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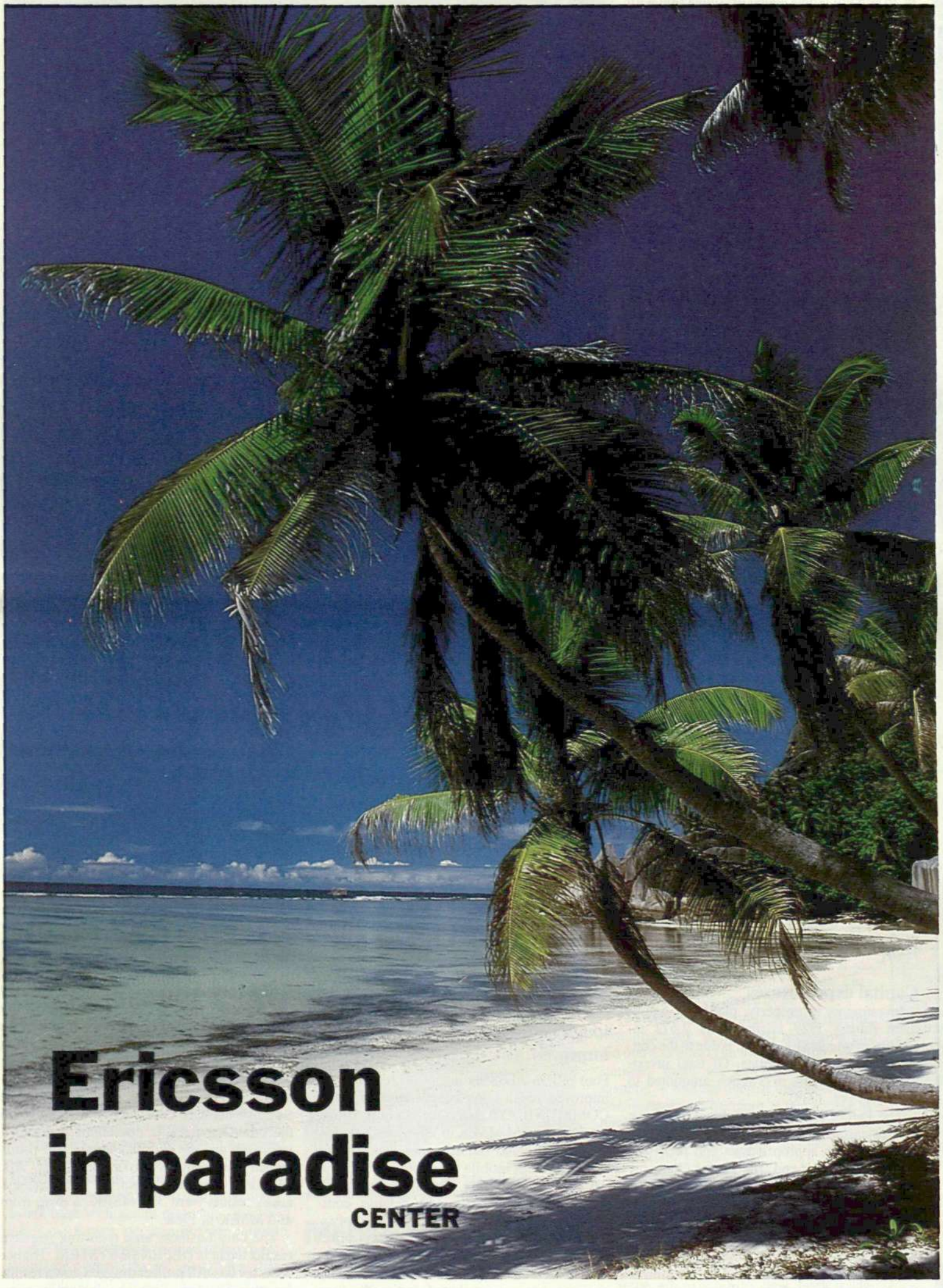
Contact MANAGEMENT

No 3 PUBLICATION FOR ERICSSON MANAGERS WORLDWIDE 1990



Ericsson in paradise

CENTER

Dangerous liaisons

A new strategy for industrial espionage has developed in recent years. Informers penetrate among company employees — very carefully and after long psychological preparation. Joakim von Braun, international expert on industrial espionage, describes the methods. **Page 3**

Hungary — bridge to the East

Once again, Budapest has become the West's bridge to a revolutionary East Europe. Last year, Ericsson installed its first AXE station behind the then existing Iron Curtain. This year, East Europe's first mobile telephony system will be set up here. **Page 8**

Our eyes on technician's EC

Göran Belfrage is Sweden's technical attaché to the EC in Brussels. He monitors the swift developments going on in Europe right now. **Page 12**

THE RECORD RESULTS • PAGE 2

The nineties await us, with new challenges. Ericsson's starting position before the new decade is good. We have a good market position in the world and our financial resources are strong — two important factors that provide a good base for the future.

A third strength factor for Ericsson is the unique depth of knowhow asembled within the company. In mobile telephony, for example, we are the only company in the world that can offer the market all the standard accessories. We can really be proud of our high level of system competence.

For the sake of maintaining this, we must not let up. A company like ours needs to continually strengthen its competence. We who are working with state-of-the-art technology must invest even more in our own training and recruiting of highly competent technicians. Ericsson needs doctors in technology but also — to a similarly high level — qualified personnel in the lower training areas.

Sweden has historically been able to maintain a high living standard through a high standard of education. The nation's successful achievements during this century can in large part be attributed to a high level of knowledge among Swedish workers and officials.

Today, when one considers the public sector's size and resources in Sweden, it is extremely important that the educational channels be drawn up in a constructive manner. Instead of cutbacks, we must prioritize education and have more productive climate in Sweden schools. This calls for far-reaching investments and innovations all the way from primary school to university.

This is imperative if we are not to lag behind now when many of our competitor nations are investing heavily in education.

A continued high level of knowledge in Ericsson is a prime requirement for us to achieve one of the most important goals just now to be more professional. On that score, there is action today. For example, we must work even more with supply and quality, in future. Both are crucial if the world will see Ericsson as the world's most professional international telecommunications company.

Björn Svedberg

Report on 1989 operations

Consolidated sales in 1989 amounted to SEK 39,549 m. (SEK 31,297 m. 1988), an increase of 26 percent. Units added in connection with an agreement with the General Electric Company (GE) in the United States are consolidated as of July 1, 1989. Consolidated sales of comparable units rose 25 percent. Movements in foreign exchange rates affected reported sales only to an insignificant degree. Sales to customers outside Sweden accounted for 84 percent (81) of total sales.

Order bookings up 18%

Order bookings increased 18 percent to SEK 42,045 m. (35,633). The increase for comparable units was 13 percent. The order backlog at year-end was SEK 29,426 m. (SEK 26,876 m).

Consolidated income before appropriations and taxes more than doubled, amounting to SEK 3,715 m. (1,840). Of this, net capital gains in connection with the divestment of shares and fixed assets accounted for SEK 3 m., as against a net capital loss of SEK 5 m. in 1988.

The return on capital employed, 23,8 percent (16.0), rose sharply for the fourth year in a row. This was due to improvements in both profit margins and the rate of capital turnover.

The return on shareholder's equity, after tax, 17.3 percent (11.5) also improved sharply, despite an increase in shareholders' equity resulting from conversions. Ericsson's tax costs relative to income before appropriations and taxes declined to 37 (44) percent.

Income per share after tax and after full conversion increased to SEK 55.35 (24.07), due in part to the improvement in income and, in part, to the relative decrease in taxes paid.

Operations

Operating income after depreciation was SEK 4,557 m. (2,678). Ericsson's share in earnings of associated companies rose sharply, to SEK 398 m. (241).

Financing

Cash flow amounted to SEK 229 m. (1,728) and was positive for the fourth year in a row, resulting in a further decrease in net interest expense. The rate of capital turnover increased to 1.05 (0.90). This was due primarily to a relative decrease in accounts receivable, to 32 (34) percent, and inventories, to 24 (26) percent, as percentages of net sales.

The strengthening of Ericsson's equity ratio that has occurred in recent years continued during 1989. At year-end, the ratio was 37.8 (33.7).

Capital expenditures

Investments in property, plant and equipment during 1989 totaled SEK 2,672 m. (1,739), of which SEK 287 m. is due to the consolidation of GE activities. Of total investments, investments in Sweden amounted to SEK 1,043 m. (739).

The Parent Company, Telefonaktiebolaget L M Ericsson, reported net profits of SEK 878 m. (578) after appropriations and provision for taxes. At year-end, the Parent Company had unappropriated earnings of SEK 1,696 m. (1,223). The Board of Directors and the President propose a dividend of SEK 14.00 (10.50) per share, amounting to a total of SEK 574 m. (405). May 11, 1990, is proposed as the record date. It is also proposed, after distribution of the dividend, that a share split be carried out, with shareholders receiving five new shares for each one old share held.

The Annual General Meeting will be held in Stockholm om May 8, 1990.

Radio Communications was the business area that increased its earnings most, percentage-wise.

Telecom sets the pace for group profits

Ericsson's results after writeoffs amounted to 4,557 MSEK, almost two billion higher than in 1988. A heavy increase was noted, among others, for the group's share of results in joint companies — 398 MSEK against 241 MSEK 1988.

The main profit generator was the Public Telecommunications business area. Successes for the AXE System continue and despite tough competitive pricing, margins improved.

Four of Ericsson's six business areas showed improved results. Percentage-wise, RADIO COMMUNICATIONS came out best, lifting profits from 264 MSEK in 1988 to 692 MSEK last year. Behind the advances, were major successes with mobile telephony, not least in the American market. On the other hand, gains in mobile radio and defense communications were somewhat unsatisfactory.

BX, in Ericsson jargon, was the big profit generator. The result was 3,539 MSEK, but in that context it should be noted that other business areas contributed indirectly to a large part of BX sales. This has been particularly the case this year in West Europe, which strengthened the world-leading position of the AXE system. The BUSINESS COMMUNICATIONS business area also posted improved earnings.

It is not least the MD110 business switch that posted the largest sales overseas, particularly in Western Europe and Mexico. The results were 252 MSEK, a gain of almost 100 MSEK.

