


# Contact

ERICSSON  PUBLICATIONS FOR ERICSSON EMPLOYEES WORLDWIDE No 1 • 1991

## Record-reward!

Tord's brilliant idea was worth a million kronor

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### Danish Diax a flexible company

Last year Ericsson launched a company, Diax, together with Bang & Olufsen in Denmark. It is a high-tech company that has become known for quickly developing new telecom products.

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### Lease a HotLine!

Ericsson Radio Systems Sweden has gone into leasing HotLine phones through car rental companies and hotels.

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### "Ericsson" in Zimbabwe

With backing from Ericsson in Sweden, "Ericsson" in Zimbabwe has built a new factory. The company began as a dealership with Ericsson products but today it does most of the manufacturing itself.

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### Ericsson gets Hungary order

The week before Christmas the long-awaited answer came: Hungary chose Ericsson as the main supplier of public tele equipment for expansion of its tele network. This makes Hungary the company's most important market in East Europe.

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Profits up 30 percent • Page 6



# Now insider laws apply to you too

The first of February, 1991, a new law on insider trading came into force. The new law widens the ban on insider trading and at the same time stiffens the penalty for breaking the law.

Even those who are not registered as insiders risk being charged with insider trading if in their job they have access to information that can influence the price of a stock.

According to the new insider law there is a general ban for all who have access to information that can influence stock prices to use that information for trading in investment before the said information is made public.

Persons, who in the course of their jobs, have access to information on a company that could influence stock movements must register with VPC, the Swedish counterpart to America's Securities and Exchange Commission. This applies, for example, to board members, the company president and other top executives. Those persons having inside information must deposit updated information on their commercial paper investments in the company with the VPC. This disclosure obligation already existed with the old law.

## Generally

Everyone, who through his job, position or assignments has access to circumstances that could affect stock trading is forbidden to deal in shares whose value can be influenced before the information is generally known or until it has lost its stock influencing significance. This applies regardless of whether one is registered or not.

The trading ban can affect all employees in stock market listed companies, financial journalists, public officials, portfolio managers at major brokerages, lawyers, editors and consultants.

Market-influencing information refers to all kinds of information or knowledge of a non-public instance that can affect the trading of a stock or investment. The information does not have to apply to a specific company, but it can be any sort of stock influencing information such as, for example, interest rate change, new tax laws or large brokerage planned investments.

For the trading ban to apply the circumstance must be such that it "considerably influences the stock." According to the letter of the law, this means that

a stock movement to the extent of 10 percent could occur in line with public disclosure. If the stock movement later concurs or not is, in principle, insignificant.

Considerable stock influencing information is material on: plans for public offering for acquisition in another company, the contents of communiqués on earnings reports and annual reports, technical news or business ideas, strategic alliances and joint as well as large business deals.

## Commercial paper

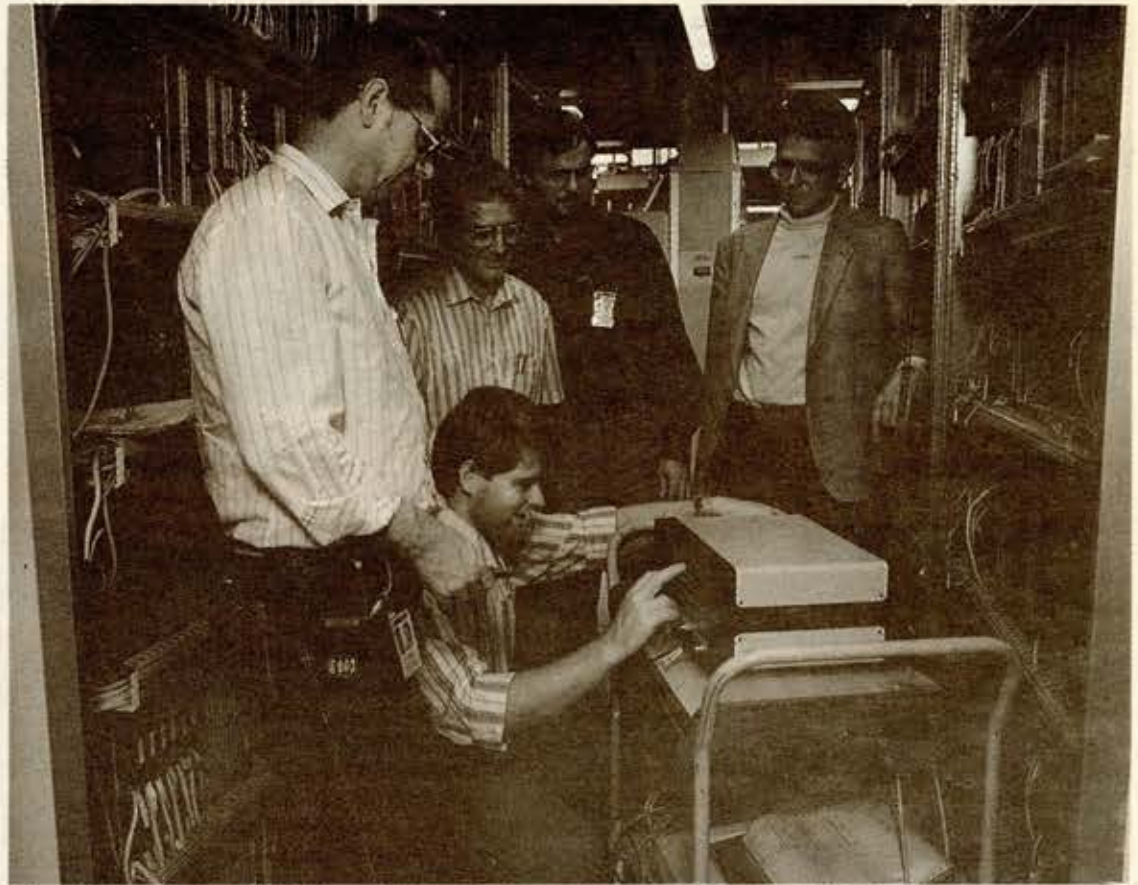
The trading ban includes all commercial paper that are used in trade on the commercial paper market, that is on any form of organized marketplace in Sweden or abroad.

Examples of commercial paper are shares (both official and unofficially listed), convertible coupons, shares in stock funds, terms and options (even interest- and index-linked), funds as well as bank and company certificates.

The ban also extends as well to trading under another name, trade through a front and relaying tips. The original holder of the information can pass it on to someone else who needs it in the course of his work but the recipient cannot use the information for trading or for advising someone else on trading. Nor can tips that are passed on further be used.

Naturally, the trading ban applies only to businesses where you use the insider information to your own advantage or for those for whom you trade. It is also allowed to buy Ericsson paper when you have access to information, which, when made public, causes the stock price to drop. In the same way you are always free to sell Ericsson paper where circumstances point to a higher stock price.

For further information, contact Erling Blommé or Ann Westergren Ekstedt at Ericsson's unit for Investor Relations.



Standard development of AXE continues and the new version 08R5 has already been installed in Denmark.

# 1990 – a brilliant year

**We can look back at 1990 with utmost satisfaction. It has been a hectic year for us all. But it has also been a year of major successes and one of brilliant results.**

Let me try to give a summing up of the past year, as seen from the BX perspective:

Out in the markets it has been high pressure. Investments in telecommunications have been huge all over the world, higher than ever in countries like Spain, Italy, Australia and Mexico.

Political demonopolization and privatization are moving ahead. Last year, administrations in Mexico, Argentina and New Zealand were privatized. Several of our traditional customers are faced with new competitors.

The Swedish Televerket has put forth bold plans for privatization and later sales via the stock exchange.

Two competitors, Teletra in Italy and STC in England, emerged as independent companies in 1990. The battle goes on.

## Tougher competition

The competition is heating up the world over but we have handled it well and we even increased our

market share. Some system choices such as Holland, Norway and Hungary worked to AXE's advantage.

In Germany we won with a first in digital cross-connecting (DXC).

The entire company has further cause to rejoice with the immense success in mobile telephony, in Europe (GSM) as well as in the U.S.

On the other hand we have to face increased competition from new suppliers in Australia and Spain.

In the U.S. order intakes from the huge volume agreements with the US West and South Western Bell are being followed up with big deliveries.

In December new software with high functionality went into operations after fantastic input by all involved in the large development project. The quality of the plants we have in operation is extraordinarily high.

In England we have signed an interim agreement at a high order level which will be reckoned into 1992. We are taking part in bidding contests for Personal Communication (PCN) and are offering transmission products to British Telecom.

Product development has progressed at a brisk pace.

We completed the very successful ISDN project in Australia well within the time frame. Australian Telecom is very pleased.

We have launched our new operation support system, TMOS, which has been greeted with much interest by many customers.

We have presented our solutions for the future transport network and products that are related to it.

Our digital cross connecting (DXC) has had immense success in Germany.

We have put a lot of work into developing the switch (MSC) in the digital mobile telephone system (GSM) which was delivered to customers in several countries in the second half of the year.

Two new processors for AXE, APZ 212/10 and 211/10, have been developed, the latter, unfortunately, not without much difficulty. That will solve the processor load factor in the system for some years more. Standard development of AXE continues with a new version (08R5) from this year. Extensive work has been put into and good results have come from method development, for example in project directing, construction processes and release of new products. But we still have a good bit left to reach our goal of eight projects on time.

## EDITORIAL

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Publisher: Nils Ingvar Lundin, tel: +46 8 719 95 86.

Editor: Lars-Göran Hedin, tel: +46 8 719 98 68, fax: +46 8 719 49 04, memo: LMELGH.

Assistant Editor: Ingrid Bävsjö, tel: +46 8 719 08 95, memo: LMEINGB.

Layout: Anders Paues.

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In the U.S. order intakes from the huge volume agreement with US West and South Western Bell have been followed up with large deliveries.

In 1990 we began a new free-standing development unit in Aachen in Germany.

Our product leadership has defined the said development project and is handling further development of AXE.

#### Routines developed

Work routines between X and T divisions have been streamlined so that they function smoothly and distinctly in future. Now we can, with new means, determine the economy factor in various product lines and optimize priorities and resources.

In 1990 a huge task was undertaken with the aim of improving forecasts and our order processing. A new method – Process Management – will be functionally operative in 1991.

Deliveries were the largest ever, measured in value and in lines, around 8 million local and transit lines.

Our strategy with product plants and the sharing of responsibility for products among plants in Europe has taken an additionally large step forward. Projects for new work organization have been broadened and are moving along with everybody's support.

A major step to protecting the environment for all of us was taken in 1990 with the cessation of

the use of freon as a cleansing agent in soldering. We are moving over now completely to water-based solutions and thus avoid poisoning in our production.

We continue to stimulate work with evaluations and targeting of our tasks.

Management development is coming more and more into its own. The best expression of our motto that we care for each other is still the fine support that many of the staff, in line with the company's medical department, showed for those colleagues caught up in the Middle East crisis and for the families to survive the ordeal that they were put through.

#### Certification

Finally, Saturday, December 15th crowned a long and arduous task for many in every section of our organization when the British Standards Institution (BSI) announced word of certification of Ericsson Telecom according to the ISO standard, ISO 9001. At the beginning of February the formal and ceremonial handing over of the certificate was made to the ETX leadership.

According to BSI, we are the largest and most complex company that it has ever certified.

In conjunction with the certification, BSI's chief auditor

said that never in his entire professional life had he seen personnel so competent, so committed and so keen on the company as he saw in ETX people. That is really a recommendation to be proud about.

#### Economy

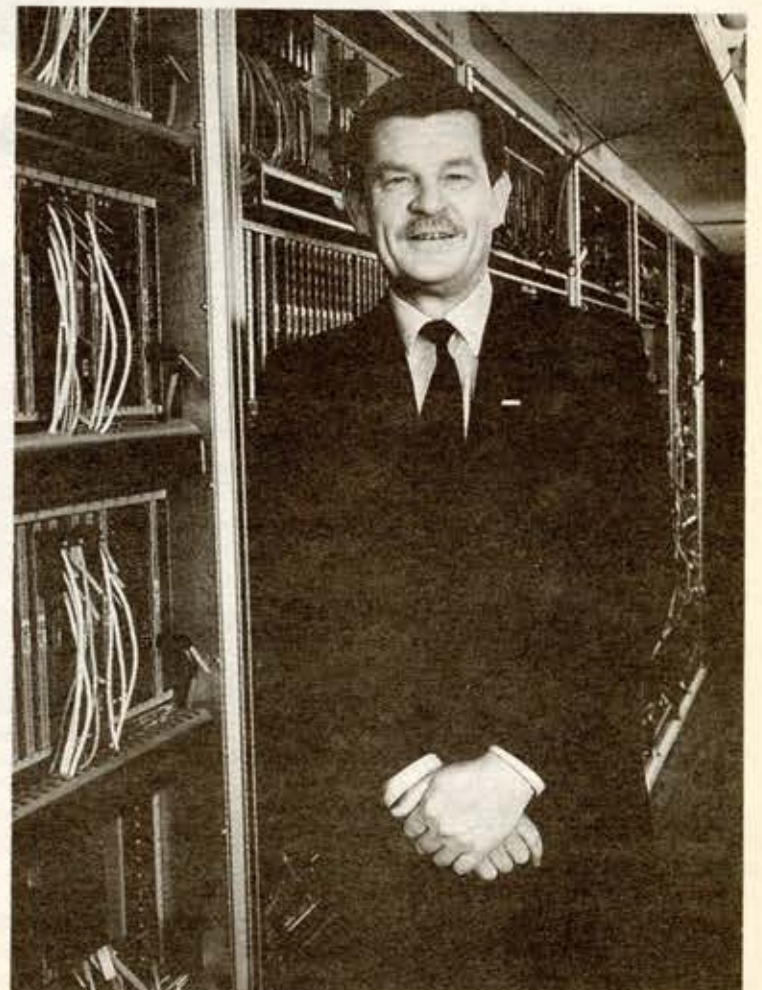
The Ericsson group has just published its interim report for 1990. It was a record year with profit increase of 30 percent.

Business Areas BX and ETX contributed heavily to these results. Order intakes were 22% higher than in 1989 and amounted to close to 24 billion kronor.

Billings increased by 18% and surpassed 22 billion kronor. Continued good margins and costs, which clearly grew appreciably but which kept within the confines of our accords, led to the best results ever produced by BX, with a profitability level well over 30 percent on invested capital. A dazzlingly good performance.

As of the beginning of this year I have been working with the leadership from outside. Håkan Jansson has taken over the rudder at BX and ETX with a steady hand.

*I wish you all every success in the challenging 1991.*



Jan Stenberg with these excellent results for last year extends his thanks to Ericsson Telecom. From the beginning of the year he moved over to the executive committee.



# GAINS FOR ERINET

"After having been a supplier of project-linked network material, from cotton plugs to cable drawing jeeps, we have been concentrating the past few years on the area of terminating/connecting in different coupling points in the network.

It is not without some measure of success that we also invested in a huge Saudi-type project with finished package solutions for the customer. We have consciously moved closer to the other business areas and in collaboration with various interests such as Ericsson Telecom and Ericsson Radio we have developed our products to meet their special needs."

So says Kurt Hamrin, sales director at Fiber Optics and Network Products in Sundbyberg, the just about one-year-old result of a cooperation between the network material department in Ericsson Network Engineering and the Sundbyberg unit of Fiber Optics in Ericsson Cable's telecable division. Besides being one of the driving forces behind ERINET, it is the most significant example of such an investment.

## New application area was the main boost

For those of you who do not know ERINET, let us point out that it is a modern terminating system for copper-based networks, which, thanks to its flexibility, offers a number of advantages for the customer. Through its modular construction ERINET can be rapidly installed and moreover is easy to maintain. The system is the same in the entire network, which in no small way reduces the costs for training and warehousing. In addition, it is very compact, which reduces the need for space.

### Out too early

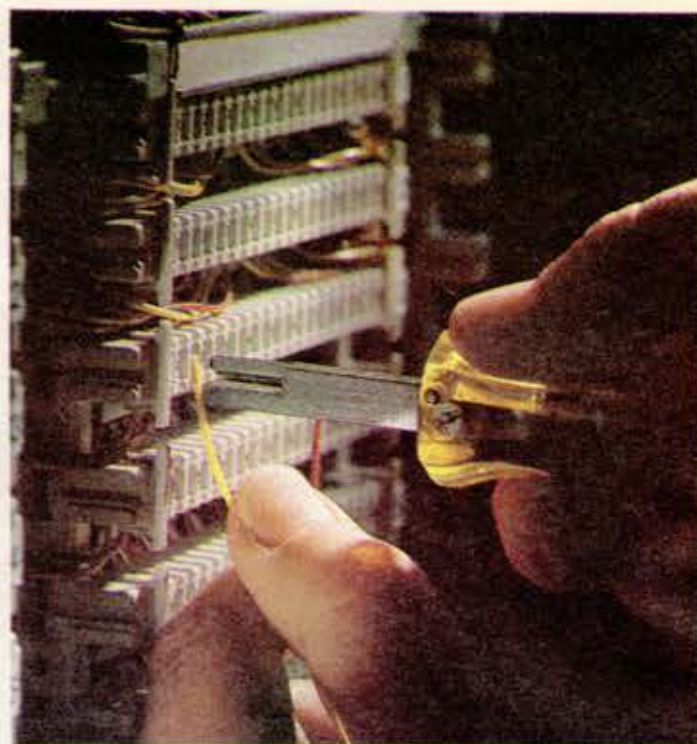
"The ERINET concept was born in the mid-'80s and looking back now we can well say that we were out a little too early," says Kurt Hamrin. The original direction was an outside plant, that is outdoor products, but the real breakthrough

for ERINET came when at the beginning of last year we launched the system in a cross-coupling context. With this ERINET quickly proved to be a huge sales success and is already found in some 30 countries around the world. I can no longer recall the exact number of countries or the exact number of AXE lines that are installed together with ERINET, since today we have huge ongoing sales with Ericsson Telecom, where we do not always have access to countries of delivery and the number of lines. New ERINET countries just now are Mexico, Thailand, Spain and Britain.

