

CONTACT

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Tragedy for Ericsson

The ferry disaster in the Baltic Sea was a human tragedy of enormous dimensions. Ericsson was particularly hard hit. Among the missing are 12 Ericsson employees, including nearly the entire leadership of the Metalworkers Union.

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Triumph in Amsterdam

Ericsson was a double winner at this year's presentation of the European Quality Award. Ericsson S.A. in Spain won one of the three European Quality Awards and Ericsson Telecommunicatie B.V in the Netherlands was awarded the national award for the best quality improvements.

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Successful marriage

A new Ericsson company has been formed in the U.S. American Raychem Corp. and Ericsson have joined forces in a new joint-venture company Ericsson Raynet.

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Until now, mobile telephone systems and terminals form the backbone of Ericsson's German operations. A great challenge is waiting here for Ericsson - the deregulation of the fixed German telephone network.

Ericsson united on German market

Ericsson's various operations in Germany have been combined within a joint company, Ericsson GmbH. The company will

strengthen Ericsson's position in one of the world's largest telecommunications markets.

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The ferry disaster that affected us all

The Estonia disaster hit Ericsson hard. Among the missing passengers were the leaders of Ericsson's metalworkers unions - 11 individuals who all meant a lot to the company.

As CEO of Ericsson, Lars Ramqvist had close contacts with all of them. As a result, his personal reactions to the accident are very deeply felt.

The news of the sinking of the Estonia prompted anxiety and dismay throughout Sweden.

"The concern I personally felt became even greater when I heard that 11 of our leading union representatives were on board," related a shaken Lars Ramqvist to Contact.

A double loss to Ericsson's CEO

Lars Ramqvist was deeply shocked when it was confirmed that they were not among the survivors. Lars personally played an active role in the initial meetings of the crisis group. When there was no longer any doubt that none of the eleven was on the list of survivors, he sought the assistance of the local managers of the Ericsson facilities where they worked to convey his personal condolences to the bereaved relatives.

Invaluable efforts

"It was very important to me to personally convey my sympathy for the families of the victims. I had the personal pleasure of working very closely for many years with many of those among the missing group. Their efforts over the years have been invaluable for Ericsson. They had extensive knowledge of the Group's operations and were very capable spokespersons for their work colleagues.

At the same time, they demonstrated a great concern for all of us in the company.

In short, they had Ericsson's best interests at heart. All eleven were excellent examples of personnel who truly personified Ericsson's common values - professionalism, fellowship and perseverance."

Lars Ramqvist understands that there are many co-workers throughout Sweden who are grieving for their friends today.

High state of readiness

"The many expressions of sympathy and spontaneous initiatives in honor of the missing are a heart-warming illustration of the close family spirit within Ericsson. We can never turn the clock back, but we shall at least do everything in our power to help the next of kin. In the face of this disaster, Ericsson's crisis group and the company health service have also shown their high state of readiness and their deep concern to comfort both fellow employees and next of kin in crises such as this," underscores Lars.

"Nevertheless, it is a heavy burden to bear just now. The loss that has struck Ericsson is a double loss for me, since it has been my great privilege for a number of years to be able to regard myself as a personal friend of these colleagues.

Lars Göran Hedin



The ferry service between Tallinn and Stockholm was a lifeline for the people of Estonia. The missing are being mourned in both Estonia and Sweden. Photo: Bertil Ericsson

CONTACT

Publisher: Nils Ingvar Lundin

Editor: Lars-Göran Hedin,
tel: +46 8 7199868, memo: LMELGH.

Editorial assistant: Pia Rehnberg,
tel +46 8 719 78 69, memo: LMEPRG

Fax nr: +46 8 7191976

Distribution: Birgitta Michels,
tel: +46 8 7192814. Memo: LMEBIMI

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Double quality triumph celebrated in Amsterdam

It was a big day for European quality efforts. It was a major day for Ericsson.

During the awards ceremony for the year's summary of the European Forum for Quality Management, two Ericsson companies stood on the podium. Ericsson S.A., Spain and Ericsson Telecommunicatie in the Netherlands were both awarded a prestigious quality prize.

European Forum for Quality Management, EFQM, was established by 14 major European companies in 1988. With strong support from the EU Commission, EFQM's task is to attempt to strengthen Europe's competitiveness compared with the U.S., Japan and the rest of the world. The tools to strengthen the European companies' position are the quality activities undertaken through Total Quality Management.

To accelerate the pace of the European quality efforts, EFQM established the European Quality Award.

Strong support

From the start, the European Quality Award received strong support from the majority of the European establishment. Many renowned European industrial leaders were on the EFQM Board. For example, the chairman during the past three years has been Louis Schweitzer, CEO of Renault. The EU Commission's chairman Jacques Delors has also personally supported the work of EFQM. He held the opening address at the organization's first congress and this year he returned to present the prizes at the European Quality award ceremonies.

Five finalists

A large number of companies submitted their applications for the European Quality Award this spring. After reviewing these applications, five finalists were chosen, all of which were visited by the award jury. One of these five was Ericsson S.A., Spain, which entered the competition for the first time. Later, three prizewinners were announced, including Ericsson S.A.

"It was very difficult to differentiate between the three winners," related Gunnar Johansson, chairman of the selection committee and former head of Volvo. In considering Ericsson, the strong commitment throughout the entire organization for TQM



Anders Igel, technical director of LM Ericsson and also corporate responsible for TQM and quality work, congratulates Haijo Pietersma, president of Ericsson Telecommunicatie (left) and Raimo Lindgren, president of Ericsson S.A. To the far right Kes Pannekoek from Ericsson Telecommunicatie.

contributed to the success. The jury was also impressed by the company's expression of social responsibility and contact with the local community.

Back to daily routine

Raimo Lindgren, president of Ericsson S.A., was of course proud when he received the award. In his acceptance speech, he underscored the importance for the Spanish company of the entire Group's conscientious work with TQM.

"Any of the Ericsson companies could be here today," he said. He also extended his deep appreciation to the 3,000 employees of Ericsson S.A. and their commitment to the improvement project.

"Now that we have reached this milestone in our quality efforts, we must not relax. We have the daily work ahead of us which at all times requires an enormous commitment from everyone, particularly from me," he told Contact.

"Our cascade program has been the key to our success. You have to get involved in such an activity to be able to disseminate goals and strategies to all of the employees. And in return, you receive a great amount of feedback from the organization!"

The real prize

One of the cornerstones of TQM is to place the customer in focus.

This is a matter of course for Raimo Lindgren. Relations with Telefonica, Ericsson's main customer in Spain have improved substantially in recent years, particularly as a result of the improvement efforts and culture change which TQM initiated.

"The award we received is only symbolic. The only and final judge is the customer. A satisfied customer is the real prize," Raimo emphasized in his official acceptance speech. He also congratulated Design to Distribution Ltd., the one of the prizewinners which was awarded top honors - the European Quality Award. The company was a prizewinner last year and reached this final achievement by reacted to the jury's viewpoints and making improvements.

"That's the way we are now going," contends Bengt Holm, quality manager at Ericsson in Spain. For Bengt and Raimo the task is to roll up their sleeves when they arrive home and begin preparations for next year's application.

Dutch triumph

Since the presentation of the European Quality Award this year was in Amsterdam, the national Netherlands quality organization used the opportunity to award its prize. The national equivalent to the European Quality Award was presented to

Technische Unie, a wholesaler in the electrical and electronics industry. In addition, a separate prize was awarded to the company which demonstrated the fastest improvements. The Dutch Quality Improvement Prize was awarded to Ericsson Telecommunicatie B.V.

"The changes in the company have a depth and breadth which is impressive. In just 18 months, quality improvements have been achieved which normally would have required much more time," commented the jury.

A fine inheritance

"We do not view the prize as a final goal, but as a milestone on the company's road," Haijo Pietersma, president of Ericsson Telecommunicatie B.V., said. Haijo took over management of the company from Ragnar Bäck this spring and emphasizes that Ragnar should receive most of the credit for this success.

"It was a privilege for me to succeed Ragnar. When I came back to the company at the end of June - after several years at Ericsson Telecom in Stockholm - it was a totally different company than the one I left in 1990. Today, we are very well prepared to cope with future challenges, which has been confirmed by our recent successes.

"Now there is confidence in our expertise, at PTT and the ot-

her customers in the Netherlands," Haijo says.

Success for Ericsson

The fact that two Ericsson companies were among the winners on the podium that evening made a huge impression on the nearly one thousand attendees in the audience. Corporate executives from throughout Europe obtained real proof that the Swedish telecommunications group is today also one of the leaders in quality efforts.

Anders Igel, head of Corporate Technology and responsible for TQM within the Group, was particularly pleased. Anders was in Amsterdam to congratulate the two winning companies on behalf of Ericsson.

"The fact that two of our companies were prizewinners was not a coincidence," Anders contends.

"On the contrary, it was the first visible result of our strategy and our total involvement in TQM. In this work we chose to apply for the international and national quality awards as one of the key elements to ensure continuous improvements".

"These improvements are essential today, when the market is constantly changing and continually placing new demands on Ericsson."

Lars-Göran Hedin

Mobile telephony is still in its infancy

Speaking to an audience of several hundred leading representatives for the mobile telephone industry, Lars Ramqvist recently presented his and Ericsson's view of how mobile telephony will develop in the years to come.

We are in the first phase of a development that is just beginning. The future will provide many opportunities to exploit the new mobile communications technology. It will be possible to use the same terminal all over the globe, not as a result of global standardization, but more probably because the intelligent terminals of the future will be able to operate on different standards.

A global perspective on personal communication

Ericsson's position as the world leader in mobile communication systems is undisputed today. It was therefore no coincidence that Lars Ramqvist was invited to hold the opening address at "Global Telephony 1994," this year's major international seminar on mobile telephony recently held in Paris.

Ramqvist's address was the first of three opening speeches, in which the founder of the largest North American mobile telephone operator, Craig McCaw, spoke about mobile telephony in the U.S. and the president of Japanese NTT's mobile telephone operator DoCoMo, Kouji Ohboshi, described the Japanese view of mobile telecommunications.

Three definitions

Personal communications is a term heard frequently today in international telecommunications circles. In his opening address, however, Lars Ramqvist considered that the concept needed to be defined more clearly. He cited three different definitions for personal communications.

"In today's mobile telephone systems," said Lars Ramqvist, "the telephone number is linked

to a specific person, as opposed to wireline networks, where the telephone number specifies a given geographical address for the terminal being called. In this sense, today's mobile telephone networks already provide personal communication.

"Another definition is when the communications tool itself, a mobile telephone, for example, becomes so inexpensive that operators begin to market them as a replacement for, rather than a complement to fixed telephones.

"The fact is that a mobile telephone is not a prerequisite for personal communications," Lars Ramqvist emphasized. "It can just as easily be a so-called smart card that transforms the nearest available telephone into a personal phone for the individual user."

Most challenging

"The third definition of personal communications is the most challenging," the Ericsson CEO continued. "This is when communication in the broadest sense is linked to the individual. This is not just a question of mobile telephones, but rather personal service in various forms available from a mobile terminal."

"The first steps toward the third and highest form of personal communications have already been taken," Lars Ramqvist noted, "but there are many challenges ahead. These relate to such matters as changes the network architecture, developing and implementing new services in the systems and refining terminals so that they have many more functions than current models.

Necessary direction

"This will entail a tremendous amount of work for operators, suppliers and the companies that sell teleservices. But this is the direction in which the mobile telephone industry must proceed, if companies wish to continue to be as profitable as they have been so far."

Lars Ramqvist also noted the absence of an exact definition of the global perspective in mobile communications.

Long way to go

"Today's industry has a long way to go before we can offer global mobile communications. Cellular systems only provide coverage of the most densely populated areas in the countries where they are being deployed.



Lars Ramqvist held the opening address at "Global Mobile 1994," this year's major international seminar on mobile telephony held in Paris.

Furthermore, a European mobile telephone cannot be used in the U.S. or Japan or vice versa.

"While global telecommunications is certainly available, it is still too expensive," Lars Ramqvist observed, referring to satellite telephones that apart from being bulky also cost 15,000 dollars or more. This is a price few are willing to pay today.

On the way

"Today we have made some progress in being able to offer personal communications," Lars Ramqvist continued. "In the most advanced markets, ten percent of the population already have mobile telephones. In many countries, competition is rapidly pressing prices so that mobile telephones are now becoming common among private individuals, not just business users. Large groups of the population in these countries can now afford a personal mobile telephone.

"This is why Europe had 60 percent more subscribers on August 1 than there were a year ago. In Germany the increase was 99 percent, while in Italy it was 85 percent. In the U.K. and Sweden, strong campaigns are being mounted that focus exclusively on the private market," Lars Ramqvist observed.

The most advanced mobile telephone operators now assert that fixed connection telephones are

superfluous and obsolete technology.

Insufficient coverage

However, coverage is still too insufficient, in Lars Ramqvist's opinion. The cellular networks only provide coverage of the largest metropolitan areas. They are dimensioned for business users, who are usually found in the city centers or on the major highways. Lars Ramqvist also pointed out three major deficiencies in coverage: indoors, during intercontinental travel and in rural areas.

