was previously head of TSP Application and Platform Development.

Melker Nordlund has been appointed new head of the Global Services Delivery Unit.

Adriana Boersma is the new vice president and key account manager for the MM02 group. She was previously general manager of the O2 account in the Netherlands.

from the archives



Swedish Katrineholm's leisure committee organized a successful summer excursion in 1957, according to reports. In order to really set the tone, a Viking drama was played out on Vinön Island in Lake Hjälmaren.

contact

CORPORATE EDITOR, PUBLISHER

Lars-Göran Hedén, +46 8-719 98 68, lars-goran.heden@lme.ericsson.se

ASSISTANT EDITOR

Ingrid Båvsjö, +46 8-719 08 95
ingrid.bavsjo@lme.ericsson.se

NEWS EDITOR

Henrik Nygård, +46 8-719 18 01
henrik.nygard@lme.ericsson.se

PRODUCTION MANAGER 5MINUTES

Ulrika Nyback, +46 8-719 34 91
ulrika.nyback@lme.ericsson.se

EDITOR, TECHNOLOGY

Lars Cederquist, +46 8-719 32 05
lars.cederquist@lme.ericsson.se

EDITOR, WORLD WATCH

Sara Morge, +46 8-719 23 57
sara.morge@lme.ericsson.se

EDITORIAL STAFF

Dodi Axelson, +46 8-719 24 18
dodi.axelson@lme.ericsson.se

Lars-Magnus Kihlström, +46 8-719 41 09
lars-magnus.kihlstrom@lme.ericsson.se

Tonya Lilburn, +46 8-719 32 02
tonya.lilburn@lme.ericsson.se

Jesper Mott, +46 8-719 70 32
jesper.mott@lme.ericsson.se

Jenz Nilsson, +46 8-719 00 36
jenz.nilsson@lme.ericsson.se

Gunilla Tamm, +46 8-757 20 38
gunilla.tamm@lme.ericsson.se

EDITOR, AROUND ERICSSON

Elin Ahldén, +46 8-719 69 43
elin.ahlden@lme.ericsson.se

LAYOUT AND WEB DESIGN

Paues Media, +46 8-665 73 80

EXTERNAL ADVERTISING

Display AB, +46 90-71 15 00

DISTRIBUTION

PressData
Box 3263
SE-103 65 Stockholm
phone: +46 8-799 63 28
fax: +46 8-28 59 74
contact@pressdata.se

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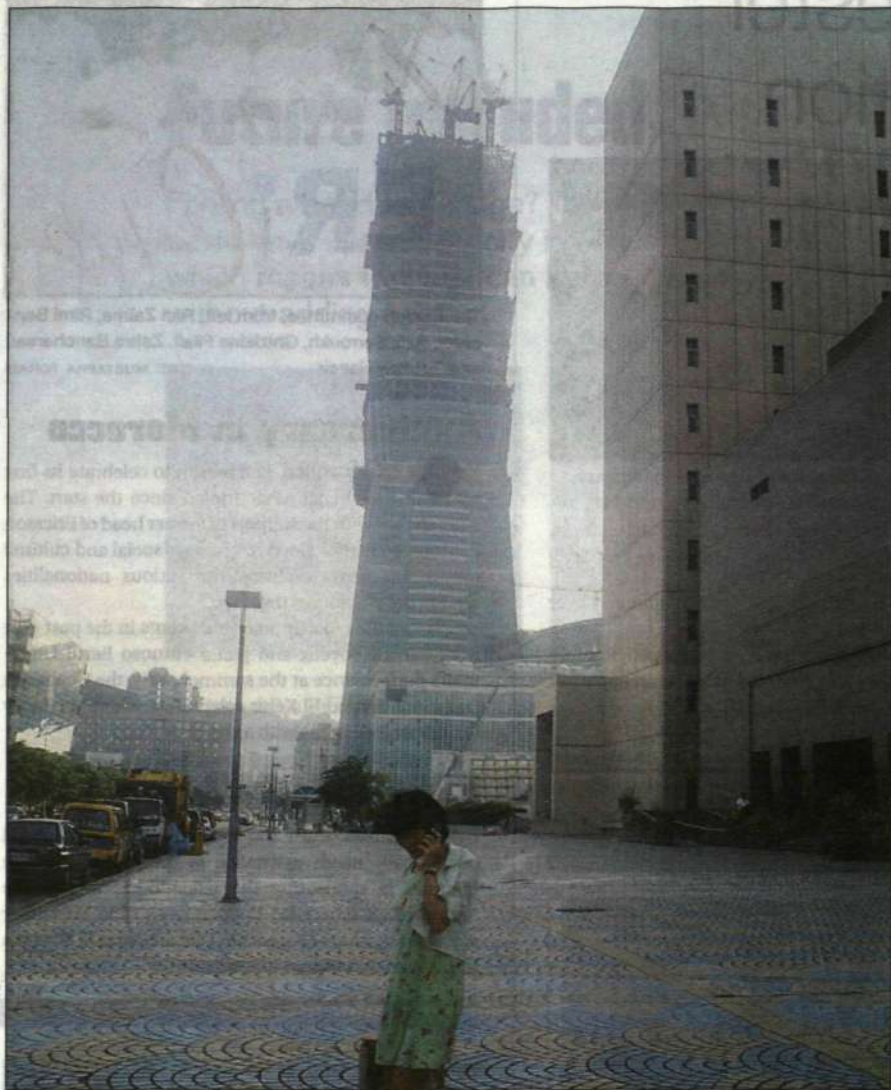
ADDRESS