"You mentioned that you were almost a bit too early with the ERINET concept. But at the same time is it not so that it is somewhat outdated already. Copper-based networks certainly must be out of place in a world of fiber optics, or in any case will soon be so?"

"No, that is not really true. Conventional copper cable has not yet been thrown out in local networks and even if developments in fiber optics are moving very fast, one must bear in mind that the level of development is not equally rapid in all countries. And in the future one can easily envision networks using a mix of copper and fiber cables."

"But in the long run we must somehow reckon with the fact that copper-based network material sales will drop and will be replaced by fiber-based products. Hence, we are also continuously pursuing development work in this area. For example, we are actively participating in the current FTTH work in the group – the initials stand for Fiber to the HOME (that is the possibility to draw optic fiber directly to the home) – and



Huge gains in time are made through simple connections in the slot contactpoints.

Two strong forces in the development of ERINET, which has been a major sales success in a number of countries around the world: Kurt Hamrin (left) and Ulf Rosén (now at Ericsson Telecom), sales director and technical director, respectively, at Ericsson Fiber Optics and Network Products.

### Local manufacture

Network material products account for two-thirds of Ericsson Fiber Optics and Network's total turnover to the extent of 120 million. There is every reason to emphasize this fact, since a previous report in Ledaren about the newly merged unit gave many readers a somewhat different picture.

First of all it has to do with internal products, where large volumes and automated manufacturing gives a totally different competition situation than in the area of external products.

"For example, at the beginning of the year we launched a new product series in splicing support which has already sparked a lot of interest worldwide," says Kurt Hamrin, who also points out that right now they are looking at the possibilities for local production in various countries.

"There can be both political and marketing reasons for the manufacture of such network products, and already it is clear that we, together with Ericsson Telecom, will be operating in Tunisia."

Text: Kåbe Lidén  
Photo: Karl-Evert Eklund

we are forming several work groups together with Ericsson Telecom."



Bengt Håkansson, currently a designer in the network technical section in Fiber Optics and Network Products, is part of the designer team behind ERINET.



# He shows industry the way to higher quality

**"The most difficult thing is to get company manager, not personnel, to grasp the significance of quality. Most company managers wrongly believe that they have a smooth functioning, effective company structure that does not need to be changed," says Ivan Dunstan, director general of the British Standardization Institute (BSI).**

The institute's mission is to carry out reviews to control that decision-making channels, responsibility sharing, product control and documentation are functioning and that the company fulfill the requirements for being certified according to the European standard ISO 9001. The latest company to be certified, after half a year's preparation, is Ericsson Telecom.

"There are two requirements for getting a company to make the right product. First, a good system, which the standards will set the stage for. Second, that personnel understand, believe in and work toward quality."

The biggest problem is getting managers to understand that standards can help them. In many companies, management believes that it already has good leadership principles. There is a lot of work to be done to get them to understand that rules really demand a little extra from them. When top management works for standards then the rest follows automatically.

Quality, like security, is becoming the buzzword in European industry debate. It is no longer enough to be best and cheapest — products and services must always be able to fulfill what has been promised. Faulty products cost customers a lot of money.

The background to today's quality wave in Europe can be traced to Japanese industry's preoccupation with quality in the '50s. To embark on this the Japanese invited a number of American quality researchers, whose teachings the Japanese believed stemmed from American industry. But that was not the case. The Americans sold what they manufactured and did not have to worry about raising quality.

Instead, it was the Japanese who first adopted the strict lines of the American quality researchers. Responsibility was delegated and they listened more to customers and tried to discover and eliminate the sources of faults as early as possible in the production process.

The results came, as everyone knows, in the form of cheap and reliable Japanese home electronic appliances which just swamped the West in the '70s. After this, branch after branch was claimed by the Japanese.

## Different ways

In the late '70s the Americans began to feel the competition from the Japanese and they began to listen to their own quality researchers. Along with America, Europe's interest was also aroused. But there are large cultural differences between the three trading blocks.

"They have three different methods for achieving quality.



**"The most difficult thing is to get company managers, not personnel, to grasp the significance of quality," says Ivan Dunstan, director general of the British Standardization Institute (BSI). Photo: Kurt Johansson**

The Japanese lay close to the market and listen. The Americans trust more in standards. Our European approach is to go via "management standards" for quality is best achieved through management leadership," says Ivan Dunstan, who sees no reason why European companies cannot attain the same level as the best American or Japanese companies.

BSI is working with a standard that traces its background to the American military demands on the defense industry to control quality through quality manuals.

The standard exists today under designations like BS 5750, EN 29000 and ISO 9000, but are in effect the same. In the EC and EFTA they are working hard on implementing them in member countries. One reckons that the EC too would institute its own standards which means that

companies must be certified according to a specific standard in order to sell its goods in the EC.

Up to now BSI has certified 18,500 companies, of which 300 were outside of Britain.

Companies have to decide themselves if they want to undergo a pre-review before the final certification. Statistics show that if they do not choose the review, two-thirds of them are rejected. With the review three-quarters are approved.

Ericsson Telecom is the largest company that BSI has certified. A task that took 500 man days.

What was found? Above all it was in documentation.

The idea behind certification is that customers can go into a company and from its documentation understand and determine job performance. Many have found it difficult to prove that they really

did everything. This has been the most common criticism. But overall BSI was very impressed with its object.

## Further training

"You Swedes invest a lot in additional training. If your personnel lacks knowledge or schooling for a particular job, you train him. It's not like that in Britain. But the difference can be attributed to the fact that we have far more unemployment and hence it is easier to recruit personnel," says David O'Mara, chief examiner at BSI. The Swedish philosophy obviously reflects that a company's greatest asset is its employees.

Do you see a problem with the Swedish management philosophy?

"No, it is very refreshing for me," says O'Mara. "Swedish quality is as good as in Britain. That is guaranteed by the company's enormous training budget."

BSI has recently begun to go through Ericsson Radio for the same certification.

"They are very much like each other and that could be because they operate under a common company policy formulated by top management," says O'Mara, who explained that this policy was instituted and became apparent 8-9 months ago.

Previously, Ericsson was able to work relatively undisturbed in the markets. But competition is getting tough.

"The company leadership implemented a healthy drive to find new markets. They figured out what had to be done and one important thing was that they had to improve quality."

## Ericsson Telecom first out — now come the rest

**"I knew nothing about ISO 9000, except that our Quality Director, Christer Ahnfalk, went around talking about it. Finally, I had to ask what he was talking about. Then I read about the standards. We discussed them and then I saw what a wonderful tool it was for us to raise our quality," recalls a satisfied and relaxed Jan Stenberg shortly before Telecom's leadership, together with him and Lars Ramqvist were to accept the BSI diploma.**

### *A wonderful tool for better quality*

"We were the first to go in that cold water, and now others in the group want to show that they are no worse. Over 1991-1992, the entire company will be certified. Moreover, we make it very clear for our subcontractors that they too at some point should satisfy ISO 9000," adds Stenberg.



**Jan Stenberg, center, and Håkan Jansson, new head of business area BX, left, accepting the certificate showing that Ericsson Telecom is certified according to ISO 9000 from the director general of BSI, Ivan Dunstan. Photo: Kurt Johansson**

But behind the application there had been some pressure from Britain for Ericsson to satisfy the standard. The operator British Telecom began to make demands on Ericsson's English subsidiary and that the company in its turn would control its suppliers. "It was a very tricky situation

since they began to make demands on us, its own parent company, at the same time that we are transferring technology and know-how to them," says Christer Ahnfalk.

Ericsson's concern with quality has also gotten international competitors more interested in the quality issue. Except for

Motorola, which already has a very tough quality program.

## Will be pushed

Ericsson's management feels that investments in quality would save money in production and at the same time it is a good sales argument. The trend is all too obvious that Swedish industry in general lags behind foreign competitors in the area of quality. The concept "Made in Sweden" is no longer synonymous with high quality. Jan Stenberg hopes that Ericsson's move will serve to lead other Swedish companies to do likewise.

"We are going to work hard for quality. I will answer for this in the company leadership. Previously when we looked at different operations we saw only the economy side. We have been very profitability guided. In future, with every type of review, with every board meeting, I will stress quality as a theme," says Stenberg.

Although enthusiasm has been high among personnel, there was a certain resistance and irritation in the organization against BSI's extensive demand for standardization and documentation.

"The criticism was directed more at the standard than at BSI people, who have struck a happy balance," says Christer Ahnfalk. "They allowed a lower level of documentation if personnel had a high level of competence."





## Give industry a chance!

In 1990, Ericsson exported for about 17 billion kronor from its Swedish plants. Of the group's 71,000 employees, 31,000 are Swedish. Seventy-five percent of our some 10,000 technicians in research and development work in Sweden. Ericsson is a Swedish company that makes a considerable contribution to both employment and export revenue. It has always been so, and that's how we would also like the future to be shaped.

For Ericsson to continue to be a successful Swedish company, there is a need for harmonization, above all, of the Swedish tax pressure and its energy policy.

The heavy tax pressure and the high inflation level in Sweden place economic burdens on our company, which are far larger in relation to our competitors overseas. The public sector's excessive consumption must be reduced so that the tax pressure can be cut to a level of 45 percent.

As far as energy is concerned, it is not difficult to recognize the fact - Sweden needs nuclear energy - and that it is the most economic alternative we have today and that this does not imply a disregard for the environment or greenhouse effect.

We in the Ericsson leadership have voiced our concern to the government and to our friends in the other political parties. Not as a threat to leave the country, but rather to explain why it is only natural that, with an ever larger share of our investments being made beyond Swedish borders, the options are considerably more attractive than here at home.

A couple of positive signals have reached us so far this year, and naturally we applaud these. I am referring to the complete turnaround on the EC issue and to the energy policy. But still real decisions are lacking on these vital issues. All the question marks about if and when Sweden will seek full membership must be straightened out, so that our competitors cannot use the uncertainty of Sweden's future role in Europe.

Every day we hear and read about premonitions in Swedish industry. It is a development that nobody welcomes. Now, they are being hastened with the necessary political decisions. Give industry a fair chance! That's all we ask.

Lars Ramqvist

# Record quarter assured highest profits ever

The fourth quarter of 1990 was the best ever in Ericsson's history. The quarter alone generated a profit of 1.6 billion kronor. For the entire year, profits rose a full 30 percent above the record year 1989.

The year's profits amounted to 4.85 billion kronor, according to the preliminary earnings report of February 7.

*'90 profits estimated at over 4.8 billion*

At an unusually well-attended press conference, Lars Ramqvist and C.W. Ros presented the group's preliminary earnings report for 1990. The quarterly report in the fall had everyone talking of a 25 percent profit increase, compared with 1989 - a record year in which Ericsson registered a profit of 3.7 billion kronor. Thanks to an unparalleled fourth quarter 1990, the group could report an even larger increase in profit. With 4.85 billion kronor in profits, this amounted to an increase of 30 percent.

### Word of warning

The world political situation and the uncertainty stemming from the Persian Gulf crisis have, together with the downturn in the global economy, prompted Lars Ramqvist and other board members to shed some light on the group's outlook for the current year.

"It would be presumptuous to pretend that it will not be tough to surpass the 1990 results this year," he said. "But still there are no figures today that indicate lower order intakes for 1991." The uncertain situation around the world has, nevertheless, led the board to be cautious in its predictions for this year's results.

"Our activities in the market are, however, very intense and we have never had so many 'prospects' as we have just now."

The downturn in international business has hit mainly at Business Area Business Communications. There, sales of smaller business switches have fallen off.

### Highest profit

If there is anything that serves as a yardstick for the overall profit assessment of Ericsson, it is that 1990 has been the most profitable year ever for the group. Consolidated income before appropriations and taxes amounted to 4.85 billion kronor. Net income



Lars Ramqvist presents a record 1990 preliminary earnings report to a well-attended press conference.

per share after tax totaled SEK 15.14 (SEK 11.67 after adjustment to compensate for a 1.5 split in 1990). This corresponds to SEK 14.48 after full conversion (11.07 in 1989).

Some 195 million kronor of the 1990 results was in the form of capital gains from the sale of about 20 companies disposed of during the year. The biggest share came when Ericsson sold the Italian radar manufacturer FIAR, in a move to restructure Business Area Defense Systems.

The sale of FIAR is an important indication of why order intakes during the year increased by "only" 17 percent. During 1990, FIAR took home an important radar contract for the so-called "Eurofighter," which would have affected 1990 order intakes to the sum of 49.3 billion by a further billion. Net sales increased 16 percent to 45.7 billion, compared with 39.549 billion.

### Important cores

Ericsson's core businesses - including Cable and Network - did very well in 1990. Radio Communications showed a 50 percent increase in orders, the most outstanding development. Public Telecommunications and Cable and Network also reflected strong growth. For the first time in a long while, the combined business areas showed positive results.

C.W. Ros felt that it would be far more difficult to transcend the borders among business areas. Deliveries on the mobile side involve to a large extent products from Ericsson Telecom.

Lars Ramqvist, who spoke briefly about the group's new organization, indicated that the time for separate individual business area earnings reporting could soon be over. It is still not decided how companies abroad will report results, but there will be new aspects in the group's economic reports in general.

### Investing in R&D

Record results notwithstanding, 1990 also saw a considerable increase in Ericsson's costs for research and development. Lars Ramqvist, who prefers to see this as an investment rather than costs, saw these huge investments as absolutely necessary for the group.

The large commitment to supplying digital mobile telephone systems demand, for example, immense development resources - the majority of the 10,000 persons that the group employs in R&D are just now involved in the race against time brought on by the GSM orders and the huge U.S. orders for mobile digital systems.

In last year's preliminary earnings results, provisions were also made for Ericsson's calculated losses as a result of the crisis in the Persian Gulf. In Kuwait, the group had to interrupt an ongoing project worth about 350 MSEK. The provisions that are now being made cover the deliveries made during the year, corresponding to half the total project.

"Naturally, we hope to return and fulfill our commitment when the crisis is over and the important rebuilding work begins," Lars Ramqvist pointed out.

Text: Lars-Göran Hedin  
Foto: Kurt Johansson

## Investment for the future with cordless to the office

In conjunction with the press conference on the earnings report, Ericsson, for the first time, could show publicly its finished system for "business cordless" - the cordless telephone for the office of the future. Ericsson's first product, DCT 900, was demonstrated for the press by people from Ericsson Business Mobile Communications, the new Dutch company that was given principal responsibility for this future project.

Rolf Eriksson, chairman of the new company, felt that Business Area Business Communications in a few years will have doubled its current sales of 5 billion kronor, thanks to this investment. Partly through pure sales of the cordless system, and partly through the spinoff that the cordless possibilities give the MD110.

Lars Ramqvist recognizes that

the future for cordless business telephones is entirely dependent on how different countries deal with the question of frequency apportioning.

Ericsson has a headstart with the DCT 900, which uses frequencies around 900mhz, but everyone is waiting now for DECT - the proposed European standard for 1.8 gigahz. If and when it comes, Ericsson will be well equipped. DCT 900 can be extended to the DECT standard relatively easy.

Until then, Rolf Eriksson and his people are hoping that the market's huge demand for this type of product will also open the way for a headstart with DCT 900.

When this year's CeBit fair opens in Hannover in about a month's time, the first really large DCT 900 system will be installed there

Text: Lars-Göran Hedin



# Tord's idea is worth millions to Ericsson

A few weeks ago, Tord Ivarsson, designer ETX, had a pleasant shock when he came to work. He learned that he had just shared in the largest suggestion reward ever in the company's history. A little more than a million for a brilliant idea is actually more than any other Swede has ever received in this context.

*Biggest reward ever – for a pure imitation*

In 1979, Tord Ivarsson got a job in T division in ETX, as a designer on the computer side. Since then he has spent much of his time on programming in what the computer people at ETX call "APZ world." He has worked with CP programming, that is he has worked with programs for APZ, the operative system in the AXE switch. This program is built with a program language called PLEX and is Ericsson's own. The advantage with PLEX is that it is specially designed for Ericsson's needs. The disadvantage is that Ericsson designers must develop all their accessories themselves.

#### Must test

Tord and his colleagues worked on improving and further developing AXE's reputation through improving the software. The section that Tord works with is directed mostly to development of IOG 11, the tool for operating and maintenance of AXE that has been used up to date. Tomorrow's counterpart is TMOS, a new tool that was launched last year and which differs from IOG 11 in that it is designed on the basis of the operative system UNIX - which has become a sort of standard today for minicomputers.

"Working with TMOS is therefore considerably easier, since there are already a number of standardized accessories on the market," says Tord. He has just



A new apartment, near his job at TN, has always been Tord's dream. Now that dream has come true.

begun to get deeper into TMOS and feels stimulated by the new programming milieu it offers.

"When we worked with PLEX we were forced to depend entirely on Ericsson's own resources. One problem has always been to "test drive" the program since we have made changes in them or created errors. Previously that was done in the laboratory at TN, where they have the computer capacity that the tests demand.

"Then sometimes we had to wait a week to see how a change functioned, which naturally cost time and money."

#### Imitating the processor

In 1984 Tord decided to try and do something about this. He saw that he would have to have processor on his desk to test drive his program, but also that it was practically impossible. He also tried to make an "emulator" - a computer program that imitated the processor and reacted in

exactly the same way that it would with the instructions it received from the tested software.

