

Contact

M A N A G E M E N T

No 2

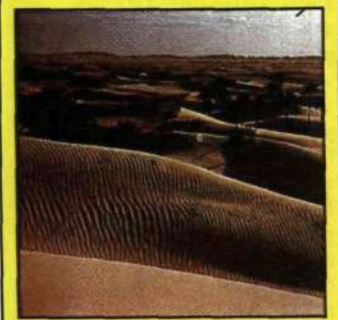
PUBLICATION FOR ERICSSON MANAGERS WORLDWIDE

1990



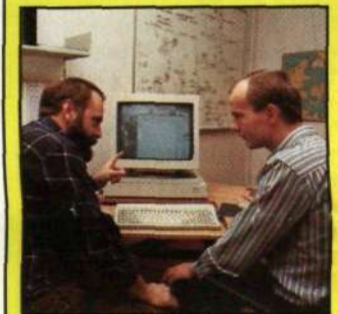
The future awaits in Taiwan

The electronics industry is becoming ever more important for Taiwan: the country needs high technology and telecommunications must be expanded. This makes Taiwan an interesting customer for Ericsson products. Above, Yen-Lang Chun assembles the handset for a HotLine telephone. Through Ericsson's joint venture company in Taiwan, Terico, a certain amount of local manufacture is carried out at the factory in Hsinchu. (Centerfold)



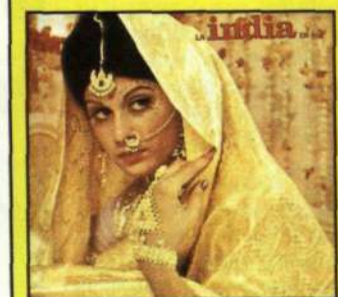
North Africa in focus

Just now North Africa is coming into focus for Ericsson Telecom, which in a short time has won AXE orders worth a total of over 700 MSEK from Morocco, Algeria and Tunisia. Page 4.



Quality challenges

Additional challenges could be the catalyst needed to accomplish a faultless mission. Jens Hornung, left, and Niels Jorgen Bay Jensen are two engineers at Ericsson Denmark who, thanks to quality orientation and a satisfactorily concluded project, have created a more interesting working approach. Page 5.



India No. 77

India has become Ericsson's AXE country No. 77. After many years of work in India a contract has now been signed for four international AXE stations for India's largest cities. The door to a giant market stands open. Page 12.

Hellström after Ramqvist

Lars Ramqvist has been succeeded by Kurt Hellström as president of ERA, Ericsson Radio Systems. Sten Fornell has been named new head of ECS, Ericsson Mobile Communications. Kjell S. Andersson has been appointed to succeed Kurt Hellström as head of Radiosystem Sweden.

After the conflict

Convertibles interest:

The commercial paper center's (VPC) designated day for interest payment fell four days after the conflict in the Swedish government was resolved.

Bourse introduction:

Introduction on the Bourse has been moved back as a result of the conflict.

Profit doubles in 1989 • Page 2



CEO's Comments:

Now we are at the right level

We now have within reach the means for a very strong 1989 for Ericsson. Personally, I am very pleased with the high level we have attained now that I shall be completing my last year as Chief Executive Officer for Ericsson and passing the reins over to Lars Ramqvist. We are also completing a decade where the entire telecommunications branch began major restructuring and where many have had to withstand difficult tests in order to remain strong for the nineties. Not least, we at Ericsson. But now we are at that level where we have to be in order to confront the nineties, filled with many opportunities but also with great challenges and tough competition.

Thanks to all of you who have paved the way for us to reach where we are today. I convey this thanks not only for last year but also for the years when the going was tough.

The market penetrations and the development strains during the eighties that gave results. Not least of these was the major investments in the United States, which have begun to show result. Thanks, too, for commitments to projects which cannot be measured in figures as yet, for example, the breakthrough in the U.S. in 1989 for AXE.

Just AXE and our 1989 venture in the field of radio with General Electric will be counted as milestones in Ericsson's history. We must continue to grow and be prepared for the research and development that is needed. In line with the market expansion and the new services that come with that, so too, we must set our sights even higher.

The fact that we have had good results does not mean that every money niche will suddenly open up for us.

Ericsson has had problems with its economy, but it has corrected those. Now it is Sweden that is having problems. I have high respect for the fact that one must act definitively and decisively but I hope that the underlying problem will soon be resolved so that the remedies do not have to be applied over and over again, proving to be obstructive rather than constructive. We in Ericsson must have industrial capacity in Sweden that gives us total competitive strength.

Björn Svedberg
Björn Svedberg

Preliminary earnings:

Report on doubled profits in the midst of a crisis package

Thursday, February 8, was a triumphant but at the same time concerned day for Ericsson. The group's preliminary report for 1989 was presented at a packed press conference at the premises of the Federation of Swedish Industries. Word of the doubled profits for 1989 of 3.7 billion SEK came on the heels of the Swedish government's announcements of a crisis package that among other things included a halt to increase in dividend payments by companies listed on the Stockholm Stock Exchange. This led to questioning at the conference split 50 percent about Ericsson's economy and 50 percent about Sweden's.

Ericsson's order bookings in 1989 amounted to SEK 42,100 million, an increase of 18 percent (SEK 35,633 m. in 1988) according to preliminary figures. Net sales rose 26 percent to SEK 39,500 m. (SEK 31,297 m.). The increases are attributable mainly to PUBLIC TELECOMMUNICATIONS, as well as to RADIO COMMUNICATIONS, in which the units added in conjunction with the joint venture with GE (General Electric) have been included in figures from July 1, 1989. For comparable units, Ericsson's order bookings rose 13 percent and net sales 25 percent. Income before appropriations and taxes were doubled, amounting to SEK 3,700 m. (SEK 1,840 m.), of which SEK 0 m. was capital gains (capital loss: SEK 5 m.).

Income per share, after taxes paid, was SEK 58 (SEK 27). This corresponds to SEK 55 (SEK 24) after full conversion. Net sales and income continued to rise during the fourth quarter. Operating income improved sharply, particularly in PUBLIC TELECOMMUNICATIONS and RADIO COMMUNICATIONS. All business areas reported higher operating income for the full year, except CABLES AND NETWORK, which posted a decline as a result of the divestment of certain operations. DEFENSE SYSTEMS posted a loss for the full year.

A continued favorable level of profitability is expected in 1990, with a further slight improvement in earnings.

The Board of Directors intends to propose, if possible*, that shareholders at the Annual General Meeting approve a dividend of SEK 14, an increase of SEK 3.50. 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. Audited figures on 1989 operations will be released March 15. The Annual General Meeting will be held on May 8, 1990.

Ericsson's President and Chief Executive Officer, Björn Svedberg, comments as follows:

The eighties has been a challenging decade for Ericsson. We have worked in new markets and with new groups of customers, and we have purposefully built up our market shares. In summarizing the results of efforts during the past decade, it is gratifying to note that the increasing focus on our systems areas in telecommunications was the correct strategy. This has resulted in higher income, while at the same time it has created a fine base for the nineties. This decade offers new challenges and will be characterized by major dynamics in telecommunications.

* Depending on the Swedish Parliament's decision regarding the government's proposal to stop increases in dividend payments for listed companies.

"Feldt (minister of finance) is playing with fire" and "worried Bourse winner," one business daily declares.