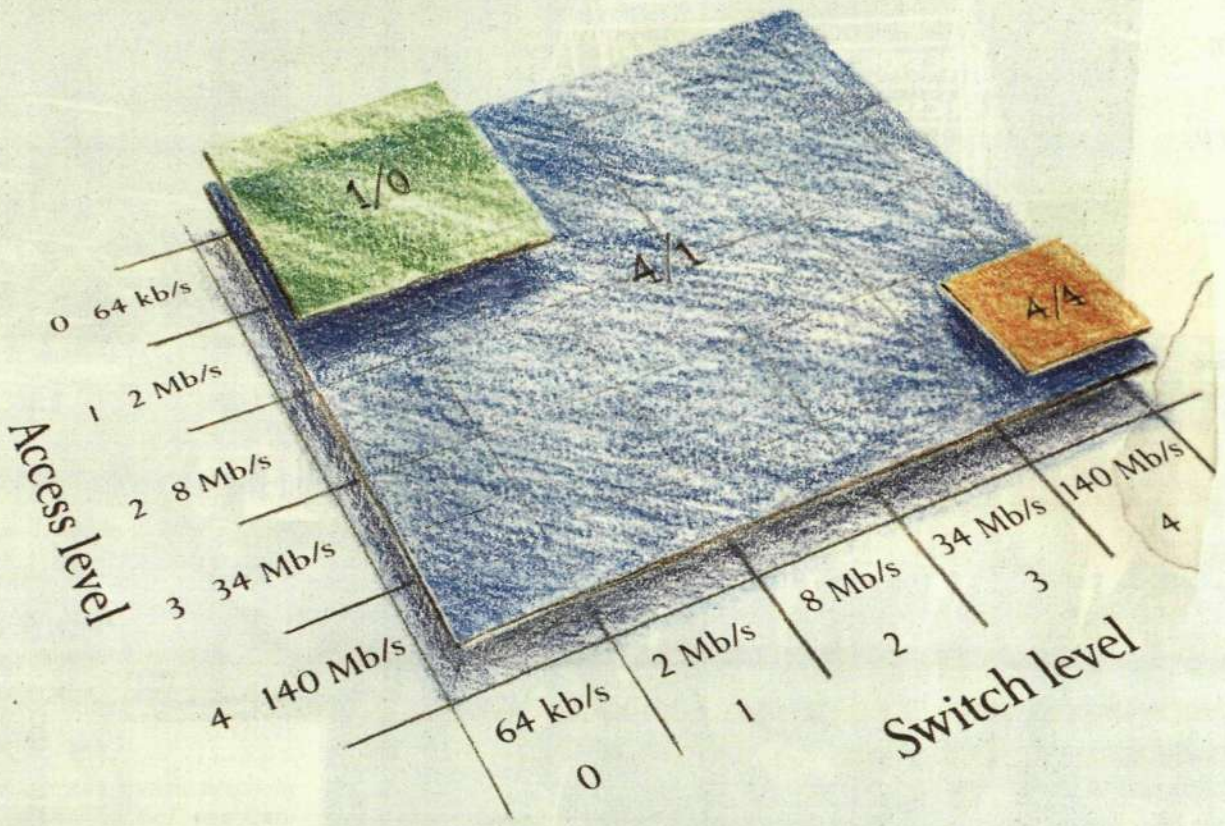
Positive development

The COMPONENTS business area also indicated a positive development. Besides a remarkable share in the results of other units, the business area of its own raised its results from 113 MSEK in 1988 to 142 MSEK. Behind the negative showing of the CABLE AND NETWORK business area is the high degree of dismantling on certain operations along with the restructuring of previous Network Constructions and Cable business area. Unsatisfactory results were also noted for the Swedish network construction company. On the other hand, cable operations in Sweden improved and the earnings for the two-thirds owned company Svenska Elgrossist AB, SELGA, were very positive. The business area's results were 350 MSEK, a drop from 490 MSEK in 1988.

The only business area reporting negative results today is DEFENSE SYSTEM. Higher costs for the JAS project dragged down results for the Swedish defense electronic companies, which, nevertheless, could improve its results somewhat. However, the business area's Italian operations reported weaker earnings.

Digital cross connects

Getting the most out of the network



Digital cross connects (DCCs) will feature prominently in the public networks of the '90s, allowing network operators to respond more flexibly to changing subscribers needs, and manage digital transmission networks for better quality and greater profitability.

The real strength of a public network operator — its principal assets — is of course the network infrastructure. With transmission routes covering the country, coast to coast, it has the potential to serve as the bearer for all sorts of subscriber services.

In a competitive environment, there is always the possibility that the network operator could lose costumers to alternative service suppliers. This is why the established network operators are looking seriously for new ways of making optimal use of their existing network capacity, to ensure that subscribers get the speed and the quality of service that they need.

Digital cross connects

The networks of the '90s will be characterised by high bandwidth transmission systems, and distributed intelligence, with remote operations of the distributed network elements.

Whereas public networks have historically developed with a division between switching and transmission, this will be increasingly replaced by networks with a division between the basic transport capability of the network.

One of the factors that will let the network operator exploit fully the potential of the transport network is the digital cross connect.

In the Ericsson's view, DCCs will play an important role in the networks of the '90s. In the near future, there are four major benefits that will accrue:

— they will permit changes to be made in the logical network, automatically and from a central point, without the need for changes to the physical network;
— they will permit the more efficient sharing of network resources;
— they will enable digital leased lines to be set up without manual intervention;
— they will facilitate automatic protection switching, using the network's redundancy to reroute traffic around damaged network sectors.

Excerpted from Connexion 17

What is a DCC?

DIGITAL CROSS CONNECT is essentially a switch for transmission channels, designed for holding times of hours, days or weeks. The key to its flexibility is the fact that it directly and automatically switches a transmission channel as it is, whatever the bandwidth.

It is a fully non-blocking system which allows simplex, duplex and broadcast connections. It terminates asynchronous 2 Mb/s, 34 Mb/s and 140 Mb/s signals, as well as the recently defined Synchronous Digital Hierarchy (SDH).

The dual capability of the Ericsson DCC means, for example, that systems for SDH can gradually be introduced into a network without the need to administer and operate a separate synchronous network.

The Ericsson DCC has also been designed to work simultaneously with the North American digital hierarchy and CEPT standards.

Ericsson Worldwide

Ericsson teaches KTH to fly

A synthetic picture of the surroundings, that is a computer-designed landscape, was presented to the operator in the flight simulator which the flight techniques research team placed at the Royal Technical Institute, KTH, in Stockholm.

The graphic system, which highlights the "global picture," was recently delivered by Ericsson Radar Electronics, ERE, in Mölndal.

ERE's graphic system TPIG, with the help of three separate presentation channels highlights a picture surface that covers 120 by 40 degrees of the field of vision. The picture shows a landscape in perspective — the topography is acquired through a data base with actual map data. Rivers, lakes and forests are seen in their natural state. The system is connected to the flight simulator's other systems in such way that the simulator's steering equipment influences the definition of the picture.

This way, the operator gets a completely realistic impression of the simulated flight.

ERE will conclude the delivery system presentation during the summer. At that time also the landscape presentation will be complemented with "fixed objects," — churches, houses, chimneys, radio antennas and electricity pylons etc. **(Sensorn)**

During the processor switchover, stations with different mobile phones are tested.

Mobile stations are upgraded

A few years ago, Ericsson was charged with doing something about the crowding that the wiring of new mobile phone subscribers was causing. At the end of March, the mission was accomplished, with the last Nordic MTX station being equipped with a new and more powerful processor.

It is no simple operation to change a processor. The method has been developed by Ericsson's Finnish subsidiary LMF. It involves making the switch without customers even being aware of it.

The switch is made in such a way that the new processor is mounted alongside the old one and is test run for some time. In the stations, there are always two parallel systems — one for normal operations and one in reserve. Therefore, it is possible to hook up half of the new units as reserve for half of the old and to move over the phone traffic to the "new" half.

For a few nerve shattering minutes, before the new unit is fully operational, there is a disruption in traffic, but then all is rolling again. The switch can then be completed with the other half of the new processor unit also being hooked up.

Some 40 switchovers have been made without any major problems and a few are still left for the last stations. These are in the north in Hamar and were to be completed by March 31.

New editor for Contact

With this issue, Contact has acquired a new editor. He is Lars-Göran Hedin, who has taken up the position of Corporate Editor. He hails from Västergötland but he grew up in Närke. He will be 40 this year and comes to Ericsson from his last post with Dagens Lantbruk, an agricultural publication, where he was editor in chief and publisher. As corporate editor, Lars-Göran will be responsible for Kontakten, the Swedish publication, as well as the English-language Contact. In addition, he will be coordinating the papers of the various business areas: ERA Nyheter, Kompokraft, Ledaren, Sensorn, Switchen and Vår Business, all of which are published in Swedish.

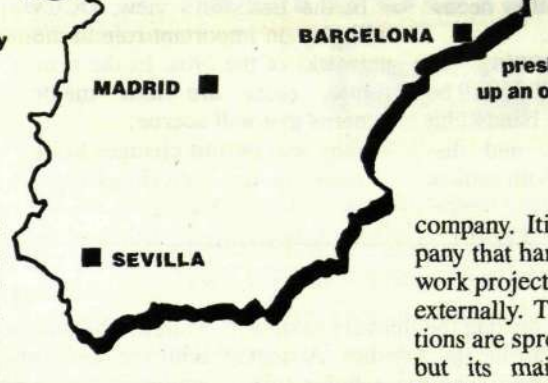
"An important objective right now is to achieve a more rational and rapid method of production so that we can trim back the press time," Lars-Göran says. "I also plan to raise the editorial standards so that the papers are more exciting and more readable.

Spanish group set up within BN

New exciting market is opened

Business area Cable and Network's plans for Spain have now taken concrete shape with the formation of the Redinco group, which consists of three companies. The group began its operations at the beginning of last October.

The picture was taken at the technology fair Tecnova in Madrid in conjunction with the start of the BN group's activities in the holding company Ericsson S.A. The Redinco group leaders gather before the stand. From left, Jorge Garriga Torres, Antonio Martin Crespo, Ramón Chorda Font, Gerhard Skladal, Sven-Anders Johansson, Mats H. Olsson and Åke Pettersson. Regrettably, Juan Emanuel Gomez Lara, president of Itisa, was absent. He was visiting a customer to write up an order! In other words, a flying start for our Spanish operations.



Redinco is the central company in the group with head offices in Madrid. It answers for general matters, such as marketing, financial control, quality and coordination with other Ericsson operations. The other two companies in the Redinco group are Fibroco and Itisa.

"It has been a time of exciting and very productive negotiations," says Sven-Anders Johansson, responsible for strategic planning in BN's business area leadership. He has been in on the negotiations from the start and is very pleased that the esablishment of the Spanish company group has finally come about.

From Colombia

Head of the BN group and president of Redinco is Gerhard Skladal. He previously headed the cable company Facomec in Colombia, which he left in 1990. His deputy in Redinco is José Luis Cordoba Alba, who has been active in our Spanish branch for several years now.

The cable company Fribroco, which is located in Barcelona, will be responsible for the manufacture in the first place of special cable for the power industry as well as fiber optic cable for the general market and for overseeing our own turnkey projects. Fibroco will also be selling network material, both our own construction and from other business areas. The president is Jorge Garriga Torres who was head of Fibroco before Ericsson took it over.