Said and done. Already, after only a few months, Tord had designed the first functioning version of his emulator. He tested and used it in his own development work and saw that it met with his expectations. A notice was sent out early to the suggestion committee which immediately saw that this was an idea far beyond the ordinary.

Parallel with the suggestion committee's evaluation of the suggestion, Tord worked further on improvements. He shared his findings with his colleagues in the department who quickly took to using the emulator.

#### Over the world

"They gave me additional feedback in the form of viewpoints which I have used in the continued refining of the emulator," says Tord.

### "I am buying an apartment with the money"

Tord Ivarsson is 36 years old and single. He lives in Haninge, some 25 kilometers from his job in Midsommarkransen outside Stockholm. He knows exactly what he is going to do with the little more than a million - 1,052,000 kronor - that he got as a reward.

"I thought of buying a better and more comfortable apartment nearer my job," says Tord. After 12 years he is happy at Ericsson and has no desire to change jobs.

"It is not least the opportunities for international contacts that stimulate me," says Tord. His "invention" has brought him even more international contacts - which Tord sees as an additional reward.

The size of the sum is based on half the profits acquired from the use of the emulator during the first year. Tord's emulator is, in other words, also a good business for Ericsson.

After a while the emulator acquired the status of "small accessory" from those who were responsible for PLEX programming. Today it is the "offi-

cial product," spread to Ericsson's units all over the world. In Australia, Ireland, France - everywhere they are saving time and money with Tord's "invention."

#### TELEPHONE CULTURE

Now the telephone is beginning a more important role in society. For those who do not have a neighbor to speak with or a friend to whom to write, there are a number of phone services to choose from. Sex advice and funny stories or a more serious "on-duty humanitarian."

In Norway you can call the Norwegian authors center in Bergen which has set up a

poetry phone. Everyday there is a new poem that is read by a local writer. In the same country Save the Children recently collected huge sums of money in connection with a TV program by calling a number where noted comedians recounted funny stories. The longer you listened, the bigger the sum you contributed later - via telephone bills - to pay for help for homeless children.

(DN)

#### PICTUREPHONE HELPS THE DEAF

In Italy, researchers have developed a video phone that can be a revolution for the country's 60,000 deaf. It consists of a ten-inch color monitor, a videocamera and a computer. It is hooked up to the ordinary telephone system and it is possible for two persons to communicate with each other through sign language. When the new invention was launched, the Italian PTT also set up a special service exchange for the deaf. There, with the help of an interpreter, they could call for a taxi, get to a doctor, etc. (Smålandsposten)



# Ericsson takes home billionorder in Turkey

The year began well for Ericsson's Turkish company, Ericsson Telekomünikasyon A.S. (ENK), which is part of Business Area Cable and Network (BN). From the Turkish telecom administration (PTT), ENK received during January two orders for a total value of 1 billion kronor. Thus, Turkey became one of Ericsson's most important markets for network construction.

"We have received an order partly for expansion of the local tele network in Istanbul and partly for expansion of the cable TV network in Istanbul, Kayseri and Izmir for 638,000 subscribers," says Johan Bruce, Ericsson's manager in Turkey.

"With the contract for cable TV, we have come into a new area in the export market for network construction," adds Bruce. "The present order is Ericsson's largest to date in cable TV. In our brief is included both projecting and supply and installation of a base network as well as area networks. We shall begin the job now and expect to be ready in 18 months."

## Interesting market

"The order for expansion of the local tele network alone is worth more than 600 million kronor. The contract runs between 1991 and 1993 and involves already this year about 300,000 tele lines," notes Bruce. "To achieve this mission we will be taking on some subcontractors."

With its almost 55 million inhabitants, but with about only 10 percent telephone density, Turkey is a very interesting market for telecommunications. The market potential is one of the greatest in Europe. (In marketing terms, Turkey is considered part of Europe).

## Spread activities

ENK began as a network construction company in 1986 under the name Ericsson Sebeke Insaati A.S. Sebeke means network and it clearly defined the market direction. Several network projects have been carried out, among them in the cities of Ankara, Samsun, Bursa and Bolo.

It was not long before the company spread out its activities, also taking on MD110 installations. Some years ago the company got its present name, Ericsson Telekomünikasyon A.S. Today, ENK represents Ericsson's entire range of products and services on the promising Turkish market.

Text: Thord Andersson



## By Easter that's it

Ever since the '40s Ericsson has used time-conceived periods in handling orders. But after Easter, for ETX's part that will be all over. Then the entire organization will be going over to planning by weeks and days, the largest ADP (Automatic Data Processing) changeover in Sweden's history. More than 100 people have put in some 20,000 hours on the project.

The KP project can be compared with the changeover from inches and feet to the metric system in England or with the switch from left-hand to right-hand traffic in Sweden. It can be difficult for many people to stop thinking in six-day periods, but it is a necessary change.

"During the year many have tried to do away with the time-conceived period, but the six-day period was firmly established," says Jan Henriques, of the department for delivery and product dispatch. "For, among other reasons, the difficulty of getting into the ADB system. That there have been precisely six days in each period stems from the fact that when the period concept was introduced people were working on Saturdays, thus having a six-day week.

For about four months now, more than 100 persons, including outside consultants, have been working fulltime to revamp the more than 1,000 programs that are affected.

"During the Easter weekend 'that's it.' When we return after

## Sweden's largest ADP switchover

Easter the system will have been disbanded and the entire organization will plan in weeks and days.

"The weekend before Easter, ADP handling for order processing will be stopped. We will have a general repetition with the new system," says Jan.

But is this really necessary? It has worked fine up to now.

Although today's time concept is a sensible way of thinking, it is necessary to change, not least because it goes best with the work week. There are also huge economic advantages.

Today, all activities occupy at least one period in the planning



Jan Henriques, in the department for supply and production steering. Behind him are Michael Johnsson and Ann Christin Lehmus, two of the some 100 persons working with the system.

process. By planning the same activities by days one can save time.

Delivery time will be reduced by an average of 20 percent, to the delight of all customers.

"We reckon on saving 50 million kronor in ETX, up to and including 1992, thanks to the revamping," says Jan.

That, in turn, means that the costs for the entire project are repaid within less than a year. It also makes it easier to avoid misunderstandings. Ericsson suppliers do not plan in periods which makes it difficult to coordinate with them and even if the period concept is applied

throughout all Ericsson companies internationally, the period for overseas companies could involve more or fewer days. In order to agree on delivery time, therefore, means talking about the same period but in any case not the same date.

Since a part of the ADB system in ETX already handles day planning, there are several older systems that must be modified. That's why as far as this goes weeks will have to be used for a while, but the long-term aim of the KP project is that all planning should be handled on a day basis.

The complete switchover is planned for 1992.

KP's project organization consists of Anders Darlöf, who is project leader, a steering group with Jan Henriques, Mats Holmlin, Anders Kjellander and Tobias Rawet, as well as a reference group.

Since the KP project, to a great extent, involves the implementing of the ADB system, there are four different project groups working with the computer system being used.

"The job of the project is such that we are getting a cleaning out of the program, better documentation and it is easier to administer the system," says Jan Henriques.

Text: Helena Lidén  
Photo: Maria Petersson



Vi krossar Period-begreppet i påsk!  
The KP project stands for "Krossa Perioden". (Crash the period).



# DIAX – a small subsidiary with big ideas



About a year ago when Ericsson created a subsidiary with Bang&Olufsen many surprised and interested eyebrows were raised. Maybe now we could get a good stereo at a discount. There were not many who thought that Ericsson would have something in common with the Danish company that is well-known for its stereo and television equipment.

But in recent years Bang&Olufsen, like many other companies, invested in expanding its activities, using its specialized competence within B&O and combining it with the capacity of other companies.

The subsidiary DIAX Telecommunications, which Ericsson and B&O own 50 percent each, stems from a division in B&O Technology which specializes in telecommunications equipment.

DIAX, like B&O, is based in Struer in west Jylland, near Limfjorden. Struer is a medium-sized Danish town. B&O is clearly the largest industry in the area and here too there are several companies related to B&O's operations.

Although DIAX is not close to Copenhagen it has not been difficult to recruit qualified personnel.

Many young graduates stream to Struer to work with telecommunications.

## Much to gain

During the year since the subsidiary was founded it has been shown that both Ericsson and B&O can gain a lot from collaboration in DIAX, as one expects.

By selling half of its DIKON division to Ericsson it freed up capital that B&O could invest in research and development within the framework of B&O Technology.

B&O is also, despite its noted name, a small company compared with Ericsson.

"The advantage for DIAX is that we have the possibility to develop new products together with Ericsson, but also we can use Ericsson's channels for



DIAX is characterized by a flexible and open work organization. Of the 100 staff who work here, two-thirds are development engineers.

our product Meganet," says Björn Olsson, president of DIAX.

For its part Ericsson needs a company with high competence which has the possibility of developing new products in a very short time. The deregulation taking place in most markets places heavy demands for coming up with new products. This possibility is found in DIAX, which now has 120 employees, a very flexible and open organization, a close link to its customers, as well as a workforce two-thirds of which consists of development engineers.

And the collaboration between DIAX and Ericsson has already shown results. Just in time with Telecom '91 a new product will be launched for network access,

that part of the network closest to the subscriber.

The product is known as DIAMuX and is a so-called flexible access multiplex which makes it possible to mix different types of interface in one and the same equipment, where the subscriber himself determines how much capacity in the network will be used; for ordinary telephone calls, data transfer, or for transfer of images and quality sound.

The operating company can also direct and supervise what the network is being used for, for example to be able to utilize diversified debiting.

A first prototype has been produced in an incredible three months, a clear indication that a shorter development period is not impossible for DIAX.

## Different work

"We work in another way at DIAX compared with Ericsson," says project leader Claus Hansen.

"When we came up with the prototype we did not use any project model, corresponding, say, to PROPS. The important thing was to convince ourselves that our idea could materialize."

The other job was done together with DIAX, Ericsson in Denmark and in Sweden.

"Work from here on will be carried out in a more organized way. DIAMuX will be directed through the AXE system and TMOS."

While DIAMuX is an entirely new product, DIAX has a product that has already aroused great interest and which, thanks to Ericsson's channels, can be funneled out to large parts

of Europe as well as in the rest of the world.

"MegaNet gives increased flexibility in the network," says Björn Olsson. One can say that MegaNet is as near to broadband as one can come today, with the system in commercial operation.

An ordinary telephone line can transfer 64Kbit/s. MegaNet can transfer up to 2 Mbit/s. That means, for example, that one can send image and sound with high quality through the digital tele network.

"Today, one can have permanent lines for high-capacity transfers, but with MegaNet it is possible to choose which receiver whatsoever and hook in to an ordinary phone call.

"MegaNet can offer customers a preview of services that will be found in broadband-ISDN. But while broadband-ISDN is along way away, MegaNet is the result of today's technology.

## Video meeting

In order to get a good grasp of what one can really do with MegaNet, we turned to project leader Holger Pripp.

"We at DIAX regularly use video meetings. We have a group that sits in Århus but traveling back and forth from there takes time. Instead, we can simply call them up and have an informal video meeting, thanks to MegaNet."

During ISS-90 a network was set up between Finland, Sweden, Denmark and Switzerland. In December, Norway and Holland came in. The common network means that one can, for example, from Denmark with a single calling up and have a video meeting with people in Switzerland. Other countries are also interested in being part of the first switched

subscriber-directed 2 Mbit network in Europe."

## Between hospitals

"In RACE there are projects where MegaNet is used for remote teaching. Telemed in Norway is an example. Thanks to the transfer of images, hospitals in faraway places can get diagnostic help from specialists. One can also transfer journals and X-ray pictures.

Another area of use for MegaNet is the transfer of sound. Instead of sending tapes to local radio stations with tunes from the central archives in Copenhagen, they can be sent over MegaNet and the played over the local stations.

But the greatest area of use for the future for MegaNet is without doubt data transfer that requires huge capacity.

"One can say that MegaNet is a so-called multi purpose network. It can be used in videoconferences by day and for data transfer by night, if you want. Flexibility is the key word.

## Teach each other

MegaNet is a good complement to Ericsson's other product range, and great expectations surround DIAMuX.

Already in the first year of its existence the subsidiary has shown good results. But it should also be said that collaboration between the small flexible DIAX and the huge Ericsson group has not been all that easy and painless.

It is not only DIAX that can learn from Ericsson. DIAX also has much to teach. Among other things, organization and flexibility.



"The advantage of DIAX is that we have the possibility of developing new products together with Ericsson," says Björn Olsson,

Text: Helena Lidén  
Photos: Maria Petersson



# Leasing out pocket phones - rewarding in many ways

Ericsson's leasing of mobile phones began on a small scale a few years ago. First, through its own HotLine boutiques, then at airports. Mostly as a strategy in marketing - those who have once turned to a HotLine will perhaps also purchase one. This has also proven to be economically rewarding and now there are more than 300 phones in use. The latest leasing spot is Hertz car rental in Stockholm and Gothenburg. This began at the end of January.

"Hotels and car rental firms. It is there that we can lease out the most pocket phones in the future. Especially hotels, which I see as a sleeping giant," says Per Kömer, who is behind the leasing operations.

A couple of years ago, Per Kömer of RSS (Ericsson Radio Sweden AB) sought out Janne Carlzon at SAS (it is the fastest way to get there if you begin at the top) and presented the idea of collaboration between Ericsson and SAS in the leasing of pocket phones. SAS said yes. For them, a pocket phone was an addition to their services. And, in addition, a competition tool in the battle for customers.

With everything in place, Ericsson's leasing would begin at the turn of '88-'89 through its own HotLine boutiques, at service branches and at certain dealerships. And the bulk of phones are still being leased through these channels.

The external leasing, according to the SAS agreement, began at the turn of 1989-90. First on a limited scale, at sales counters at airports. Without any solid marketing.

The operations grew and in the summer of '90 SAS hotels came into the picture. In 1991, Hertz car rental joined the parade.

Now there's a total of 300 HotLine phones for leasing from central points in Scandinavia. Leasing of HotLine pocket phones is really a Nordic investment in Sweden, Denmark, Norway and Finland.

## Right customers

But is there really a need to justify leasing mobile phones at hotels and airports? Doesn't every traveling businessman have a pocket phone today?

Certainly not. Experience shows the contrary. There is still a large majority who do not have one. And moreover, a lot of overseas travelers have phones that do not conform to the Nordic Mobile Telephone system, NMT.

Catarina Fällström of Ericsson's Radio Sweden AB is responsible for leasing operations. Recently, she has been around 17 hotels, introducing HotLine for receptionists or for those responsible for leasing. She has taught the handgrip to personnel at Royal Viking, Strand and Arlandia in Stockholm, to staff at three hotels in Copenhagen, two in Oslo, one in Stavanger, Bergen, Tromsø, and other places.

Everywhere, there was a handful of HotLine phones. And in every hotel room there were ads for the phone.

None of Ericsson's competitors has a similar systematic leasing of pocket phones. And in Norway, Ericsson is entirely alone.

The operations have taken root, the services are beginning to be known and now Ericsson is taking out ads in the SAS magazine, Scanorama, as well as local newspapers.

## Credit card

Leasing is done strictly through credit cards (an exception is Ericsson's own boutiques). The fixed rental fee is 90 kronor per day, including value added tax. Then you pay only for calls actually made. The costs in kronor can be read on the phone.

At SAS hotels and at airports the phones are leased, in general,

for a short time. But at Ericsson's service outlets there are other customer categories, and there leasing time of 2-3 months is not unusual. And with a price differential.

"Leasing in our boutiques is also a good way for Ericsson to let prospective buyers test the phone in an objective manner," says Per Kömer. "Customers usually want to try first before purchasing, and this is an ideal way for them to do that."

And once they have tested and learnt how HotLine functions, they usually just want to buy it.

Text: Lars G. Cederquist  
Photos: Maria Petersson

## Did you know...

... you can lease a HotLine at a special price - Ericsson employees have 10 percent discount on fixed rentals. Already, there are many who have seized the opportunity to rent a HotLine from boutiques.



Ericsson sees hotels as a sleeping giant when it comes to leasing mobile phones. Hotel guests have a lot of time to reflect on whether they want to loan a phone, which is not the case at airports where one has to lease at the ticket counter under pressure.



"It is vital that we turn to the right type of customer in our leasing of mobile phones, it will be seen in the results," says Catarina Fällström, responsible for leasing activities, of Ericsson Radio Sverige AB.

## HotLine a double victor in pocketphone contest

Two gold medals in one month! Not bad for Ericsson's HotLine which during December and January was voted Sweden's best pocket phone by both Dagens Industri and Teknikens Värld. Two serious publications whose words mean a lot in the market.

Ericsson's telephone is not the smallest, nor the cheapest, it does not have the longest call time per gram battery, but on average it is

the best, according to Dagens Industri. DI tested the market's four smallest pocket phones - Ericsson's HotLine, Spectronics' Spectronic, Motorola's Microtac and Nokia's Cityman 100.

"The overall impression is of a robust and reliable pocket phone that is worth its value. HotLine is about the best of them all."

Teknikens Värld, which tested six different models (also Mits-

bishi's pocket and Philip's Metropol 6112) gave HotLine the edge over the other five, as well as a plus for size, weight, use time and touch dial.

"The double victory is a bingo for us," they say at Ericsson.

The two publications are aimed at different readerships and thus they reach a large part of the market.



# Mannesmann first to call through GSM



Economy director at Mannesmann Mobilfunk, Wolfgang Wussow, was one of the first to call on ERA's test system for GSM. Here together with the chief engineer James Petit (left) and Mannesmann's head of operations, Bill Kever.

The first step in the giant Mannesmann contract was taken on December 12 last year when ERA's test system for GSM went into operation. It also created the occasion for Mannesmann two days later to mark the first anniversary of its operator contract with a first call through the new digital all-European mobile telephone system.