Major order in Australia



Australia is one of Ericsson's most important markets with, in principle, 100 percent in the telephone station area. That position has been reinforced even more with two huge orders. Above, an aerial view of Sydney.

Two orders with a total value of 865 MSEK add to Ericsson's successes in Australia, where, up to now, 2.4 million AXE lines have been sold and installed for Telecom Australia.

The larger of the two orders, worth 750 million kronor, involves AXE equipment for local and transit stations for delivery during 1990-91, a

follow-up order within the framework of an agreement that was signed in 1979 and which extends to 1994.

In the main, manufacture will be carried out at the factory in Melbourne, but with support deliveries from Sweden, chiefly of APZ 212 (processors) from the Älvsjö factory.

Telecom Australia is a large and very competent customer, which, for example was the first in the world with a nationwide ISDN network with supplies from Ericsson.

The current order involves an ex-

pansion of this globally unique ISDN network. In principle, Ericsson Telecom has 100 percent of the telephone station market in Australia.

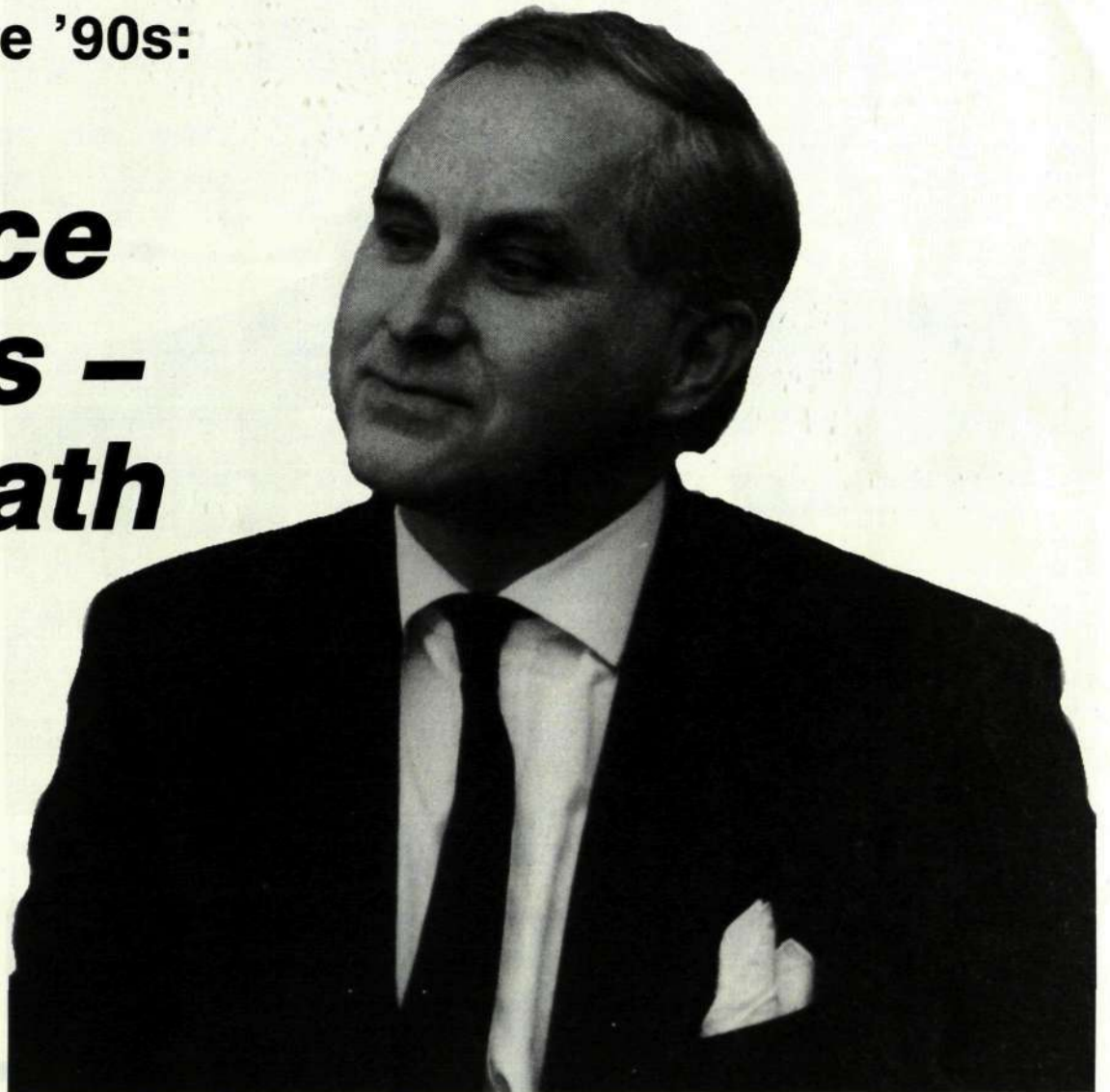
The second order, for 115 million SEK, involves radio base stations for the Australian mobile telephone network which is also being built with Ericsson's AXE stations.

This network today has about 115,000 subscribers and is increasing rapidly. The number of subscribers is growing by seven percent monthly.

Lars Ramqvist looks at the '90s:

Independence and alliances - Ericsson's path

Flexibility and quality are Lars Ramqvist's key words for Ericsson in the nineties, a decade that he believes will show a 10 percent annual growth in fixed investments and additional ventures both in technology and in the markets. And the strategy remains sound: Ericsson shall concentrate on telephony and stand on its own feet.



What are the key words for the nineties?

Flexibility and quality. We must reckon with continued rapid change in the entire telecommunications branch during a major part of the nineties, with new products and services, new technologies and areas of use and new combinations among these. We will also see a whole new range of customers and turnover of the old ones, as well as new competitors and constellations of competitors. This will make exceptional demands on our flexibility to adapt to the new needs. At the same time, markets will demand even higher quality, faster and surer deliveries and precision in our work. Herein enters the professionalism and dedication that people in Ericsson have been known for.

You are taking over on the threshold of a decade where competitors in general have become even larger and fewer through mergers in the eighties. Can Ericsson survive the nineties as an independent corporation?

It is obvious that competition is toughening up and will continue to do so. Our competitors are all very large and well-run companies. We have every reason to regard them with respect. But we want to see — and we shall aim for this — Ericsson as an independent company. And this is the way it has been so far, with us holding market shares over several years now.

Many competitors look like a combination of Ericsson, ASEA/ABB and little Electrolux. Is that a possible combination?

No. I do not think so. Sweden is a much too small a country to maintain such a gigantic corporate structure.

What then is your strategy for acquiring the same advantages of size as your competitors?



'Flexibility and quality are the key words for the nineties.'

We do not see any need to alter our strategy, which is concentration on core activity, teleshells. But we must also continue to build strategic alliances where base technology and certain market sectors are concerned. I am not speaking of total alliances but rather of support alliances of the type we have had with Texas Instruments and recently with General Electric in the U.S. These alliances must, however, be dynamic, which means that we should review them every so often. We must also think of entering cooperation agreements for shorter periods, for example, development or marketing of certain applications or technologies. This applies to programming hardware as well as microelectronics.

But wouldn't the larger interesting developments within telephony be more closely associated with the customer, with personal phones and other similar consumer-oriented terminal products?

Yes, there might be something in that. Among our customers, there are forecasts today that indicate that up to 50 percent of subscribers will own mobile phones or personal phones as an integrated part of the system; therefore, I can see that as a part of Ericsson's core activity.