The third company, Itisa, is a smaller installation company in Madrid. It has a young and energetic leadership and is considered to have strong growth potential. Its president is Juan Manuel Gomez Lara, who was already head of the company. Itisa is a service company that handles all types of network projects, both internally and externally. The company's operations are spread throughout Spain but its main activities are in Madrid and Sevilla.

Relationships

Ericsson has newly established a holding company in Spain, Ericsson S.A. in Madrid (EHE). The chairman is José Massa Saavedra. EHE's president is Ramón Chorda Font, and responsible for business development is Antonio Martin Crespo.

Besides the BN companies, the Ericsson group also includes Intelsa (BX), Satessa (BD) and Temsa (BR). The collective companies are wholly owned by Ericsson except Fibroco, which is 53 percent owned.

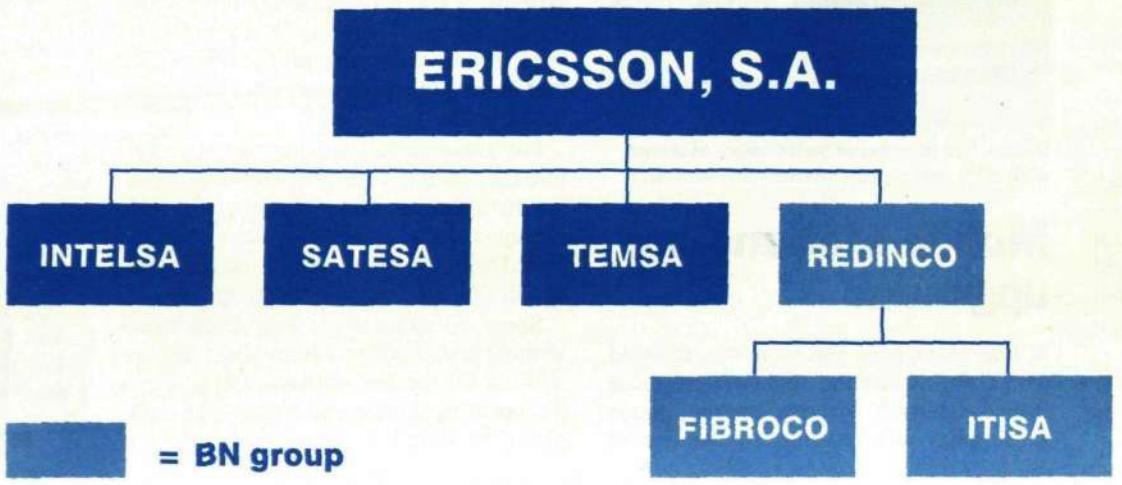
The Ericsson group has a total turnover of close to 56 billion pesetas (3 billion kronor). The number of employees is 3,500.

Market prospects

The market for network construction is expected to reach about 10 billion kronor a year during the nineties. Growth in telephone lines is estimated at 1.5 million subscribers a year. Spain is the fastest growing EC market in this area. Moreover, the upcoming world's fair in Seville and the 1992 Olympics in Barcelona are added attractions. Madrid's designation as Europe's culture capital that year also contributes to developments in a positive way.

Thord Andersson

Grupo Ericsson en España



Breakthrough for mobile telephony in East Europe

On March 1, Ericsson received an order for a mobile telephone system worth 10 million kronor. That's a small order in the Ericsson context. But it is one with very large significance. It represents a historic breakthrough for mobile telephony in Eastern Europe.

And now the iron curtain folds up for Ericsson

"Even if the system is small, it is an interesting breakthrough since it is the first order for mobile telephony in all of East Europe," says Carl-Henrik Ström, head of Corporate Marketing for Europe and North America.

Moreover, discussions have already begun on expanding the system.

Right now, mobile telephony is extremely important for Eastern Europe. The general telephone situation is inadequate and the waiting time for subscribers is often very long. For example, in Hungary half a million people are in line for telephone subscribtions.

Others waiting

"Ericsson has received inquiries from several other countries in East Europe. In some ways, they look upon mobile telephony the same we do in the Nordic countries and in other ways as a means of rapidly providing phones for those who need them. But in many cases there are no networks or, if there are, they are overloaded," Ström explains. "This, then, is a quick way to automate, even if in some cases it costs more than regular automation."

The historic Hungarian system was first set up in Budapest, with capacity for 1,000 subscribers. However, it is planned to be nationwide within some years.

The system, which is of the NMT 450 type, will come into operation in December this year.

Hungary — a pioneer

The project will be financed by the World Bank. The client is the Hungarian telecommunications administration (PTT), which has set up a joint company with US West (one of the Bell companies in the States) to operate the system. The order involves an AXE mobile telephone switch, radio base stations and 200 mobile phones.

The order also includes Ericsson's second AXE switch for Hungary. About a year ago, Hungary was the first country in East Europe to receive an AXE switch from Ericsson. It serves for international traffic and is placed in Budapest.

A big market

Even if there is a lot of talk just now about mobile telephony in East Europe, the Ericsson order from Hungary is actually the first to come from behind the folding Iron Curtain.

"This could represent a huge market that is opening up now," says Ström, "especially since this kind of equipment can be supplied without any infringements on American re-export controls."

Text: Bengt Plomgren

East Europe's first mobile telephone system will come into operation in December this year. The supplier: Ericsson. The purchaser is the Hungarian telecommunications administration, which has set up a joint company with US West for operating the system. Photo: Bengt Plomgren

Photo: Gösta Rising

Nowhere are the barriers between East and West toppling as fast as in Hungary. Coca-Cola is solidly anchored in Budapest and the city is now going to be the first in East Europe with a mobile telephone system.

Nine ways to happier personnel

- ☐ Encourage job rotation
- ☐ Set up meaningful introductory programs for new and contracted employees.
- ☐ Increased dialogue on all levels on the goal and direction of operations.
- ☐ Expanded training and increased support for middle managers.
- ☐ Improved ways for personal development.
- ☐ Encourage initiative-taking.
- ☐ Improve information flow globally.
- ☐ Discover the need for sex equality in job assignments.
- ☐ Develop and encourage rewards beyond the wage system.

Thus will Ericsson be a better employer

To retain and develop human resources is a primary goal within Ericsson. Just now, a series of seminars are being held where opinions and values on Ericsson's role as an employer are being discussed.

One of these seminars was recently held in Copenhagen, with participants from Sweden, Denmark, Spain and Australia.

The seminar, which was led by Ericsson's Vice President Carl Wilhelm Roos, was divided into two parts. The first phase centered on participants formulating three main factors that could distinguish Ericsson as an employer.

"Our first factor was 'professionalism,' the second 'long-term objectives," says Les Williamson, from EPA in Australia. As the third factor, we settled on 'leadership mobility,' that is that it must be possible for managers to move to other positions within the organization.

When C.W. Roos reviewed the group's choice of main factors, he indicated the ones that the corporate leadership wanted to emphasize. He could go along with "professionalism," but, above all, he stressed "endurance," — showing customers our strength and commitment.

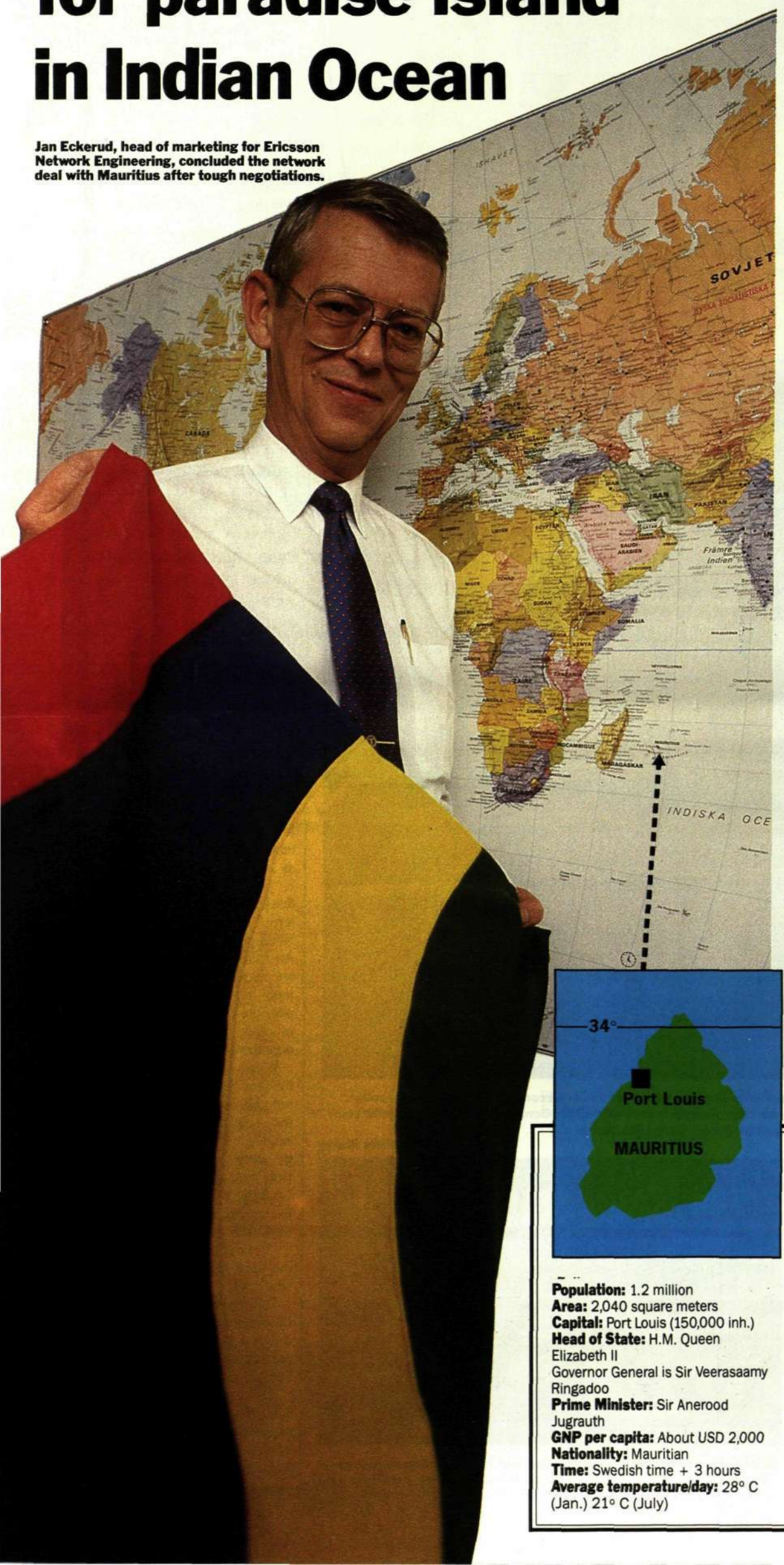
"Putting people up front," is the third factor, in the leadership's view.