"Indoor coverage is still generally lacking, despite the fact that this is the most common location for users" noted Lars Ramqvist. "Even in cities, mobile telephones function poorly indoors. In Europe, cordless telephones have become more common in offices, but they only work in small, isolated networks and cannot be used in the public cellular networks."

"Before we can speak of personal communications in the true sense, it must also be possible for those who choose to live or spend their leisure time in remote areas to use a mobile telephone," Lars Ramqvist stated.

Limited range

Today's mobile telephone networks can only offer ordinary voice calls and a few additional



Paris. In his speech, Dr. Ramqvist presented his and Ericsson's view of the developments that can be expected in mobile telephony during the coming years. Craig McCaw of McCaw Communications in the U.S. was another of the key speakers at the seminar.

services. Although voice calls are extremely practical, they constitute but one of the communication tools currently used in business. Other tools, such as fax, e-mail, videoconferences and data communication, have not seen much progress in the mobile world.

"These are all technical challenges," noted Lars Ramqvist. "Yet, technical solutions are only partial solutions. We must also remember that human users must be able to have control over the technology. It must not be the other way around."

Lars Ramqvist continued to explain what he meant. "Mobile telephones can be extremely intrusive. It is difficult to ignore a telephone that is ringing, and if you answer, you cannot be impolite and just hang up, even if people around you are disturbed. Mobile telephones must therefore be used with discretion by their owners. They must remember to turn them off during meetings, for example. In the future, we will simply have to find better ways of handling our personal communications."

Making it simple

Today people make use of a variety of different communications services. As the number of available services increases in the future, we must ensure that we do not make communicating too

cumbersome. Simplicity and quality are the key words for success. The success of mobile telephones is largely due to the fact that they are easy to use, compared with private mobile radio.

In Lars Ramqvist's view, the need for simplicity and easy availability also explains the slow growth of mobile data communications. Major investments have been made and are still being made in infrastructure, but the number of available applications is still limited.

Dynamic market

New services foreseen by Lars Ramqvist include extremely simple family telephones, interactive computer games using wireless terminals and the personal digital assistants. The latter are already available, but the technology is still in its infancy. More powerful and easy to use models are to be expected, with the potential for such services as remote instruction and mobile multimedia.

"All these applications and others that we cannot yet imagine will be realized more and more quickly," Lars Ramqvist asserted. "This is the consequence of a dynamic market with full competition in which operators and service providers are constantly battling for dominance by finding new and more attractive ways of using telecommunica-

tions. We must now begin helping those who are creating these services by providing them with tools that permit as much creative freedom as possible."

Different attitudes

"It is impossible to talk about being creative and inventive without mentioning the importance of standards, which are commonly seen as the enemy of creativity," Lars Ramqvist pointed out.

Europe and North America take different attitudes towards standards. Europe has come far with regard to standardization and regulation. One result of this approach is GSM, which today enables us to use the same telephone when traveling in 16 different European countries. At the same time, GSM guarantees a very large market, which makes possible large-scale production, resulting in lower prices.

"But we must not forget that it took a long time to develop the GSM standard.

"In a market such as North America, the attitude towards standards is completely different. There is less regulation and thus more dynamism. New inventions reach consumers more quickly. The pace of development is more rapid. The opportunities are greater. But the price is greater uncertainty and inconvenience for end-users, operators and suppliers.

"For a European, accustomed to GSM or NMT, it comes as a surprise to discover how difficult it is to use a mobile telephone in different locations even within the U.S. It took quite a long time before it was possible to use the same mobile phone throughout North America. The pioneers in this regard were McCaw cellular, which built its system using European technology."

Enough standards

The question may be asked, then, if there is a need for a global standard for mobile communication. The answer, according to Lars Ramqvist, is no, for two reasons.

"First and foremost, existing standards have the potential to become global," said Lars Ramqvist. "GSM, which was developed for Europe, has spread far beyond the borders of Europe. Today there are GSM operators in 60 countries, although there are two important exceptions: the U.S. and Japan.

"In a completely deregulated market, we would probably see GSM networks being established in both these countries, just as we would see D-AMPS networks in Europe.

"Even if this does not become a reality, there is another possibility. We can create mobile telephones that function in different systems with the help of intelli-

gent applications that can be downloaded from the network," observed Lars Ramqvist.

In Lars Ramqvist's view, there are already enough standards for mobile telephony in the world. If we create new standards, they should thus be designed to solve new problems, for example, to provide the capability to construct an infrastructure that would support broadband and multimedia simultaneously, while remaining independent of the service provided.

"As I see it, the ideal standard would be a radio version of ATM, with bandwidths up to 2 Mb per second to mobile users." Ericsson, he believes, can market such a system by the year 2000.

Huge explosion

Up until the year 2000, the number of telephone lines is expected to increase by 100 million each year. Half of this increase will be mobile telephones. Such a huge expansion requires infrastructural improvements in three important respects: coverage, capacity and cost.

"There are several alternatives for improving coverage. I spoke earlier about indoor use of cordless phones in business, but even the public cellular systems can be extended to indoor environments. By integrated satellite communications in mobile telephones, it is also possible to extend coverage to include sparsely populated areas.

"Satellite and cellular communications complement each other well. Satellite communications can never be a mass-market product, not even if prices fall dramatically. There simply is not sufficient capacity for mass-market use, and communication is difficult in urban areas. The need for capacity and coverage in cities argues for cellular systems," Lars Ramqvist noted.

Ericsson is currently developing a pocket telephone of the same size as today's smallest but with the capability of using cellular and satellite systems simultaneously. This product will be available by the turn of the century.

"Large increases in capacity will also be needed in the future if the personal communications concept is to be realized. Achieving this is possible through refinements of the architecture currently used in cellular systems. Hierarchical structures with very small cells in very densely populated areas can be employed.

"With regard to costs, we at Ericsson believe that all the future innovations that I have mentioned are possible to achieve without increasing the cost of mobile telephones.

"There is actually no reason – except perhaps for the value attached to mobility – why mobile telephone calls should cost more than calls in the wireline network. Today, when building a completely new network, it is at least in most cases less expensive to build it using radio technology," Lars Ramqvist concluded.

Summary: Lars Göran Hedén

Germany is Europe's largest single telecommunications market. This market now faces sweeping deregulation, creating new opportunities for Ericsson.

Ericsson has been gathering its resources since 1993 in an effort to increase the odds of success in the German market.

Since spring of this year, Ericsson GmbH has been one of the Group's Major Local Companies. Under the leadership of Manfred Buchmayer, the company has now gone on the offensive against Siemens and Alcatel, its main competitors in Germany.



Ericsson GmbH moved last year to a new head office in Düsseldorf, where the company employs 350 persons.

Time for the Battle of Germany

Deregulation in Germany creates new opportunities for Ericsson

Germany is one of Ericsson's largest markets, thanks largely to Mannesmann Mobilfunk. Deliveries of GSM infrastructure and mobile telephones to Mannesmann have given Ericsson a flying start in the German market.

"Mannesmann is a very attractive customer for all suppliers, and we shall have to work hard to maintain our special position as a cooperation partner," explains Manfred Buchmayer, President of Ericsson GmbH and Country Coordinator for Germany. He considers Germany to be one of the most important markets.

"The potential is enormous. As a result of its success in the mobile telephony area, Ericsson's share of the telecommunications market is currently about 3 percent, but we intend to increase that share substantially in the near future," says Buchmayer. "With the new technologies and systems we can offer, it ought to be possible to achieve a 20-percent market share."

"Naturally we understand that Siemens will always have a dominant position in its home market, especially with regard to conventional telecommunications technology. But we have an

excellent chance of giving them a good fight in the area of next-generation transport networks (SDH) and broadband (ATM). Ericsson has made deliveries to Deutsche Bundespost Telekom (DBT) in both these areas.

"Up to now, we have had considerable success supplying the latest technology to Germany, and we acquitted ourselves well in Telekom's pilot project.

Difficult years

The German economy has gone through a few really difficult years. Reunification with East Germany, together with the attendant currency reforms, imposed a tremendous strain on the country's finances. It was a stroke of luck for Ericsson that the main growth area at the time was mobile telephony, which was consequently not too seriously affected by the recession. Competition between the two major GSM operators, Mannesmann and DBT, resulted in rapid development for both companies and prompted major investments in both infrastructure and terminals.

"On the other hand, the recession severely affected the busi-

ness market, which had in any case been weak during the previous few years," continues Buchmayer. "As far as the public side is concerned, we are now awaiting the results of the various pilot projects in which Ericsson has been cooperating



The annual CeBIT trade fair in Hanover is one of the high points of the year for Ericsson GmbH. Manfred Buchmayer and Lars Ramqvist used the occasion last year to present the new organization.

with DBT. Here is an opportunity to be taken on board as a supplier of both broadband and



The German market is enormous. Investment in telecommunications

"In the slightly longer term, Ericsson is also facing the inevitable deregulation of fixed telecommunications services. As more operators enter the market, we believe we have a good chance to be among the suppliers competing with Siemens and Alcatel, both of which regard Germany as their home market," explains Buchmayer.

"We must bear in mind that the German market is enormous. Investment in telecommunication equipment in Germany during 1992 totaled DEM 18 billion - equivalent to SEK 85 billion. Annual revenues from telephone services currently amount to approximately DEM 50 billion."

Strong position

Although Ericsson has to be regarded as a new arrival in the German market, the Group has gained an extremely strong position.

transmission equipment as soon as the investment decisions are made.



equipment in Germany in 1992 totaled SEK 85 billion.

"The cooperation with Mannesmann has made us the market leader in both mobile telephone systems and digital mobile telephones," continues Buchmayer. "We are particularly well positioned with regard to large-scale business systems.

"Another important factor for Ericsson's image in Germany was the establishment of the Ericsson Eurolab in Aachen a few years ago. A radio communications research and development center was also established recently in Nuremberg.

"The market and the regulatory authorities see these ventures as a clear sign that Ericsson is counting on a stable and long-term presence in Germany.

"Now it is vitally important to establish Ericsson GmbH as a German subsidiary of an international telecommunications group," emphasizes Buchmayer.

In order to bring this about, he

himself is now working hard to persuade all Ericsson GmbH's employees to foster the impression that the subsidiary functions like an independent company.

"Our new organization has laid the foundations for this effort to succeed. Now everything hinges on rapidly establishing ourselves and gaining a reputation as one of the leading suppliers of telecommunications equipment in Germany.

Mobile dominance

Ericsson GmbH is organized in four divisions, the largest - in terms of both personnel and sales - being **Mobile Telephone and Data Transmission Systems**.

This is the division that handles the contacts with Mannesmann Mobilfunk concerning infrastructure projects and is at the center of efforts to secure a breakthrough order for Mobitex equipment to DfG, Gesellschaft

für Datenfunk mbH, a consortium that includes Mannesmann.

The division accounts for almost half of total net sales in Germany. Effective October 1 this year, its manager is Tor Marklund.

Thus far, the **Public Telecommunications Networks Division**, with Werner Röhl as manager, remains the smallest, but it is also the division with the greatest growth potential. Its main customer is Deutsche Bundespost Telekom.

The **Business Networks Division** was formed from what was previously Ericsson Business Communications GmbH. During 1993, business communications accounted for 17 percent of sales in Germany, mostly attributable to the MD110 system. The division is headed by Göran Wägström.

The **Mobile Telephones Division**, headed by Manfred Kessel,

has been highly successful with its sales of Ericsson's GSM telephones. The division accounted for one quarter of Ericsson GmbH's annual sales last year.

Close to the customer

At the end of last year, most of Ericsson GmbH's operations were concentrated to a new head office in Düsseldorf, currently employing approximately 350 people. It is located in a commercial complex named Hansastern, a stone's throw from Mannesmann Mobilfunk's head office. The Business Networks Division, which currently employs 150 people, remains in its original location in the city.

Regional offices throughout Germany provide marketing and installation services in the various German states.

Three subsidiaries

Ericsson GmbH also has three

Large and challenging market

Ericsson's business communications operations have experienced strong growth since early in 1987. Sales of Ericsson's most advanced business exchange, the MD110, have been increasing strongly for a number of years. However, the recession has had a severe impact on the business market during the past two years.

An important factor in Ericsson's success is its cooperation agreement with the German telecom DeTeWe, based in Berlin, which helped it achieve sales of almost 120,000 lines in Germany during 1993.

As well as being one of the world's largest markets for telecommunications equipment, Germany is also one of the most competitive markets. Ericsson faces fierce competition not only from German-based companies such as Siemens, which controls 50 percent of the market, and Bosch Telenorma, with a 15-percent market share, but also from international giants such as Alcatel and Northern Telecom. Nevertheless, Ericsson has battled its way to a 10-percent market share for exchanges carrying more than 100 lines.

Germany is a unique market in many respects. In contrast to most other countries, which have just one or two large conurbations, Germany has seven major population centers: the Ruhr area and the regions surrounding the cities of Berlin, Frankfurt, Hamburg, Leipzig-Dresden, Munich and Stuttgart.

Prestige customers

Ericsson has adopted the same strategy in Germany as in other parts of the world, namely to focus its attention on the really large companies which have operations throughout the country and, in many cases, throughout the world.