Today the test system has expanded and includes an AXE switch, three radio base stations and a demo bus that tests the system in central Düsseldorf.

In connection with the German customer Mannesmann marking the first anniversary of its operator contract on Dec. 14 last year, Ericsson Mobilfunk in Düsseldorf was asked for a test system to highlight the occasion. The request came in October and with negotiations cleared ERA's team had a bit more than a month to get the system in operation.

"It was a tough timetable but we succeeded in getting there and even had a couple of days to spare," says Paul Dietrich of ERA, who is responsible for the operations side of the system.

"The test, or pre-operative system, that was ready had only a temporary solution with a simulated AXE switch in the form of a PC, a radio base station and — loaned for the occasion — a hook-up to the German PTT, Deutsche Bundespost, between base stations and the switch. The reaction from Mannesmann was nevertheless very positive. They were quite impressed that via the new all-European digital system they could make the first call home to family and colleagues on the day

of December 14," he recalls.

## Hard to find sites

Installation, planning and implementing have, apart from Paul Dietrich, been handled by ERA employees Jim Johansson, Urban Nordlund and Stefan Källander in collaboration with four consultants from Erisoft.

Paul began planning and preparations at the end of October, while the others came to Düsseldorf at the beginning of December.

"The setting-up itself went smoothly, without any major problems. Difficulties came up in finding suitable sites for the base stations which also guaranteed us connections from Deutsche Bundespost between the base stations and the switch," says Paul.

Since December 14 the system has taken two further steps. Before Christmas yet another radio base station was added. When the complete test system was finished installed at the end of January, it consisted of an AXE switch, three radio base stations and two large transmitters, all naturally digital. Since the system went over on



Paul Dietrich is responsible for the test system installed in just under one week in December in Düsseldorf

January 30 from installation to the testing phase it is now up to Mannesmann to continue testing.

## Operating in July

For Ericsson the Mannesmann order is of major strategic significance since until now Germany has been — in principle — the white dot on the world map. Moreover the nature of the order is huge with some ten switches and hundreds of radio base stations.

At the factory in Gävle production of radio base stations began in week six. They were developed by ERA. Development of the AXE switches was done by ETX and software for the so-called BSC (base station controller) was handled by ERA in Mjärdevi.

On July 15, the system will go into operation in 15 districts around Germany with hundreds of base stations. Implementing and operations handling will be the responsibility of Ericsson Mobilfunk, with head office in Düsseldorf.

Text: Helena Andersson

## OUTLOOK

BY MATS HALLVARSSON

The international tele traffic market is in the midst of major change. The earlier cartel-like collaboration between telecom administrations in the Western world, which costs consumers over 50 billion kronor a year, is in the process of disbanding. The result will be cheaper calls.

A little more than a year ago Britain's Financial Times shed some light on one of the most successful cartels in modern times, collaboration between the world's telecommunications administrations. The paper concluded that this collaboration costs consumers at least 10 billion dollars a year.

The cartel was no secret. Rather, it was a well-established and well-seen collaboration between the authorities in, among others, the organization CCITT, known as the International Telegraph and Telephone Consultative Committee. In CCITT, based in Geneva, the authorities met with government representatives to determine the costs of international tele traffic.

## Dark sides

However, collaboration had its darker sides, among which was seeking to foster private competition through dominating private networks, said the Financial Times. Moreover, a number of experts with whom the paper spoke, noted that the last decade's broad technical development in fiber cable and, in effect, still cheaper equipment, never got around to benefiting consumers.

Indeed, international costs for calling have fallen in recent years but not in any way to the level of price drops that could have been possible. In many cases, technical developments permit halving and even more in price reductions, according to experts. One underlying problem is that telecom administrations in most countries have a monopoly in international traffic and the administrators of monopoly have been very careful not to trespass on each other's area.

Another problem is the way in which CCITT reaches agreement on prices. The system was established before the Second World War and involves discussions between the administrations on how income from international traffic shall be distributed with calculated costs and the number of lines between countries. The system works against the administration that would like to reduce

prices and put a damper on increases in services.

The toughest critics point out that prices are generally two to four times higher than what they would be if only competition was improved and technological advantages were allowed to be incorporated. Instead, the administrations have added large sums to their profits and in most cases to their state coffers.

## In the works

Nevertheless, there is a lot in the works that will eventually help erode the traditional international price structure. First of all large sections of the tele services market in most countries are being demonopolized and privatized. CCITT itself has taken the initiative for subsequent reforms to increase the possibilities for private telecommunications companies to open up international traffic. But to have any result is crucial that the different countries implement the reforms on their home turf.

CCITT has also set up a special committee to work with overseeing the entire pricing system. The American supervisory authority for the telecommunications market, the FCC has urged that calls from the U.S. be reduced by 50 percent over a three-year period. More and more countries are also willing to allow competition in international tele traffic. The more advanced and competitive administrations, among them Sweden, is also contemplating establishing operations overseas when competition opens up in a number of services, including international traffic. The EC Commission, the EC's executive policy-making body, moreover has begun a study into how the international pricing structure within CCITT conflicts with the community's basic laws. This is a serious matter that can lead to heavy fines and the end of collaboration on pricing.

However, many now feel that collaboration within CCITT has a future. Mostly as a cartel body. The various national telecom administrations will instead be forced to accept ever increasing competition among themselves and from independent private companies.

## NEW VACANCY ADS

Every year Ericsson spends incredibly large sums on its recruitment ads. Now this will be made more effective and costs will be trimmed through a new format for announcing vacancies.

The new standard did come into force as of February 15 and will apply to all Ericsson vacancy announcements in the Swedish media.

## Graphics designer

This is an example of how a vacancy ad should look. When it is separate announcements the idea is that they should always be placed above each other, top to bottom or bottom

upwards on the page. This way the ads will not be spread out in several places all over the paper but instead will be concentrated in one place.

Combined ads that seek people

for several different positions should have the same appearance, but should have one section set apart that contains all information that is common to the various positions. More information about the new announcement regulations can be had from the personell director.

Telefonaktiebolaget  
LM Ericsson  
Personalavdelningen  
126 25 Stockholm

**ERICSSON**



# Successful networking in darkest Africa

"When we decided to be more aggressive on the materials side in this part of the world, we also felt that there would be a good reason to combine our investment with a huge event of some kind for prospective customers."

So says Bengt Mårtensson, salesman with responsibility for, in the first place, Africa with Ericsson Cables' unit Fiber Optics and Network Products in Sundbyberg and the initiative taker behind Ericsson Cable and Network's symposium some time ago in Harare, the Zimbabwean capital.

"The idea to do something of this kind came with my first business trip to Africa - actually to Angola - last summer," Bengt recalls. "Since we had questions on a preliminary offer from Swedtel I had the chance to follow a local network construction project in practice. I found that they worked professionally but to a great extent with the same material we used in the sixties. Knowledge of what the market had to offer in the form of new objects was relatively low, and there was reason to believe that the situation was the same in the other African countries."

"When I later returned with my thoughts to home base, it was a case of going ahead and plan. So here now it feels incredibly good to be able to confirm that by all appearances we were right. We have already begun to get preliminary inquiries of different kinds that can be traced directly to the symposium. So, without doubt, it was an obvious success. But one must remember that the incubation period is long in these instances. In other words, it could certainly take a year before we have something concrete in hand," says Bengt, who - apropos "incubation period" - when this interview was done was still on crutches after a recent knee operation.



**Zimbabwe**  
Other countries participating in the symposium.



Program with an invitation to the seminar in Zimbabwe.



Björn Gustafsson shows how a fiber optic cable is spliced with the help of our new fiber weld FSU 905. A demonstration of a more long-term nature, bearing in mind that it will take many years before telecommunications needs in this part of the world become really great, shows that fiber optics is a realistic alternative.

African equivalent of an EC) were invited and eight attended: Angola, Botswana, Lesotho, Malawi, Mozambique, Tanzania, Zambia and - naturally - Zimbabwe. Moreover, Swedtel was also represented, not less importantly considering the immense value of good local Swedtel contacts. There were 40 participants in all.

Besides Bengt Mårtensson and Björn Gustafsson from Fiber Optics and Network Products, on the arrangers' side there were also Torbjörn Forsman from the Telecable division in Hudiksvall and Thomas Martinsson from Ericsson Network Engineering (ENS).

### A coming market

One concrete result of the symposium is that ENS got an inquiry from Angola's tele administration to come down and hold a CAP course. Another is a preliminary offer inquiry from Zimbabwe regarding network material and a

third a future role in the already decided expansion of the tele network in Angola.

"That is a huge project with an order in the range of 100 million dollars that is being financed by the African Development Bank," says Bengt. Since Ericsson already has an undeniably good name and reputation in this part of the world, it is quite likely that we may be a part of this project in any event. But without exaggerating, it can safely be said that several doors, which have always been ajar, have now been opened with this symposium.

"Quite clearly, here is an enormous potential for conventional network material over the next few years," Bengt says. "But as we have said, the incubation period is long and it can take a year or two before big things really begin to happen. My feeling is that Africa with time will be both a large and important market for our network material products."

Text: Kåbe Lidén

### Double purpose

The purpose of the three-day long symposium was twofold: Partly to present Ericsson overall and what the name stands for, with emphasis on key words like development, continuity, reliability and quality, and partly to show and demonstrate the company's products in a network setting. For example, the CAP system, the fiber weld FSU 905, ERINET and the new cable connections that have been developed.

Telecom administrations from the combined 10 SADCC countries (SADCC could be seen as the



Thomas Martinsson presents the CAP system for a number of interested symposium participants.



Interest was no less when Bengt Mårtensson demonstrated some new cable linkings.





Ericsson Telephone Sales' new factory was dedicated by Zimbabwe's minister of information, V.F. Chitepo, here in conversation with John Meurling from Ericsson.

## New factory dedicated at "Ericsson" in Zimbabwe

When the African telecommunications world met at the Africa Telecom exhibition in Zimbabwe, the country's leading telephone manufacturer took the opportunity to dedicate a new factory. The company, Ericsson Telephones Sales (Private) Limited, is, despite its name, not a part of the Ericsson group. As a dealership of Ericsson's products, the company is allowed to act as a "genuine" Ericsson company, with good memories of the group leadership.

Ericsson Telephone Sales, ETS, was formed in 1961. At that time the company was a sole dealer in Ericsson products for, above all, its own market in Zimbabwe. Over some years, the company grew and it expanded its service-function. At the time of Zimbabwe's independence, in 1965, the company was well established and profitable.

The then white government in the country – led by Ian Smith – was the subject of trade sanctions by, among others, Sweden. The result was that ETS had to find new suppliers. At the same time, they began their own manufacturing of certain equipment and – not least – spare parts.

In the '70s, manufacturing grew. It included, among other things, battery chargers, small business switches and divers telephone accessories. As a key element in Zimbabwe's invest-

ments for the '80s to increase domestic industry production, ETS got the government's support for continued expansion. The expansion of production has to a great extent been based on favorable purchase of used production equipment from Ericsson plants in Sweden.

### New factory dedicated

In October last year an entirely new factory covering some 2,100 square meters was ready. A wide range of tele equipment will be manufactured here – everything from telephone sets to business switches, besides a number of other products. More than 120 different products are manufactured now, since last year partly for export to other "frontline states" in southern Africa.

ETS has just received government approval for new projects that include a step toward digital

technology. With the new factory, production was also begun on a "new generation" of touch dial phones.

Production now employ 70 persons fulltime. This year expansion of the next stage in the company's development will be carried out. That includes a warehouse, workshops, and an office that is now being enlarged.

### Minister dedicates

Zimbabwe's minister for infor-

mation, post and telecommunications, Ms. V.F. Chitepo, led the dedication ceremonies of Ericsson Telephone Sales' new factory. She spoke for the entire government when she praised the company for this step forward and its investments to make Zimbabwe less dependent on imports. She also hoped that the investments that ETS is now making will add to strengthening the nation's economy and acquire needed hard currency for Zimbabwe.

As a cabinet member in Robert Mugabe's socialist government, Ms. Chitepo stressed the importance of giving the staff sufficient influence on production.

The minister also had words of praise for Ericsson in Sweden for its support of ETS. She saw the fact that the new factory could be built up with the favorable purchase of used machinery from Ericsson's European factories as a fine example of meaningful development aid.

## "Necessity is mother of invention"

Achieving a modern manufacturing industry in a country as poor as Zimbabwe is not always easy. Many times Ericsson Telephone Sales has had to prove its inventive ability to substitute for expensive imports. This also means using every opportunity at hand to utilize fully the resources one has. New products can derive from what is known in the industrialized world as "industry fallout."

### Looking for stone

Components in brass, bronze and steel are often driven in a "tumbler" before they are used. The factory in Zimbabwe built

its own tumbler to avoid buying one.

Instead of importing the special type of pumice stone that is used in the tumbler, they went on a stone hunt in the bush. There, they came up with different types of stone that were later tested in the tumbler. One of the types worked, so now the factory has its stone supply problems solved for the future.

### Scrap becomes hook

In the factory's section for metalworks, a lot of plate steel remains after stamping of parts. These steel portions are now being put to use. Ericsson Tele-

phone Sales began production of picture hooks – "X hooks" – in two sizes. The hooks have sold briskly and successfully on the Zimbabwe market. Demand has risen so much that that ETS is now buying in "ordinary" raw material for this production.

### Oil cans raw goods

When there was a shortage of brass plating in Zimbabwe, ETS quickly came up with a substitute product. From automobile workshops and gas stations they collected empty oil cans. The thin plating in these were cut into strips that were used in production.



# Popular academic day in Mölndal

Once a year Ericsson arranges an "academic day" for professors and other academicians from the nation's universities and educational institutes. The host for the 1990 event was ERE in Mölndal.

The academic day event began in the early seventies as part of Ericsson's attempt to strengthen its contacts with the nation's educational institutions. It was time when the entire Ericsson group was on the brink of a radical shift from electromechanical to electrotechnical.

"It was to smoothen the transition that we began these information meetings with academic representatives," recalls Gösta Lindberg. As technical director in LM Ericsson he continues to be one of the guiding lights behind the academic days.

## Positive response

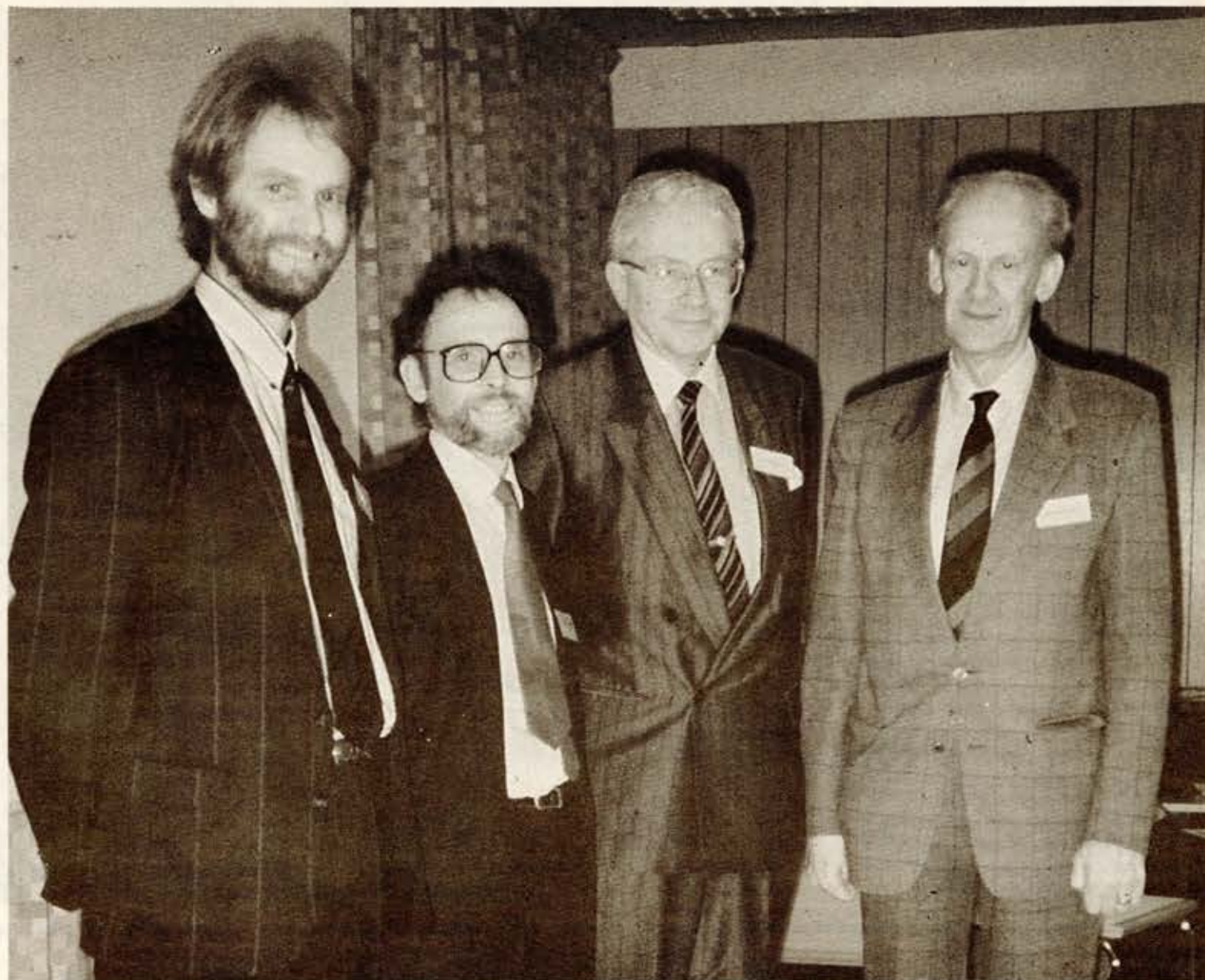
Tele technology, telephone exchange technology and to a certain extent also education issues made up the program in the initial meetings. The response from the invited professors was very positive. Moreover they also pointed out that the academic world in its own way had a great need for exchange of information.