But personal phones will remain a low-priced product when just South Asian manufacturers are in the running?

Of course, prices will go down but at the same time we are talking about qualified technology. This calls for a knowledge and understanding of terminals in order to be successful in the development of systems. And our

competitive strength speaks for itself, just look at HotLine, mobile phones,

which we sell in tough international competition and with great success. But it is clear that if it becomes a real tug-of-war as far as price and competition are concerned then we will not continue in a losing business. My basic approach, nevertheless, is unwavering: It is vitally important for us to be in the terminal market for personal telephony. Our customers are going to demand that, and an example is the cordless office switch we shall soon be presenting when we also develop the terminals.

What then is Ericsson's core system and where do you see yourself letting in a partner?

I would say that we may seek partnership in the development and manufacture of tools needed to achieve our system. For example, microchip development with Texas Instruments and the purchase of Unix operative systems, that is to say generally usable tools that we apply in building our system.

What is Ericsson's foremost weapon in the battle for markets during the nineties?

Just a unique system competence. And that we have fostered well during the eighties despite the problems we have had. We intend very soon to increase our investments for research and development, and right now that share has been raised further to 12 percent of the 1989 turnover. I would like to praise our owners on this score for meeting this need in spite of our profits having declined a few years ago.

Would the AXE system hold up for another ten years?



'Our unique system competence is the foremost weapon in the battle for the markets of the nineties.'

We are on the brink of many demanding system additions, with updating of the system in conjunction with, for example, digitalization of our entire mobile operations and the development of even larger mobility and wave band networks. It is not a question of a new system but rather the development of AXE that will resolve matters, thanks to its modular construction. AXE will become a more fragmented system where several more applications within, for example, office switching and mobile telephony will function in the same area.

Which expansion strategy will lead the way in the nineties? Internally generated growth or buying up companies? And is it likely that you would enter the data processing field again?

We will continue with the philosophy that we have now — to grow internally of our own strength and to buy now and then. For example, we have just released our partners in Spain and England and we have acquired a market together with Matra in France. We will not be entering any applications oriented branch of data processing. Even the very large computer companies have problems today.

The company is now structured and concentrated on the three pillars of public, mobile and office switching systems. Two units, Cable/Network and the military side are somewhat outside. As such, the military business area has problems. What will become of this in the nineties?

Cable and Network have been combined so that they now have their own dynamic and can survive on their own assets, and that is going fine. They are good profit centers for the group and have strong links to the teleshells. The same applies to the military side, where development has given many important additions to civil telephony with products and systems in the ranking technical frontlines. But the branch does have problems, and there will be a great deal of restructuring in the coming years. We cannot stand outside of this restructuring and have already taken steps to concentrate our military activities on three areas: flight, robot electronics and mobile defense systems. But in these areas restructuring is proceeding along the European pattern and like most of the others we are pruning for profitability and are seeking cooperation solutions.

Finally, you are taking over as Chief Executive when Ericsson and the entire telecommunications branch stand on the brink of one of the most exciting periods ever, with freedom from fixed phones to an era of completely mobile telephony. How does this affect your own day? What will your own workplace look like ten years from now?

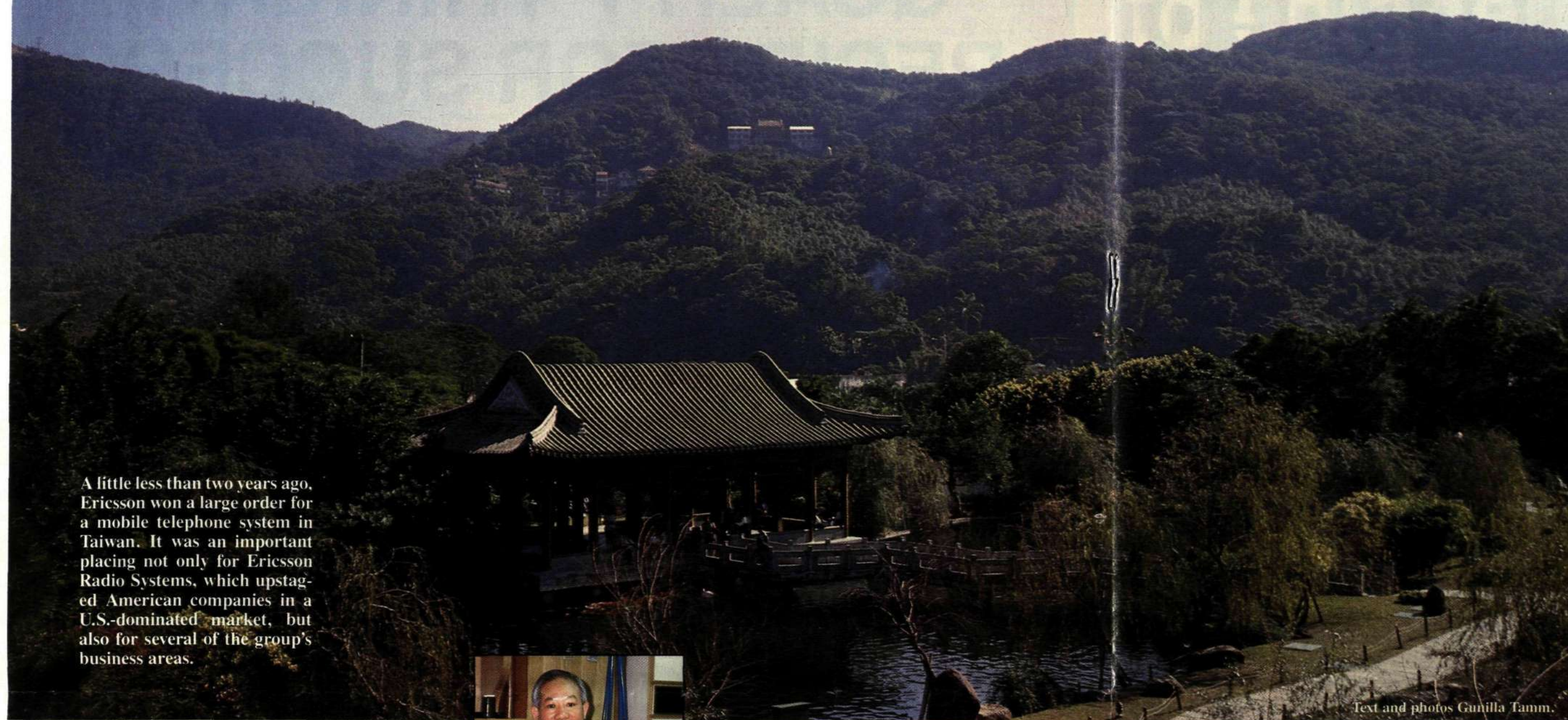


'We shall grow internally of our own strength and buy companies now and then.'

I am realistic enough to say that beyond my little personal phone which I carry with me everywhere, I do not see very much changing from what it is today. I do not plan to have a lot of advanced terminals or other communication gadgets, more than a PC and possibly a picture phone. Despite all our hightech equipment, we must first and foremost draw on our ordinary human creative brain capacity. And I hope that mine will serve me well in my role as Chief Executive.