During the other periods of the seminar, a frank and open discussion was held on how participants saw Ericsson as a company and as an employer.

The result of that session was nine points (listed above) on suggestions as to how Ericsson could be an even better employer.

100.000 new telephones for Mauritius

Large telenetwork for paradise island in Indian Ocean



Jan Eckerud, head of marketing for Ericsson Network Engineering, concluded the network deal with Mauritius after tough negotiations.

FOTO: THE IMAGE BANK

Ericsson has received an order for expansion of a telenetwork in Mauritius worth 170 million kronor. The island of Mauritius, with monarchy status within the British Commonwealth, is located in the Indian Ocean, about 800 kilometers east of the African continent.

"We are very pleased with this contract that we have won in competition with several of the world's leading telecommunications companies," says Jan Eckerud, head of marketing at Ericsson Network Engineering AB (ENE) in Kungens Kurva, Sweden. In our agreement, we have overall responsibility for the project's completion, he said.

The Mauritius project is a breakthrough in a French market and an excellent support for our engagement in the Middle East.

Southeast Asia resources

The order involves project leading and expansion of the local telenetwork in 17 towns in the country. In order to execute the project, Ericsson will be drawing on personnel resources from its network construction company in Sweden and Southeast Asia as well as local skilled manpower. Finnish Nokia will be supplying cable for the project.

Nordic financing

"Financing of the project is being made available through a joint venture Nordic solution," says Göran Andersson, a finance expert with Ericson Network Engineering AB. The institutions involved in the financing are SFK/PK-Banken (Swedish Export Credit), FEK (Finnish Export Credit) and NIB (the Nordic Investment Bank).

Interest subsidies are handled by BITS, an organization for international economic and technical cooperation, and FINNIDA, the Finnish counterpart to BITS.

Talks since '88

"We began our first talks with the Mauritian authorities in June 1988," recalls Eckerud. "We met the then chairman, Seesaram, of OTS, the telecommunications administration for international tele traffic in Mauritius, when he was on a visit to Swetel in Stockholm. Swetel, owned by Televerket, the Swedish telecommunications administration, serves as a consultant to OTS.

Gert Hedén has been one of the main negotiations on the Mauritius project. He is head of planning and costing for exports at Ericsson Network Engineering.

The first commercial negotiations got under way in late autumn 1988, says Gert Hedén, who was one of the main negotiators in the Mauritius project and who is head of planning and costing at ENS. Because of the very complicated financing of the project it has taken a long time to conclude the deal. But since the bulk of the cable is coming from Nokia and financing from BITS, FINNIDA and NIB, it has become a joint Nordic project.

Cabel from Nokia

Among other reasons, we are taking cable from Nokia because MTS (the administration for local tele traffic in Mauritius) works with French cable specifications that are

Mauritius in brief:

Population: 1.2 million
Area: 2,040 square meters
Capital: Port Louis (150,000 inh.)
Head of State: H.M. Queen Elizabeth II
Governor General is Sir Veerasaamy Ringadoo
Prime Minister: Sir Anerood Jugrauth
GNP per capita: About USD 2,000
Nationality: Mauritian
Time: Swedish time + 3 hours
Average temperature/day: 28° C (Jan.) 21° C (July)

Mauritius is a remarkable and for many an unknown country. The little monarchy isle is a little larger than Öland and lies far out in the Indian Ocean about 800 kilometers east of the African mainland. In addition, a smaller island, Rodrigues, also belongs to the state of Mauritius. It lies about 600 kilometers east of the main island. Both these islands, together with the French Reunion, form the Mascarene group.

Mauritius has a warm and humid climate. The height of the rainy season is between November and April. During this period, there are also hurricanes, above all between December and March. The island's origin is volcanic and the coast is ringed by coral reefs. The undulating hills around the island rise to form a central high plateau. There are also fantastic beaches decked with beautiful palms.

Diverse population

When Portuguese seafarers came to Mauritius in 1510, the island was uninhabited. Today, there are about 1 million inhabitants with a very diverse background. Sixty-eight percent of the population are descendants of indentured Indian

not met by Ericsson Cables AB (ECA) manufacture, says Hedén. However, a smaller part of another cable, mainly subscriber leads, that is included in the project will come from Ericsson Cables.

100,000 lines in Phase 1

Today, there are about 50,000 telephone lines in Mauritius. Over a four-year period, the tele network will be expanded with 200,000 lines. The first phase is already in progress and it covers 100,000 of these. Expansion of the first phase has been divided up between Ericsson Network Engineering and the Alcatel company Les Cables de Lyon.

"We can say that we have brought home this order from one of Alcatel's 'home markets," says Eckerud. "If the project goes well there are good possibilities for continuing.

Project fox

Manager and project leader is "project fox" Börje Larsson, who recently came from the Philippines. During the past 11 years, he has been in Sweden only about three months. At his side, he has his wife, Margareta, who will be working within the framework of the project. Göran Falkner has been delegated as Project Control Manager.

Börje Larsson is an experienced project leader with 11 years overseas experience behind him.

"When the project is in full swing about 300 persons will be working simultaneously," says Larsson. "We have 18 months to complete the project. It is going to be a tough time but I think we will make it."

Thord Andersson

'Project fox' Börje Larsson

From Julardo to the world

Börje Larsson has always been curious about what's around the corner. After 10 years of network project operations at Ericsson, he has seen more than most — the Philippines, Saudi Arabia, Oman, Nigeria, Indonesia and, in the spring, Mauritius.

But soon that will be enough.

"Yes, I am beginning to have my fill," he admits. "Not of the job as such, but I long to settle down in one place."

He is provisionally housed in a large room out in Kungens Kurva. Visits to Sweden have been so rare that the switchboard wonders if Larsson will really be here.

"Hmm," he says, with a smile, counting on his fingers. "Let's see now. I think I have been home in Sweden between two and three months over all these years."

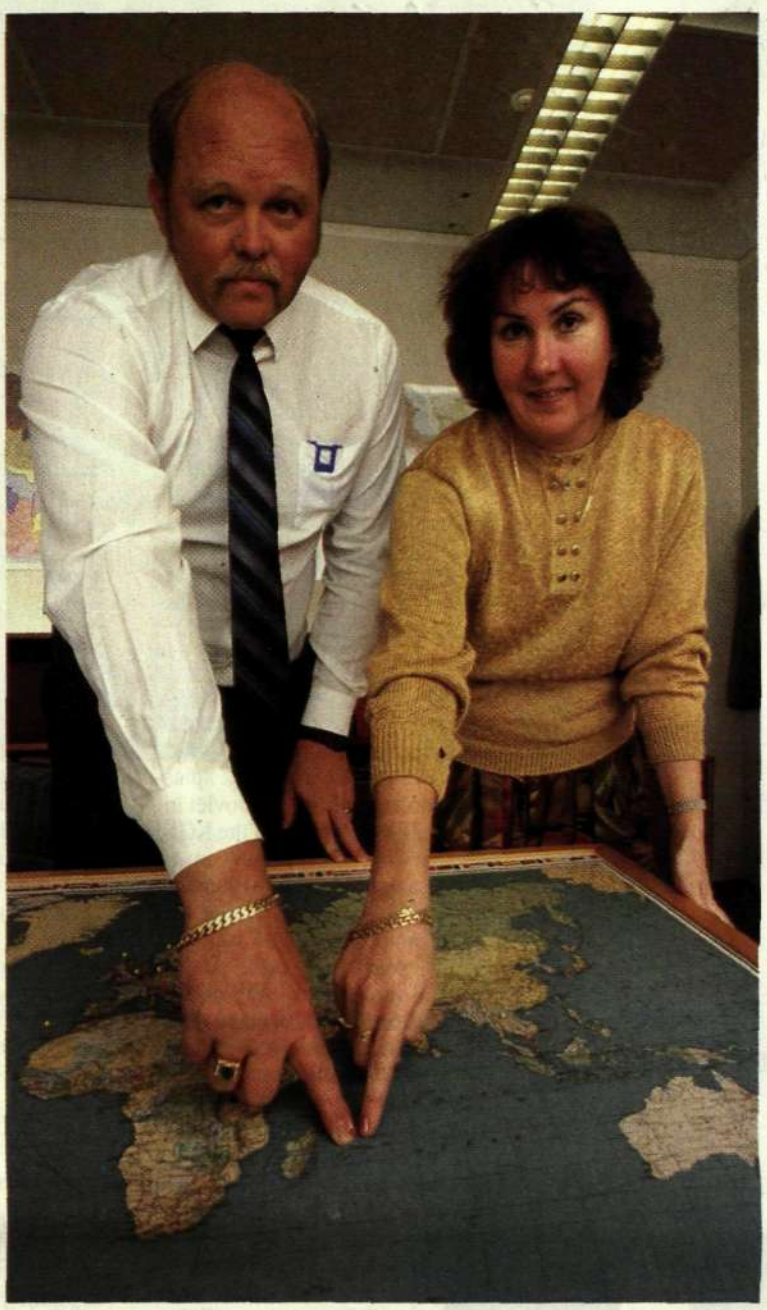
He has enjoyed them all, he points out, but sometimes they were also rough.

"Forty-five years... I am beginning to get old," he says, not at all dissatisfied.

His career has been meteoric. From 1979, he worked for Ericsson, first on loan from Televerket. From 1984, he was directly employed. The first mission was really something royal to be involved in, one of the largest communications projects ever. Larsson worked as installation director when Saudi Arabia expanded its local cable network. The order was in the area of 13 billion kronor.

Since then, he has been on the move. He has been involved in projects in every corner of the globe, and now he is at his best preparing for a new one. The next stop is Mauritius, off the coast of Madagascar, a little paradise island in the middle of the Indian Ocean. There he will be in charge of a new large telecommunications network project.

As usual, he has read up on Mauritius and soon a radio talk emerges, which begins somehow with the Arabian fresh water carrier in the Middle Ages and then ends with a rapid overview of the day's political situation.



Börje Larsson together with his wife, Margareta, points longingly to the map where they will be spending the next 18 months.

But what exactly is it that drives him to work almost unceasingly so far from home, to constantly pack up and start again?

"Yes, it is stimulating, uplifting and, naturally, a challenge each time," he explains.

"You have a major responsibility, you have to make fast decisions and there is no heavy administration to apply the brakes," he says.

"Once the project gets going, it is action 150 percent. I like that. Either full speed ahead or I stay on my back and do nothing. That's how my personality functions. And I always want to succeed."

However, the ten years abroad would hardly have gone so well if his family hadn't packed up and gone along. For Margareta Larsson, there was never any doubt about what she should do.