The concentration on blue-chip customers has yielded excellent results. The reference list already includes such names as ABB, Daimler-Benz, Lufthansa, Deutsche Börse and Audi. A number of universities and regional authorities have also opted for the MD110 system.

FreeSet, Ericsson's cordless business communications system, has got off to a flying start in the German market, largely thanks to the fact that the system is also marketed by Siemens. A few years ago, Ericsson and Siemens signed an agreement giving Siemens the right to sell FreeSet under its own name to customers who had already installed Siemens exchanges. The agreement, which was regarded as a key strategic move when it was signed, has since been extended to cover the entire world.

Germany is also one of Ericsson's largest markets for data networks.

subsidiaries. The largest is Ericsson Eurolab Deutschland GmbH in Aachen, which has 270 employees, mostly systems engineers and other technically oriented personnel. Ericsson Eurolab is the Group's research center, working on such projects as GSM applications.

Ericsson Netzbau, located in Greifswald, is a network-building company primarily involved in projects in eastern Germany.

The third subsidiary, Ericsson Private Systems GmbH, works with paging systems.

Another important Ericsson company also located in Germany is Ericsson-Fuba Telekom GmbH in Hildesheim. Ericsson has a 51-percent holding in the company, which works with transport network systems.

Eurolab – Ericsson's center for development of GSM switching

Aachen in the western-most corner of Germany is the site of Ericsson's German technology development center, Eurolab. Currently, there are 270 persons working on various development projects at Ericsson Eurolab. The main focus is on GSM, for which Eurolab is responsible within Ericsson for the design of switches.

When Ericsson began searching for a site to locate its new European development center in the late 1980s, choosing Aachen was not difficult when it was proposed. Aachen is in Germany, a country which then and now is assigned exceptionally great importance.

Aachen offered several advantages. The city, located centrally in Europe, is very close to the borders of the Netherlands and Belgium. Consequently, it was possible to recruit personnel from three countries in the immediate vicinity and it was an attractive setting for people from more distant locations to move.

The Rhein Westphalische Technische Hochschule, one of the most prestigious technical universities in Germany, is also located in Aachen. Technicians and researchers are recruited from here and in a brief period Ericsson has established a very close cooperation with the university.

Mine offices

"The first phase of establishing Eurolab was facilitated by Ericsson being able to acquire and renovate an old complex of mine offices," relates Jan Eric Nylund, head of Eurolab. Jan Eric and the personnel director, Hans Georg Lilge, were the first persons recruited to the new



Medelåldern på Eurolab är ovanligt låg. Det är förmodligen Ericssons mest internationella arbetsplats – här arbetar i dag cirka 270 unga ingenjörer från Europas – och världens – alla hörn.

Ericsson company Ericsson Eurolab GmbH. He formerly worked for Ericsson in Finland.

The quaint old mine offices had space for 50 employees, so Ericsson immediately began construction of new premises adjoining the older building. Currently, the old mine building houses offices for management, the main reception and a cafeteria. The new building houses offices, conference and laboratory facilities for up to 250 employees. The total number of employees at Eurolab is now 270 and the next building phase is already

under way to provide space for 200 more technicians.

"We believe that we'll grow to nearly 400 persons," says Jan Eric Nylund. "This is a good size for this type of activity and about what we had envisioned when we started here. With 400 positions, we have the opportunity to offer the employees attractive internal job rotation.

GSM responsibility

Eurolab is responsible within Ericsson for the design of GSM switches. There are many units within Ericsson which are wor-

king in this area, but currently this important activity is led from Aachen.

"We are involved in the interesting work of adapting GSM to American standards prior to the major expansion of personal telephony," relates Jan Eric. Development personnel from the U.S. have been transferred to the lab to learn about GSM design.

Development of operating and maintenance functions on the TMOS platform is also included in the product program. Testing activities for GSM is a growing task, as well as basic research.

Following Ericsson being selected as one of the suppliers to Deutsche Bundespost Telekom's field trials for Broadband/ATM, Eurolab has also begun to play an important role in this area.

"An exciting new assignment for us has been to establish a customer support center in Hamburg for broadband products," relates Jan Eric Nylund. Eurolab is now also responsible for customer training within GSM and wireline telenets. These operations are conducted from Dusseldorf and administrated from Aachen.

Lars-Göran Hedén

Corporate Technical Editor/ Senior Technical Spokesperson

This new position at Corporate Relations, Ericsson Headquarters in Stockholm, includes assuming editorial responsibility for *Ericsson Review*, a high-quality customer magazine which describes the technologies underlying Ericsson's products, systems and services. The position also involves serving as spokesperson to the media and investor community concerning Ericsson technology.

Applicants should have a degree in engineering, with knowledge of Ericsson systems. Communications skills and the ability to translate highly technical language into understandable reports for non-technicians are considered essential for the position.

The position will be in Stockholm, with all communications conducted in English. It should be viewed as an opportunity to add greater value to a technical career. Qualified applicants from all Ericsson companies are welcome to apply.

The position reports to the Senior Vice President Corporate Relations, with functional reporting also to the Senior Vice President Corporate Technology.

Nils Ingvar Lundin
Corporate Relations

Anders Igel
Corporate Technology

ERICSSON 

THE PATHFINDER

Ericsson's vast expenditures in R&D have been of decisive importance for its success in recent years. Worldwide, some 14,000 persons are involved in this vital work. The question is simply: what will this vast technology organization do in the future?

Bernt Ericsson's job is to ensure that Ericsson will be able to answer this question. Within the new Corporate Technology function, Bernt Ericsson is responsible for the Research and Technology unit.

Bernt Ericsson is not a person to hide his light under a bushel. Definitely not! Uninhibited and straightforward are the characteristics for which he is known throughout Ericsson. Maybe just such a person is re-

Bernt helps researchers to focus on the right things

quired to assume the important task of trying to guide future R&D operations in the right direction.

"I am not claiming that we are concentrating on the wrong things today, but I am certain that we possess entirely too little know-how concerning what things to focus on in order to be best in our industry in 10 to 15 years," says Bernt.

His assignment in Anders Igel's new technology organization is to ensure that Ericsson's technology undertakings are in accord with anticipated market trends. Quite simply that we bet on the right things.

Head start

In mid-September, a couple of theme days pertaining to applied research were arranged in Stockholm. This was where representatives from all of Ericsson's research areas convened, together with the business areas' strategists, to discuss the ongoing work in technology.

Based on these discussions, and all the ideas thus ventilated, the organization for such matters, The Ericsson Technology Council, was summoned to further review the subjects discussed at the major conference and single out the ones to proceed with.

"These days actually serve as a head start on the work I will be leading within the function," Bernt maintains. "Then we will proceed to discuss the exact forms such work should take."

Widespread

One thing Bernt Ericsson already knows for certain:

"Our having a widespread research organization is beneficial to the company. The researchers are thereby positioned in closer proximity to the market and to our technicians in the various companies and business units.



Bernt Ericsson is responsible for the Research and Technology function within the reorganized Corporate Technology staff.

"The researchers should, in a manner of speaking, be sitting in the laps of the technicians and product developers, enabling know-how to be transferred as rapidly as possible. In this way, we can also overcome some of the conservatism that frequently characterizes development work — not just Ericsson's."

A danger

Having researchers dispersed throughout the world has its disadvantages. One obvious danger is diminished breadth of outlook. This is the role played by Bernt Ericsson's function.

"Our job is to ensure that all our researchers always wear the Ericsson 'hat!' And to establish more areas of cooperation between diffuse research operations. For example, different groups of researchers may be interested in the same area without being aware of each other's existence. We intend to tie up such loose ends and ensure that all interested parties are able to contribute to the projects.

"There is enormous potential expertise in identifying synergies between various R&D projects," Bernt maintains.

Bernt has a clear concept of how to handle the practical aspects.

"We will formulate a single large matrix. Within this framework, the crucial research areas will be identified. Then, the

business areas or business units having an interest in the respective areas will be added. In this way, it can be easily ascertained which parties have a vested interest in financing particular projects. This method of working is presently being applied with considerable success, particularly in Business Area Radio, but now we intend that it function throughout Ericsson," says Bernt.

New areas

Until now, Ericsson's research strategy could be described as the sum of all the business areas' strategies. This is a situation that creates long-term hazards, in Bernt's opinion. One which would make it difficult to establish and begin R&D operations in entirely new areas.

"Here, we must create future scenarios which clearly indicate the direction in which Ericsson must proceed. We must ask ourselves: what know-how will we need to master in 10 to 15 years that we presently lack? Moreover, we must learn to identify, on a worldwide basis, projects and operations of interest, which Ericsson can become involved in, one way or another.

"It is also important that we ensure that our research centers have the resources to investigate new objects of interest, and be confident knowing they are authorized to

do so. Not everything should be steered by the market; there must be a place for initiatives which, at the time, may not be overly promising from a purely financial standpoint.

"Simply bear in mind that our mobile-telephony successes were started by a few enthusiasts conducting an underground, 'skunk works' operation.

Model of interest

"With new ideas, the key question is who pays. This is acknowledged to be a problem in many companies. In Bernt Ericsson's opinion, Hewlett-Packard has a workable model:

"Projects are placed in one of three classes. Class 1 projects are of direct interest to the business units, which readily provide financing. Although Class 2 projects are of interest to the business units, they are reluctant to pay. Class 3 projects are rejected out of hand by the business units.

"H-P then determines how the three classes will be proportioned vis-a-vis each other. All units are compelled to accept the fact that all three project types are necessary. All units shall participate in, and pay for, Class 2 and 3 projects."

Bernt believes that this is a workable model and also considers that the proportion of Class 1 projects should not exceed 50 percent.

"Otherwise, the company never advances developmentally!"

Two lab types

Today, Ericsson has two types of research labs — Application Centers and Research centers. A vital task in determining the trend of the future is to identify areas where Ericsson's expertise is weak.

"When such areas are identified, projects will be started within them to build up new expertise, partly to find a role for Ericsson."

Bernt underscores that the time aspect must be accorded greater importance in the future. The company must seek other solutions not only when Ericsson realizes its inability to develop certain in-house expertise, but also when it is recognized that such a course of action would take too long.

"The Application Centers should contact the Research Centers regarding critical technical matters to find out when the technology will become available. The next question will be where the technology can be obtained — through strategic alliances, acquisition of companies, etc. In many cases will Ericsson utilize technology that was not developed in-house.

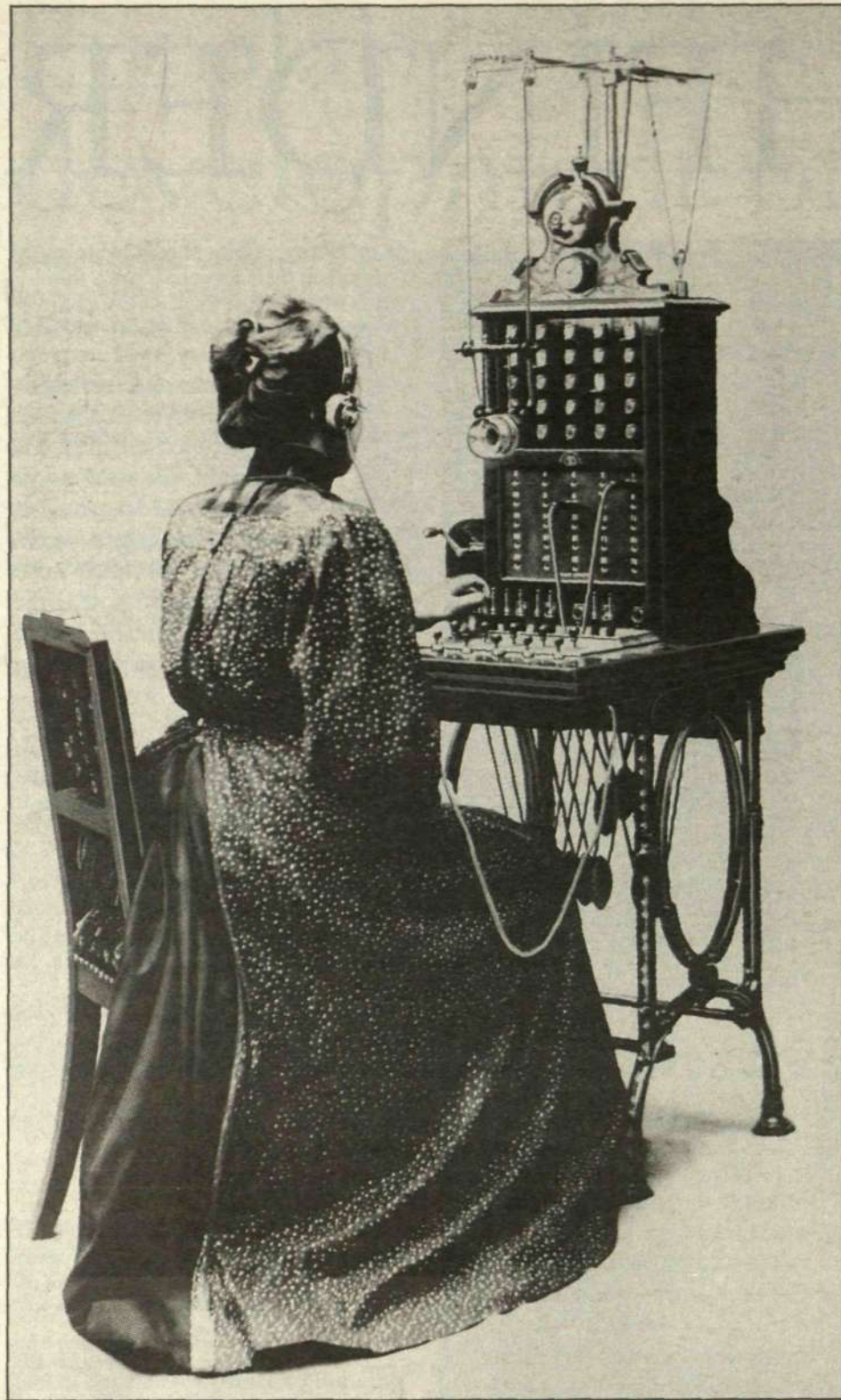
Universities

"One way of broadening our expertise is to actively solicit cooperation with leading universities. We are highly adept at this in Sweden and our local companies in many other countries have established close contacts with the research world. In Sweden, we have actually established such excellent research cooperation in the electronics- and information-technology sectors that Ericsson has cornered practically all research in our area!"