Mats Hallvarsson
Photos: Bo Binette

Mobile telephony paves the way for Ericsson in Taiwan



A little less than two years ago, Ericsson won a large order for a mobile telephone system in Taiwan. It was an important placing not only for Ericsson Radio Systems, which upstaged American companies in a U.S.-dominated market, but also for several of the group's business areas.



The number of mobile phone subscribers is rapidly increasing, says Pang-Nao Wu, of Taiwan's telecommunications.

With the help of mobile telephony Ericsson has gained a solid foothold in Taiwan, and in the summer it also won an order for the world's largest nationwide people paging system. As of January 1 this year, all system operations have been handled by Ericsson Taiwan Ltd. (ERT), a company that is on the rise. The main office is in Taipei, the nation's capital, and the installation and service offices are in Hsinchu, Taiwan's "Silicon Valley," 80 kilometers south of Taipei.

Actually, it is not quite accurate to say that Taiwan is an entirely new market for Ericsson. Already at the end of the fifties, there was an order for railway signaling systems and at the beginning of the eighties there was an order for a weather radar system for Taipei's international airport. The first contract extended into the fall, when the operations were sold to EBS within the ABB group. Feng-Lee Chou, who was responsible for operations from 1976 until last year, is now head of marketing at ERT.

In 1982, Ericsson opened a technical office in Taipei, with Christer Hohenthal as managing director. At that time Taiwan was contemplating moving into digital switching. Despite a lot of hard work, Ericsson did not succeed in getting the contract. It went instead to the American companies ITT, GTE and AT&T. Thus, the public telephone network was monopolized and the country was divided up into three regions, with a supplier in each area. This situation continues up to this day.

That year, the first presentations of a mobile telephone system were

made. The authority that "allocated" radio frequencies was dominated by the military and as such was not inclined to permit a civil mobile telephone waveband. This first happened five years later, in 1987.

Joint venture

In order to secure a position before the bidding contest, which was inevitable, and above all to be part of it in a Taiwan that is sensitive to U.S. trade and foreign policy, negotiations were started with a Taiwanese company. In 1987, Ericsson formed a 40 percent part-owned venture with Teco Electric Machinery Co. Ltd. The company was known as Terico (TET). Ericsson's technical office was disbanded and Christer Hohenthal became director of Terico.

Quick developments

In May 1988 the first contract for a mobile telephone system was drawn up. Before that, there was a rapid presentation of bids from Ericsson, Motorola and AT&T. Northern Telecom was also invited to bid but it declined. The communications minister had promised that the system would be in operation on July 1, 1989. The timetable was met and on June 19 the system was put into commercial operation after a demanding installation project that was directed by Lars-Erik Wihlborg.

The network now has a capacity of 40,000 subscribers and there is an expansion under way for lifting capacity to 110,000 users by the end of the year.

The number of subscribers increases drastically with every month

to use pocket phones and we expect a huge wave of subscribers," he says. In effect, one expects this development to be like that in Hongkong, where almost 90 percent of all mobile phones are pocket phones.

The telecommunications administration in Taiwan has also chosen Ericsson as supplier of its large nationwide people paging system. The system is expected to come on stream at the end of March, according to a press release from the Ministry of Communications. Already there are now 300,000 subscribers who have registered to be in from the beginning.

HotLine in Taiwan

Terico (TET), Ericsson's joint venture company in Taiwan, will be responsible for all terminal operations in the country as of January 1. This means sales and installation of Hot-Line mobile phones. Heading the company is Bengt Jordahl, who previously built up similar operations in Thailand and Malaysia. At the end of the year, the company will have about 70 employees. In Hsinchu, there is development, design and purchasing. Here, too, there is some local manufacture of sets for the HotLine phone.

Cooperation

In Hsinchu there is also Tecom, a telecommunications company within the Teco group, the Taiwanese company with whom Ericsson works. Tecom manufactures certain parts for the mobile phone system's transmission as well as small office switches. It is in the factory here that manu-

facture of the HotLine sets is carried out.

"Through our joint venture company Terico we have excellent cooperation with Ericsson. It is a positive 'give and take.' Ericsson gives us technological knowhow and we help you to penetrate the Taiwanese market," says C-K Liu, managing director of Tecom Co. Ltd.

He is optimistic and he feels that Ericsson has an interesting future in Taiwan. As for the public telephone network, it is undersized and in need of modernization. The supply monopoly of public telephone stations that exists today is soon to be dismantled and C-K Liu believes the market could be open in two years.

"And then Ericsson is already there," he points out.

'Silicon Valley'

Tecom and Terico are in Science Based Industrial Park in Hsinchu.



Ericsson has an interesting future in Taiwan, says Dr. C-K Liu, head of Tecom Ltd.

That is Taiwan's "Silicon Valley" where many foreign companies have their offices. There are also two technical institutions in the area. Taiwan's economy is no longer dominated by the textile industry. The

electronics industry is even more significant and there is a need for high technology.

"The companies that have established themselves in Science Park reap many advantages. Many American companies have drawn on these and, for example, have placed development in some of the technical universities," says C-K Liu.

ERT

"All Ericsson operations in Taiwan, except terminal operations, are assembled here at ERT, Ericsson Taiwan Ltd. Our main product today is mobile telephony and people pagers but our activities are sure to expand," says Arnfinn Røste, managing director for ERT. The company, which belongs to the Radio Communications Business area, first began in January this year and has 80 employees. It is a joint-venture company, in which Ericsson has 60 percent and Teco 40 percent.

Carl Sköld, who earlier worked with economic planning and control at LME is controller and administrative liaison for Ericsson companies in Taiwan.

First MD110

Shortly before Christmas an MD110 was installed at Nyfocom's office in Taipei. That is the first in Taiwan and it serves as an important reference point. It will soon be followed by an additional MD110 for ERT's new office in Taipei. Taiwan can also be a new market

for defense communications. As an example of the products, Arnfinn points out the AXT switch and the tactical radio communications network.

In January, a major ETX seminar was held in Taipei. The theme was Intelligent Network, and the response was positive. In March, ETX will hold its Asian conference with some 60 participants in Taiwan. "I am pleased that AXT demonstrates in this way its support for the newly started ERT and its great interest in the future market of Taiwan," concludes Røste.

In December last year, the first elections were held in Taiwan in which opposition parties were allowed.

In 1971, the People's Republic of China was voted into the United Nations and Taiwan lost its representation there. At the same time, most of the countries broke diplomatic relations with Taiwan. The United States has given the country significant economic and military aid. Today, Taiwan has one of the world's fastest growing economies.

Beautiful and ugly

When one comes to Taipei, it is difficult to understand the name Formosa, the beautiful island. Taipei is not a beautiful city; it is situated at the foot of the mountain,

Taiwan — The Beautiful Isle

Taiwan is a long way from Sweden. How far it really is, I began to realize after a 14-hour flight. After a stopover amid the skyscrapers of Hongkong (the airport is almost in the center of town), I reached Taipei, the capital of Taiwan, with 5.5 million inhabitants. The area around Taiwan is among the most densely populated in the world. Taiwan has some 20 million inhabitants in an area about one-third the size of Sweden.

The official name is Chung-hua Min-kuo, the Republic of China (ROC). Taiwan consists of the main island of Taiwan and 77 small islands. The Formosa Strait (at its narrowest point only 130 kilometers) separates Taiwan from the Mainland, the People's Republic of China. Formosa is Portuguese and it was a Portuguese armada that in the 1500s made the island known in Europe as Ilha Formosa, "the beautiful island."