"No, it was understood that we would follow Börje," she says. "And that decision I have never regretted. In fact, it has only been positive, also for our two daughters. They have become more independent, I believe. At least, they say so themselves," she notes, smiling.

But it is her daughters Ann and Karin who are one of the reasons that both Börje and Margareta feel homesick more and more.

"They are big now and are working in Sweden. It's sad to see them so seldom," both of them say.

"I also feel a little worn out," says Börje and he points out that his thoughts often run to rustic Dalarna where he sees himself standing and soaking up the nature.

It is in Sweden that the Larsson family wants to settle down for good, even if Börje after ten years abroad has developed a critical eye for his homeland. Just to take the mass media as an example, Börje thinks that their touted nonpartisanship is a myth.

"Pure nonsense," he says. "I think that most of them are slanted, compared, for example, with the BBC."

He is also concerned with the development of society in Sweden.

"It is like we have lost contact with reality. We appear not to understand the real consequences of what we are doing. And that goes not only for politicians."

He ponders a moment.

"I don't know," he says. "But at times it seems we have lost the will to take initiative here in the country. Many feel like they have given up instead of being curious. When I was young I was a radical and wanted to change the world. Now there is far too much conformity."

No, Börje does not want to be a disgruntled overseas Swede that has returned. Despite everything, he loves Sweden. On the other hand, he is grateful for the fact that the ten years he has spent abroad have given him and his family a little new perspective. He says that Mauritius feels like the last project.

"It is said that if one stays home too long there comes a desire to go back overseas again. But I feel that we are going to stay in Sweden after Mauritius," he says, in that same singing tone that he once learned back home in Julardo.

Anna Hultgren

laborers. They are called Indo-Mauritian and speak Hindi and other Indian languages. The next largest group are creoles. They stem from French-owned slaves taken from East Africa and Madagascar and are mixed with Europeans, Chinese and other races. The French or French Mauritians make up only a small percent of the population but they wield considerable influence.

Most Mauritians are either bilingual or trilingual. English is the official language but French has a strong standing as the written language. The common dialect is a creole patois, a mixture of French and African.

The education system is based on the British pattern and is well established.

History

Mauritius got its name from the Dutch, after the Dutchman Maurits av Oranien. This came about when the Dutch in 1600 attempted to colonize the island. The Dutch brought rats with them to the island. They also devastated the island's ebony forest and wiped out the huge but tasty dodo bird which was so heavy that it could not fly. Today, they are found only on the country's insignia.

In 1715, the island was annexed by the French to rout the pirates who had their stronghold on the island. At the same time, the first permanent settlements were being established. Almost 100 years later, along with the Napoleonic War, the British took the island, in 1810. Thereafter, the island remained in British hands until its independence on March 12, 1968.

Statute

Mauritius is a parliamentary democracy and a monarchy within the Commonwealth (the Queen of England is represented by a governor general). In recent years, there has been talk of declaring a republic, but these plans have been shelved for the future. Parliament is elected every fifth year and it has 70 members.

Economy

Sugarcane is the most important crop in Mauritius. Half of the country's area or 90 percent of the arable land is taken up with sugarcane plantations. Sugar accounts for about 60 percent of export revenues. The largest share goes to Britain.

In the last few years, the industrial sector has grown fastest. Important areas of production are textiles and the clothing industry as well as manufacture of instruments, electronic components and plastic goods.

Communications and tourism

The island of Mauritius has a well-established road network of high standard. Ninety percent of the roads are asphalt paved. In the capital of Port Louis there is a good harbor. Air Mauritius flies to both Europe and Asia.

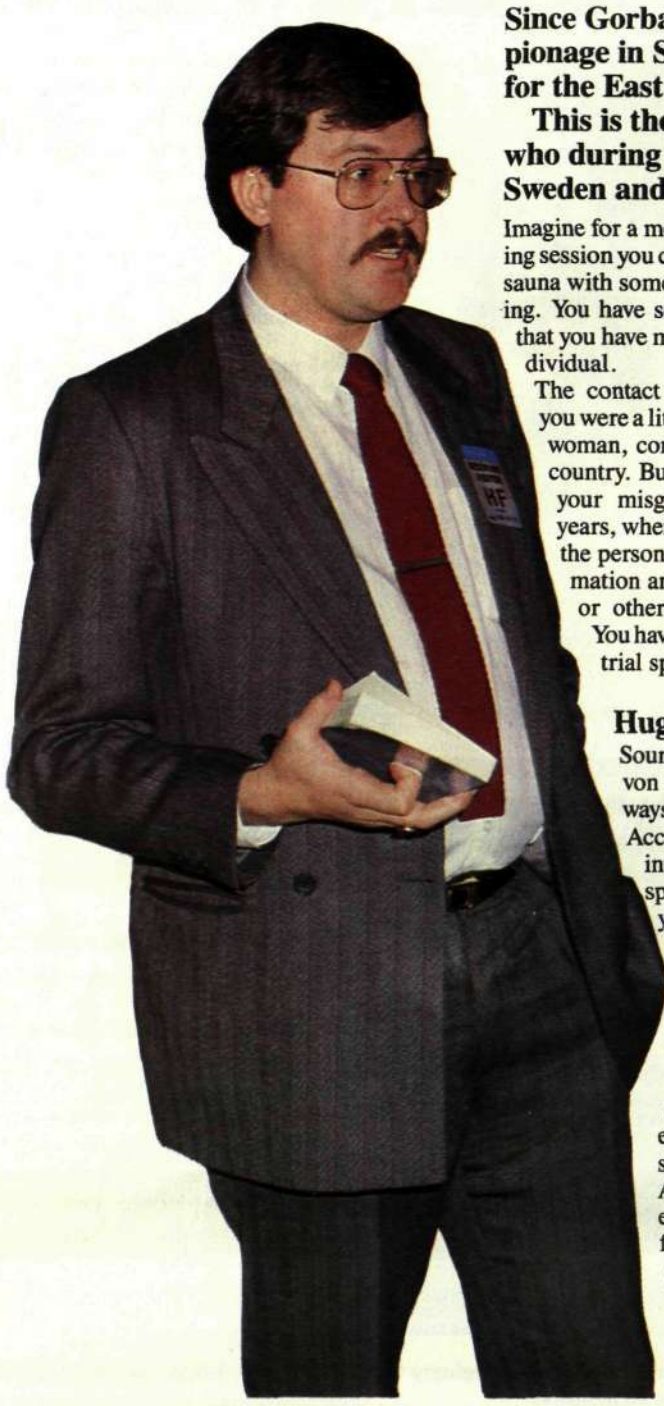
Recently, tourism has become a major source of revenue. More than 200,000 tourists visit the island every year, most of them coming from Reunion and South Africa. Many of them also come from France and other West European countries. There are also good charter arrangements from Stockholm. A regular roundtrip flight costs about 26,000 kronor.

□

Beware the spy recruiter!

Since Gorbachev came to power in the Soviet Union, industrial espionage in Sweden has increased. There is every reason to watch out for the East European recruiter.

This is the view of Joakim von Braun from Research & Inquiries, who during the last six years have been tracking Soviet espionage in Sweden and the other Nordic countries.



Joakim von Braun appeals to everyone to be aware of industrial espionage. At a seminar on ADB security at Ericsson Telecom, he pointed out that the Soviet Union was spending more and more on industrial espionage to get its own economy moving. Photo: BO BINETTE

Imagine for a moment that after a long jogging session you come into conversation in the sauna with someone who was also out jogging. You have some problems and you feel that you have met a friendly and helpful individual.

The contact continues. From the start you were a little mistrusting. The man, or woman, comes from an East European country. But as time goes on, you shed your misgivings. After a couple of years, when you really become friends, the person begins to ask you for information and offers you a lot of money or other things that are attractive. You have been recruited as an industrial spy.

Huge amount

Sounds fantastic? According to von Braun, this is one of many ways to recruit industrial spies. According to him, the Soviet intelligence service, the KGB, spends a huge amount every year on industrial espionage.

"Figures indicate that this amounts to $1.4 billion a year," he says. At the same time, it is said that from West Germany alone the KGB receives information, through industrial espionage, that is worth some $5 billion.

According to von Braun, the entire KGB operations are financed through industrial espionage.

The opinion imparted by von Braun at a theme day on ADB security at Ericsson Telecom was that there is every reason to be aware of industrial espionage which is more widespread and more sophisticated than many think.

Espionage experts warn: Since Gorbachev came to power industrial espionage has increased!

"To protect themselves against industrial espionage, the majority of companies use fences and pass cards. But the fact of the matter is that most industrial espionage is carried out within the company. It can be employees or consultants who more or less consciously leak information.

There can also be instances where, for example, with the Central Statistics Office or Central Bank, a company is obliged to release information.

According to von Braun, what particularly interest the Soviet Union is knowhow, components and finished products.

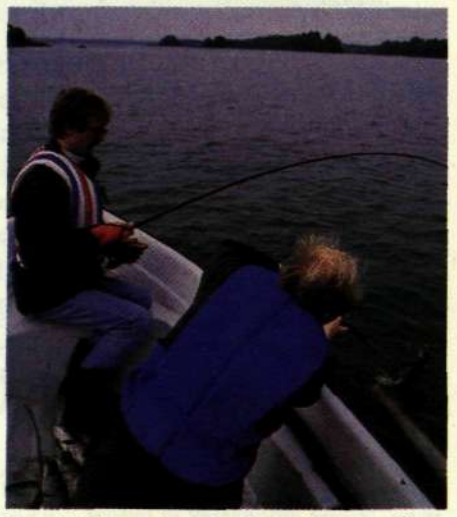
"The tendency today is also that industrial espionage from the East is increasing. All the Western world's intelligence services share this belief.

Free and open?

But why? Freedom in the East is increasing and borders are opening up more and more. This is the picture, among others, often presented by the mass media.

The problem for the Soviet Union is that the economy has totally petered out. With a budget deficit of 14 percent, inflation at 10-12 percent and a foreign debt on 34 billion roubles, the country has to get its economy running for perestroika to continue.

At the same time, the population has hidden 400 billion roubles under their mattress since there are no goods to buy.



Your fishing rod can lead you to a recruiter. He can wait years for the right moment to win over the prospective spy. Photo: ROLF NYSTRÖM

The solution is to get Western high technology and hard currency. This is hard to do since there are rigid export restrictions to the East. What is left then is to recruit informers.

In Sweden, the expulsion of Soviet intelligence agents has been higher since Gorbachev came to power and, according to von Braun, industrial espionage is sanctioned at top levels in the Soviet government.

Myths

There are many myths surrounding operations and industrial espionage. Von Braun would like to dispel them.