Bernt considers this to be a real challenge for Ericsson and its Major Local Companies.

In a coming edition, we will take up the handling of technology, the other part of Bernt's job.

Lars-Göran Hedin



"We believe that Erlang has fantastic potential," says Jorma Moberg, Ericsson Corporate Technology.



"We carry out projects in an entirely different way than today," contends Bernt Ericsson, Ericsson's research director.

YESTERDAY-TODAY-TOMORROW. With the addition of Raynet's expertise and new systems for access networks, Ericsson's position is strengthened for the future.

A perfect 'marriage' for Ericsson

Ericsson and Raychem recently formed a joint-venture company for the development, manufacture and marketing of fiber-in-the-loop communications systems for access networks. Access networks connect subscribers to the telecom stations.

The company, Ericsson Raynet, takes over and continues the operations within Raynet, formerly a Raychem subsidiary.

Ericsson Raynet's head office will be located in Menlo Park, California. The company will have more than 700 employees in the areas of development, production, marketing and sales.

Ericsson and Raychem are now waiting for the jointly formed company Ericsson Raynet to be approved by the American and European authorities.

"Today, the adoption of fiber-optical communications systems in access networks is growing. In addition, the introduction of new narrow band and broadband services such as high-speed transmission of data, interactive video and video on demand is increasing. Ericsson is in a favorable position to become a leading supplier in this area," says Håkan Jansson, head of business area Public Telecommunications at Ericsson.

"The company gains access to Ericsson's sales channels in more than 100

countries. Ericsson's technical expertise and volume production will contribute to the new company's successes."

Ericsson's and Raynet's combined strengths will result in a complete product offering of access solutions.

Ericsson will hold a 51-percent interest and Raychem 49 percent in the new company.

Pioneers

"When we founded Raynet in 1987 we took a bold step as pioneers in the area of fiber-optical-based access products for telephony," contends Robert J. Saldich, President and CEO of Raychem. "Today, Raynet is one of the leaders in this field and is the only company delivering in volume to North America and Europe. Our cooperation with Ericsson is built on the success we have enjoyed in this rapidly growing market. We are enthusiastic

Joint-venture company formed with Raychem

about the extra boost which this alliance will provide."

The two companies were further connected through a marketing agreement which covered most of the world outside North America. Currently, Raynet delivers fiber-optical systems to American Nynex and German Deutsche Bundespost Telekom, DBP-T. The company was selected recently to deliver an additional 100,000 lines of its system to DBP-T's OPAL-95 project. These systems will provide various regions of Germany with fiber-optical local networks.

International company

Raychem Corporation, headquartered in Menlo Park, California, is an international company with about 11,000 employees in more than 40 countries and sales exceeding USD 1.5 billion (SEK 11.1 billion) during fiscal year 1994.



"With the increased adoption of fiber-optical communications systems in access networks and introduction of new narrow-band and broadband services, Ericsson Raynet is in a favorable position to become a leading supplier in this area," says Håkan Jansson.

The company applies its expertise in materials technology, product development and process technology to develop, manufacture and market high-quality pro-

ducts for applications in electronics, industry and telecommunications.

The access network area is undergoing a dramatic development - new technologies are being introduced, for example, radio and fiber-optics.

A perfect 'marriage'

Gunnar Liljegren, product manager for access network products within Ericsson Telecom and the person from Ericsson who was project leader for forming the new company, foresees great potential.

"Access network systems will be adapted to handle a broader spectrum of services, for example, mobility, data and video. It is important that we have access solutions which fit many areas and which have an open interface, whereby the combination of Ericsson and Raynet is perfect."

"Ericsson Raynet will offer its products through Ericsson's sales organization worldwide, which will surely affect current and prospective customers' view of Ericsson positively as a complete system house within public telecommunications. As a result of the new joint-venture company, Ericsson has strongly reinforced its position in the access network segment. Our new colleagues from Raynet will con-



"It is important that we have access solutions in the fiber-optical area and which have an open interface, whereby the combination of Ericsson and Raynet is a perfect 'marriage'," contends Gunnar Liljegren, product manager for access network products within Ericsson Telecom.

tribute valuable expertise, years of experience and new competitive systems for access networks"

Josephine Edwall-Björklund

"Give Erlang a chance!"

Ericsson's programming language has great potential

"We believe that our new programming language Erlang has a fantastic potential and we want everyone who starts new projects to consider whether Erlang can be used for all or part of the project," says Jorma Moberg, Ericsson Corporate Technology.

Ericsson's research director Bernt Ericsson also desires that Erlang be considered prior to all new projects. In future, these technology choices, for example of programming language, will be made easier by an electronic "technology portfolio", which will be accessible to any designer.

The portfolio, scheduled to be completed next year, 1995, is to be a mandatory tool prior to new projects being initiated. Those involved will view the portfolio, see how various technologies are classed, who used them, experiences, what to avoid, etc.

Those who do not select the "best" technology must be able to justify their choice.

Ericsson's new, proprietary programming language Erlang is a so-called declarative statement language at a very high level, which simply stated means that programmers say what they want done not how to do it.

Pioneering technology

Erlang is considered by many to be pioneering technology which can shorten programming time considerably, reduce the number of code lines and consequently minimize the number of errors. Erlang is also easy to learn. Nevertheless, the internal introduction has been somewhat sluggish.

"Within Ericsson Corporate Function Technology, we now consider that it is very urgent to spread Erlang within the organization," explains Jorma Moberg, head of Corporate System Development.

Reverse burden of proof

"Reverse burden of proof should apply for Erlang," continues Jorma Moberg. "Those who initiate projects should actively justify not being able to use Erlang."

"It is not certain that Erlang today is best suited for all projects, but when you select a strategy for new projects you should ensure that you can switch to Erlang later. We must become accustomed to a mixed environment in which various languages can co-exist."

Break down the project

The fact that Erlang has not been tried in any actual project is sometimes presented as a disadvantage, but Bernt Ericsson holds a different opinion.

"Frankly, there should not be any major projects. Do away with mammoth projects! Everything can be broken down into subprojects with a maximum of 50 persons. We must learn to take an entirely different approach to projects than in the past. The traditional telenet is being broken down into small modules and we are facing a structural transformation."

Survival

"Selection of the programming language could become a question of survival for Ericsson," according to Bernt Ericsson.

"We have to find solutions and which increase productivity significantly, that is, faster development at lower cost. The right product at the right time."

"Consequently, a software breakthrough is required. Erlang could be part of the answer."

Lars Cederquist

The telecom world is in a state of rapid transition. So rapid that it can be difficult to keep pace with the changes. Deregulation, privatization and globalization have created a completely new and complex market situation.

A new order in the telecom market

New telecom operators muscle into established monopoly markets

The established operators, which are often previously monopolistic PTTs, are facing competition from new operators in market after market around the globe. And the established operators themselves, either alone or in alliances with others, are going out into the world to become the new operators in other countries. From having been strictly national operators, Telia, BT, AT&T, Singapore Telecom and others are being transformed into multinational giants.

This is a completely new situation that naturally affects Ericsson on several levels. In the telecom market, for example, Ericsson has long lived by the simple truth: one country, one customer.

Now this no longer applies. Today the operating principle is: one country, many operators. A most pleasant change. Many new operators mean new business opportunities and new challenges for Ericsson.

Small can grow large

In a longer-term perspective, several of the new players will grow and become large operators that one day will attain sales of several billions. Even though the established operators will be Ericsson's most important customers for the foreseeable future, relations in the meantime with the new operators must be nurtured and developed.

"Naturally, we must take this market segment seriously. Any hesitancy on our part now could mean reduced market share in the future," says Göran Nordqvist, manager of the New Operators business unit within the Business Networks business area.

"Many of the new wireline network operators will surely become significant players in time," says Kenneth Boiardt, manager of the European sales unit within the Public Telecommunications business



In order to satisfy the constantly increasing need for telecommunications in many of the world's growing metropolitan areas, new telecom operators are springing up to compete with traditional operators.

area. "This is evident from examples in the North American mobile telephone market, where several operators that were small ten years ago today have attained a size fully comparable with that of many traditional telecommunications administrations in Europe."

The new wireline network operators thus represent business potential for

Ericsson. It would be a foolhardy strategy to dismiss them because they are small, although this might be easier, because the new operators in the telecom market are definitely making demands to which telecom suppliers are unaccustomed.

Jahn Wennerholm, business strategy manager for the Business Network business area explains. "The new operators are

often niche players who focus on the most profitable segment of the telecommunications market, for example long-distance and business calls. They want their investments to be profitable quickly and are very business-minded in their approach.

"They are not interested in the technology itself. Instead they want to know what we as suppliers can provide with today's



Illustration: Åsa Harvard

technology to help them realize their business objectives."

Total solutions wanted

"They do not want isolated telecom products, but rather total solutions," Jahn Wennerholm continues. "They want customized, flexible and cost-effective network solutions. We must be able to provide



The Swedish State Rail Administration was very foresighted in laying fiber optic cable for its telecommunications network. Plans were made from the start to lease capacity to new telecom operators. Photo: Thord Andersson

de these in an effective manner. Increasingly, they also want help and support with financing and demand that the supplier in some way should assume part of the risk. And they want delivery fast. Long waits are not acceptable.

Immense difference

"Compared with the established operators' purchasing routines for telecommunications equipment when they had a monopoly, the difference is immense. The established operators had their own technical competence and pieced together their network systems themselves. The technical requirements were specified in almost infinite detail and purchasing was seldom done in haste. The monopoly operators also seldom needed assistance with financing. If funds were needed, the government just coughed up," observes Jahn Wennerholm.

Flexibility needed

"The demands from the new operators are very clear," says Göran Nordqvist. "Ericsson must remain competitive. Yet, at the same time, we must establish a solid foundation for long-term relations and adapt to the new situation."

"One difficulty in this regard is our fixation on products. Ericsson is organized by products. Each business unit has its own product that it wants to sell. But if the customer does not want to buy individual products but rather a total solution, it becomes much more difficult."

Engineering orientation

Jahn Wennerholm agrees that the current Ericsson organization is not ideal in all respects. "Today our organization is a re-

flects that of the established PTT administrations. It is well suited to dealing with the requirements of the established operators but not at all dimensioned to handle the new operators' demands for total solutions.

"Finding an appropriate solution will undoubtedly require changes. Perhaps an independent organization is needed that can put together total solutions based on both Ericsson's product range and products from other suppliers. We certainly don't have all the necessary products in-house," says Jahn Wennerholm.

Dynamic and flexible

Kenneth Boiardt also believes that there is cause to modernize the organization in the future in order to enable Ericsson to better serve the new operators.

"When we talk about new operators, it should be noted that they are already present in various forms in most European markets. The new operators demand shorter lead times and more attention. In order to meet their expectations, the Ericsson organization must become more dynamic and flexible so that we can re-allocate resources more rapidly and quickly put together project teams that can produce the total solutions so often demanded."

All will act as new operators

Kenneth Boiardt considers that there is another reason why the organization needs to be made more effective in these respects. "If we learn to deal with the new operators appropriately, we will be able to deal with all customers, because in the future, all customers, even the established operators, will act in the same manner as the new operators. We already see clear indications of this," Kenneth Boiardt notes.

Chinese wall

The fact that Ericsson is already, and in future will increasingly become involved in situations in which the organization must

serve several customers who are competing in the same market, places new and unique demands on Ericsson and its employees.

"There must be a Chinese wall between the organization that serves the established operator in a given market and the one that works with competing operators. This is absolutely essential if Ericsson is to retain credibility in the market," says Göran Nordqvist.

New situation

"As an example," he continues, "we are currently engaged in negotiations with a major operator who is planning to enter the Swedish market and compete with Telia. This operator is of course aware of our historically close relationship with Telia, and I'm not exaggerating when I say that they are more than a little worried about details of their plans being leaked."