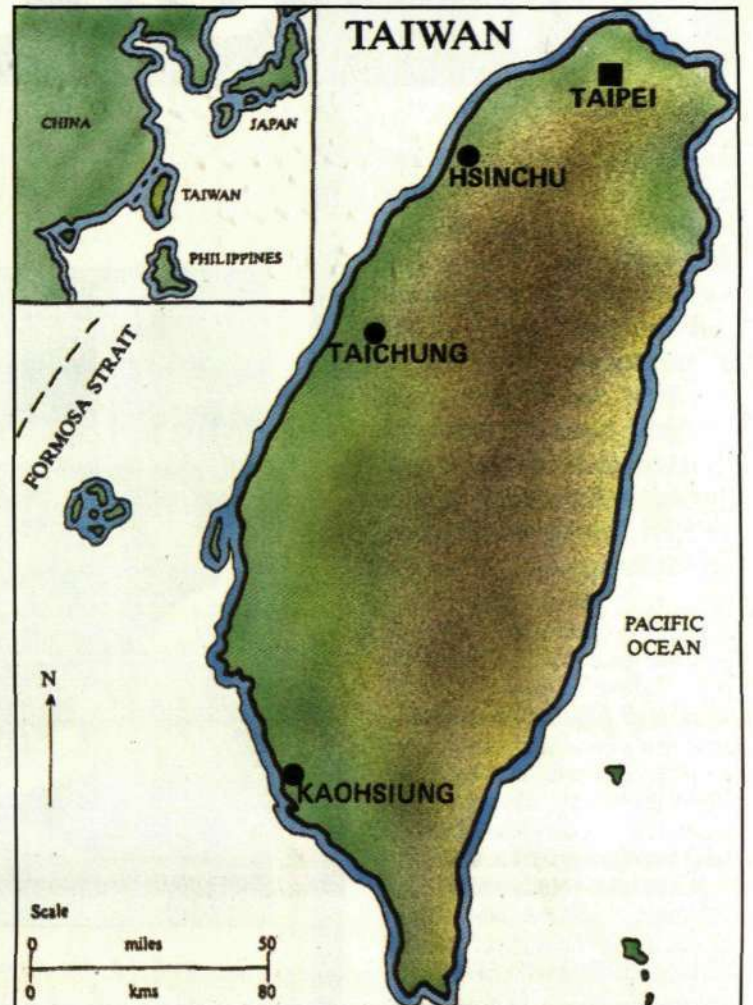
Yielded to Japan

In the 1600s, Taiwan was incorporated into China and in the 1800s it became a province of China. In 1894, China yielded Taiwan to Japan. The following year the Taiwanese revolted and called for a republic on the island, the first in Asia. In 1945, a vanquished Japan relinquished Taiwan to China. In 1949, Chiang Kai-shek fled from Mao Tse-tung's Communists. He took his government with him to Taiwan, as well as his army and a million refugees and swore from the island that he would reconquer all of China.

almost like a cave. Traffic is, to say the least, dense. And the thousands upon thousands of motorcycles and motor scooters that move everywhere (and park on the sidewalks) barely help to improve the traffic environment.

But if one comes a little bit outside of the center of Taipei, one understands the name Formosa a bit better. Here the mountains and woods and air are significantly cleaner. The mountains stretch from north to south along the eastern part of the island. The highest mountain peak rises to some 4,000 meters above sea level.

English is the first foreign language taught in schools. The knowledge of English among the general public is somewhat limited. As a foreigner, it is best to have the name of your hotel written in Chinese characters. Taxi drivers seldom understand English and only the very large streets in Taipei have signs in English.



The official language is Mandarin, originating from empirical Peking. It is different from the local Taiwanese which stems from Fukien Province in southern China. The written language is the same, but the spoken word is quite different. That explains why most of the Chinese television programs in Taiwan also have Chinese subtitles.

English is the first foreign language taught in schools. The knowledge of English among the general public is somewhat limited. As a foreigner, it is best to have the name of your hotel written in Chinese characters. Taxi drivers seldom understand English and only the very large streets in Taipei have signs in English.

The population is made up of 85 percent Taiwanese, Chinese who emigrated to the island between 1300 and 1600. The rest are Chinese who came to Taiwan in 1949 when Chiang Kai-shek left the Mainland.

Exotic climate

Taiwan has a subtropical climate which becomes tropical in the southern part of the island. To Swedes, the climate and vegetation would appear exotic. In the street markets there are a number of vegetables and fruit for which I doubt there are Swedish names.

The population is made up of 85

Company for consultant services

Nyfocom is the name of a new company that began operations in January this year in Taiwan. The company, which will be working in consultant services in mobile communications for the Taiwanese telecommunications administration, is owned equally by Ericsson, the Taiwanese software company Infocomm and Nynex. The last is a regional telecommunications administration in the northeast United States and covers among other areas New York and New England. Nynex also operates a mobile telephone system in New York from which one hopes to be able to recruit consultants to

Nyfocom. With some justification, the Taiwanese see Taipei as an Asian New York and as such at-



E.A. Sekulow, head of Nynex International Company, U.S.A.

tach a great deal of importance to experiences from New York.

A major task for Nyfocom is to find new base station builders for mobile telephone and people pager systems. Furthermore, one can take from the data base reporting system, allowing telecom administration managers a chance to judge on a weekly basis access and capacity in the system. The task involves consultant services, which Ericsson normally cannot be paid for.

"We have very good relations with Ericsson and it is satisfying that we can work together in this way," says E.A. Sekulow, manag-

ing director for Nynex International Company, U.S.A. "We already have that type of operation in Britain and Gibraltar and our experiences have been good. I am convinced that Nynex and Ericsson, through Nyfocom, will find many ways in which to cooperate."

A major task for the new company is to make subscribers aware of the coming people pager system. That should be ready to come into operation at the end of March and already there are 300,000 up-front subscribers, who will be put into the system with all the details in Chinese.



Bernt Holst

In August 1985, ERA received an order for a mobile telephone system for Australia. Today the system has about 100,000 subscribers and it is doubling every year. During 1988, local production of radio base stations was started and now it is a major manufacturing aspect of EPA, Ericsson's factory in Melbourne.

Already in the later part of 1984 an offer was placed with EPA and that had to do with 1,000 channels. In the contract that was written in August the following year there were provisions for local production. However, initially the volume was seen as being so low that the channels could have been bought from ERA.

When the volume rose considerably, discussions were begun along the lines of starting local production with EPA. In the spring of 1987, a final decision was taken.

A project leader was designated by EPA and different plans were set into motion to commence operations during 1988. In the fall of 1987 a number of EPA employees were sent for training at the Gävle plant in Sweden. The intention was to begin delivery to Telecom Australia of locally manufactured transceivers (channels) during the fall of '88. ERA sent a test engineer from Gävle to EPA to serve as a technical adviser.

Tough

Annual volume is now put at 2,000 channels. But already at Christmas '88, EPA's president, Lars Estberger, in a meeting with Telecom, knew that the need was more for 6,000 per year and that of this 3,125 should be delivered before mid-year. This meant a tough schedule as far as resources and timetable were concerned. One of the most pressing problems was to find radio tech-

nology knowhow in a company with a tradition for telephone technology.