"One of the myths says that technical means, like satellites and signals, are used for espionage, but they can only provide schematic information. The fact is that information provides work for even more agents," von Braun says.

"It is also said that the superpowers are equally extensive when it comes to espionage, but that is not true either, The United States spies on the Soviet Union but not on other Western countries. It is only the Soviet Union that spies on the Western countries on a national level."

"Many believe that technical espionage is new, but it has been around ever since the Soviet state was established."

While the West in its information

Ericsson Worldwide

Satisfied customer

The materials division within ENS, Ericsson Network Systems, shortly before the start of the year, made a delivery worth 100 MSEK to Saudi Arabia. The delivery was the last segment in an order that was signed in February 1988 and which involved among other things 1,000 switch cabinets and 20,000 switch boxes.

This transaction is a good example of how flexibility and service awareness can rescue a seemingly hopeless situation:

Already in the initial phase of the project, a five-month delay was foreseen. This was because the purchaser did not want to approve the products without a certain number of alterations. The delay caused a considerable amount of anger on the part of the customer but some quick action by ENS resolved the problem.

A provisional assembly plant was set up in Riyadh. It also handled some manufacture, with the help of imported Philippine labor. Steps were also taken to speed up shipment between Gothenburg and Jeddah, the Saudi port city. The actions provided the desired result — and more to boot. The final delivery was made an entire 15 months earlier than was perceived. As a result, the previously irritated customer became a happy and satisfied customer. So happy that new repeat orders could be a reality next year. **(Ledaren)**

Technical prize

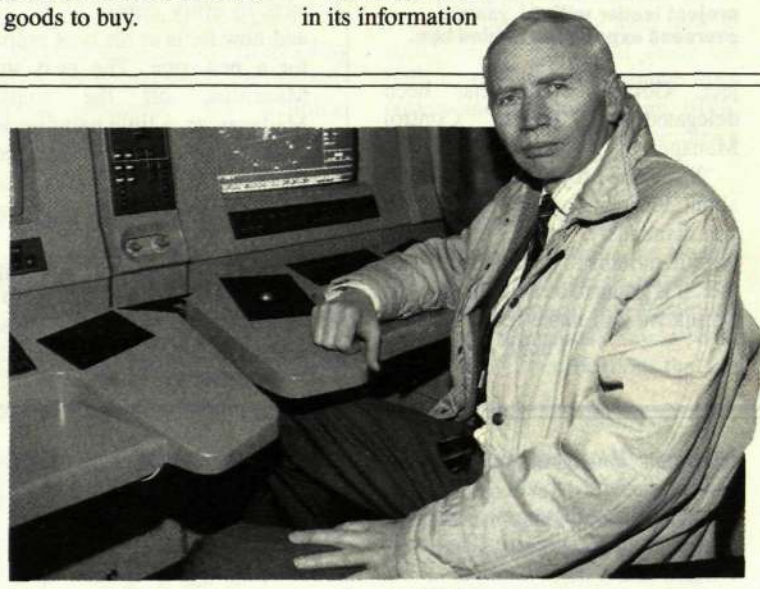
Ericsson Radio System Lundteam in Sweden (which makes the HotLine mobile phone) shared the prize in a competition for "Best Technical Information 1989." ERA's contribution was the directions for use of the new pocket phone. The jury was unanimous in its praise.

"The handbook is drawn up logically. The format and binding is ideal for practical use and the well thought out form is reinforced with a plasticized short version in pocket-sized format," the jury wrote in its appraisal. The reader gets the impression that "this is easy," which in itself must be a positive element. **(ERA Nyheter)**

AXE world survey

The number of AXE lines (both local and transit), installed or on order, increased from 27,999,301 to 33,891,658 during 1989. Two new countries, the Soviet Union and India, also ordered AXE in 1989, which means that there are now 77 countries on the list.

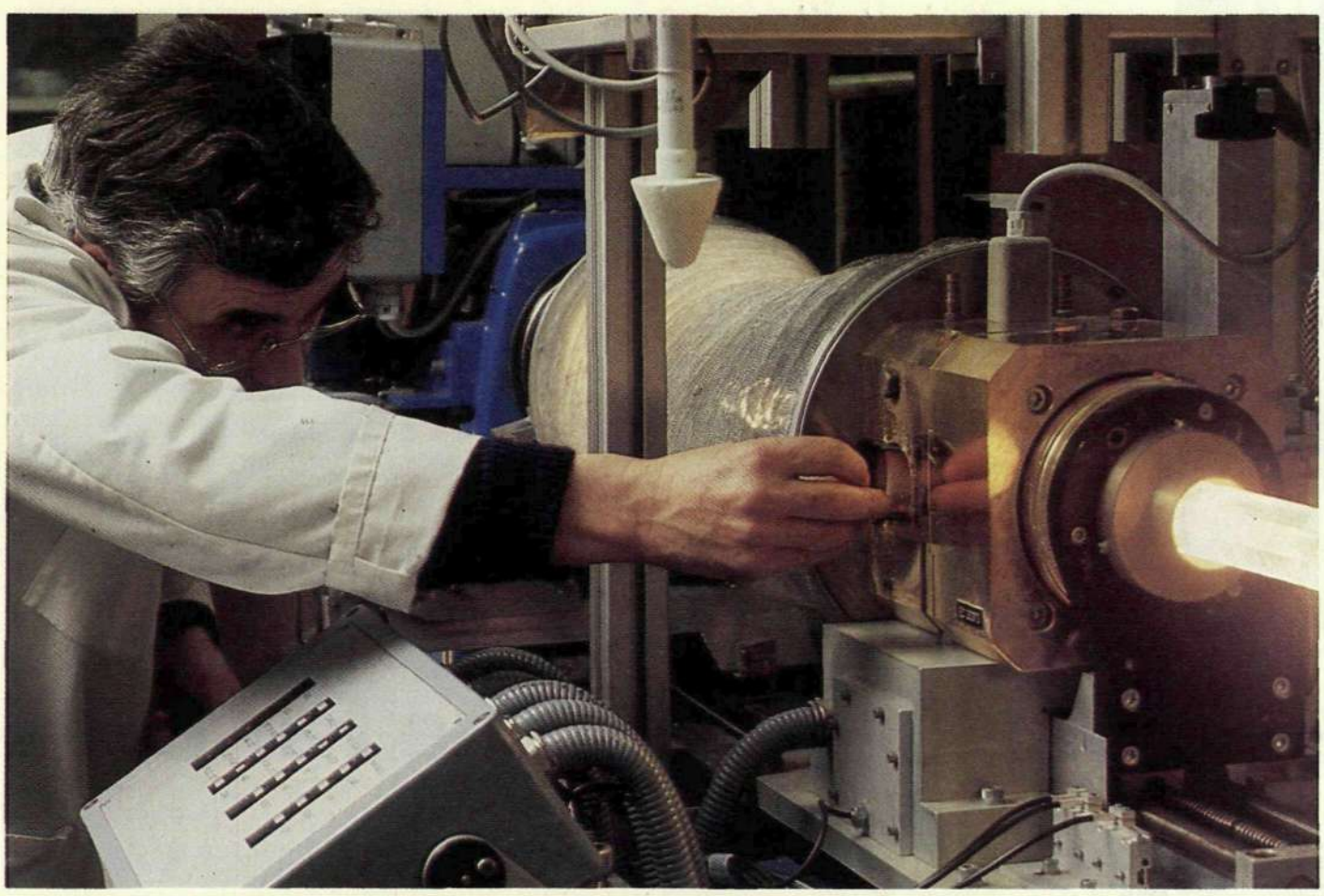
It is worth noting that the installation rate increased considerably in 1989, to 6.4 million AXE lines from 4.8 million the previous year.



Royal Marines in Mölndal

Ericsson Radar Electronics, ERE, in Mölndal, Sweden, was paid a visit by the British fleet in the middle of February. It was the Royal Marines, with the Commander in Chief, Lieutenant General Sir Martin Garrod, who were guests of the company.

A keen interest in the GIRAFFE radar was behind the visit. The Royal Marines have studied the system in Norway, where the army uses GIRAFFE in its air defense system. Since Norway is a priority operations area for the Royal Marines — in the event of a crisis situation in Europe — there is good reason for the British to acquire the same equipment now that it is in the process of expanding its own air defense capabilities.



Hightechnology, especially in the information field, is a prime target of industrial espionage.

gathering uses open sources that are complemented with technical knowledge, the East makes use of people to a great extent.

"It is difficult to believe that ordinary people all of a sudden can become national traitors, but the Soviet Union is particularly adapt at using mistakes and shortcomings in people," says von Braun.

"One talks about something called MICE. It stands for the four commonest recruiting bases for industrial espionage. M for money, I for ideology, C for compromise and E for ego."

Previously, it was mainly for ideological reasons that people chose to give information to the Soviet Union, or because there was pressure on them to do so. But today, it is a matter of money and ego.

The Soviet Union is prepared to invest a lot of money to get information. It has happened that Swedish businessmen have been offered hundreds of thousands of kronor for information.

"You can imagine what it means to have a tax-free income of 3,000 to 4,000 kronors per month above your salary. Above all, it is difficult to do without it once you get accustomed to it," von Braun notes.

"Ego is more difficult to explain. Perhaps one is not fully appreciated at his job or is not stimulated enough. The Soviet recruiters are clever at reading people, in order to stimulate and attract.

KGB sees possibilities

As openness increases in the East, so too do the contacts with the West and the risks that come with that.

"Among other things, the Swedish Government is thinking of allowing 1,000 Balts to come into Swedish companies. No one really thinks the KGB is going to sit and say nothing to that. It is a way of inviting problems, while at the same time trying to help."

The Swedes who go to the Soviet Union run a major risk in being susceptible to the attempts by recruiters. Previously, travellers to the Soviet were an exclusive and experienced lot. But now trade with the East has grown dramatically and von Braun thinks that the new and inexperience traveller will be used.

The latest method of getting information and computers by the Soviets is to use decoys.

Burglary

Among other means, criminals are used for breaking in to steal computers from universities and institutions. What is important are both the computers themselves and what is found on the hard disks.

But other methods are also used in such a way that the Soviet intelligence service is not exposed.

An example of this is the scores of West German hackers who were exposed a short time ago.

At the quest of the Soviet, they had gone into more than 100 data bases and networks and had access to very much information.

The message from von Braun is clear: Industrial espionage is not a matter of fantasy or of too many James Bond films. It is pure and simple reality.

Helena Lidén

How a spy is recruited – the four phases

Recruiting an industrial spy is not something that's done overnight. It can take years before a prospective spy is ready to sell a company's innermost secrets. One usually refers to the four phases of recruiting — charting, cultivating, capturing and conspiring.

The first is to find an interesting company. The products and the people working there are studied closely. When a suitable person is chosen, the company is studied totally.