In the mid-'70s, when the transition to electronics was in large part being made, issues about education aroused a great deal of interest. Since 1978, the annual informative assembly was divided into two main sections: An information and presentation part and a discussion and lecture part where current education issues were raised.

## ERE hosts

Last year's academic day was held shortly before Christmas. This time it was Ericsson Radar Electronics in Mölndal that acted as hosts. The discussion theme was "The significance of research for higher education."

There were some 70 guests from the nation's technology institutes,



This year's academic day had four main speakers: From left Bertil Svensson, lecturer, and professors Christer Svensson, Sven Olving and Carl Gustaf Andrén.

as well as from a number of universities and other academies. In the morning, ERE operations were presented, including a tour of the company. The afternoon was given over to lectures and discussions.

## Basic research

The four speakers in the afternoon were convinced that basic research was important to maintain as high a level as possible in higher education. They concluded that research training did not have to

grow unlimitedly since it is not size in education that determines high quality.

"Research leads to new methods and lends impulse to new research," said Professor Carl-Gustaf Andrén. At the same time he urged "more critical thinking" among those in research.

Another of the speakers, professor Sven Olving, felt that Swedish basic research was of an international class but in terms of quality had come further in physics than in the technology area.

## Thin without research

Bertil Svensson, lecturer at the Halmstad institute, spoke of the problems of the smaller institutes in this context. He pointed out the difficulties of recruiting teachers to an institute that did not have its own research facilities. There is a need for research training at the institutes in order for them to maintain a sufficiently high level of education.

The day's fourth speaker, Professor Christer Svensson, from

the Technology Institute in Linköping, called for a certain caution in judging the significance of research for future technical development.

"Having one's own research facilities is naturally important for us to follow technological developments. But we must be careful that we not end up in an idealized book world. Teachers with experience in industry are in demand just as much as teachers who are into basic research," he said.

## Flexible pensions-insurance for staff

It is still possible to determine the direction of one's pension insurance. Two percent of insurance premiums can be obtained according to needs and prerequisites. Above all, family protection for survivors can be reinforced.

"In the spring of '90 came this news that concern all salaried staff in Ericsson," says Pär Söderblom, in charge of insurance at LME. Pension insurance is not something that the employee pays himself but is part of the employer contributions that the company pays and is handled according to the collective agreement between SAF, the Swedish employers federation, and PTK, representing salaried staff.

If you do nothing about this two percent, it remains in the SPP fund and is later paid out as retirement pension. Now, instead, you can sign a cheap family protection clause in Förenade Liv. Then instead two basic amounts (about 60,000 kronor) will be paid to survivors over five years, the rest remains in retirement pension.

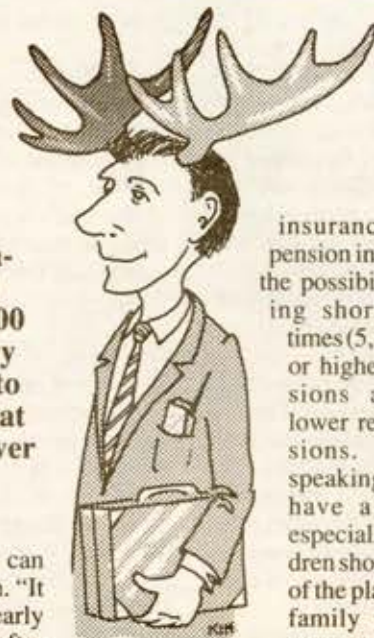
"We clearly recommend all salaried staff who are under 55 to make this change," says Pär Söderblom. Even if you do not have a family you should go out of ITPK and go into a group pension plan instead - you get more for your money. Salaried staff with a family should definitely sign up for the additional family protection. Those who have not made the change as yet should do so as soon as possible. Those at HF, the main plant, can contact Gunilla Furuhed at LME/LGF; others can contact their respective personnel departments.

## Options for top earners

The other news for pension insurance applies only to salaried staff earning over the 10 base figure (more than 300,000 kronor) a year. From January this year they have the right to sign another insurance for that part of the salary that goes over the 7.5 base figure (about 220,000 kronor).

"For these employees these changes can only be positive," says Pär Söderblom. "It is good to look over your insurances early and of course it is best to design them after your needs."

Depending on the family situation and your own objective you can, within prescribed costs, come up with an insurance that suits you better than the old ITP



insurance. The new pension insurance offers the possibility of choosing shorter payment times (5, 10 or 15 years) or higher family pensions and thereby lower retirement pensions. Generally speaking, those who have a family and especially small children should opt for one of the plans that offer a family pension. But one can also choose to

place it all on oneself in a group life insurance with a large lumpsum payment.

"In a few years, I think all Ericsson employees will have more flexible pension solutions," says Pär Söderblom.



# Gate to the East is opened

On December 21 it was clear that Ericsson would be the main supplier of public telecommunications equipment for the Hungarian telecom administration. The very tough bidding contest was the first in a central European country, but it is certain to be followed by many others. In the contest there were all the major international telecommunications suppliers.

The agreement with the Hungarian authorities commits Ericsson to supply the bulk of about 1.5 million telephone lines, both subscriber lines and trunk lines, over the next five years.

The Hungarians chose two suppliers, Ericsson and Siemens. Both have been guaranteed 35 percent of supplies per year. The remaining 30 percent will be given to the best supplier each year.

In 1991 it was Ericsson that got the 30 percent. This year nine switches will be delivered, of which five are from Ericsson. These five will give an end capacity of 60,000 lines and will be installed in and around Budapest.

The bulk of the deliveries will be made in the two last years, which means that it is more and more important to win the outstanding 30 percent in continuation too.

## Known to Ericsson

Hayo Pietersma, responsible for business development and project leader for system choice in Hungary, Ericsson Telecom, confirmed that Ericsson has now opened a door to the East and that an old market for Ericsson has been won. Ericsson can trace its links with Hungary to 1912.

The deal was swung with the help of the international trade company Transelektro, which acted as purchaser. Transelektro has made use of some 60 experts who fed 1,000 parameters into a computer.



Ericsson has been chosen as a system supplier in Hungary. In 1991 five switches will be delivered to Budapest and the outskirts of the city.

This way, it was able to draw the winner in the bidding contest in an incredibly short time.

"But it was not only the computer that determined Ericsson's success, says Hayo. "We have established many valuable contacts, thanks to our earlier presence in Hungary and in the last year we delivered an international switch, as well as a mobile telephone system to Hungary."

During the fall's hectic work, many people were involved. A preliminary offer inquiry came in September and was to be left six weeks later.

"We picked people with special competence from many different parts of the organization. Among other things, it involved establishing a joint venture with the Hungarian company Műszertechnika, and also commercial frameworks, financing, production of brochures, legal questions and contracts, software development and much much more."

"Collaboration across borders

have functioned remarkably," confirms Hayo.

"It is impossible to have all the competence that is demanded assembled in one single department."

"Nor should we forget Ulf Sandberg's contribution to bringing home the contract. With 20 years' experience in the East, he played a very significant role."

Text: Helena Lidén



At Ericsson the bidding victory was celebrated with cake among the project group. Hayo Pietersma, responsible for business development and project leader for the system choice, right, and Per Olof Sjöstedt, responsible for Central and East European market, praised all for a brilliant job on the offer.

of barter trade are taken on to do the job.

Moreover, another way of financing is for Hungary to pay Ericsson in local currency, forints, but with inflation running close to 50 percent that could be risky.

It is still not clear what Ericsson would do in the case of Hungary. That depends in part on what is

agreed with the Hungarian telecom authorities, and in part on what happens with the Hungarian currency. There are indications that it would be convertible soon.

It is possible that Ericsson and the Hungarian telecom authorities could arrive at a combination of several different means of financing.

## Now, too, the Czechs are choosing a system

"The fact that we were chosen as a system supplier in Hungary works in our favor opening up possibilities for additional orders in Central Europe." So says Per Olof Sjöstedt, responsible for Central and Eastern Europe, Ericsson Telecom.

Only a couple of weeks ago Ericsson was invited to a bidding contest for system choice in Czechoslovakia. The job on the offer is in progress and the offer will be left in just before summer. And Per Olof thinks Ericsson has a very good chance also in Czechoslovakia.

"Evaluation in Hungary was a pilot project that proved to be very successful for Ericsson's part.

"When I visited Czechoslovakia I pointed out that the Hungarian tele authorities' evaluation was a textbook example and that representatives could take a look at what was done there and follow the example. That was before I knew the results of the evaluation. But it did not make matters worse considering that Ericsson did so well for itself."

Czechoslovakia has long been "on the way," but for different reasons negotiations have been delayed. Ericsson has already found a local company, Tesla Kolin, to build a joint venture with if that is how the system choice is won. They used to be an Ericsson company before the war and would be happy "to be Ericsson" again.

Text: Helena Lidén

## Advanced barter trade

One of the things that is most difficult to receive when one sells products to Central or Eastern European countries is financing. So far the Hungarian currency, the forint, is still not convertible. Moreover, Hungary has a flagging economy and finds it difficult to pay for such a huge project like new telecommunications.

Since financing is such an important aspect, suppliers must be flexible and ingenious.

One possibility is extending credit to the Hungarian state, either in Sweden or through the EC bank. The World Bank can also extend credit. It is a common way of paying for the project. But if that is not possible, the project can

also be financed with so-called barter trade.

"It means that we, as payment for our products, will receive some product that is manufactured in the country," says Per Olof Sjöstedt, responsible for Central and Eastern Europe, Ericsson Telecom.

"These products we then sell to some other country, and receive our payment in this way. It is also an advanced form of barter trade."

But in order to sell the products, Ericsson has to have some familiarity with the branch, and Ericsson does not possess all the knowhow that is needed to sell the bartered product. Hence, companies familiar with this type



# Early mobile network in England

With the exception of the Nordic countries, Britain was the first country in Europe to install a mobile telephone system. Today, it has one of the world's largest and fastest growing systems. Three percent of Britons have a mobile phone, and it is only in Scandinavia that there are more mobile phones per inhabitant.

Already at the beginning of the '80s the British government announced that it would approve licenses for two competing companies in mobile telephone networks. British Telecom was one and its system went under the name Cellnet. The electronics concern Racal Electronics was chosen as the other systems operator, and its network went under the name Vodafone.

In September 1983, Ericsson Radio Systems won a Racal order for equipment for its mobile phone system. In the British system, which is known as TACS (Total Access Communications System) they use small cell technique and a 900 Mhz frequency.

Small cell technique involves using a large number of power weak radio base stations which cover a relatively small area. This way one can have room for hundreds of thousands of subscribers in a large metropolitan area even though the number of communication channels is not so large. One can use the same frequency in several different ways simultaneously in the system.

Mobile telephony has had record fast development in Britain. At the beginning of the '80s the British government set a goal that by 1990 ninety percent of the population would have the possibility of using mobile



phones. This was already achieved in 1987, just two and a half years after the system went into operation. Today, the mobile telephony network covers all of Britain with the exception of some sparsely populated areas of Scotland and Wales. The expansion of the system that came about after '86 has been done in collaboration between Ericsson and Racal, and part of the radio base stations has been manufactured under license by Orbitel in England. A few weeks ago, Ericsson bought 50 percent of the company from Racal Telecom.

## Flagging

Growth in the number of subscribers has been huge both for Cellnet and Vodafone, which has 65 percent of the market. Vodafone went from 12,000 subscribers in the fall of '85 to 640,000 at the

end of last year. During 1989-90, the number of users increased by 6,000 a week.

"The system is no longer growing as fast. The terrible downturn here in England is obvious and the fact that things are worse for the auto industry also affects mobile telephony. So says David Colbeck, marketing manager of Cellular Systems and Special Networks (R division) at Ericsson Limited in Britain.

"But," he adds, "we can't complain. Every week 3,000 new subscribers come in, and that in spite of the tough times here in Britain."

## GSM

In the summer of '88 Racal chose Ericsson as one of its GSM suppliers.

"On July 1 this year, a precommercial system will be ready to

put into operation and then Racal will decide if it can go further with Ericsson." So says Bo Hjalmarsson, sales director for GSM and PCN, that is cordless personal phones.

"It will be a tough but exciting spring," says Bosse. "England is the most open telecommunications market in Europe, and if all goes well for our GSM ties here that will be a very important reference. The major competitors are Motorola, Nokia-Alcatel and AT&T. With our system ready by July 1 we are well prepared for future GSM supply."

There are three new PCN operators in Britain. The decision as to who will be the PCN supplier is very important. This has to do with the future mass market. Two of the operators will make their choice later in the spring.

Text and photos:  
Gunilla Tamm



Jim Newell, David Vaughan and Stephen Ledsham came to Linköping last fall for training at ERA. Here are some excerpts from the report that ERA's in-house paper did on the program. Everyone is happy at R-division in Guildford and none of the 16 in the first training group has left Ericsson.

## GSM - an important mission in England

"Through part ownership in Orbitel, Ericsson has strengthened its position in England with regard to GSM, that is the common digital European mobile phone system. Our collaboration with Racal is even more important now, says Bengt Forsberg, president for Cellular Systems and Special Networks at Ericsson Ltd., ETL, Guilford in England.

Cellular Systems and Special Networks, which is a division in ETL, is known in everyday usage as R division. Bengt Forsberg explains that organizationally it belongs to Ericsson Telecom's English subsidiary ETL but that they work for Business Area Radio Communications. The most important task is to maintain all contacts with Racal, the huge customer in mobile telephony.

R division was formed in April '89 and at its start there were 30 employees. Today there are 194 and at the end of the year the number will have grown to 250. Of the

three departments—marketing, design and installation with test and support—the design group is the fastest growing and at the end of the year will have increased from 40 persons today to 65. The group works with development of software for mobile telephony. This development is carried out in four areas of the globe—Mexico, Canada, Linköping and R division in Guildford.

Installation has 57 people, and Kjell Andersson is head of the department.

"The most important task for us right now is the upgrading of the TACS system, that is the analog mobile phone system. Further on in the spring we will be adding to the switches so that can be used for the GSM system," he said.

## Two GSM systems

"Through the collaboration with Orbitel we will now be engaged in two GSM systems for England," says Bengt, and he goes on to explain:

"Racal will build up two systems and already a year and a half ago it chose Ericsson as one supplier. The other supplier is Orbitel, which developed its own base radio station for GSM. This has now become a joint project for R division and Orbitel."

As another interesting joint project, Bengt points to terminals, that is telephones for GSM.

## Stressful fall

The design group is divided into two sectors, each working on its own project for GSM. Carl G. Larsson worked for ERE in Mölndal before he came to ERA in Linköping, where he was involved with development of software for mobile telephony. Since almost half a year now, Carl has been in Guildford where he is in charge of one of the two projects in the design group.

"We have had a tough fall," he says. "We had to accomplish four, five months' work in three months. Last November our share of the GSM project had to be delivered to Linköping, and we succeeded in doing so. In April, there will be function tests at ERA in Linköping and there will be English technicians present."

In December, 14 new technicians began training. It was not difficult to recruit them. At an "open house" evening, 48 persons came and 41 were called for interviews. An ad in a computer publication brought 100 replies.

## Strategic alliance Racal Telecom - Ericsson

Racal Telecom and Ericsson have entered into an agreement that represents a strategic alliance with the aim of achieving a leading position in the field of mobile telephony equipment. Ericsson acquired 50 percent of Orbitel from Racal Telecom for the sum of 45 million pounds (about 490 MSEK). Orbitel manufactures and supplies equipment for analog mobile telephone systems mainly for Racal-Vodafone. Orbitel has also been active in the development of the new pan-European digital mobile telephone system GSM.

Gerry Whent, president of Racal Telecom, is the first chairman of the board in the new joint company. In the holding company there will be two Ericsson directors and two directors from Racal Telecom. The chairmanship will rotate annually between Ericsson and Racal Telecom. The current president of the operating company, Mike Pinches, will also continue to lead the company. Orbitel is a wholly owned subsidiary of Racal Telecom and has about 400 employees, with development in Basingstoke and factories in Carlton.



# Ericsson Group's show-case in Germany

The Ericsson group will be present in full force at CeBit '91. The German fair is Europe's largest for, among others, the telecommunications branch and is considered the most significant after Telecom in Geneva.

CeBit is the largest annual exhibition for information and telecommunications as well as office technology in Europe. It takes place every year in Hannover in northern Germany – this year from the 13th to 20th March. In the spring, the fair was attended by some 560,000 persons. The bulk of these were Germans but the number of international visitors, however, surpassed the estimate of 110,000.

Through Ericsson Business Communications and, previously, Ericsson Information Systems, Ericsson has been a participator over various years. Last year the Ericsson group participated for the first time in full force, displaying everything from a fully operational AXE station to the very latest in the paging industry.

The fair area in Hannover is as large as parts of the city. There is a total of 23 halls. The largest of them is as big as the entire Stockholm fair. You need a lot of time and energy if you want to see it all.

This year's Ericsson stand takes up 700 square meters and is built on two floors. It has a premium position in one of the halls for telecommunications companies.