Material procurement was another major problem. ERA, with its enormous market and volume increases in radio base stations already had a problem of its own. It was not without some

trepidation then that one sought support from ERA through Kurt Hellström, head of marketing for B division. EPA got a green light. Thanks for that Kurt! Added to that was an increase of 1,000 channels in January. Volume has been on the rise since. EPA has now entered a production level of 12,000 channels a year.

Staff increase

In eight months personnel has increased from 20 to 132 employees and of these 30 are test technicians. EPA has attached a lot of attention to recruiting of personnel and to the importance of having suitably qualified technicians.

There is a high level of quality

among its personnel. There is a risk that EPA could serve as a training ground for many companies that will eventually need this type of radio technician. This could lead to turbulence in personnel turnover.

EPA has met the rigid demands of Telecom. Naturally, this would not have been the case had ERA

'Ericsson in Australia' And EPA in particular

Ericsson is a well-known company in Australia. Already in 1951 a sales office was opened in Melbourne. The start was modest, with two employees. Most of the telephone switches were installed in Templesow in Melbourne and Softon in Sydney. The number of subscribers was 600. In 1960, the first coordinated selector switch went into use in Toowoomba in Queensland for 6,300 subscribers.

In 1961, it was a commercially rich year, when Ericsson office was opened in Sydney. At the same time, manufacture of units for coordinate switches was begun in

Melbourne. Two years later, Ericsson installed the largest privately-owned PABX (private switch) in the country. It covered 2,000 connections.

Another important year was 1977, when Telecom (the Australian telecommunications administration) chose Ericsson's AXE, a multimillion contract. One can draw up a long list of Ericsson successes in Australia. But let us begin from another very important year, 1963. In December of that year Ericsson inaugurated a new factory and head office in Broadmeadows in Melbourne. The

number of employees then was 474 and turnover was 1.2 million AUD. Developments have moved rapidly. Today, employees number 2,300 and last year turnover was 300 million AUD. Today it is significantly higher. The main products are AXE, PABX and the mobile telephone system RBS 882.

The president of the company since 1982 is Lars Estberger. He is also the Swedish consul in Melbourne. Of his 30 years abroad with Ericsson, 20 have been spent in Australia.

Training center

A very important initiative taken by Estberger was to start training in industrial engineering in conjunction with Melbourne University and some other companies, one of



them an Ericsson competitor. The main sponsor is Ericsson. The aims of the training program are:

- to acquire a better understanding of the telecommunications and electronics industries and to give them a central role in development.
- to improve knowledge and com-

petitive strength in the Australian electronics industry.

- to bridge the traditional gaps in information between commercial and industrial practices and formal education.
- to create opportunities for production developments within the electronics industry.
- to give instructors and students insight into practical industrial standards.

The building for the training center will be located in the Ericsson vicinity in Broadmeadows. Construction is now in progress and the inauguration is scheduled for the spring of '90.

Another construction project in progress is the addition of a third floor at the design center, which will be completed next year.

On the other side of the globe



Around an aerial view of the Broadmeadows factory. From left: Con Paraskevatos, Marissa Alonso and Rosa Lorcu, who test and mount circuit boards. Far down to the right, Lars Estberger, president, and in the group picture, the "Iron gang" — Ingemar Petersson, Adrian Jensen, Mira Deva, Andrew Massie and Judy Heyfron. (The photo of Estberger was taken by Lawrence A. Shatin.)



not supported EPA in the way it did. That has meant material/matériel, personnel, training and equipment. There are many people who made this a possibility, both in ERA and EPA. It has been an example of excellent teamwork.

To date about 6,000 EPA-manufactured channels have

been delivered to Telecom. In January the factory area was expanded for this manufacturing from 800 to 1,450 square meters. According to reports from Telecom representatives, the client is pleased with the quality. So far! We have every reason to be positive about the future.

Manufacturing abroad

In Australia, England and Italy manufacture of radio base stations for mobile telephone systems are carried out for these countries. Already in 1985, the British company Orbitel began licensed manufacturing. Today, England has one of the world's largest mobile telephone systems.

In Australia, local manufacture began in 1988 and as at the end of this year, it will be completely self-contained.

"In the spring, local manufacture in Italy was begun with the state tele company Italtel. In summer, there will be an additional Italian licensed manufacturer when the privately owned Telettra begins to manufacture radio base stations for the domestic market," says Sören Bowman, who is responsible for the Gävle plant's overseas production.

B-division is now preparing for local production in the U.S. This will be done at the GE factory in Lynchburg, Virginia, within the framework of the joint venture agreement between GE and Ericsson. Over the next year production is estimated at 4,000 channels and at 10,000 in 1991. Brazil is another country where in the long run there could actually be local manufacture of radio base stations. The Gävle plant is also planning a training program for Brazilian personnel. In this way, one will be well prepared should orders stream in later on.



Australia

How large Australia really is it is difficult to grasp, until one is in the country and has to get to some place other than where he actually is. Then one gets an idea of how immense the country is. It covers an area of 7.7 million square meters. It stretches from north to south for 3,846 kilometers and from east to west for 19,200 kilometers.

About 15 million people live in Australia, of whom 9 million are in the major cities. The country is made up of six federal states New South Wales, Victoria, Queensland, South Australia, Western Australia and the island of Tasmania. One can also add the Northern Territory, which is not an independent state but which has its own government, which has its seat in Canberra.

In 1770 Captain J. Cook landed at the site that is now Sydney, and ever since then a lot has happened in Australia.

The population is a cosmopolitan one, and after World War II immigration stepped up, especially from Europe and East Asia. Outside of Athens, the next largest number of residence Greeks are to be found in Melbourne. The Chinese presence is also noteworthy.

5,000 Swedes

There are some 5,000 Swedes living in Australia, of whom 1,000 are in Melbourne. Swedish companies are well represented. There are 245 of them, of which 62 are in Melbourne. Besides Ericsson, there is ASEA, Alfa Laval, Saab and Volvo. In Melbourne, the Volvo presence is quite noticeable, while Saab's is not.

A significant link for all Scandinavians is the Swedish church in the Thoorax area, which occupies an old governor's mansion. Many activities are organized and the church is open every day.

The authorities attach certain requirements to immigration, in any case as a formal application. But once these requirements are met, and so long as one stays within the law, they tend to leave you alone. The country is easy to live in, provided that one has a job and that one remains in good health. It is necessary to insure oneself against most eventualities. A visit to the doctor is costly, not to mention a stay in hospital. Should children be in need of dental care, such as braces, it can cost a bundle.

The climate is variable, with tropical in the north to cool in the

southeast and Tasmania. It is said that in Melbourne one could live through four seasons in a single day. It's true.

Melbourne

Melbourne, with which I am most familiar, is a city of 2.7 million inhabitants. A stretching city. Depending on what you consider as incorporated into the city, it is 80 to 100 kilometers long. So it is said.

The best indication of Melbourne's size is a trip 45 kilometers from the city to the top of Mount Dandenong, preferably by night. From there one can see the city's lights disappear in the horizon. There are many who say Melbourne is an ugly city. That's a matter of taste. Not many world cities have so numerous and beautiful, well-tended parks like the Royal Botanical Garden, Fitzroy Garden and, not to be forgotten, St. Kilda Botanical Garden.