"This is a new situation for Ericsson that we must be able to deal with. Everyone within Ericsson must be extremely self-disciplined. This naturally also applies to how we handle new operators who are competing among themselves," concludes Göran Nordqvist.

Well-defined boundaries

Kenneth Boiardt is reluctant to talk about Chinese walls, but certainly fire walls. He also sees other reasons why well-defined boundaries are needed between the sales organization that is responsible for the established operator in a given country and the one that will serve the new operator.

"Most European PTTs are not yet ready to accept the fact that their traditional supplier is also going to be the supplier for their worst competitor, who intends to take the raisins out of the cake by capturing the most profitable business. For this reason, we will initially handle business relations with any new operators centrally from Sweden."

The stormy night that chocked Sweden

The ferry disaster in the Baltic was the worst in Europe in modern times. Nearly 1,000 passengers and crew are thought to have gone down with the ferry Estonia. Most were Swedes who had been on a cruise to Tallinn, but there were also many Estonian victims.

The disaster, which occurred at about 12.30 a.m., happened so quickly that barely 200 of the passengers on board were able to escape the ship. The ferry M/S Estonia rolled over and sank in minutes after the bow visor, the hinged door at the bow which was designed to protect the inner door to the car deck, broke loose from its fastenings and fell into the sea.

As a result, enormous quantities of water began to flood into the ship's spacious car deck. When the huge volume of water was set in motion by the rolling of the ship in the heavy seas, disaster was the inevitable outcome.

The rescue effort, which was quickly under way, had to be car-

ried out in a full storm under extremely hazardous conditions. The operation involved helicopters from several nations, as well as other ships, including some of the large Finland ferries, which headed for the accident scene as fast as possible.

Despite the best efforts of those involved in the rescue operation, the night of Wednesday, September 28, was to become the blackest in Swedish maritime history. A shocked nation listened to the news of the many who were missing and the dwindling hopes of finding any more survivors in the icy water.

Union leaders

Among the passengers aboard M/S Estonia was a group of 11 union leaders from the Metalworkers' Union at Ericsson. The entire central committee of LME's trade union collective had arranged to hold their conference aboard the ferry. All of these work colleagues went down with the ferry. One other Ericsson employee was on board in a private capacity, and several relatives of Ericsson employees are also among the missing.

As the full enormity of the dis-



The rescue effort following the ferry disaster had to be carried out under extremely hazardous conditions.

Photo: Esa Pyysalo

aster became clear during Wednesday and Thursday, a mood of grief and despair spread throughout Sweden. Nobody at any of Ericsson's facilities in va-

rious parts of the country remained untouched by the tragedy. The loss of our twelve colleagues was a terrible blow, not only for the Metalworkers' Union at the

company but for all Ericsson employees. All of Ericsson shares in the grief of the bereaved relatives.

Lars-Göran Hedén

ERICSSON MOURNS ITS LOST COLLEAGUES



Marie Ryhn

Marie Ryhn's first job for Ericsson was soldering circuits at the Bollmora plant, a bit of extra housework for Marie, mother of three children. The Bollmora plant was part of RIFA at that time, but has now become Ericsson Components.

In 1979, Marie moved with the Bollmora operation to Kista, where she began working in the central warehouse.

Marie became involved in union activities as early as 1979. She also became very active in safety issues, and became health and safety representative in 1980.

Since 1988, Marie had been the Metalworkers' Union representative on the Board of Directors of Ericsson Components.



Hardy Knutson

Hardy Knutson, who worked for Ericsson Business Networks' production unit in Karlskrona, was one of the best-known union figures at the facility, having been Chairman of the plant's Metalworkers' Union branch for more than 11 years. He was also a Board member of Ericsson Business Networks AB.

Ericsson was Hardy's place of work for 32 years. He started working at the plant in February 1962 as a verifier and tester of public telephone switches. He held a number of different production positions over the years. At the same time, he became increasingly active in union affairs. After a period first as Secretary, then as Deputy Chairman, he became Chairman of the

Metalworkers' Union in 1983. From 1989 to 1993, Hardy was also the representative of the Swedish Trade Union Confederation on the Regional Employment Board.



Seppo Karvanen

Seppo Karvanen was 26 when he began working for Ericsson in 1974. His first position was at the main plant at Telefonplan, where he began as a carpenter in Section VTO7.

He took an interest in union concerns from the very start, becoming progressively more actively involved. As a result of this commitment, he had been working full-time for the Engineering Workers' Union at the main plant in Stockholm for the past few years.



Thor Nordmyr

Thor Nordmyr began working at Ericsson at the age of 19 in 1956, when he was employed as a paint-sprayer in Section VT18 at the main plant in Stockholm.

After one year, he transferred to Division 39 at HF as a relay adjuster.

Thor was already active in union matters in the 1970s. He was on a number of company committees and served as a representative on several company boards.

In the mid-1980s, he took up union work on a full-time basis and succeeded Stanley Oscarsson as Chairman of the Metalworkers' Union in Stockholm.

In 1991, he became Chairman of the Metalworkers' Unions' umbrella organization for LME.



Anders Pettersson

Anders Pettersson received his first union assignment as early as 1981. Three years later, he took over as Chairman of the Metalworkers' Union.

He was at that time the youngest Metalworkers' Union branch chairman in the entire country. He had a strong interest in Ericsson and had worked for LME's Metalworkers' Unions' umbrella organization since the mid-1980s.

Anders was also extremely interested in the international dimension and participated in international union work at Group level as a member of the executive committee.

A great loss for Parliament

He wanted to build a bridge between the Social Democratic movement and the business community. His intended mission was to apply the experiences he derived from his time on Ericsson's Corporate Board of Directors to his work as a Member of Parliament

Consequently, the ferry disaster also resulted in a great loss for Sweden's Parliament.

Claes-Göran Larsson, employee representative on the Group Board of Directors and union leader for 12,000 Ericsson metalworkers, is among those missing after the Estonia catastrophe. The date of the ferry disaster was just a few days after it became clear that Claes-Göran had been elected to Sweden's Parliament, as one of two Social Democratic MPs from the island of Gotland.

Claes-Göran was a well-known person in Ericsson, particularly in union circles. He was one of three employee representatives on Ericsson's Board of Directors.

Claes-Göran joined the Visby plant in 1974. Following nine-years of compulsory education, he became a qualified toolmaker.

Early active

Claes-Göran became actively involved in union work at his workplace from the very beginning. He progressed from one assignment to another and to increasingly higher positions in the local union organization. He became department chairman of the Gotland branch of the Swedish Metal Workers' Union at Ericsson in 1981, and branch chairman in February 1983. He was appointed deputy employee representatives on Ericsson's Board of Directors in autumn 1988, and regular member a few years later.

Understanding

Claes-Göran believed that the experience he gained serving on the Board work was very useful. It provided insight into how the management of a major company works and greater understanding of the conditions under which export companies operate.

Work on Ericsson's Board was always characterized by an excellent dialog between unions, executive management and ow-

ners, and Claes-Göran believed that Board representation enabled the unions and executive management to get to know and trust each other. As a result, conflicts never arose purely due to lack of trust for the other party.

Claes-Göran wanted to apply the experiences he had gained from this smooth cooperation between unions and businesses at Ericsson to his work as an MP. He hoped to work with industrial and labor market issues. He believed that the experiences he could offer were somewhat unique, particularly within his own parliamentary party.

With the election campaign fresh in his memory, Claes-Göran warned about the risks of excessive differences of opinions between the business community and the labor movement.

Clear vision

With his clear vision and determination, Claes-Göran would have achieved a great deal as a Member of Parliament.

A large number of people regret the fact that his fate was to be so different. He is most closely mourned by his two children and his fiancé. But he is also greatly missed by about 35,000 colleagues throughout Sweden.



Claes-Göran Larsson



Sten Sandblom

Sten Sandblom began working at Ericsson's machine shop in Mölndal in 1952, when he was 25. For a number of years, he was responsible for prototype production of all circuit boards. But it was primarily as a respected representative of the Metalworkers' Union and Ericsson Radar Electronics that he became best known within the Group.

He developed union activities within the company at an early stage, and was regarded as something of a crusader for the local union branch.

As a member of the Board of Ericsson Radar Electronics, he always sought to build up a favorable image of ERE as a congenial and forward-looking workplace.



Per-Arne Ragnar

Per-Arne Ragnar worked at Ericsson Radio's Kumla factory, where he was the local chairman of the Metalworkers Union.

"Per-Arne Ragnar was somewhat unique in that he always looked out for both the employees and the company's best interest," says Håkan Gustavsson, who for several years was head of circuit board operations in Kumla.

"In 1989, we started up a small personnel-finance project within Ericsson Telecom's central accounting unit," relates Nils Enstam, the project leader.

"Per-Arne Ragnar was the representative for the Metalworkers' local union. He enjoyed the full confidence not only of the union members but of the entire workforce."



Jan Wetterlund

Jan Wetterlund was employed at the Visby factory in 1963 as a tester of relays for electro-mechanical telephone switches. His first position with the union was in 1969 as contact ombudsman for the testing unit.

In 1970, Jan was elected to the Board of the Metalworkers' Union, where he became secretary a year later. Since 1976 he has served as treasurer. Since 1983, he has been a full-time union representative.

Jan also held other positions in the Metalworkers' Union, as senior work environmental ombudsman, member of the suggestions committee, factory council, rehabilitation group, work environment and Board representative for AXE.



Anders Olofsson

Anders Olofsson began his career at Ericsson in Östersund in 1975. His first job was machine assembly, where he worked two shifts as a machine operator.

His involvement in union affairs began quickly. Anders became the Metalworkers' Union's contact ombudsman for his department and eventually a member of the Board of the Metalworkers' Union in Östersund.

In February 1986, he succeeded the branch's chairman Torsten Bengtsson, and became a union representative full-time.

Since 1990, he was a deputy employee representative on Board of the Ericsson Group and he represented the Metalworkers' Union on the Board of Ericsson Telecom AB.

Bob Hallin

In 1973, Bob Hallin became an employee of Sieverts Kabelverk in Hudiksvall. He began his union career as a health and safety representative in 1987. In 1992, he was elected union representative at Ericsson Cables.

Lars Renström is divisional manager for telephone cables at Ericsson Cables in Hudiksvall. He is emphatic about Bob Hallin's importance for Ericsson's operations in this community in northern Sweden.

"Bob was the driving force in our union, commanding great respect both on the shop floor and in the boardroom. He made a vital contribution to comradeship and team spirit on the Board."

Mayrith Thomsson

In addition to the group of leaders from the Metalworkers' Union, there was another Ericsson employee on board the M/S Estonia - Mayrith Thomsson, employed at Ericsson Telecom's plant in Norrköping.

Mayrith was 64 years old and had worked at the Norrköping plant since 1971, most recently with the manufacture of transformers and cable.

Focus on families

Ericsson's crisis group mobilized

Ericsson has a smoothly functioning crisis organization. This was clearly demonstrated again in connection with the tragic ferry accident in the Baltic Sea.

In order to provide urgent aid and support for the surviving families and dependents and to rapidly try to provide a clear and accurate response on many pressing issues, the company mobilized its crisis support group the instant it was known to what extent Ericsson had been affected by the sinking of the M/S Estonia.

On the morning of Wednesday, September 28, Sweden woke to an alarming news report. Before daybreak that same day, the Ericsson crisis group had been called to its first meeting.

As soon as it was known that several of the company's employees were on board the stricken vessel, the crisis mechanism was in place and functioning.

"In a situation like this, it is not the company's welfare that is at stake. Rather, it was the acute need to dispense help to the next of kin of our missing colleagues that motivated the urgent mobilization of the crisis group." These are the words of Lars A. Stålberg, who functions as permanent chairman of the group, in which leading representatives for many different functions, particularly the company health-care function, are included. In addition, Ericsson's CEO Lars Ramqvist was deeply involved and participated in the group's initial meetings.

Company health care

"Ericsson's health-care function plays a key role in the crisis

group. This function can provide psychologists and behavioral experts, all of whom can provide expertise on the type of support that could be needed by dependents and next of kin in such a situation," continues Lars Stålberg.

"During Wednesday, Ericsson's health-care units throughout Sweden contacted the missing employees' next of kin to provide comfort and support in their time of need. No-one had to maintain a vigil alone during the first anxious night following the accident."

Obtained information

Information about exactly what had happened, passenger lists, survivors names and other details is vital in situations of this type. Accordingly, much of the crisis group's work on the first day was spent on following events as they developed and, by using various different channels, on obtaining as much information as possible about the situation. For example, two experts were dispatched to the Estline shipping offices in Värtahamnen to follow the infor-



In the days following the ferry catastrophe, the country focused its efforts on comforting the dependents in their distressing situation. Sweden's former and newly appointed Prime Ministers, Carl Bildt and Ingvar Carlsson, respectively, attended a memorial service for the victims in Stockholm's Cathedral.

Photograph: Reportagebild

mation being provided to the mass media by the police and shipping line representatives. Internal information to Ericsson employees was disseminated in pace with reliable information becoming available, via Nytt and EEC Info.

Financial support

The families and dependents of the Ericsson employees who perished on the Estonia need not be

concerned about any acute financial problems. The crisis group has already made a rapid review of the insurance situation and has found that there could be a waiting period before any survivors' pensions and other benefits can be issued.