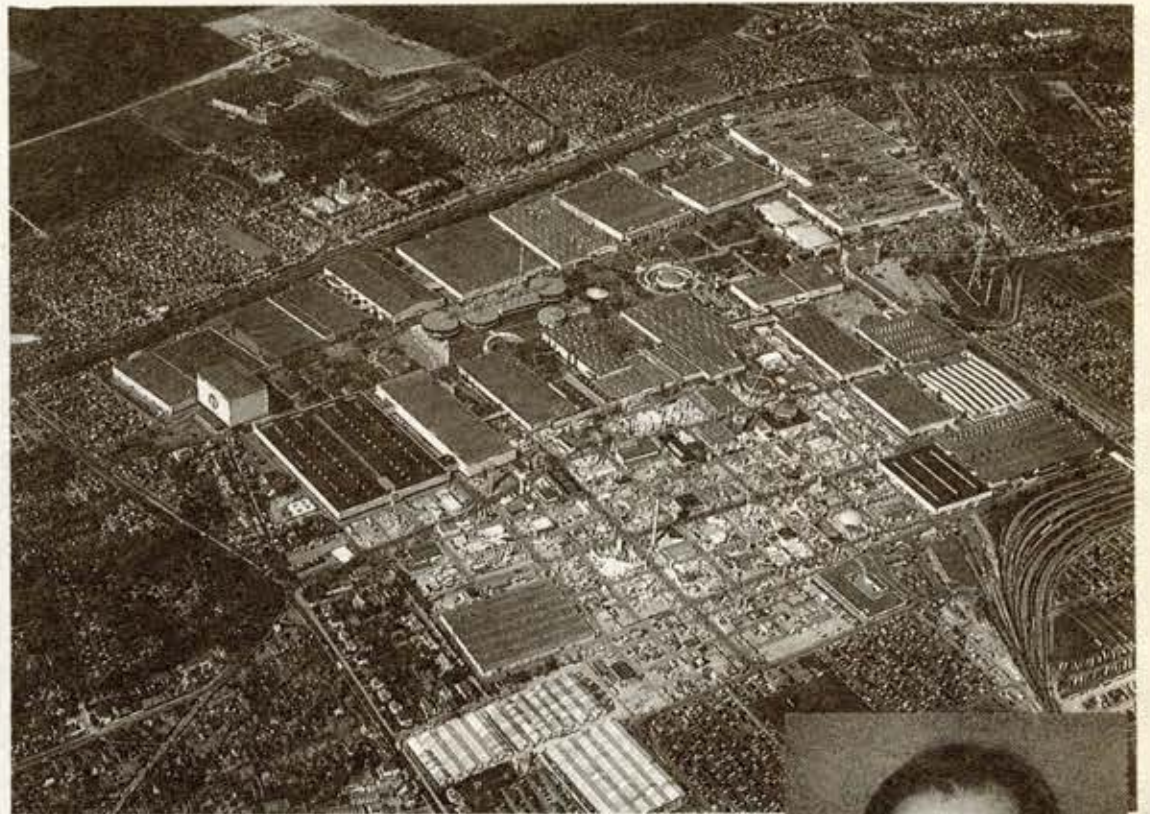
On the bottom floor Ericsson's most important products and systems are displayed – AXE, radio base stations, HotLine, paging, Mobitex, MD110, Eripax, modem, telephone sets, power supply and cooling equipment for telephone exchanges as well as optical fiber splicing equipment.

"Pervasive thinking around the stand is that it should show and explain how Ericsson products and services help and support the user in everyday work," says Gustaf Lagerberg, marketing communicator in EBC, and project leader for Ericsson's CeBit participation.

Combined business areas have representatives at the stand. Some 80 Ericsson employees from around the world would be working at the stand during the fair.

"Some representatives from the Ericsson group leadership will also be present at the stand during the exhibition week to meet with VIP guests and customers, like ministers, directors general and business leaders," says Gustaf.

The upper floor of the stand will be used for giving customers



The fair area in Hannover is as large as parts of the city. The largest of the 23 halls alone is as large as the Stockholm fair area.

and guests something extra. There, one has the possibility of having coffee and refreshments in calm and quiet in private conference and discussion rooms.

## Worthy investment

A huge project like CeBit involves a huge investment both in money and in work time put in. Many are prompted to ask if it is really worth it.

"Absolutely," says Gustaf. "Of course, it's difficult to measure the direct effects of a fair like this. But based on experience from previous years we know that many

important people in our target groups to whom we turn are present at CeBit."

"By attracting them to our stand and by getting them to realize that what we offer meets their needs and solve their problems, we will have established contact at a low cost," he adds.

Should the contacts later lead to business, then the fair will have been a worthy investment. And the aim of CeBit '91 is that it should be a very worthy investment for Ericsson.

Text: Maria Rudell



Day by day...this year's CeBit gets closer. Gustaf Lagerberg, marketing communicator in EBC, is project leader for Ericsson's participation.

## There is go in Ericsson's women!

Ericsson is an interesting company. Perhaps, especially for women – how curious that can still appear. But when we succeed in grouping some 50 women managers from large companies and banks for a company presentation, then indeed we can be proud.

One afternoon toward the end of January, the organization known in Sweden as "Ruter Dam" (Queen of Diamond) paid a visit to Ericsson. A film show and an exhibition of Ericsson's products started off the evening for "Ruter Dam," a network of women in management.

The bulk of the evening was given over to presenting Ericsson: our history, our business strategy and management policy, our women colleagues and managers.

"I like women a lot and I think it is marvelous that they are here. The presence of women makes it more pleasant on the job," was Lars Ramqvist's opening sentences to the women.

Ericsson can't exactly claim to have an equal apportioning of men and women in its staffing. Britt

Reigo, the only woman in Ericsson's group leadership, presented statistics that reinforced our suspicions that women managers at Ericsson are certainly the exception to the manly rule.

"We want to have a reputation in the job market as an Excellent Employer," says Britt Reigo. "Among other things, that means that our managers would dare to support and take risks for their colleagues. And naturally we shall try to recruit more women managers and really give our support to those that are already here."

"Ruter Dam" is an organization for the promotion of women in leadership. Every year some 35 women are admitted to a management development program that their respective companies finance. The selected "Ruter Dam"

works with a mentor who has many years' experience in leadership at the highest level above all in large companies. Moreover, the candidate has the opportunity to meet other women in similar positions, attend seminars and make company visits. At Ericsson, it is, among others, Lars Wiklund, personnel director at Public Telecommunications, who chooses suitable candidates.

"I am not pleased with the situation as it appears – I want to have more women managers at Ericsson," he states. "We must revalue our aims, we must support and encourage women to build networks. There is no-one at Ericsson who does not promote the notion of having more women at Ericsson – this was reflected in our very early engagement in "Ruter Dam".

The myth that women and technology do not go together has been shattered by the fact that more women are graduating from the technical institutes. But many women are still reluctant toward



Lars Ramqvist is surrounded by four of his "Ruter Damer:" from left, Ann Bäckman, Margareta Schullström-Mattson, Marie-Louise Hellström-Gefwert and Karin Nygård-Skalman. (Gudrun Hallbeck and Annika Bramsen were not able to be present).

and afraid of technology. Maybe it was to check this fear that Lars Berg, president of Cable and Network – a trained economist – demonstrated the principle behind optic transfer.

He hooked up a Walkman with a transmitter and a speaker to a receiver. Then the transmitter's light rays were directed to the receiver – ABBA music streamed forth from the speaker without it

being hooked up to the Walkman. This demonstration moved Gunnilla Arhén, president of "Ruter Dam", in her closing speech, to praise Lars Berg's pedagogic diligence with the words:

"If Lars Berg can demonstrate optic transfer, then technology cannot be that difficult."

Text: Pernilla Åström  
Photo: Maria Petersson



# New P400 2-way radio helps "Billan" Westin on the slopes

"Keep at it Billan! You are leading by three seconds and there is 1,000 meters to go. Push hard."

Billan, Marie Helene Westin, Sweden's long-distance ski queen and world championship contestant, is training for tonight's contest at Hudiksvall. She follows her performance with the help of a P400 two-way radio. Ski slopes are one of the places where the new radio is being tested. The task of developing the P400 went under the name "Project No 1" and is the first product to be developed in Ericsson's joint venture with GE.

"In December we were able to loan three sets for testing during this season. Every weekend, both during training and competition, we used the new radio. We are very happy with it and we enjoyed being there testing a new product." So says Ove Hellsén, chairman of Hälsingland ski federation's long distance committee.

Previously, the club used an older type of comradio that was heavy and that had bad sound quality and a lot of static.

"P400 has perfect sound quality. Moreover, it is both light and convenient to use," says Ove. He also points out that the other ski clubs, both curious and a bit envious, have "checked out" the new comradio from Ericsson.

That Hälsing Ski Club is testing the P400 means that it is used under different circumstances and in a tough milieu. Cold, snow, rain, humidity and often very rough handling it has survived remarkably.

## Timing

It is a cold but beautiful winter's day with sunshine and intensely blue sky. The same evening Billan was going to be in a floodlight contest in Hudiksvall. All training and every competition is important for her now ahead of the Swedish championship and the World championship.

"OK, that was good, and especially the last stretch you moved very fast."

"During a contest it is important at regular intervals to know where you are placed. Certain skiers do not want to hear that they are making bad time but I want to know even if it is not good," says Billan, adding:

"Especially at the end of a contest it is necessary to have information. Many coaches have a



Push hard Billan, keep at it! Ove Hellsén spurs on Marie-Helene Westin in the day's training race. He tracked the laps through the P400 two-way radio, a new product developed jointly by Ericsson and General Electric. Photo: Karl Evert Eklund

special feeling for what a ski-runner needs to hear to fight a little extra in the race."

Olof Eriksson at Ericsson Mobile Communications, Kista, is project leader for "Project No 1." He recalls that the project began in February last year and already in October the P400 could be launched. In December, deliveries were being made to customers.

Some ten persons in Kista and four, five colleagues at Ericsson-GE in Lynchburg, U.S.A., worked fulltime on this project.

MRS 5000 is a private radio communications system, which Ericsson developed. It involves different products, such as radio switches as well as stationary and mobile exchanges. The portable radio for MRS 5000 is known as P300 and has become a bit wieldy and outdated in light of new technology.

"It was urgent to come up with a successor to the P300. At GE in Lynchburg there is a portable exchange that suits very well. In order to use this it was necessary to get new software. That is the background to "Project No 1," says Olle.

The project involved the entire process of coming up with a new product: technical development, product management, market introduction and logistics. In this

project Ericsson and GE met for the first time in a practical job setting. People from two different corporate cultures would work together, and they did not even speak the same language.

"There have been some administrative problems since we were obliged to begin from exactly zero. Luckily, both Kista and Lynchburg were using VAX," says Olle.

## Contacts

Olle stresses that in a project of this nature it is necessary to have a substantial travel budget.

"Personal contacts are crucial. It is so much easier to speak by phone with people that you have met. For Americans, personal meetings are more meaningful than telephone contact, memo or such. It would have been good to have an "ambassador" in Lynchburg, who at every juncture would think of Ericsson.

For the coming project an ambassador should be there at the point where the product is taken over. Protocol and different types of documents have been important in steering the project. From the American side, in the beginning they were not accustomed to documenting in such detail as Ericsson does.

In February "Project No 1" was concluded. However, work on



Chief Executive Lars Ramqvist congratulates Henrik Aarestad from Ericsson Radio Systems AS, Stavanger. Alongside is Jan Edhäll, manager for Region Europe in mobile radio operations at Ericsson-GE. Henrik won the sales contest, which was initiated in October with the launching of the P400. The excellent sales input has been rewarded with a trip to the Nordic alps. To date, Henrik has sold 135 P400s, which will be incorporated into the Norwegian alarm system Samkom, which among other things hook up fire departments and hospitals.

"Many municipalities have shown keen interest for the P400 and I feel it will have significant success in Norway," says Henrik. Photo: Björn Seger.

further development of P400 continues.

"An exciting, tough and very educational year. The most positive has been that there were two fine teams that collaborated. Everybody was motivated and worked hard. P400 is solid testimony that "Project No 1" has been a success," says Olle.

Pat Murphy moved from GE, Lynchburg, to Ericsson Mobile Communications in Kista a year ago and will be remaining an ad-

ditional year. She is responsible for product management, and "Project No 1" has been a major undertaking.

"The project had a tough start, there wasn't even the personnel when we began," Pat recalls.

"It has been a challenge to achieve the task in such a short time. Sure it was tough going at times with collaboration but "we are still friends," she says, laughing.

P400 is solid testimony of the many cooperative effects within Ericsson-GE. It has also brought out which areas are strong and which are weak. DACS (Digital Access Communication System) is an advanced communication system that will be introduced in Europe in the spring. The system goes by the name "16 plus" at GE, and developing this for Europe is a very big project right now.

"Without the experience of P400 we would never be able to make it through DACS," says Pat.

Hälsing Ski Club is not alone in testing P400. In the fall 15 traffic wardens in Stockholm carried out beta tests (field tests).

"Now, they do not want to give back the sets! A better recommendation P400 cannot have," Pat concludes.

Text: Gunilla Tamm



# Good outlook for weather radar

Spain is a pace-setting country in Europe when it comes to weather radar. Next year the surface of the entire country will be covered by an extensive radar system. One of the group's Spanish companies, Ericsson Sistemas Avanzados, the former SATESA, produces among other things weather radars in Madrid, Mölndal and Kista. It is a production that is now turning good profit.



Ingemar Naeve is president of the Spanish company Sistemas Avanzados - the company which, among other things, produces weather radars in Madrid.

## Environment problem spurs new areas for use

Ericsson's involvement in the matter of weather radars goes back to the beginning of the '80s. In collaboration with SMHI (the Swedish Institute of Meteorology and Hydrology), it brought out a new and advanced weather radar. Among the customers Spain was notable, having bought 15 weather radar stations in 1985.

Hence, it is entirely logical that Ericsson's weather radar operations will be handled from Spain and the subsidiary Ericsson Sistemas Avanzados.

The company, which was previously known as SATESA, has been given responsibility for a whole new business unit in the area of meteorology, hydrology and environment systems. So far weather radars is the most important product.

### Future products

Production of weather radars was not profitable before, but now the economy has improved considerably. Operating results for 1990 showed a profit that is expected to increase this year. Despite tough

competition from, among others, America's Enterprise Electronics, Germany's Gematronics and England's Plessey, Ericsson's weather radar has a future ahead of it. That is not least because more industrial countries are expanding their weather radar networks.

Ingemar Naeve, president of the Spanish company, says that all the industrial countries will have built nationwide networks within the decade. Spain is the first one doing so, with 96 to 98 percent coverage set for '92.

### More areas of use

Behind these optimistic forecasts is the fact that weather radars are an invaluable help in many different contexts. It does not have to do with only better possibilities for weather forecasting locally but also with using resources for snow movements, regulating water dams and getting a jump on destructive insects.

"If there had been a well-built weather radar network at the time of the Chernobyl disaster, the

authorities would have been able to get better information on where the radioactive fallout was to be expected," says Ingemar.

### Reduced organization

The new business unit in Ericsson Sistemas Avanzados has 35 persons in Madrid and 20 in Mölndal and Kista. The workforce has been reduced by 20 as a result of restructuring that was done last year. It was a painful operation that was really necessary to turn the previous years' losses into today's positive economic results.

Personnel who left the operations were given other jobs within Ericsson.

"Loyal employees understand that you have to adapt the suit to the market," says Ingemar.

In 1990, nine weather radars were sold from Sweden and seven were delivered - all according to plan. Turnover for the business unit in 1990 was about 60 million kronor in Spain and 40 million kronor in Sweden.

Text: Gunilla Bergman

## Strategic collaboration with Norway's PTT

Ericsson has signed a strategic collaboration agreement with the Norwegian telecom authorities (Televerket) in the area of business communications. From March 1, Televerket's private marketing organization, TBK, will sell Ericsson business switches in Norway.

In addition, Ericsson and TBK are forming a common company. Ericsson's standing in Norway was strengthened considerably in 1990 with orders for AXE and mobile telephony. Now collaboration with the Norwegian Televerket is being extended to include the area of business communication.

According to the agreement, TBK, a wholly owned subsidiary of Televerket, will have the rights to sales, installation and maintenance of Ericsson's business switches and other products in business communications. According to an agreement that was signed by both companies in the fall, TBK had only limited rights to sell Ericsson products.

"By collaborating with Norway's biggest distributor in this area our goal is to increase our market share in the country to 50 percent," says Rolf Eriksson, head of Ericsson Business Communications division International Operations.

The Norwegian market is moving into an interesting phase as Televerket plans new services like centrex, that is private applications in public networks, cordless telephony and expanded services-messages. It is certain that TBK will have responsibility for centrex services. Products will be delivered to TBK for

sales through a newly formed jointly owned company. In 1991 Ericsson owns 60 percent of the company and TBK 40 percent. From 1992, it will be owned 50-50.

Besides market and product support, the new company will be responsible for more advanced form of services through a Field Support Center in keeping with Ericsson's customer service concept. The set-up of the Norwegian collaboration is similar to what Ericsson has in the area of business communications in Sweden and Spain. However, an important difference is that the new company has the possibilities to market and sell products directly to a number of large Norwegian companies.