Something that no visitor should miss is Queen Victoria Market, located in the center of the city and occupying an entire quarter. There



one can buy fruit, vegetables, meat, fish, cheese and bread, much cheaper than in the supermarkets. There are also live chickens and pigeons, if you have a liking for that. On Sundays, you can get clothing, shoes, handbags, paintings and toiletries. It's probably easier to figure out what is not sold at the

Queen Victoria market. It is an experience to go there and soak up the bazaar atmosphere.

Handicrafts

There is a large selection of shops and departments stores. The largest and best known is Myers, which can be compared with Åhléns in Stockholm, and David Jones, very much like NK.

A Sunday stroll can be combined with a shopping trip on St. Kilda Road, along the beach. There is a market where artisans sell their wares at small stands. No one is allowed to rent a stall unless he can prove that it is his own handicraft he is selling.

Melbourne is the only capital city that has an extensive tram network. And it is cheap to travel on it.

In general, traffic is dense. In the city it is permitted to drive up to 60 kilometers an hour. If you plan to stay more than three months in the state of Victoria you must have a valid state license. The permitted alcohol content in the blood is 0.05 percent. In the driver's test there is a question to which the right answer is that you can have a drink an hour and not surpass the limit.

BYO

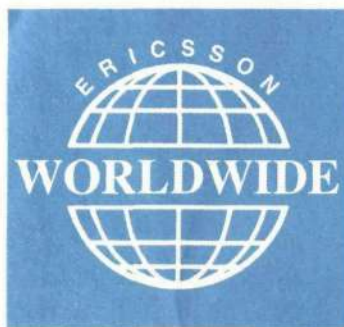
It is relatively inexpensive to eat out. There are many different types of restaurants representing all sorts of cuisines. At many restaurants there are signs that read BYO. That means Bring Your Own. One can go to the nearest "bottle shop" and buy what you want to drink with your meal. And there are a lot of "bottle-shops."

Since the climate is mild, Australians tend to live a lot outdoors. The homes do not demand the same standards as those of cold Nordic climates. Barbecue is a must. Many parks and rest areas are equipped with grills with facilities for wood or gas. These are widely used.

The Melbourne Zoo is a major attraction, perhaps one of the world's best, the Swedish consulate in Melbourne is at Ericsson in Broadmeadows. The consul is Lars Estberger, president of EPA.

A word of advice for Swedes who plan to come to Australia, privately or for work. Get a travel book called "Australien," by Margareta Lindberg and Willy Westby. It costs 230 SEK and is worth every krona.

Bernt Holst



Mobile telephony in Mexico

Ericsson has signed a contract valued at USD 32 million with the Mexican Telephone Administration, Telmex, for a mobile telephone system in Mexico City, and expansion of its system in the northwest border town of Tijuana.

The contract includes AXE mobile switches, radio base stations, towers, containers and network engineering for delivery in 1990 to DIPSA, a Telmex subsidiary.

The Tijuana system was opened last October and today serves 2,500 subscribers. The system is growing very rapidly, and will soon include "roaming" possibilities between Tijuana and San Diego on the other side of the border, in the U.S.

Mexico City, the world's largest city, today 10 as fixed telephones per hundred inhabitants, and mobile telephony is seen as a faster way to offer telephone service.

SEK 200 million contract in Morocco

Ericsson has signed a SEK 200 million contract with the Moroccan Telecommunications Administration for AXE equipment for local telephone exchanges and transit exchanges.

The contract also includes a 20,000-line exchange which is to replace an old exchange destroyed in a fire. Ericsson and the Moroccan Telecommunications Administration were together able to arrange a temporary solution in less than a week to cover the most acute need for telephone lines. Ericsson has now been given the task of building a new exchange to replace the one destroyed in the fire.

The equipment will be manufactured in Sweden and installed in 1990. The contract will be financed with favourable-term credits from BITS (the Swedish Agency for International Technical and Economic Cooperation).

"The Moroccan Telecommunications Administration has far-reaching plans and we hope for continued cooperation in the future," says Rolf Nordström, Manager, Africa and Middle East Operations, Ericsson Telecom.

Hand over in Ireland

Ericsson has handed over its 100-percent ownership in the Irish electronics company Erictron Ltd., EMI, to the management and employees. The president of the new company is John Whyte, who is also president in Erictron which is in LM Ericsson Ltd., LMI. Erictron has 240 employees and is located in

Athlone, in central Ireland. It manufactures AXE as well as additional electronics products for several large companies.

Ericsson will continue to manufacture AXE with Erictron to some extent over the next three years.

2 orders confirm status to NYNEX

NYNEX has qualified Ericsson as a third vendor of central office equipment with two orders for AXE digital switches. One AXE will be located in New York in Queens, and the other will be in Watertown, a suburb of Boston, Massachusetts.

NYNEX selected Ericsson as a third vendor after completing an in-depth study of the leading digital switch manufacturers' products, technology laboratory in Manhattan and at actual work locations in New York.

New York Telephony presently is using an Ericsson AXE switch to provide Interactive Mass Announcement Services (IMAS) and other services. The IMAS switch was put into service in March, 1988, in Brooklyn, New York.

Expansion in Greece

Ericsson has received a new contract from the Greek telephone company administration, OTE, for installation of 285,000 AXE-lines in the public telecommunications network.

The contract includes 13 new stationary and 2 mobile exchanges, plus an expansion of 9 previously delivered exchanges.

Deliveries will start with 45,000 lines during the second half of 1990 and continue with 220,000 lines during 1991. The equipment will be manufactured both in Sweden and Greece.

"This contract gives us an opportunity to continue our expansion of AXE in Greece by 220,000 lines annually," says Ragnar Bäck, manager, Europe and Oceania Operations, Ericsson Telecom.

Intracom, Ericsson's partner in Greece, will increase its resources considerably as a result of this agreement. They will also establish a "software house" for AXE program development. An additional 80 software designers will be engaged for this work.

Clear with NET

In the fall, negotiations took place between Ericsson Business Communications and the U.S.-based NET on joint cooperation. As early as Christmas, the parties came to an agreement and the accord gave Ericsson the right to sell and market NET's communications products, so-called IDNX (Integrated Digital Network Exchange), over the entire world.

The products will be marketed together with Ericsson's office switch MD110 and X.25 data network ERIPAX.

Through this agreement, we will be one of the world's leading suppliers that can offer its customers complete solutions for office communications," says a satisfied Rolf Eriksson of EBC, who wrapped up the deal.

"Window sign" in Germany

CeBit, which takes place March 21-28, is the largest annual exhibition for information, telecommunications and office technology in Europe. It takes place in March every year in Hannover, West Germany. Last year, more than 510,000 visitors attended the fair. The majority of these were Germans, but the number of international visitors reached as high as 100,000.

Through Ericsson Business Communications and, previously, EIS, Ericsson has been participating for some years now. But this year, Ericsson will be participating in full force at CeBit. It will be demonstrating everything, from a functioning AXE station to the very latest in paging equipment.

The Ericsson stand is more than 700 square meters large and occupies two floors. It is very well positioned in one of the halls that displays telecommunications equipment.

Success in digital mobile telephony

Ericsson has received a Letter of Intent from the Finnish Telecom, Tele, to be supplier of the new digital mobile telephone system, GSM, which will be taken into operation during 1991. Similar decisions have been made during the last month by the Swedish Telecom and the Danish Tele Administrations.

Ericsson already has agreements with the U.K., France, Switzerland, Spain and Italy to supply GSM-systems.