Ericsson Group Management was consulted and it has been confirmed that the families concerned will be supported through continued salary payments until

such time as the financial issues have been resolved.

"At this stage, a number of difficult tasks still remain for the next of kin of the Estonia victims" says Lars. "It is therefore very important that we at Ericsson have the best possible opportunities to support them with the expert help of our professional colleagues within the company's health-care units."

Lars-Göran Hedin

Condolences and sympathy from all over the world

The sinking of the Estonia is a tragedy that has affected many homes. Within the Ericsson organization there are also many who are currently mourning the departure of the twelve highly skilled and very popular Group colleagues who were on the ferry and could not be saved. Six of the deceased worked within Ericsson Telecom, of whom five were prominent executive members of the Ericsson branch of the Swedish Metalworkers' Union.

Ericsson Telecom's president, Håkan Jansson and vice president, human resources, Lars Wiklund, had met, worked regularly with and become personal friends of these skilled members of union management over a period of years.

"It is always tragic when anyone dies unexpectedly and I know that many people throughout the organization feel a deep sorrow and a great loss for their departed colleagues. I personally had the good

The news of the ferry disaster and that a group of Ericsson personnel were on board the M/S Estonia has created sorrow and cast a gloom over the entire organization.

During the days since the night of the accident, messages of sympathy and condolences have poured in from all over the world.

The messages received are collective commiserations from entire companies and notes of sympathy from individuals at all levels of the organization.

Candles have been lit in many places, roses and other tributes have been laid beneath flagpoles and memorial ceremonies have been held. Without doubt, this is a tragedy felt by all of Ericsson's 75,000 employees.

fortune to work closely with several of them and counted them as good friends. Today, I feel great sorrow that I shall never meet these friends and colleagues again. All were highly appreciated colleagues, both in respect of their professional

expertise and their individual qualities. During the years in which we actively cooperated with each other, I became increasingly impressed by their negotiating skills and the great personal warmth they spread," says Håkan Jansson.

Director of human resources, Lars Wiklund is also warm in his praise of his lost colleagues and continues:

"They were all extremely knowledgeable and skilled union men, each with a strong feeling both for the company's goals and operations and for the interests of the union members. It was always easy to work with and enter into constructive negotiations with them. They all shared a strong willingness to develop ideas and solutions. Although we were in "opposing corners" it was always gratifying to cooperate with such competent union leaders, who I also valued as personal friends."

It is with a deep sense of loss and great compassion for their families and dependents that Håkan Jansson and Lars Wiklund must admit that Ericsson Telecom has lost six highly popular and much appreciated colleagues, who leave a great void behind them.



The first call! Excited residents in Kampong Alor Alir make the first call to the neighboring village.

Photo: David Yong

Placing the first telephone call

Telecom Malaysia is making a substantial investment to expand the country's telecommunications services. The goal is that nearly all inhabitants will have access to a telephone by the year 2020. Today, only some four percent of the population in rural areas has a telephone in the home. In order to increase telephone density quickly and inexpensively, Telecom Malaysia is using radio in the subscriber network.

Kampong Alor Alir is a remote village in the Pendang district, some 200 km north of Malaysia's capital city Kuala Lumpur. Pak Mat is a villager who has been living here with his family for many generations. About five kilometers away, in the village of Alor Mangkuang, lives Makcik Milah with his family. Like most of the Pendang district's 1,000 inhabitants, both men are rice farmers. Usually, the distance between farmers is measured by the extent of the rice fields. Now, however, the distance between them has diminished dramatically. This August marked a special occasion, when Pat Mak and Makcik Milah received telephones for the first time.

No cables

The villagers received telephone calls without any cables being drawn. This was made possible by a technique called radio in the local loop (RLL) and the RAS 1000 system from Ericsson Radio Access.

Telecom Malaysia has ordered equipment from Perwira Ericsson Sdn Bhd, the

RAS 1000 changes life in Malaysia

Ericsson associated company in Malaysia. The joint project with Telecom Malaysia is expected to extend for three years, with an order value of SEK 620 million for the first phase.

"The system is already in operation in certain villages in the Pendang district, and there are currently about 500 subscribers," says Hans Aronsson, the Asia Pacific market manager at Ericsson Radio Access. The goal is to provide service to 40,000 subscribers by the beginning of 1995. In rural areas, some 800 telephone booths will be provided using RAS 1000, which can be connected to both AXE and switches from other suppliers.

The installation is being handled by employees from Perwira Ericsson. The equipment is manufactured in Ericsson's plants in Kista and Linköping in Sweden and in Denmark.

Budapest first

The first RAS 1000 contract, received in March of this year, was for central Budapest, where RAS 1000 is being used to quickly provide subscriber services to the many business users waiting impatiently for a telephone.

The Budapest system, which will be taken into operation later this year, represents an order value of SEK 110 million. The real breakthrough for RAS 1000, however, was the large Malaysian order.



Hans Aronsson from Ericsson Radio Access places a call from one of the telephone booths served by the RAS 1000 system.

Subscribers notice no difference using a telephone connected to the public exchange via radio or a cable. The only visible difference is a small box containing a radio transmitter and a telephone jack. Fax and modem equipment can be used in the normal manner. The system also fulfills the need to ensure freedom from eavesdropping.

All services present in a conventional network are available via RAS 1000. The system operates transparently and appears to be a cabled network.

Malaysia - an Asian tiger on the prowl

Malaysia, which has a land area of 329,300 square kilometers and a population of 18.6 million, consists of the southern part of the Malay Peninsula and northwestern Borneo and is situated almost on the equator. The two areas of the country, which are separated by the South China Sea, are very different. The majority of the population lives on the Malay Peninsula. About half the population are Malaysian, while 35 percent are Chinese and 10 percent Indian.

The country, which consists of 13 states, is an independent federation within the British Commonwealth.

The Malaysian economy is expanding rapidly, making the country one of the so-called Asian tigers. Over the past six years, Malaysia's GDP increased by more than 8 percent annually.

Currently, there are an average of 13 telephone lines per 100 persons. In rural areas, the corresponding figure is 3 per 100. The goal is for Malaysia to become a well-developed industrial nation by the year 2020. At that time, the average should be one telephone for every two persons in urban areas and one for every four persons in rural areas.

Ericsson has been active in Malaysia since 1965. The country now ranks as one of Ericsson's largest markets, with sales including about 2 million AXE lines and several different mobile telephone systems.

RAS 1000 is a flexible system that can be installed quickly and is also expandable. Asia is home to 55 percent of the world's population, and in most countries in the region, the telecommunications infrastructure is poorly developed.

This order creates very significant business opportunities for the RAS 1000. In Malaysia alone, an investment of more than MYR 2 billion (SEK 6 billion) is planned over the next few years for the expansion of the telephone network in rural areas.

Gunilla Tamm

Good Customer service – a very profitable business



Making joint efforts to increase customer support and improve operating quality – the customer, Telefónica, and the supplier, Ericsson. Above: Representatives from Ericsson worldwide visiting the Spanish customer, Telefónica.

Madrid – a warm, intense and exacting city. A similar description could be applied to the atmosphere at the customer service seminar held in the city at the end of May. Some fifty representatives of Ericsson companies worldwide met to discuss such questions as "What can we do to improve customer service?" and "How can we make this a profitable venture?"

Madrid Seminar confirms importance of improved customer service

Customer service – can we make money on providing this and can it be improved? The answer to both questions is YES!

This was the conclusion reached by representatives of about twenty of Ericsson markets who participated in the three-day seminar in Madrid at the end of May. The Spanish customer, Telefónica, presented its views of what it takes to be an excellent supplier. The participants visited the customer's impressive operations and control center, and Enrique Hervás, in charge of Telefónica's operations and maintenance, addressed the seminar.

His main messages can be summarized as follows: Cooperation and support! Help us to correct faults quickly! Give us better support to enable us to provide professional service to our customers! And increase operating quality!

Well service

Today, it is not just a matter of making money on selling products. Technology has become so advanced, and provides so many different potentials, that service must be utilized to generate revenues for Ericsson.

Compare with others

"We don't want to force the processes. The network of contacts shall focus on a continuous dissemination of solutions and ideas in an appetizing manner," says Lars-Erik Lindberg.

The companies make comparisons with other Ericsson units based on the benchmark method. "We try to pinpoint which market is best in a certain respect

and then disseminate the working procedures employed by the companies active in this market. During the short period since the previous seminar, I have noticed a considerable difference in the way people work and in attitudes. In the past, we were reactive – now we're proactive!

"We must learn how to charge for providing service – something that some of our competitors have always done. We must make customer benefits clearly visible and demonstrate that customers make a profit from our services."

The U.S. and Australia are the markets that have progressed furthest in this respect.

"They have been driven by the conditions in their markets. We can learn a lot from them."

Bonus system

Tom Vos, in charge of operations and maintenance at Ericsson's support center in the Netherlands, presented a new method developed by the center in cooperation with Dutch customers. The idea is that the customer and Ericsson reach an agreement about the items that must function and the manner in which they must function.

If Ericsson satisfies these demands within a specified period, Ericsson receives a predetermined payment. During the same period, Ericsson may also be penalized – based on penalty points – if it fails to satisfy these demands.

If Ericsson manages to correct faults in time, it earns bonus points. When the period is over, the points are added up, and if the penalty points exceed the bonus points, the predetermined payment is reduced.

"Thanks to this method, we've been able to reduce system



Eager to make a call. Isn't it my turn soon? Luckily, there are many public telephone booths in all of Madrid's squares and plazas.

downtime from 90 minutes to just nine," says Tom Vos.

Ericsson in the Netherlands has just started to implement this method, and both the company and its customers are very satisfied.

New Spanish tool

During the seminar EME, Ericsson's Spanish company, presented a new tool – a computer that helps customers make decisions when the AXE system has stopped operating. (This may

not be an elegant description in the ears of a technician, but it is one that is understood by the man in the street.)

"EME has developed an electronic manual that provides simple explanations that enable customers to quickly and systematically extract themselves from an operational stoppage," says Lars-Erik Lindberg.

"We were all very impressed by this tool and hope that it will soon be translated into other languages. Today, it's only available in Spanish."



Lars-Erik Lindberg, from the Customer Services business unit, and Arne Lindholm, Customer Services' quality manager for Ericsson in Spain, were responsible for arranging the Madrid seminar and ensuring that the program was interesting and rewarding.

completed. However, selling and marketing service is an ongoing process."

AXE User Forum

There are a number of points of contact between this internal forum for customer service and the AXE User Forum – the forum in which about twenty of Ericsson's various customers worldwide meet to discuss operational quality. In order to disseminate ideas to Ericsson's customers, Lennart Berg, Ericsson's representative in the AXE User Forum, attended the Madrid seminar. He reported the conclusions of various task teams – working groups focusing on customer service matters – and collected a number of views and ideas from seminar participants for dispersal to User Forum customers.

New business unit

The Customer Services business unit, a new unit in the Public Telecommunications business area, was formed on May 1. The function of the unit is to provide and develop service-related products and create a network of contacts worldwide.

Ewa Lundberg, responsible for a project-leader group within the unit, presented the new unit to the seminar.

"It is important that colleagues in other markets get to know us and consider us as a support. We must work together in order to increase customer service."

The key concept for the business unit is "Customer profitability." This means that the unit must contribute to enabling customers to increase the efficiency of their business operations.

Among other factors, this requires the provision of consulting services in connection with the planning and development of the customers' business operations.

"Our services must yield a profit for customers and we must find new business opportunities," says Ewa.

The unit's strategies include the development of global service centers – "global response centers" – which provide 24-hour service. These are designed to support the local service centers – "local response centers" – that already provide answers to the questions and problems of customers.

What next?

Following three days of intense work in an overpowering Madrid, which the participants had little opportunity to enjoy, the seminar results are to be secured locally and the ideas realized.

"This is when the real work begins," according to Lars-Erik Lindberg and Arne Lindholm, Customer Services' quality manager at Ericsson in Spain, who were jointly responsible for arranging the seminar.

"Now, we must further develop all the ideas and put them into practice."

Groups have been formed to focus on various questions and ideas. A number of participants have been assigned certain tasks, reports on which were submitted before summer 1994. The network is maintaining continuous contact.

"Among other methods, we will exchange ideas and experiences via Memo. We will develop solutions that increase the profitability of customers and Ericsson itself!" say Arne and Lars-Erik in conclusion.

When seminar participants finally packed their suitcases and returned to their home markets, they had a number of questions requiring further work.

Text and photography: Joséphine Edwall

Voices from the seminar

Ewa Lundberg, head of a project-leader group within Ericsson Telecom's Customer Services unit:

"Meeting representatives from so many different Ericsson companies has been extremely beneficial. From the viewpoint of Customer Services, the seminar was also an occasion for spreading our message. A large and rewarding network of contacts has been created, which we will hopefully be able to develop even more. We all have the same goal: making a profit from providing service and having satisfied customers. Customer service is a question of cooperation and of a mutual giving and taking between companies. And, of course, we had an opportunity to eat delicious and VERY Spanish food during the seminar!"



rewarding experience. We are all working in the same area – selling service and training and making this attractive to customers. The customers must realize the benefits provided by service and training, and we must focus on making such benefits as visible as possible. I hope that this was the beginning of a long and constructive cooperation and that we will continue to send ideas to each other and keep in touch.