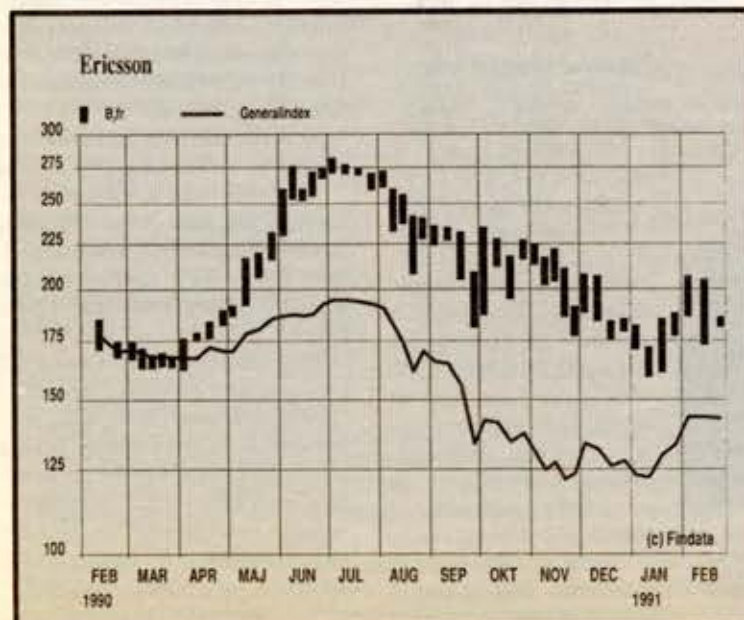
The new company is formed from EEN, Ericsson Business Communications A/S, EBC's Norwegian subsidiary, and will have 30 employees. EEN currently has 250 employees. Large parts of EEN's operations will move to Ericsson Telecom A/S, Ericsson Holding A/S as well as other parts of TBK. The reorganization does not entail any layoffs. What is being transferred is computer network operations as well as product responsibility, development and marketing of control communications, that is the DCX-5 system and the arbitrage system MD11/FS. EEN's current president, William Svedberg, will be president of Ericsson Holding. President of the new joint company will be announced by Ericsson in February.

Text: Maria Rudell

## Time to apply for stipendiums!

Now it is time again to apply for stipendiums for training and travel. There are several different kinds of stipendiums that are open to Ericsson employees. Björn Lundvall's travel stipendium for studies and establishing contact within the Ericsson group is one example. In the first place it is open to employees who do not normally travel in the course of their jobs. Application must be submitted by April 30. The Marcus Wallenberg stip-

endium is set up for employees who want to pursue advanced training - technical or economic. Applications before May 31. There are also travel stipendiums given out by Telefonaktiebolaget LM Ericsson's organization for use in travel as well as for training. Applications should be in at the latest by March 15. Information about the stipendiums are posted on company bulletin boards.



## SHARE WATCH

Commentary from various areas on the stock market reaction to Ericsson's earnings report communique the second week in February was noteworthy indeed. The stock eased a full 20 kronor, or 11 percent, after Lars Ramqvist's comment that the dazzling 1990 results will be difficult to surpass in 1991. That is more of an under-recommendation for investors than for Ericsson. The group warned early that a downturn was on the way. And it was obvious that the uncertainty about the future in light of the Middle East conflict

## ERICSSONS SHARES

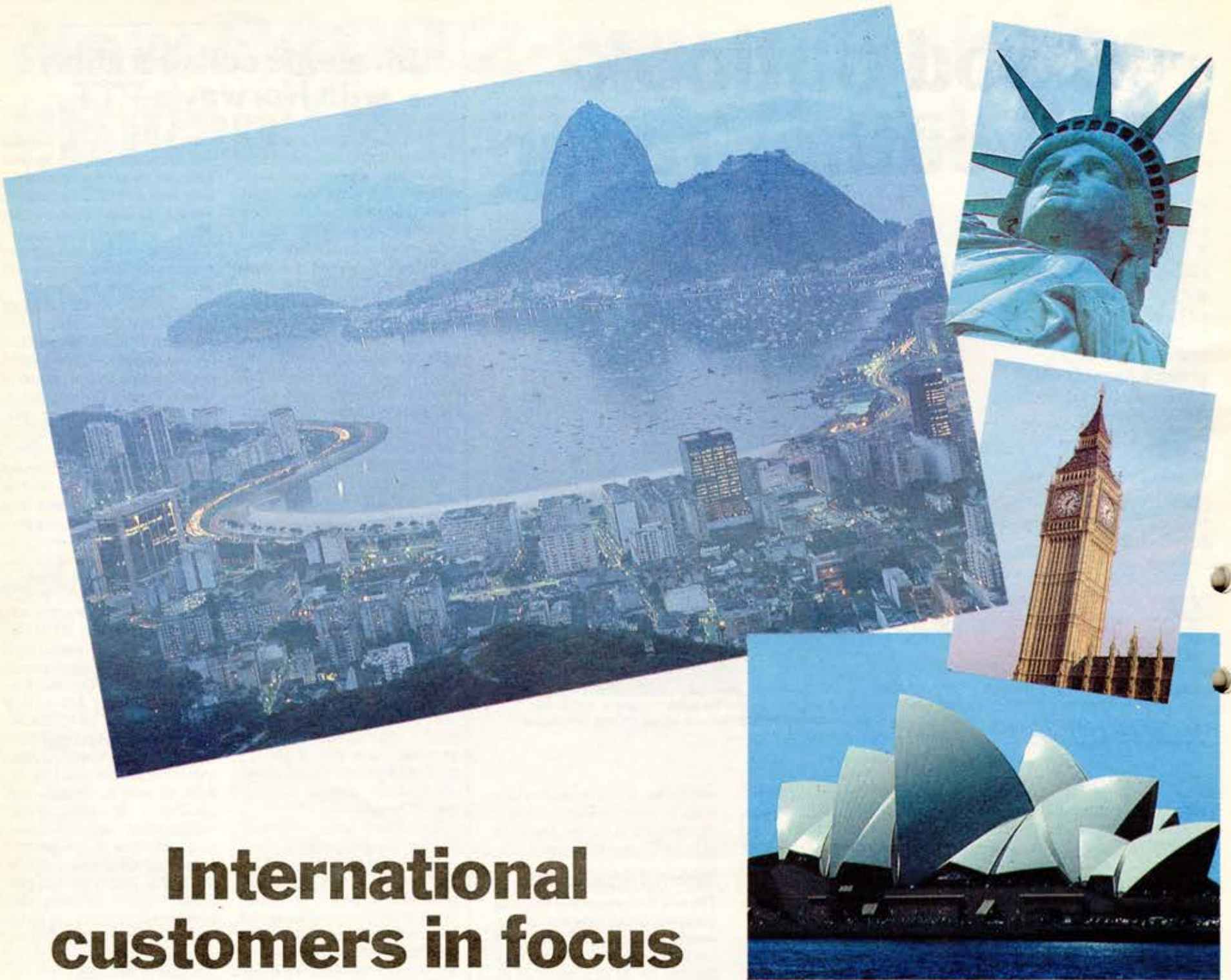
Date	Mutual Fund		Share Savings Fund	
	Share price (SEK)	Assets (MSEK)	Share price (SEK)	Assets (MSEK)
1988-12-31	135	52,2	343	56,0
1989-12-31	304	94,1	825	77,1
1990-12-31	317	86,4	86	65,6
1991-01-31	360	97,2	96	72,7
1991-02-12	327	88,8	87	65,3

The share price is based on a stock trade of 183 kronor and a convertible figure of 340 percent.

would affect everybody. Added to that, the market knew long ago that research and development costs have risen. Still, the earnings report was greeted with satisfaction and it bolstered the strength the group build up over the last three years. The yield of its own capital rose from 4 percent

in 1987 to 23 percent, which meant that shareholders had a fine return for their investment capital. Dividend increase of 25 percent to 3.5 kronor was also welcome. But direct yield of under two percent is still far below the bourse's average and is not really competitive in these times.





## International customers in focus

Technical and political walls, which until now have stood in the way of international private communications, are beginning to come down.

The multinational companies applaud this and are pushing developments further by placing ever higher demands on telecom suppliers.

The program for International Key Accounts is one way for Ericsson Business Communications to meet these demands.

"Deregulation of the telecommunications market in Europe gives companies new possibilities to choose services as well as suppliers," says Lars Ekström of Ericsson Business Communications' International Operations division.

"Standards are being developed further," he says. "Communications solutions for companies can therefore be based on the possibility of linking different systems in different countries to an international network."

The multinational companies see avenues opening up for more efficient and tighter communications between their units the world over and are changing their organization and their way of

working. Developments in the field of telecommunications are pushing this even more by constantly placing new and higher demands on suppliers.

### Demands to live up to

"The large international companies want suppliers to be able to develop and realize a global communications strategy for them," says Lars.

A prerequisite for this is that suppliers should offer technical unit solutions and qualified service the world over.

Customers also demand a few clearly defined access points and contact people among suppliers.

"The multinational companies are conscious of the value of centralized dealing. That's why many of them prefer a couple of main suppliers who can offer long-term, globe spanning purchase agreements."

That is a reality today.

"Local companies encounter these demands among its customers," says Lars.

### Decentralized

In order to meet the market demands and take advantage of this interesting business opportunity, EBC has produced a program for dealing with large international

customers - International Key Accounts. The program is a further development of the experiences that EBC has, among others, from the international agreement with Polaroid. The target group is a limited number of large, successful leading companies within their respective branches. True, today they already have a well-established national relationship with Ericsson.

"International Key Accounts will be handled by the local companies, with the already established customer contact as a base," says Lars, who is centrally responsible for the program. The local companies excellent sales and service departments will carry

out sales. We will not be creating any new sales organization."

### One person - one Ericsson

Main responsibility for a customer will rest with the local company in the country where the customer has his head office. An International Key Account manager will be appointed. He will be responsible for the customer globally and will coordinate and follow up on everything related to the customer. He can also be the customer's entry to other business areas in the Ericsson group.

The relationship between customer and supplier will be determined by an agreement framework, an International Master Agreement. Business will then be conducted locally in line with this.

The central in Stockholm serves a support function. Today it consists of two persons, Svante Axling and Lars Ekström. From April there would be two additional persons to work with in supporting the local company with coordinating as well as establishing and developing relations with customers. The program is now being introduced country by country.

"Without us having gone out and actively marketed this, we already

have some 40 prospects today," says Lars.

### Mutual advantages

Ericsson, like the customer, has much to gain from a long-term agreement.

"We get lower sales costs and shorter sales cycles since contact with the customer is already established," says Lars. "We can also increase sales, both in volume and in the number of different products for each customer."

"By developing a close collaboration with the customer we can better learn about his operations and we can, with our competence, help to strengthen them with the help of communications solutions," he adds. "At the same time this very knowledgeable user can give us feedback on the market demands and its needs."

Nevertheless, the battle for the big customers is tough.

"Ericsson has a broad international presence. That is an important competition advantage," says Lars. "Our customer base includes many respected companies."

"We have a powerful range of products and services," he adds. "Ericsson is also one of the companies that has the knowledge and resources to develop the communications system of the future - and this is beneficial for the customer at whom this program is aimed."

Text: Maria Rudell



Lars Ekström and Svante Axling from Ericsson Business Communications are working on introducing a new method to work with large international customers in all the local companies.



# Record installation in Denmark

A broker's price is valid only over a few seconds. In currency trading speed is one of the deciding factors; others are good information and effective means of communication.

The first Monday in December, the until now largest installation, 169 positions, of MD110/FS with the new plasma display, went into operation at Unibank's main office in Copenhagen.

It is another world. Intensity, concentration, adrenalin fill the air. The dealing room occupies almost an entire floor. Fantasy sums in all the world's currencies move daily through it. The 140 currency traders working here direct the flow. Directions change with every blink.

It is representatively young men but also a sprinkling of women sitting at the long rows of work stations. Each of them has three monitors, three speakers, a microphone, a terminal, calculators - and an MD110/FS panel.

Their workplace is up to date, technical equipment, interior decoration, furniture. The entire dealing room is new. When Unibank was created through the merger of Privatbanken, Andelsbanken and Sparkassen SDS, all the dealers were placed in the same area. Space for them was too small at head office and it was also time to get modern equipment.

"We have installed a new videoswitch system, new PC systems and a new telephone system," notes office manager Geert Feenstra.

Every trader can now avail himself of different information services for arbitrage, he can follow trade developments in the world on various news channels and make sophisticated analysis with the help of his PC.

## Phone is primary

"But it is the telephone that is our primary means of communication," says Geert Feenstra. "Through it we have direct contact with foreign brokers and clients."

That's why Unibank set such high demands when it came to choosing a telephone system for its dealing room.

An important requirement was that phone and intercom functions should be integrated in one and the same system. Ericsson's MD110/FS was what Unibank wanted, but not without an integrated intercom function.

EEN, the Norwegian subsidiary that has product responsibility for MD110/FS, took hold of Unibank's ideas and began intensive



Each of the 140 currency traders has three monitors, three speakers, a microphone, a terminal, calculators - and an MD110/FS panel



MD110/FS is a financial system that satisfies the finance world's need for speed and flexibility.

work on complementing the most recent finished release of the system with the desired functions.

Unibank trusted Ericsson's promise that these would be incorporated by delivery date and it chose MD110/FS.

"The total integration was our choice. Internal and external communication hang close together and it is very important

that internal communications be efficient," says Feenstra.

Through the integration the bank also wanted to limit the quantity of equipment at each workplace and hold down the noise level in the room. Intercom functions should function so well that traders would use that instead of shouting across the room.

For a visitor in the special milieu

that the dealing room holds, the noise level is still strikingly high. Every trader can, theoretically, have 14 outside calls going simultaneously.

Traders talk either into the set or into a microphone which leaves both hands free.

The new dealing room is a major investment for the new bank, but it is a necessary investment that will eventually pay for itself.

"Our new totally integrated communications system strengthens our competitiveness. We can more rapidly give better service and we hope to attract more customers as a result of this."

"It is an immense advantage to be able to have so many calls simultaneously," the office manager adds.

Traders can listen to prices from several brokers in a shorter space of time. The chances of finding the best price are increased."

## Plans for expansion

Today, the bank has 140 traders.

"We chose to install 169 panels so that certain sections of the room are ready for rapid expansion," says Feenstra. Within a year and a half the room will be full. But the bank's plans go beyond that.

"Our philosophy is built on a common trading floor," adds Feenstra. "In three years we will have the stock market and currency traders on the same floor."

Another decisive factor in the choice of communications system was therefore that it should be modular and not limited in size.

"It would eventually entail some 500-600 positions altogether," says Feenstra.

"We see Unibank as a very professional partner," says Jens Greger Jensen, marketing director in EBC's Danish subsidiary, recalling the manner in which the bank discussed its needs with Ericsson.

"It is thanks to Unibank that we achieved those functions that we can offer to all our customers today."

"We are very satisfied with the dialogue we had with Ericsson, especially as far as integration is concerned," says Feenstra, who is very pleased with the bank's new communications system.

"With the total integration there is no financial system on the market that is more advanced than the MD110/FS."

Text: Maria Rudell  
Photo: Borch Jacobsen

## ■ POLITICS BY PHONE

Bert Karlsson and Ian Wachtmeister, the men behind the new Swedish party "New Democracy," has turned to the phone to help in spreading their message and raising money for the party coffers. Following the example of, among others, sex counselor Malena Ivarsson, they have now opened

"Bert's line" - a personal line for men and women who want to have a new policy. Here, one can get political advice by phone for 15 kr a minute. Or, for a lower price, listen to taped political messages. The first telephone answers have already been taped. They are parts of the party program they are offering.... (Expressen)

## ■ WATER VERSUS PHONE

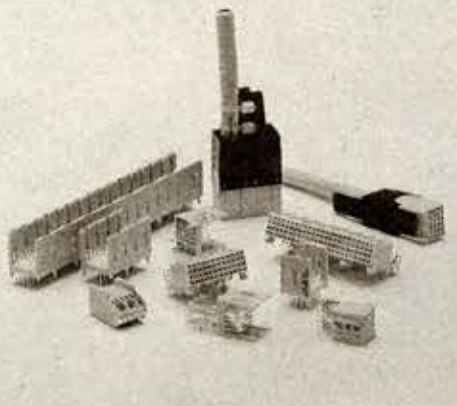
In Kenya the state water works has economic problems. Among other things they have not been able to pay the phone bills. In the end the phone company got tired of billing and it turned off the phones. Naturally, as is totally normal in such cases, it created real anger among the water works executives. They got even with their colleagues in the state administration - by cutting off the telephone company's water. (Expressen)



## "Lego" smart solution for contact problem

Ericsson Telecom's factory in Katrineholm has acquired a new and important role – as a manufacturer of SOFIX, Ericsson's new genial connector system. The factory is the world's largest manufacturer of today's connectors and one of five suppliers in the entire world that can deliver this type of connector. Behind the new connector lies a strategic collaboration between Ericsson and the American DuPont Electronics.

For almost 20 years Ericsson has used a variant of the so-called DIN contact or Europe connector for connecting printed board assemblies in the AXE switch. Since the other components were reduced in size, the demand has also grown for producing a space-saving connector. Ericsson has in close collaboration with America's DuPont Electronics come up with an entirely new type of connector



**SOFIX, Sophisticated Interconnection System, a connector system for tomorrow's complex electronic systems.**

that meets the new demands. The connector, which Ericsson markets under the name SOFIX, has had a flying start on the market in that the American standardization commission, IEEE, approved Ericsson's and DuPont's solution for future standards.

### "Lego"

Americans compare the new contact system with Lego. It actually involves building up large contact units of several smaller "building blocks."

This makes possible many flexible solutions where, among others, signal, power, coaxial and optocable can be connected on the same printed board assembly.

The older type of Europe connector has three rows with 32 pins each. SOFIX has a little more than half a millimeter less distance between the tag and therefore can accommodate 4 rows with 48 pins in each – a remarkable increase in capacity.

### New thinking

The first contact between Ericsson and DuPont was in 1987. During a couple years of intensive exchange over ideas and thinking, designers in the two companies came up with a solution that represented a major step forward in the question of new thinking.

In 1989, Hans Karlsson, from Ericsson Telecom introduced the Swedish-American connector at the IEEE, where he himself had been engaged in work on future contact standards. After an exciting hour of dramatic presentation, this method of building connectors as a standard was approved.

"It is a clear advantage for Ericsson that our own construc-

tion method has become a standard," says Karlsson. Telecom administrations will in the future use systems from different suppliers and then a standard for connectors is absolutely necessary."