"It is often said that when recruiters are finished they know more about a person than he does about himself," says Joakim von Braun. What is found in the reports are facts on personal economy, interest, weaknesses and other aspects.

Unhappy persons are a risk and, von Braun believes, it is always possible to find ways of keeping employees happy.

In the natural course of business, certain professional categories meet with Soviet trade delegations and other officials. But for those who do not travel, recruiters must find a natural way of establishing contact. This can be done through leisure activities, such as chess, sport fishing or in the sauna (as pointed out in the accompanying article).

Over the next period, when contact has been established, cultivating takes place. This can take from one to two years if it has to do with important information.

The next step, capturing, can take a long time.

The recruiter often wins over a person by asking small favors of him. Maybe it begins with official information in order to go on later to information that is no secret but which is not circulated outside of the company, for example, an internal telephone listing.

When the capturing is accomplished and the person has begun to share information, then comes the stage of conspiring. Information is given in a way that is noticeable. It takes place in drops or contacts are conducted over a short wave radio.

Intercom for Finnish Teleste

The Finnish electronics company Teleste Oy has taken over Ericsson's rapid telephone system, Intercom. From March 1, the Finnish company took over Intercom operations, with the exception of Ericom Direct, which Ericsson will continue to operate and market through foreign subsidiaries.

Ericsson's marine operations are also part of the agreement, since these are to a great extent based on Intercom products from EBC, Ericsson Business Communications AB.

Some 20 employees in EBC-Intercom and marine operations are affected by the agreement. They have now been offered employment with Teleste.

Teleste has its main office in Turku and has about 1,000 employees. Turnover last year amounted to 600 MSEK. The Teleste group is part of Sponsor Oy, which has a turnover of about 6,000 MSEK. **(Vår Business)**

Economist teaches ABC

Harvard economist Robert Kaplan has launched a theory on costing known as ABC, Activity Based Costing. In part, the theory involves a new view of which costs lie behind a product.

In mid-January a course was held where economists in D-division in Ericsson Telecom gathered with colleagues from the printed circuit board factory in Norrköping to learn about the ABC method. The intention was for participants in the course to further develop the method in Sweden.

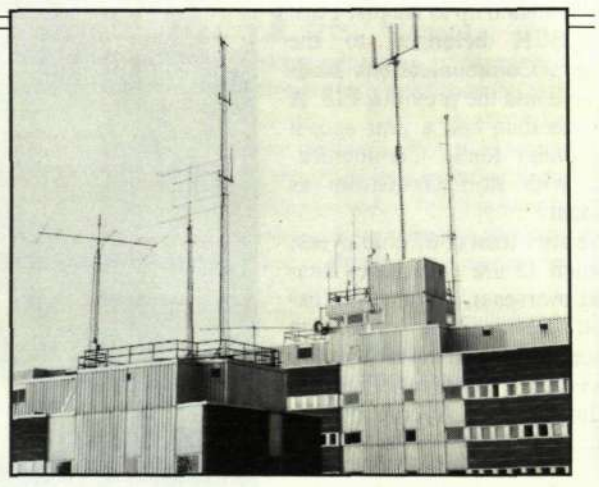
The ABC principle will also be extended to plants abroad. All production economists in factories abroad have therefore been called in for general assembly through which the ABC method can be diffused on a broad front. **(Switchen)**

Office of the future

The coming decade's office atmosphere will be marked by an increase in group work. At least that is what Rolf Nilsson, head of office services in Ericsson Telecom, believes. He is currently working with the office setting for the nineties in several important building additions at headquarters.

A model of the office of the nineties has been mounted and is on display in the A House. There, one can see clearly that the era of the landscaped office is over. Now, it is all about modules.

(Switchen)



It's amateur operators who are behind the web of antennas at ERA/ERE's roofs in Kista.

Radio club aims highest

ERA/ERE's buildings in Kista are crowded by a forest of antennas. Many visitors to Sweden's Silicon Valley wonder what they are used for and what mysterious units they serve. Now, it can be said that most of the metal spires are used for testing and development of ERA's mobile telephone system but there is also an entirely other purpose that lies behind a major part of the "antenna forest."

At ERA/ERE there are a number of amateur radio operators who have formed their own radio club. The club has its own station in one of ERA's buildings and it is the station's lively broadcast that are reflected on the rooftops. The fact is that the highest antenna mast of all on the Ericsson roofs at Kista is used by the radio club's so-called repeater station SKORLQ. **(ERA Nyheter)**

Hongkong — a Manhattan in the Far East

— and the place for an Ericsson in miniature

Ericsson Communications' office on Gloucester Road in Hongkong is the meeting place for many staffers on the way to or from a tour of duty in the Far East. Hongkong is also the gateway to southern China and the operations the Ericsson group has there. In this respect the Ericsson office is very much like Hongkong — a lot of people in motion and many activities in swing.

ECH, Ericsson Communications (HK) Ltd., has been around since 1985 but the group as a whole has been represented in Hongkong ever since the mid-sixties through, among others, Swedish Trading. From 1985 and up to August 1 last year, ECH belonged to the Business Communications business area and the previous EIS. A little less than half a year ago, it came under Radio Communications, with Rolf Granström as president.

"We are a total of 67 employees, of which 12 are expatriates (stationed overseas)," Granström explains. Besides the office on Gloucester Road in the city center, there is also a technical office and a trading center in Aberdeen in the south.

Three business areas

Three business areas, Public Telecommunications, Radio Communications and Business Communications all have long traditions in Hongkong. Ericsson's PABX (office switch) had a strong position in the colony toward the end of the seventies but it lost some market shares after the dismantling of the monopoly, mainly to Japanese suppliers. On the other hand, from the mid-eighties we have had major success in China with, among other things, a factory project which will begin local production in the summer. During 1984, the first AXE station for international traffic was installed with Cable and Wireless, Hongkong.

Radio communications have the largest spread and today it accounts for more than 50 percent of turnover. It is also the area of largest growth. AXE orders in China, though, do not compare with this.

Rolf Granström is president of ECH, Hongkong. Above, with his secretary Ruby Leung.

Mobile telephony is a huge asset for ECH, which penetrates the markets in Hongkong, Macau and China. In China, Ericsson has about 70 percent of the mobile phone market. Ericsson's customer in Hongkong, Pacific Link Communciations Limited, system operators, is very successful with the mobile telephone network. It came on stream in September last year and the number of subscribers has increased rapidly.

"A few months ago, we received an order for an increase of 13 radio base stations at a value of about 50 million kronor," Granström says.

At the same time that today's analog mobile system is growing, the future and the digital system is at hand. Negotiations on the digital system will take place during 1990 and it will be this year's major challenge for ECH.

Ericsson has marketed land mobile radio products in China since 1984, the first order for a "joint venture" system was signed last year. It was the General Electric 16-plus system.

Learning from each other

The staff will be increased by some 15 persons this year. At the same time a number of locally employed technicians, who worked previously with the MD110, will be given a wider range of assignments. Among other things, they will take part in the mobile radio project in China.

"By working in a practical way beyond the borders of the business area, we learn from each other and increase our competence," Granström says, adding that the bulk of the new employees will be mainly Chinese. This year, ECH will concentrate on finding the right people. Next year they will be trained and in 1992 several of them will take on the jobs that are usually handled by Swedes. This means that very soon the greater part of ECH will be staffed by local personnel.

"But," Granström emphasizes, "the post of president will be held by a Swede. In a distant market with a totally different culture it is easier for a Swedish president to communicate with headquarters."

Like Manhattan

Granström, who previously worked two and a half years in Mexico, thinks working in Hongkong is quite different.

"Most of the group's activities are here. We are an Ericsson in miniature and in that way we are somewhat unique," he says. Besides Radio Communications and Business Communications, there is personnel here from Public Telecommunications, central purchasing and Components at ECH. Radio Communications, moreover, is represented through several of its business units.

Business Center

Hongkong is an important business center for the entire Far East. Here, too, is a collective knowledge about China and the enourmous market there.

"The business climate is significantly tougher and more hectic than in Stockholm and can be compared with New York and Manhattan. The time difference between Europe and the States makes it so that Hongkong never seems to sleep," Granström concludes.

Text and photo: Gunilla Tamm

Skyscrapers and Tai Chi

"Women speak uninterruptedly as they hurry along the sidewalks." Thus wrote Far East correspondent Staffan Heimersson in a report on Hongkong in the fashion magazine Elle. And that is certainly the case even if there are considerably more men than women hurrying along with mobile phones to their ears. It is also true that Hongkong is a city with a rapid pulse while at the same time being very effective.

The British crown colony is made up of 235 islands and a bit of mainland, which borders on China. The area is as large as Öland. The population (average age is 26) of some 5.8 million is 98 percent Chinese.

Hongkong consists of the island with the same name, the Kowloon peninsular and the New Territories on the Chinese Mainland. Between the twin cities of Victora on Hongkong island and Kowloon on the mainland, there is Victoria Harbor, one of the world's finest natural harbors. Large parts of the country are marked by mountains and hills up to 1,100 meters.

Ericsson's office is in Gloucester Road in Wanchai on the Hongkong side. From there it is five minutes' walk to the quay and the Star Ferry. One Hongkong dollar and hardly ten minutes on the ferry and one is on the mainland, that is Kowloon and its thousands of stores and shops, large and small. Automobile traffic between the islands and the mainland goes through a tunnel.

Hongkong is like New York's Manhattan in many ways. Hectic traffic, skyscrapers, taxicabs (red) and well-dressed pedestrians who are on the move. It is almost hopeless to find a parking place and for that reason most people take taxis or public transport, which is very well developed. There are double-decker trams, subways, buses and minibuses for short distances.

In the area just around from the Ericsson offices, high-rises are being torn down to make way for skyscrapers in glass and steel. On the other side of the street there is a little oasis with a temple-like house, trees and a small pond. Every morning at eight, a Chinese group gathers here practicing the ancient Chinese art of Tai Chi. Skyscrapers and Tai Chi — Hongkong is truly a city of contrasts.

When headquarters (HF) was new, one went from Slussen to Telefonplan by tram.

Headquarters marks its 50th

In 1940, L.M. Ericsson moved its main operations from Thulegatan in central Stockholm to the then distant countryside of Midsommarkransen. Already on March 10, 1938, the picks and shovels were at work, and on November 18 that year a celebration to mark the laying of the framework for the roof was held at Blå Hallen in Stockholm. Some machines were moved already as early as June 1939, but the bulk of the moving to what later became known as Telefonplan was done in 1940.

On Thursday, June 7, that year a grand party was held for HF, the main plant, as it is known in Ericsson jargon. A lunch there was held with about 1,500 persons. At the lunch there was, among others, Sonja Stjernqvist and the LME orchestra, under Karl-Arthur Wahlström.