"Within Ericsson, there is a substantial need for an efficient global customer service organization."

Santi Prakkamakul, operations and maintenance manager, Ericsson in Thailand:

"This is the first time I've participated in such a seminar and I really hope it will not be the last. It has been very rewarding and well worth my long journey – 35 hours return."



Tom Vos, manager of the O & M Support Center, at Ericsson in the Netherlands:

These seminars are very good, partly for exchanging ideas with and listening to Ericsson Telecom, and partly for getting to know colleagues from other markets. Unfortunately, there wasn't enough time to talk to all participants. The days were also very long and highly compact. I was very tired afterwards. I suggest that some workshops are prepared in advance, to save time. This would enable us to discuss certain specific areas in greater detail with other colleagues."



"Learning from other people's mistakes is a useful experience, since it helps us avoid making similar mistakes. Exchanging ideas and listening to how colleagues have solved their problems is also very rewarding."

Andrew Quinlan, operations and maintenance consultant, Ericsson Ireland:

"I hope this seminar will enable Ericsson to make money in the long term! It has covered issues that affect Ericsson's future. I found the MSS presentation very interesting. This is a useful tool, which will be offered to customers and provide savings for both them and us. Now, we have to market the tool to customers and convince them of its benefits."



Gordana Kovacevic, technical manager at Nikola Tesla, Croatia:

"Meeting people from all over the world who have the same problems is an incredibly



"This seminar was an occasion to exchange constructive ideas and make many friends."

Brief about Ericsson in Spain

Ericsson started to conduct operations in Spain in 1922. Ericsson S.A., EME, became a wholly owned Ericsson subsidiary in 1987.

In June 1994, Ericsson had 2,992 employees in Spain. The head office is located in Madrid and there are five regional offices. Total net sales amounted to slightly more than SEK 3.2 billion in 1993. Public Telecommunications Business Area accounts for 60 percent of operations. Raimo Lindgren is the company's president. In January 1994, 3.9 million AXE lines were installed in Spain.

The Spanish customer, Telefónica, is one of the cus-

tomers who have ordered ATM for field studies by Ericsson.

EME's four priorities are: customer satisfaction, employee satisfaction, business results and other results.

EME continuously focuses efforts on increasing customer satisfaction. The methods employed include regularly asking customers to complete questionnaires.

In addition, employees who work directly with customers, including field service personnel, are asked to give an account of their impressions. In cooperation with customers, action programs are then formulated.

South Africa moves ahead

With the end of apartheid, demand for mobile is surging

In pace with the stabilization of conditions in South Africa, the mobile telephone market is experiencing explosive growth. Just four months after the opening of the country's GSM network, there are 140,000 subscribers. Ericsson has now received an order to further expand the network.

Christer Hohenthal, the Ericsson manager responsible for South Africa, is very optimistic, following Ericsson's re-entry into the South African market on a major scale.

"There are tremendous opportunities here," he says, "but it is essential to proceed with caution. It is still too early to assume that stability will prevail."

Both insight and audacity were necessary to re-enter the market. Christer began making visits to South Africa slightly more than two years ago and foresaw that the sanctions would soon be lifted. Toward the end of 1992, a decision was taken that licenses would be awarded for two competing mobile telephone networks.

Taking a chance

"It was a wise decision to send a GSM system down to Cape Town for demonstrations in early 1993," says Christer. "A test system was in operation for several months, so the authorities were able to both see our system and verify that it worked. The money spent was well invested."

Ericsson took another chance in allocating production resources and personnel long before it was decided who would receive the licenses.

"We simply took a calculated risk in making preparations before receiving the contract. When we finally did receive the contract, it was evident that the time schedule would be tight," Christer Hohenthal relates.

Together with local partner Plessey Tellumat, Ericsson was selected as the principal supplier by operator MTN. Vodacom, the competing operator, chose Siemens and Alcatel as suppliers of the network infrastructure.

The latest order, which is valued at about half a billion, will mean that MTN within few years will have a capacity of 200,000 subscribers. According to unofficial reports, the Ericsson system has withstood start-up problems to a much greater degree than the competitors' system.

Many obsolete switches

The next major objective is now to install the well-known AXE switches in the South African telecom net. To a significant extent, the switching system in South Africa relies on outdated equipment. Many large communities still have switches that are so old that



Christer Hohenthal is the Ericsson manager responsible for South Africa and one of the driving forces behind the country's GSM network. By using small, mobile stations, it was possible to get the network started very quickly.

subscribers must contact an operator to place a call.

However, as was demonstrated when this writer and the photographer were stranded in a remote town when our car broke down, the old-fashioned exchanges still have their merits. When we phoned for a mechanic to repair the car, the switchboard operator was able to inform us that he was not at home but that she knew that he had just gone to visit his brother. She was happy to connect our call to the brother.

"We have not yet begun to develop the market for private branch exchanges, but it, too, shows considerable potential," reports Christer Hohenthal.

After slightly more than a year in temporary quarters, Ericsson has also now moved into its own offices in the fashionable Rosebank district. Like Los Angeles, the center of Johannesburg is increasingly becoming overcrowded, while new residential and industrial areas are growing in the northern suburbs.

Adapting to local customs

For foreign companies, it is essential to learn local customs and expectations before expecting major orders in South Africa.

"It is important to show that the company has a genuine desire to establish itself for the long term. The company must make a commitment to providing added value locally as compensation for orders received. And who knows, perhaps in the future Ericsson will be exporting from South Africa," says Christer Hohenthal.

He does not foresee any competitive advantage for Swedish companies just because the ANC is now in power.

"In my meetings with their communications experts, they have acted very professionally, and my impression is that bids will be handled in a very businesslike manner," concludes Christer.



The South African mobile telephone market is undergoing explosive growth. There are already 140,000 subscribers, and a capacity of 200,000 is expected within the next



Nelson Mandela is a leader who always puts the country's best interests first. By appointing arch-rival, Inkatha leader Mangosuthu Buthelezi, as minister of the interior, he is easing tension and promoting peace and stability.



few years. "However, it is essential to proceed with caution, to establish the company in an appropriate manner and to be a good citizen in the new South Africa," says Christer Hohenthal, the Ericsson manager responsible for South Africa.

South Africa - Balancing on the razor's edge

A reporter seldom has the opportunity to report on events in which the final resolution is more positive than he ever dared hope. South Africa, however, is an exception. Here the doomsday prophets were proven wrong for once.

Hardly anyone, not even the most optimistic observers, believed five years ago that South Africa could change without a bloody civil war.

Today, free democratic elections have been held in which the country's black majority participated. Only four years have passed since Nelson Mandela, the victor in the elections, was released from prison.

Nelson Mandela is also the most obvious answer to the question of how this total transformation could take place so smoothly.

What other leader could be so forgiving that he would invite the same person who held him prisoner for 27 years to be a member of a coalition government. And this despite the fact that his own ANC received 63 percent of the vote.

Investment needed

Mandela emphasizes continually that the national interest must be taken into consideration in every decision. Therefore, the new government cannot demand any immoderate or costly social reforms.

Everyone also agrees that substantial foreign investment will be needed to get the wheels turning and offset the 40-per-

cent unemployment rate. Many of ANC's leaders also have a knowledge of Swedish political history and express the view that South Africa's current social situation resembles that in Sweden during the 1920s and 30s, before investments on a broad scale to provide general education and adequate housing for all were implemented.

A balancing act

But Mandela's new government must also balance on the razor's edge created by the country's violent past. If the large black majority does not experience any improvement over the coming years, there is considerable risk that political violence will once again return.

Appointing Inkatha leader Mangosuthu Buthelezi as minister of the interior was a

stroke of genius. This forces even the ANC's arch-rivals among the Inkatha to share the responsibility for South Africa's future.

In September of this year, reports indicate that political violence has virtually been eliminated. On the other hand, common criminality was increasing, thus prompting the government to strike this August through a coordinated wave of arrests in all major cities. Some 1,700 criminals, from murders to petty thieves, were arrested during a few tense hours in the early morning.

Most important for the country's immediate future is that Nelson Mandela remains healthy and that he can continue to serve as president. Unfortunately, there is as yet no clear successor.

Håkan Lövström

The Lynchburg route to Ericsson

Change is the key to the future for the Ericsson GE Mobile Communications plant in Lynchburg, Virginia. For external visitors to the facility, only certain differences are visible. This is because the changes relate not only to a modernization of the plant layout, but also to the implementation of new systems and work routines.

Almost exactly five years ago, Ericsson and General Electric entered into a cooperative venture in the form of a new joint company, Ericsson GE Mobile Communications. General Electric's plant in Lynchburg became part of the new company. Over the years since then, the plant has found it difficult to find a fitting role within the Ericsson family. Manufacturing has included products within both mobile radio and mobile telephony, with an extremely complex range of products in each of these segments.

Cooperation between the Lynchburg plant and the various units within Business Area Radio Communications has not functioned satisfactorily. This was due to the organization of the American plant being out of synch with Ericsson's usual working routines and to the lack of a common production administration system. Work to blend the companies' different corporate cultures has also taken a long time.

New organization

In April this year, the "new" Ericsson plant in Lynchburg began to emerge. This was based on a new organization consisting of three production units, mobile radio, mobile telephones and radio base stations. Operatively, each of these reports to its respective business unit.

Mobile telephones and base stations jointly form a P Division, with Bengt Undén as manager. It is in the P Division that the new systems and work methods are initially being applied.

Bengt, who arrived in Lynchburg a year ago, is also head of manufacturing for mobile telephones. Kenneth Johansson is responsible for base station manufacturing and Doug Gentry for the manufacture of mobile radios.

During the next few years, mobile radio production will also undergo a process of change. The production of new products will be adapted directly to Ericsson's production-administration system. The first of these is already scheduled for this autumn.

"Within a couple of years, we should have restructured 50 percent of mobile radio production," says Bengt.

Mobile radio products are a key part of Lynchburg's operations, with this facility regarded as Ericsson's master plant for this product line.

Visible changes

"It is not enough to change the organization and introduce new systems and work methods. Visible changes must also be made to the plant," underlines Bengt.

And this has already been achieved by creating a pilot plant for the production of mobile telephones. "That part of our manufacturing operations based on the 'Jane model' has been allocated its own separate area within the plant. The ceiling height has been reduced and lighting improved, with the Ericsson plant in Kumla used as a prototype.

"Today, several varieties of mobile telephone are manufactured in the plant but in future we intend to concentrate on just one version, based on the Jane model," explains Bengt. "Jane" is the mobile telephone developed by Ericsson in RTP in North



Carolina, which has been commercialized by the Kumla plant.

During the year, manufacturing volume is planned to increase by 300 percent! Currently, about 400 employees are engaged in telephone production at the Lynchburg facility. At year-end, the number will have been increased by approximately 100 additional employees.

Base stations

Three years ago, the Lynchburg plant started the small-scale manufacture of radio base stations for applications in the mobile telephony field. Today, such operations can no longer be described as small-scale.

"Absolutely not. Today, volumes are rising rapidly and this is reflected in the number of employees. A year ago, we were just 60 people; today we are 314 and will be 350 by the end of the year," notes Kenneth Johansson.

At the same time, he explains that the RMOA Business Unit is the biggest customer, placing orders for base stations for the AMPS and D-AMPS mobile telephone systems. Lynchburg is the master production plant for micro base stations.

To unburden the Gävle plant in Sweden, Lynchburg also manufactures base stations for the TACS system in micro format.

Since Gävle is the master plant for the manufacture of base stations in a macro format, there is a great deal of cooperation between the two plants. Both use corresponding equipment and production technology.

"Some time ago, we installed another surface treatment line, which means that we now have three complete lines, all dedicated to meeting our exclusive needs," says Kenneth.

Training

Currently, the Lynchburg plant is focusing heavily on employee training. For example, all new employees receive one week's training in soldering techniques. Training in new methods and working routines, where the emphasis is firmly on quality, are also arranged.