### Both manufacture

Ericsson and DuPont have now both launched manufacturing and sales of the new connector. Under the product name SOFIX, it will be sold all over the world, in full competition with, among others, DuPont which marketed the connector under the name Metral.

At present there are only five suppliers that can manufacture and deliver the connector according to the new standard. Ericsson's connector has the highest quality, in order to meet the stringent demands within the telecom field.

### Katrineholm leading

The connector is being manufactured by Ericsson Telecom in Katrineholm and Kristianstad. In 1991, Katrineholm will invest 10 million kronor in equipment for manufacturing the connector. There is also a design department whose task is to adapt the connector to different customers' specific needs. In Kristianstad they manufacture the plastic parts of the connector.

In Ericsson Components, which markets the connector, optimism on the new product is running high.

"SOFIX is a real pearl among components," says Jan Ågren, responsible for product and export of electromechanical products. He believes in a few years SOFIX can be as large in turnover as the entire division for Standard components is today.



From laying, outside Avesta, of record cable from Falun

## Record cable from the Falun factory

**"As the result of a development project carried out in two stages we can now manufacture cable with conductors up to 1,200 mm<sup>2</sup>. This gives us the possibility to increase profitability in the medium voltage area, 12–24kV, and increase our market in the high voltage area,"** says Stig Norgren, product manager at Ericsson Cable's power division in Falun...

The first delivery of 24kV PEX cable with 1,200 mm<sup>2</sup> conductor – total 1,200 meters – went to the

water works in Västerås. Manufacture went without any problems and delivery was even made a week before the promised date. The cable will replace existing cable with significantly lower capacity and will supply Fors carton factory with electric power.

The dominating cable volume in the medium power area has quite capable conductors of upward of 300mm<sup>2</sup>. Since these cables are stored and sold by a

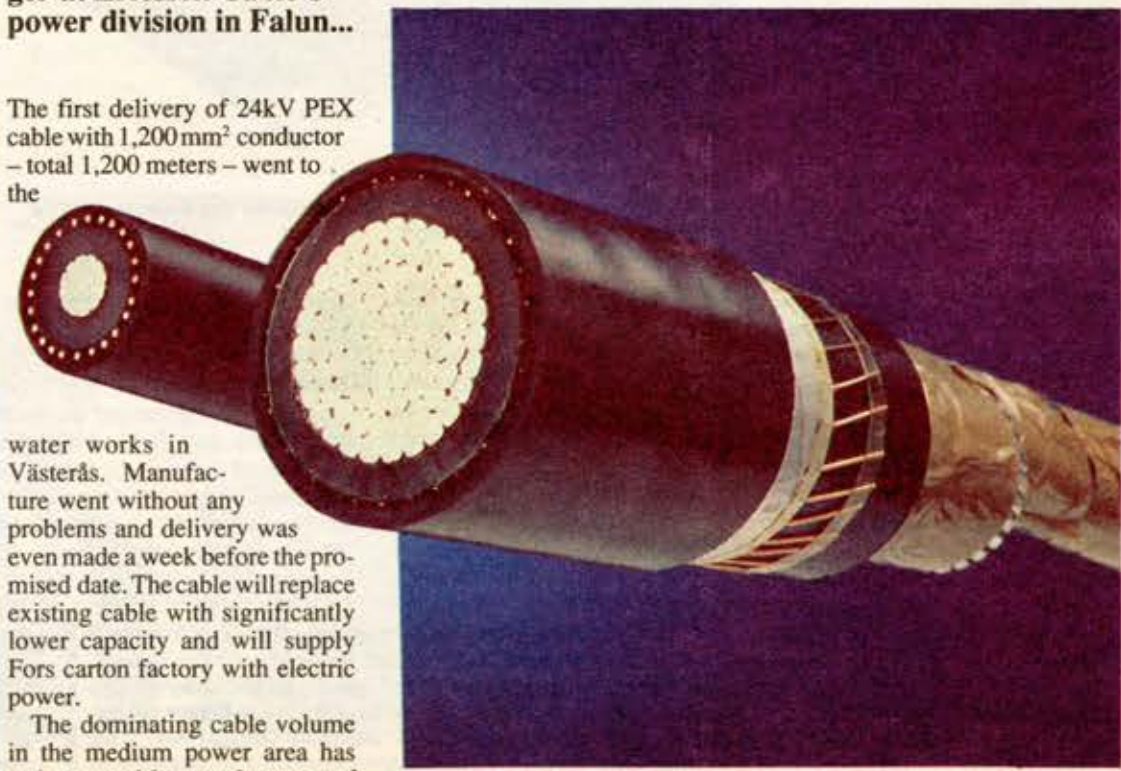
number of suppliers and importers the price competition is tough.

"When it comes to cable with coarser conductors the competition is not as tough and the opportunity for profitability is greater," says Stig Norgren. To begin with, not all cable manufacturers can produce these cables, and even if they can there are a number of competition factors that make it easier to offer a better price. For example, this could involve delivery time, the possi-

bility of helping the customer with sizing and construction of cable plants, accessory range etc.

"When we can now offer the coarser conductors in the medium voltage area, we should then see an improvement in profitability. Also in the high voltage area there is a growing demand for cable with coarser conductors, which in its turn should mean more customers and more orders," concludes Stig.

Text: Thord Andersson



Comparison between ordinary PEX cable and the newly delivered record cable.



# High level of security at Ericsson

The war in the Gulf between Iraq and the allied coalition affects people around the world. Terrorism threats hang over us all. At Ericsson's head office identification control is stricter, with several guards going around departments and controlling that we have our ID and that no outsiders are hanging around the area. All visitors must be met at the main entrance and deliverers must leave their packages there.

"This is how it should always have been," says the new head of security, Christer Magnusson. "Regardless of the Gulf war, we would have beefed up security here within a short time. The security level here at head office is not what it should be."

But there have been no central directives about increasing security at Ericsson companies in Sweden or around the world.

Those companies that have good security as far as basic protection is concerned – guarding of the premises and control of people and packages – do not have to take any drastic security precautions," says Magnusson. Protection must be taken on a case by case basis. One has to consider how the company is localized, if it is a neighbor of exposed companies and institutions then security should be revised once more. A good system of protection and sensible visitor

routines are always important for security.

"Large companies are always more exposed when it comes to



"If one has a good protective shell one can continue living without any drastic upheaval," says Christer Magnusson, new head of Corporate Security.

terrorist threats," says Magnusson. "But Sweden is not really a controversial country, and even if Sweden should be threatened by terrorists, Ericsson is certainly not a prime target. More exposed are companies, institutions and persons that are directly involved in the Gulf war. If the intensity of threats does not change there will be no tougher security regulations imposed."

## Personal safety

As head of security at the parent company, Magnusson is also responsible for the personal safety of employees, for example abroad on job assignments. He is also a member of the Crisis Management group.

"A large part of my work has been in the Crisis Management group since I began here. We have discussed security for our colleagues in what we call the "Muslim belt," from Morocco to Pakistan. And naturally Saudi Arabia was given special attention. We have had daily contact with on-site managers down there in order to hear their views and to check out the atmosphere. We have had contact with UD, the foreign office, and other Swedish companies on site. Now we have only a few key people in Saudi Arabia."

## Travel directives

"We recommend that one should

be very strict in determining the need for overseas travel. If possible, trips should be postponed.

These recommendations have been passed on to company managers and it is then up to them to decide based on needs.

## Be careful

If you must travel then be careful; you should choose an airline company from a country that is not directly involved in the Gulf war. And above all you should be very careful at the airport, spending as little time as possible in risky areas like check-in counters, for example.

How safe are Ericsson's employees?

"As a careful Ericsson-employed individual from Sweden one is relatively safe. There are



A good system of protection and sensible visitor routines are always important for security.

other nationalities and professional groups that are more exposed," says Magnusson.

Text: Pernilla Åström  
Photos: Maria Petersson

## I am waiting with my trip to Taiwan

Bengt Måler, technical instructor at Ericsson Radio, is one of those who has shelved his business trips since war broke out in the Gulf. He was to go to Taiwan for two weeks to train Ericsson customers there.

"I should have been instructing as part of a project building up a mobile telephone system in Taiwan. It has now been postponed until a future date. A workshop is being built that would undertake repairs on printed board assemblies. My job was, purely theoretically, to go through the process of how we track down problems and repair the boards.

### Why did you choose not to go?

"The reason for canceling the trip was that I did not feel safe. Threats of terrorism came from several Muslim quarters. Ericsson considered the threats serious and decided that all travel will be on a voluntary basis.

"I was to fly direct to Bangkok with SAS and then on to Taiwan. One day I thought of flying over the North Pole to Japan, flying as far away from the war zone as possible and it would have meant

a shorter and safer journey. But eventually it is still risky wherever you fly, since it is the flight itself that is threatened."

### When did you decide not to go?

"I was obliged to decide very early whether I would go or not. The weekend after the war broke out I made the decision together with my family."

"It is a little sensitive to cancel a trip and one feels oneself torn. Should one be loyal to the family and the unease that one feels, or should one be loyal to the company? Since canceling the trip would not result in any major disadvantage for the project the decision was easy to make. But it would have been more difficult if I knew that the start-up of the project depended on my getting there and carrying out the training.

### What are you doing here instead?

"We have a lot to do here, so I do not really have to be idle as a result of canceling the trip. At present we have so much to do that we cannot fill all the orders for training. Last week I held a course here at home, which we had difficulties finding an instructor for. Now I have a few days free that I can use for the

project on the digital mobile telephone system in the U.S."

### How do the others in your department react?

"Not everyone has canceled his trips. One of them left for Düsseldorf and another went to Singapore. Naturally, we have discussed the matter of traveling in our department and we have differing views. If you feel safe you go. Fortunately, nobody else is making the decision for you."

**Reine Guldbrandsen is responsible for worldwide repair and is project leader for the Taiwan project.**

### How is it going with the project in Taiwan?

"The project in Taiwan does not appear to be stalled since we have come a long way with operations – but it will be late. The intention was that training should be completed before the Chinese new year, the 14th of February. That won't be the case now. But it is not a catastrophe. Normally, Taiwan sends its printed boards to Sweden for repairs, so they could continue doing so until we get the workshop going."

## Crisis Management group recommendations for traveling Ericsson employees:

Travels for all employees shall be on a voluntary basis. Any individual who does not wish to travel shall not be compelled to do so. Decisions on international travel shall be made at Senior Management level within each Ericsson company.

**Countries immediately affected**  
All trips to and within countries and regions immediately affected, as well as to and within countries and regions with strong popular support for Iraq, should be postponed if possible.

**Western Europe and North America**  
In Western Europe (excluding the Mediterranean region) and North America, travel may be carried out with full attention given to advice on personal security precautions issued by the Crisis Management group.

Beyond these safety recommendations it is up to each Ericsson company to approve or further delay travel decisions.

According to Håkan Rosin at Flygresebyrån, the travel agency, the volume of business travel has fallen 25 percent since the Gulf war began.

### Will there be any economic fallout?

"It could be more expensive to repair the boards here in Sweden than to do so locally in Taiwan. In that case we have to consider freight costs. But that is no great amount. We have a supervisor on site whom we meant to have for a year in a prolonged contract, with the extra costs that it entails."

### Is it right to cancel trips?

"The company and the group leadership have given us guide-

lines for traveling during the Gulf crisis. The guidelines are good. If you really do not feel like taking on an assignment and you do so it could be worse.

I feel that one must personally have some consideration for people and their family. We cannot force people to take on assignments out there against their will or that of their family. That is something we must accept and adapt ourselves to."

Text: Pernilla Åström



## The galloping frying pan



"The demonstration reached a point where the traveling peddler gathered the housewives when he came to a village in one of the village's kitchens, and when they were all assembled he placed the pan on the stove to fry meat. After a while, when the pan was hot, it began to dance around the stove, making small hops, and after a few minutes it would explode with a bang so that little bits of meat would fly up to the ceiling and dripping would splash all over the startled women, who quickly made their way to the door."

From Ericsson's rich history we found this episode from the crisis years at the beginning of the '30s. It is signed by Ivan Lundh and C-G Löfgren, two employees who at that time were active in LM Ericsson's Försäljningsaktiebolag (FÖB), a sales organization, where the episode took place in 1934.

“After the Kreuger collapse and during the reconstruction of the ongoing major overhaul of the parent company it was, unfortunately, necessary to lay off a large portion of the staff at the factory as well as at the office.

To keep the machines going and to avoid having to dismiss an unusually large part of the old hands, the management made considerable attempts to seek out entirely new products as a emergency help in light of the reduced orders for ordinary factory work.

Among some of the products of major importance were: cash registers, later Svenska Kassaregister AB, System Paulius precision barometers and height measurers, AB Ekonomregistrets Book-keeping Machines.

Apart from that we also took on manufacture of different things like tents and camping beds, frying pans, pressing of rust-free kitchenware, a shaver section, etc.

At the time the Swedish material sales unit was the entry point for all Swedish orders, with certain exceptions for exchange switches for Telegrafverket. We handled these orders with a mixture of joy and concern that comes with new products.

### Gallop frying pan – measure of LM quality

A tragicomic episode during this time was the story of the galloping and in this case exploding frying pan, the result of LM quality.

One day we got a visit from an inventor and his agent who wanted LME to manu-

facture 10,000 frying pans, the world's leading frying pan, with well distributed warmth, impossible to burn food in. Recommendations about the pan's qualities were backed by the word of the leading chef and restaurateur at the time, Ekegårdh, from Operakällaren in Stockholm, who tested the pan and found it extraordinary.

We got an estimate from the workshop for making the pan and the contract was concluded with a known wholesaler in the business for 10,000 pans, with an initial part delivery of a couple hundred as soon as possible.

The manufacture was set in motion and the first part delivery was made to the wholesaler who was waiting anxiously for them. He had a large staff of traveling peddlars who were to make a sales campaign around the countryside with demonstrations of the novelty in the field of kitchenware.

### Pan danced, hopped and then exploded

After a few weeks, the test deliveries were returned along with the cancellation of the contract from the wholesaler with a colorful description of how the world's foremost frying pan had failed to make the grade.

"The demonstration reached a point where the traveling peddler gathered the housewives when he came to a village in one of the village's kitchens, and when they were all assembled he placed the pan on the stove to fry meat. After a while, when the pan was hot, it began to dance around the stove, making small hops, and after a few minutes it would explode with a bang so

that little bits of meat would fly up to the ceiling and dripping would splash all over the startled women, who quickly made their way to the door."

One can hardly be surprised that the wholesaler was as startled as the housewives and wanted to cancel the contract, which he also did.

The reason for the failure was the following: The pan had a double bottom, with an insulating mass between the layers. The test pan bottoms were put together by hand with a hammer, the result being that the layers were not as tight as when the pans would be made in the factory where the two bottom would be sealed together by a powerful machine press.

### Steam pan without safety vent

Moreover, with the pressing the intermediary mass was humid, and that's why when the pan was heated up on the stove it became a steam pan without a safety vent. The fault was readily corrected by drilling a small hole in the joining to let out the steam. And so ended the saga of the galloping frying pan. One can naturally ask why the pan was not tested in the test rooms before delivery. But we can easily forgive the workshop and the test room that this was not the case, especially since LM was not in the business of making frying pans and, moreover, meat was very scarce at the time.

The wholesaler, however, was so shaken by the experience of the galloping frying pan that, after we explained the cause of the problem and that it was now repaired, he ordered only 500 at a time and the up to 1,000 until it was all gone. Afterwards he was very disappointed that LM did not undertake further deliveries of the world's most advanced frying pan. But by then the factory had gotten going again with its own manufacture of the world's leading telephone.

Have you heard this one before?

**H**The story of the galloping frying pan on this page is an old tale that has figured in different contexts through the years. That does not make it any less amusing or unusual. Moreover, it is an expression of the special culture that exists within such a large company as Ericsson.

We who put out Kontakten, Contact and the business area papers have spoken a lot about this culture and about trying to make our papers a little more lighthearted. With a good dose of humor and with a certain distance into the subjects we treat in our pages, I feel many times it can be easier to get the message across. We certainly live in unusually burdening times, but that is

**STOP PRESS**  
BY LARS-GÖRAN HEDIN



precisely why it is all the more important to grasp every opportunity to laugh a little, smile a bit, reflecting what you read in your papers.

I know there are lot of good stories about "everyday Ericsson." Stories that not so seldom have a good portion of "the moral is..." in them or that have important lessons to draw upon. We would like to have these stories and we would like to spread the stories to a wider circle of Ericsson employees.

That's why I ask you who are reading this to come forth with your store of good Ericsson stories. Call or write – via memo, why not – to us in editorial for Kontakten, Contact or for your business area paper. You can recount the entire story yourself or tell it to one of our reporters, thus helping you with the final written version. Seize the chance now to spread a little joy and help to make the papers lighter to read.

C.W. Ros, group vice president, in conjunction with an interview in the summer, said something that left a lasting impression on me. "I think Ericsson will become the world's most fun company to work for," he said. After a year at Ericsson, I have to concur with him, above all for two reasons:

First of all, Ericsson is a very successful company that works in one of the most exciting and significant fields. That makes it fun and stimulating to work here.

On top of this, comes the feeling that at the very highest levels in the company there is truly concern that employees should be happy in their work and more and more is being invested in the company's greatest asset – its employees. There is a lot of talk now about human resources. If this is taken for all it conveys, then C.W. Ros' prophecy bears more than just a grain of truth.

A more amusing and lighter company paper can be our contribution to the fun at Ericsson. You can help too – tell us a good story, and get yourself a small gift in appreciation for your help. Address and telephone numbers are on Page 2. Keep smiling!