SHARE TRADING

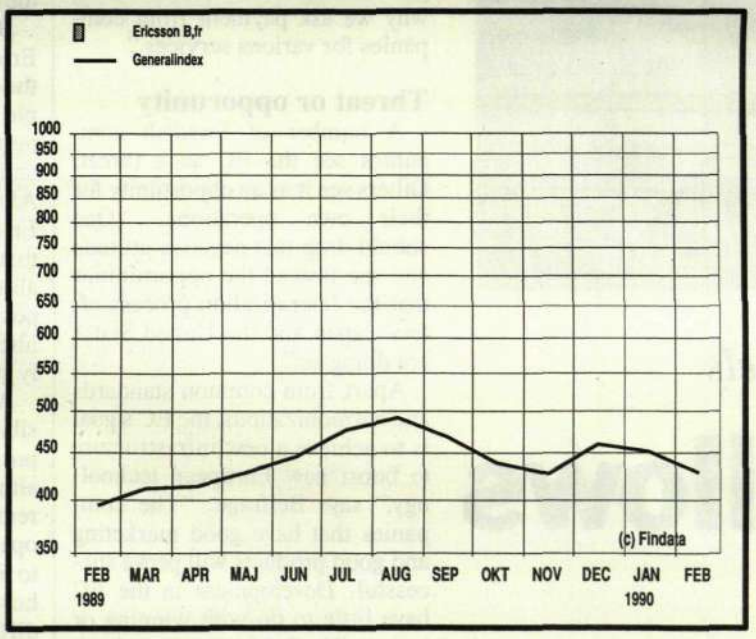
Ericsson shareholders have felt the cold and uncalculated swings of the Stockholm bourse many times in recent weeks. Despite reports of the strong earnings improvements in mid-February, the B-free has dropped considerably.

With publication of the results on February 8, trading had gone up 10 percent from the start of the year. At the turn of the month, February/March, the rise had completely flattened out.

But actually the share trading has been somewhat better than the bourse as a whole. The drop in the General Index so far this year reached 7 percent on March 1, but only 5 percent for Ericsson, exactly the same for the industrials index.

The background to this, of course, lies in the fact that the share market today is affected by strong deterring factors, with new crisis signals in Swedish costs development, uncertain economic policies with the government crisis and a new government.

Brokers and analysts point out, too, that the large "rush" to Ericsson shares is over. The company is now up to a good and stable profit level, which has all the ingredients for growing, but to a significantly lower level than in the past year.



ERICSSON'S SHARES

	Mutual Fund		Share Savings Fund	
	Share Price (SEK)	Assets (MSEK)	Share Price (SEK)	Assets (MSEK)
31 Dec. 1988	135	52,2	343	56,0
31 Dec. 1989	304	94,1	825	77,1
26 Jan. 1990	316	96,0	87	79,1
28 Feb. 1990	300	90,6	81	71,6

Up to now during 1990, 630 individuals have signed up for new savings in the mututal fund. Many have also taken advantage of the new opportunity to carry over savings from their mutual fund account to the mutual fund itself. Through these transfers, the mutual fund has reached 1.3 MSEK.

OUTLOOK

BY MATS HALLVARSSON

A new power factor in the world of telecommunications has come to light. ETSI, the European Institute for Telecommunications Standards has, in a relatively short time, taken the initiative in bringing about uniform standards for equipment and utilization. Hardly any manufacturer is more dependent on this task than Ericsson.

As the most international of the world's largest telecommunications equipment manufacturers, Ericsson has much to gain by having standards for equipment and utilization as similar as possible in the different markets.

Standardization lays the groundwork for open and free competition among manufacturers in different countries. The possibilities increase for long uniform series in production, which makes products cheaper for customers.

Ericsson, therefore, for a long time now, has been one of the manufacturers in the world that has been pushing hardest in standardization work, taking a number of its own initiatives which have won wide praise.

In just about a year, the new European Telecommunications Standards Institute, ETSI, has established itself as the leading standardization organization in Europe.

Ericsson is a member, like 181 other manufacturers, telecommunications administrations and major users. ETSI also has 21 officially accredited "observers," among others the American State Department (Foreign Ministry) and the official Japanese trade organization.

ETSI came about on the initiative of the EC Commission, the proposal and policy-making arm of the European Economic Community. It grew tired of the slow and ineffective work of the existing main organizations on standardizations in the telecommunications sector, among them the International Telecommunications Union (ITU), the European Conference on Posts and Telecommunications (CEPT) and CEN-CENELE.

The background is the liberalization and deregulation of the telecommunications markets in the 12 member states of the EC, which the commission is aiming to put into effect before 1992. One part of the task is directed at achieving a free internal market with free movement of goods, services, capital and people across borders.

The commission has as its goal the establishment of a number of European norms in the telecommunications area, called NET, after its French abbreviation. The problem is to keep within bounds, with the rapid technological developments taking place just now.

ITU, CEPT and CENELEC couldn't do so. The ITU's "technical recommendations" are in general undefined and can be used in the way each national telecommunications administration chooses to. CEPT plays the role of implementing ITU's recommendations.

CEPT does a commendable job. But it continues to take a long time and manufacturers and users are not consulted. Telecommunications administrations can also be widely influential in its decisions.

Now, one can say that more and more ETSI is taking over CEPT's own roles. ETSI is working with "project teams" comprised of experts from different member companies. They can produce lasting input on specifications in three to four months.

Proposals are presented before various technical committees where they become the subject for discussions, negotiations and compromise. A final proposal is then presented for ETSI's "technical assembly," which is the top decision-making body for technical standards. It plans the entire standardization task, coordination and priorities. Apart from participation by telecommunications administrations, manufacturers and users, the national standardizations bodies also refers to ETSI for considering measures.

The result of the task is an ETS, "European Telecommunications Standard." This is not in itself an obligatory standard. Each country can determine whether it will accept it or not. When it comes to the EC, however, the ETS is usually used as a base for the commission's proposal on a mandatory EC standard.

There are still some within European telecommunications who feel that, despite everything, ETSI moves too slowly and has too little capacity. Today, the organization has 21 full-time staff and more than 1,000 experts connected with it. As a comparison, it may be pointed out that its American equivalent, Bellcore, has a staff of 2,000.

ETSI defends itself by pointing out that in just one year it has produced 30 complete standardization proposals and is now working full steam ahead on an additional 300!

(Mats Hallvarsson is a freelance contributor.)

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Göran Belfrage, technical attaché in Brussels

Each day he follows developments in the EC

Every day he keeps abreast of political and technological developments within the Common Market. For Göran Belfrage, the technical attaché in Brussels, it has always been important to form a strong societal link with an interest in technology.

Since a year and a half ago, he has been at the center of events. "This provides a nearness to reality and it is fun to work here and follow developments within the EC. I meet many interesting people and am present at many exciting events," Belfrage says.

A major role

The EC plays a major role in many technical areas. What happens in the EC also affects Sweden.

Belfrage's brief is to monitor and report what the EC and other international organizations are discussing in research and politics that affect developments in, among other things, information technology, telecommunications, biotechnology and energy.

"You must know your area. That's why people are taken direct from industry who, moreover, can express themselves in the spoken and written word, for such a job. It means not being inundated by the huge amount of information but being able to sniff out the news. As technical attaché, one must be able to both read and write the reports on advanced technology and keep up with research results," Belfrage explains.

Own publications

Attaché reports are diffused through the attaché operations own publications. Samlade Notiser, roughly translated as Collected Notices, are rapid reports that companies can subscribe to. Teknisk Utblick, Technical Outlook, comes out once a month and consists of the best reports from nine different technical areas. Utlandsrapporter, Foreign Reports, describes developments of the moment in various countries. One such report, for example, deals with the development of environment oriented cars in the United States.

The job also involves talking with representatives of the EC Commission and maintaining contact with Sweden, as well as industry people, university researchers and different research institutes and public bodies like STU and the department of industry. Companies can also be represented in order to receive advice on technical issues.

"I have had a number of links with Ericsson. We always try to accomodate those who call us, for example, to help with background material or documents," Belfrage notes. "We get a state subsidy from the Department of Industry, which covers two-thirds of our costs. The remaining one-third we get from other sources. This is why we ask payment from companies for various services."

Threat or opporunity

A number of Swedish companies see the EC as a threat. Others see it as an opportunity for their own operations. "One should drop that negative attitude and see instead the opportunities that the liberalization process offers. Japan and the United States are doing so."

Apart from common standards and harmonizations, the EC's goal is to achieve a new infrastructure to boost new European technology," says Belfrage. "The companies that have good marketing and good products will prove successful. Development in the EC have little to do with winning or losing. We should not stand back while others are increasing their investments."

Moving out one's company in Europe is not quite actually the case, as the Swedish debate implies. Many large companies have a good launching position in that they are already represented in the EC countries through subsidiaries or distributorships. Since Ericsson is so well represented in Europe, EC developments can only be positive for you. And you have never been afraid of free competition."

"It is important to be part of the standardization and harmonization process that is taking place. And Ericsson is doing so. For certain others, this is not the case.

Text and photo: Lena Öberg

An exciting mission

STOP PRESS
BY LARS GÖRAN HEDIN

It's windy over Sweden and the Ericsson banners flap furiously in the wind outside the window. The country has just survived its first "government crisis" in modern times. In the midst of all this turbulence, I gather my thoughts before tackling a new job — as corporate editor for Ericsson. An exciting mission that promises many challenges and many positive experiences.

My first task was to resolve a number of technical production problems. Several of the papers were very late from the printing plant the first time, which everyone concerned complained about bitterly. It is important for the credibility of the editors and the papers that the publication deadlines be met, and with numerous new solutions I hope the delays would be avoided in future.

Being totally new in a company like Ericsson, one is amazed at the size of the operations and the number of people that is involved. There are innumberable new contracts to be made and mountains of things to learn. After the first weeks' meeting with Ericsson staffers, there is one thing that stands out in my mind: Despite all the unrest in the world, there is a positive outlook in the company. It is infectious and, therefore, it feels really stimulating to be "one of the gang."

At the same time, a sense of responsibility permeates. To guard this positive outlook is one of the main aims of the publications. Another is to remove the barriers between different operations and the business areas — to increase knowledge of what and how products are manufactured in different fields, of what Ericsson's operations in different parts of the world really mean for humanity — if I may express myself reaching for great heights.

The insight that I myself have gotten has led me to the conclusion that companies like Ericsson, Volvo, ABB and others have been rarely so significant as now. When our world is being fed with negative impressions from government crisis, unsuccessful Palme investigations, the Ebbe Carlsson affair and other ills from Sweden, the positive impression of successful and caring companies like Ericsson is something of a salvation for Sweden. Maybe, it's a stroke of luck for our dear fatherland that in many ways Ericsson is a more widely known surname than Carlsson.