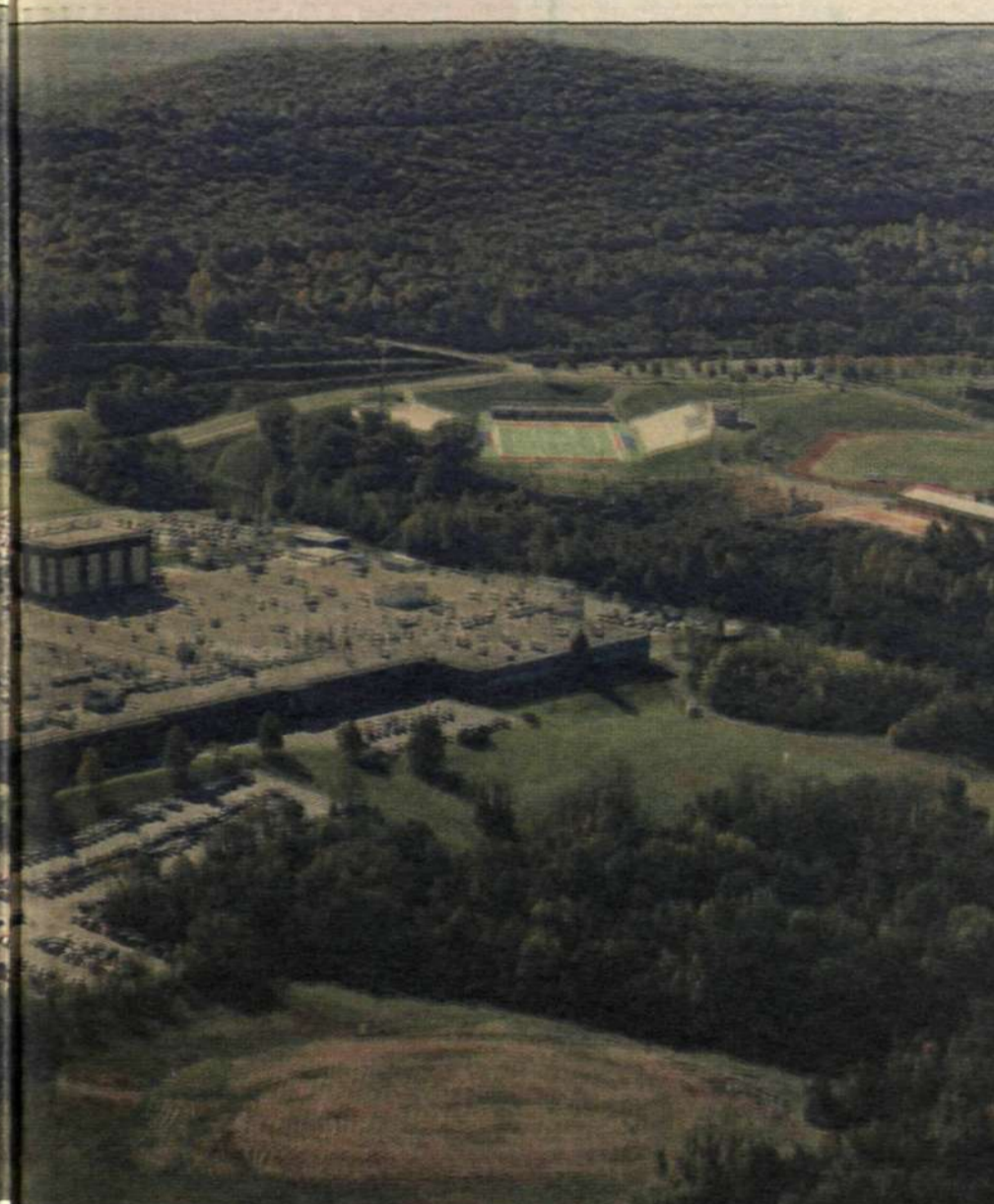
"It is important that everyone feels that they are an integral part of the Ericsson plant in Lynchburg," says Bengt.

Training, new work methods and new systems are examples of the changes implemented, which are less visible to external eyes. But certain internal changes will soon be very apparent — such as the completely new plant layout, scheduled for the end of the year.

Gunilla Tamm



AT THE FOOT OF THE APPALACHIANS. Lynchburg is situated in the southeastern American state of Virginia, on the edge of the Appalachian range of mountains overlooking the famous "Blue Ridge." Some 150,000 people live in and around Lynchburg.



The plant, which was built in 1957, has been modernized in stages and currently covers 60,000 square meters of space. About 2,200 employees work at the Lynchburg plant.

"Route 96" towards a new way of working

New working methods, new tools and new systems, all are vital components in the transformation project started at the Lynchburg plant in April. Through these improvements, Lynchburg is destined to become a model Ericsson plant.

"It will take about a year to implement the new working methods and another six months to fine-tune them," says Crister Ek. He knows what he is talking about, having managed the KARL project at Ericsson's Linköping plant. In English, KARL stands for Capital Rationalization in the Linköping plant (CARL). There, in connection with the implementation of a new production administration system, it was decided to adopt a more holistic approach and simultaneously introduce a new method of working at the plant.

Crister arrived in Lynchburg in March to assume responsibility for and coordinate the various projects included in the process of change at the facility.

"In Lynchburg, we plan to make use of all the experience gained from similar transformation projects in Linköping and Gävle," he says and goes on to explain what is meant by Route 96. The project name is based on the well-known transAmerican highway, Route 66.

"The number, 96, refers to the year by when we expect to be a world class plant, while the route prefix naturally refers to the way we take to get there! A route, in fact, that can consist of both superhighway and hairpin bends. Along the route it will also be necessary to address and handle as effectively as possible a number of milestones.

"Everyone within the plant will be affected in some way by this process of change."

Increased efficiency

C:M, or Control Manufacturing, is a system that controls the flows of materials and production. The system, which will involve important changes at Lynchburg, has already been implemented in Linköping, Gävle and Kumla. In addition to C:M, other new systems and processes are being introduced — all designed to increase efficiency and adapt operations to the Ericsson and Radio Communications infrastructures.

During August and September, the practical work methods will be developed so that the new systems and ways of working can start in earnest in January 1995. The mobile telephones and base stations production units will commence operations simultaneously. Land mobile radio will start slightly later, at which time



DRIVING DOWN ROUTE 96. From left: Matthew Mazzone, Crister Ek and Carroll Wheeler discuss the process of change at the Lynchburg plant. Crister is overall project manager and Matthew and Carroll are sub-project leaders.

Photo: Jack Radgowski.

the new methods of working will be started at the same time as the plant commences work on the new product, Hawkeye. This is a new portable radio for the EDACS system.

Training in the new system is important and this will be conducted in parallel with its introduction. Follow ups to measure the effectiveness of the training will be conducted on an ongoing basis.

Gunilla Tamm

Breakthrough among new operators

The independent telecommunications operator, MFS Communications, Inc., in the U.S., has signed a global purchasing agreement with Ericsson. During the next few years, Ericsson will deliver a complete range of AXE equipment for both local and transit traffic to MFS. Worth SEK 2.2 billion, the agreement also covers other types of equipment from Ericsson.

MFS has rapidly developed to become one of the leading independent operators in the United States. Within only a couple of years, it has gained no less than 35 percent of the U.S. market for so called Competitive Access Service Providers, CAPs. Currently, the company is implementing a comprehensive extension of its international telecommunications network. Based on products from Ericsson, this network today covers 32 cities in the U.S. and three of Europe's most important financial centers.

In the years immediately ahead, MFS is planning to expand the network to include 75 cities, including ten of the world's most important financial centers.

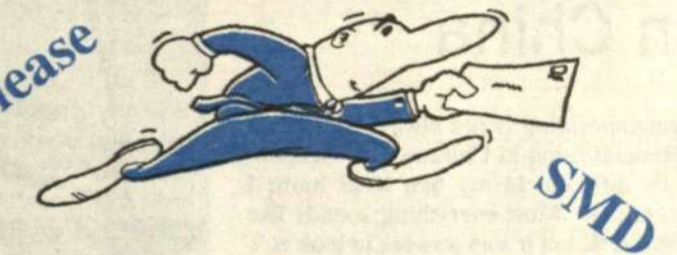
When the agreement was signed, MFS Communications' Chairman and CEO, James Q. Crowe, and Ericsson's President, North American Operations, Bo Hedfors, jointly noted that the agreement between the two companies will be the key to realizing the rapid international expansion of MFS' network.

"MFS is a fast-growing leader in the international telecommunications industry," says Bo Hedfors. "We feel honored to be given this opportunity to use our global strength in support of MFS."

Responding, James Q. Crowe, notes: "Ericsson's global capacity will be of great value to us as we continue the international expansion of our network. We are well acquainted with the high quality of both Ericsson's employees and its equipment and we are looking forward to a long and fruitful cooperation."

Contact plans to return with a more detailed presentation of MFS and the cooperation agreement with Ericsson in a later issue.

New Release



SMD

Light from the underside!

Citizen Electronics new innovative surface mountable **LED CL-230** is intended to be mounted on the PCB to illuminate the opposite side through a hole. See figure below. Total height of the PCB is minimized to almost nothing. The LED is available in most common colors.



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Temporary expatriot a rewarding experience

For five weeks this summer, I switched my office at Corporate Relations in Stockholm to Ericsson's office on Jianguomen Wai Dajie in Beijing. My assignment was to provide temporary support to the information staff serving the rapidly growing market in the world's most populous country. In exchange, I gained knowledge and experience which could be applied at home, and many new Ericsson friends.

Pia switched Sweden for five weeks in China

Communicating is not always easy! And communicating in Chinese was exceptionally difficult. In my first letter home I wrote that "Most everything sounds like %#@!(&%, but it's an artwork to look at."

After awhile, however, I began to recognize some spoken words. "Nihao" is the most common greeting.

Other necessary words were "ailisin" – Ericsson in Chinese – and "dagada" which means mobile telephone. Luckily, my office colleagues were indulgent towards my language deficiency and we could speak English, or the always handy body language, with one another.

Swedish furniture

The building housing Ericsson's head office in China is a modern skyscraper with a smoked-glass facade and marble floors in the lobby. The office was not much different than other Ericsson offices I've seen: Swedish furniture, binders with the Ericsson logo, computers, product brochures and other papers.

Most personnel do not have their own office. They sit in an open landscape area, or in divided areas of a small office.

I shared a Memo terminal with several others on our floor. Since I was so used to having my own terminal, I was really stressed when I sat down at the terminal to complete a message and the waiting line behind me got longer and longer. I felt a bit spoiled by the luxury of my own office back home.

Total traffic chaos

The traffic was heavy on the street outside the office. It appeared to be a totally chaotic



NEW KNOWLEDGE Pia Rehnberg worked for five weeks at the Ericsson office in Beijing, a period during which she gained new experience and knowledge. Pia poses with an aspiring artist at the Beijing Opera.

tic mix of small yellow taxi's, pedestrians, street sweepers and hordes of bicycles. In June the temperature was about 35°C (95°F) and mostly dry. The sun shined above the smog which engulfed the city. Unfortunately, it seldom broke through.

Most of the daily work was similar to the routine at home in Sweden. Press releases were drafted and coordinated. Newsletters were written, produced and distributed. Journalists visited the office and colleagues and outsiders requested answers to questions.

I'm not very experienced in dealing with exhibition projects, but this activity seemed not so different. Ericsson participated in a week-long exhibition in Quangzhou in southern China. I was there and helped build the stand and welcomed visitors during the five-day event.

Snake and camel tastes good

In contrast, contract-signing ceremonies and banquets were quite a different experience. I was present at a ceremony in Dalian in Northeastern China when Ericsson signed a new contract with a customer. Dining on snake or camel is not an everyday occurrence, but it was exceptionally tasty! On the other hand, chicken

feet and the local drink Mao Tai was worse.

On occasion my thoughts strayed back to some of my colleagues in Sweden. When we were searching for photos for a new brochure, I thought about Johan Fischerström who is our expert in production of printed materials. Johan taught me to always be very selective about photo material and to use original slides to ensure the best quality. I had a selection with me from Sweden, but unfortunately they were difficult to use. The difference in quality was too striking compared with the photos we simply cut out of other brochures and used again. Quality conscious Johan would have been very unhappy if he saw the result.

Five weeks in the fantastic, different and exciting China was a challenge and a privilege to have experienced. Trying at least to understand a brief glimpse of life at work at another Ericsson office than the one I'm accustomed to, and to provide assistance and share know-how. I will carry the experience and knowledge I gained during my time in China with me the rest of my life. Hopefully, this will be beneficial for me and Ericsson in the future.

Pia Rehnberg

END
LINE

LARS-GÖRAN HEDIN



We must not challenge the nature!

If there is anyone who doesn't understand what a small country Sweden actually is, this delusion has surely been corrected now. The incomprehensible and humanly enormous catastrophe of the loss of the M/S Estonia has shocked all of us in Sweden. Nearly every Swede can recognize a name in the lists of the hundreds of missing which he or she knows – relatives, friends or just an acquaintance. The entire country is grieving and will continue to bear this sorrow for a long time to come.

Despite all the modern technology and our intellectual organization ability, man still loses when the forces of nature mobilize to full strength. We are naive who believe that we can travel our oceans without being concerned about the weather. Let us hope that we have now learned a lesson we should have learned in April of 1912 – technology cannot make man invincible. The sinking of the Titanic did not cure man of his blind faith in technology. How much time will pass after the loss of the Estonia before we have also forgotten this warning signal?

Technology can help us improve the odds in our battle with nature, but it will never, never give us total superiority. It is time for a touch of humility in moments such as these. Instead of only searching for technical and human error as an answer to why the Estonia catastrophe could have happened, we should also ponder over the fundamental miscalculation that laid the path to the ship's demise.

The risk-taking has been enormous. In the wake of this catastrophe we have learned that this tragedy could have occurred on many earlier occasions. There is no shame in bowing to nature. We should do it much more often than we do today.

Humanity's greatest challenge at this moment is presumably to learn how man can apply technology to work with nature, not against it. This is a lesson we must learn fast. Otherwise, worse catastrophes than the ferry accident can happen.