Telefonaktiebolaget LM Ericsson,
HF/LME/DI
SE-126 25 Stockholm
fax +46 8-681 27 10
kontakten@lme.ericsson.se

CONTACT ON THE WEB

http://www.ericsson.se/
SE/kon_con/contact





A foggy day in Taipei but construction continues. When complete, at the end of 2003, the Taipei Financial Center will be 106 stories tall. Thanks to indoor systems from Ericsson, coverage will be provided for all mobile standards used in Taiwan.

PHOTO: EASTT WU

Reaching high in Taipei

Currently under construction in Taipei, the capital of Taiwan, is the Taipei Financial Center which, at 508 meters, will be the world's tallest building. Ericsson has been assigned to deliver and install equipment in the skyscraper providing indoor coverage for all mobile standards in Taiwan.

Taiwanese operator, PTT Chung Hwa Telecom placed the approximately USD 3 million turnkey order. Turnkey means that besides delivering the actual equipment, Ericsson assumes responsibility for design, installation and start-up. The indoor coverage system is based on a technology called Cellular Inbuilding Solutions, which includes a "multi-operator box."

The solution can cope with all Taiwanese mobile standards, WCDMA, GSM 900, GSM 1800 and CDMA2000.

Ericsson in Taiwan has maintained close cooperation with the Inbuilding Competence Center (ICC) in Singapore. This center was inaugurated three years ago and has the task of developing solutions for indoor coverage in the Asia-Pacific region.

A further two centers for indoor coverage have been opened, one in Madrid and the other in Dallas. To date, Ericsson has delivered indoor-coverage solutions for more than 5,000 buildings around the world.

Construction of the Taipei Financial Center has now progressed halfway and the skyscraper is scheduled for completion at the end of next year. It will then be 508 meters tall, including antennas.

The skyscraper will have 106 stories of which five will be below ground level. It will contain 61 elevators, two of which are said to be the world's fastest with a speed of 1,000 meters per minute, that is, 60 kilometers per hour.

GUNILLA TAMM
gunilla.tamm@ime.ericsson.se



column

LARS-GÖRAN HEDIN
corporate editor

Putting news in its place

In my last column, I wrote that the most important task for Ericsson right now is to sell, sell, sell. First priority should be to do everything it takes to get the company back on its feet.

The recent notice of redundancies underscores how correct this mindset is. Ericsson is a company in crisis – there's no reason to be coy about that. But luckily, there are good ideas about how we can emerge from the crisis not wounded and shaken, but as an even stronger player on the telecom market.

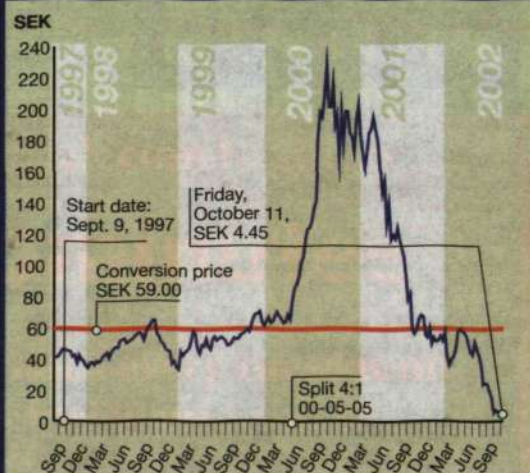
With this edition of *Contact*, we introduce a slight change. Earlier, we've categorized the contents of the magazine's pages. In addition to our regular pages for News, World Watch, Technology and Around Ericsson, we're making it clearer for readers what the most important messages currently are for Ericsson employees.

"Business growth," "Turnaround for profit," and "Strategy" are the three main categories in the magazine. The most important area is "Business growth," where you can read about concrete ways to get the business wheels rolling, about new interesting market areas and the like. Articles about more effective ways of working and with ideas on how to help the company reduce its costs are gathered under "Turnaround for profit."

Naturally you find anything having to do with the company's strategies under the title, "Strategy." Once the ongoing strategy work is finished, those messages will appear in the appropriate pages in *Contact*.

The idea is that *Contact* will be even more useful and more important for its readers. Because it's as true as ever – what's good for the company is good for all of us.

The ericsson b share



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