GSM is the name of the Pan-European mobile telephone system which has been agreed upon as standard for all of Europe, and which will be introduced during 1991. GSM will make it possible to use the same mobile telephone wherever you are in Europe.

Mobile telephony to Hungary

Ericsson has received an order for a mobile telephone system to Hungary valued at SEK 10 million. The contract is financed by the World Bank and the customer is Hungarian Telecommunications Company, which has formed a joint venture with US West (one of the regional Bell operating companies in the US) for operation of the system. The system includes an AXE mobile telephone switch, radio base stations and 200 mobile telephones. The system, of type NMT 450, will be in operation in December this year. Discussions about extension of the system have already started.

The contract is a breakthrough for modern mobile telephony in Eastern Europe and Ericsson is now supplying its second AXE switch to Hungary. The other is an international switch in Budapest.

The telephone situation in Eastern Europe is difficult and the waiting lists to get a normal telephone are long. In Hungary, more than half a million people are waiting for a telephone. The Hungarian mobile telephone system will first be installed in Budapest for 1,000 subscribers, but nationwide coverage in a few years is planned.

Mobile month

Ericsson has received a Letter of Intent from the Finnish telecommunications authorities, Tele, to supply the new digital mobile telephone system GSM. It will come into operation in 1991. Last month, a similar decision was taken by Televerket in Sweden and the Danish tele administration, De Danske Teleadministrationerna. Ericsson has had earlier accords for delivery to Britain, France, Switzerland, Spain and Italy for the GSM system.

Mobile network for Beijing

Ericsson and Hong Kong mobile telephone operator Pacific Link Communications Limited has signed an agreement in Beijing to provide a new mobile telephone network to China's capital city.

The new system will provide significant additional telecommunications capacity in Beijing in time for the Asian Games, which are scheduled to begin in the city in September this year.

The cost of supplying and installing the equipment for the network is being met jointly by Pacific Link in Ericsson as an "investment" in developing future roaming capabilities and other business opportunities in China.

The mobile telephone network will comprise nine cell sites and an Ericsson AXE-10 switching system.

With an initial capacity of 2,000 subscribers, the new network will more than double current mobile telephone capacity in Beijing.

Rapid switches for rapid pictures

The American company Polaroid will be investing in Ericsson telephony for its internal globe-girdling company network. The two companies have just signed a framework agreement for installation of Ericsson's telecommunication equipment.

The agreement covers Polaroid operations in 25 countries, including the United States. Among other things, Ericsson will supply the digital office switch MD110 as well as other equipment, consultation and services for an effective internal telecommunications system inside Polaroid.

"For Ericsson, this is a major agreement. We are delighted to work with Polaroid. More and more large companies with operations in several countries will be building up their own communication system," says Rolf Eriksson, Ericsson Business Communications. "We have a keen competitive edge in that Ericsson is found all over the world and also in that we have a very strong product lineup for internal company networks," he continues.

"For Polaroid, this is the first multiyear and international agreement on our telesystem. It underlines our trust in Ericsson, As Polaroid expands internationally, the significance of our telecommunications system is heightened. It also means that Polaroid can continue to maintain a high level of service for its customers," says Gerhard Pineault, purchasing manager for Polaroid.

New accord with Swedish Telecom

Ericsson and Televerket, the Swedish Telecom, have come to an agreement to continue developing the AXB 30-system, which forms the basis of Swedish Telecom's network service DATEX. At the same time, a general three-year agreement was signed for further deliveries of equipment to the rapidly expanding DATEX network.

The DATEX network is the world's largest public network for data communication. In Scandinavia, there are today 80,000 connections to the DATEX network, half of which are found in Sweden. The DATEX network has also been sold to countries outside Scandinavia, for example to Malaysia.

The current agreement to develop the AXB 30-system will enable joint services between the DATEX service and the future ISDN network. ISDN (Integrated Services Digital Network) will provide common access to all telecom services and networks through standard multi-purpose interfaces.

Telenet order from Mauritius

Ericsson has received an order from Mauritius covering expansion of the telecommunications network on the island. The contract is valued at SEK 170 million. Mauritius is located in the Indian Ocean about 800 kilometers (500 mi.) off the coast of east Africa.

"We are delighted to have been awarded this contract in competition with several other leading telecommunications companies," says Jan Eckerud, head of marketing at Ericsson Network Engineering AB. "Our commitment involves total responsibility for the project."

The order covers project management and expansion of the total telecommunications network in 17 towns. Ericsson plans to use personnel resources from its own network engineering companies in Sweden and Southeast Asia on the project, as well as local employees. Finnish Nokia will supply the cable.

The entire project is scheduled to be completed in late 1991.

Documented quality

At Ericsson Radar Electronics AB in Mölndal a document has been provided for referring to in contacts with foreign authorities and customers — something with high standing.

"Defense Materiel Operations, Quality Department, in conjunction with Ericsson, has shown that at Ericsson Radar Electronics AB, division for surface systems, it has documented and rowed a quality system and has obtained the FMV approval in accordance with the requirements for AQAP 1 and AQAP 13."

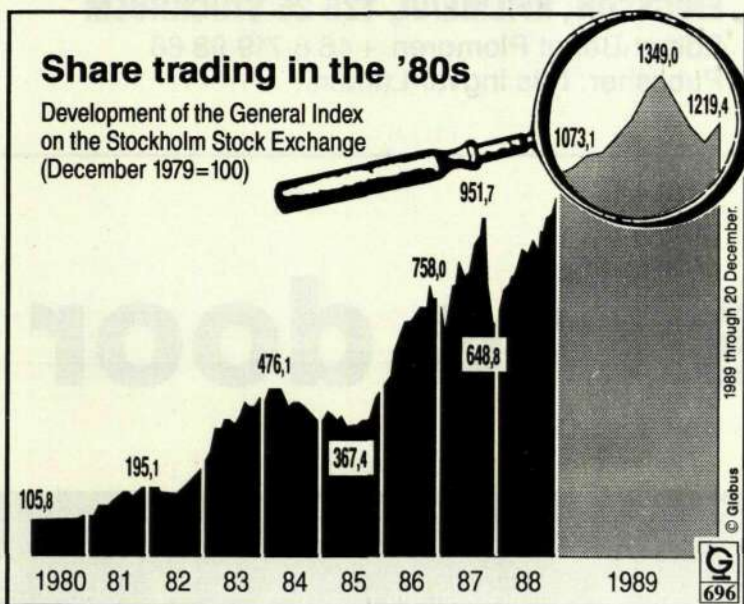
"It is only when the customer feels convinced that we have a system, rules and procedures, documented and functioning according to prescribed conditions in an effective organization that he can give us a certificate saying that he is satisfied with our method of working. We have lived up to the demands and, naturally, we are very proud," says Conny Allard at ERE in Mölndal. (Sensorn)

A glance at the '80s and 1990

Fantastic '80s

The Swedish stock exchange enjoyed a fantastic development during the '80s. Between January 1980 and December 1989, the General Index on the Stockholm Exchange grew by 1,161 percent. Many new millionaires were made on the bourse during the eighties. But there have also been several smaller backlashes. The worst was the so-called October crash in 1987. Then the index fell by more than 30 percent in a matter of days. But the backlash was only coincidental and it was readily compensated for by an even heftier rise. In the autumn, for example, the bourse dipped but already in the final months it picked up. Naturally, all shares have not rebounded similarly. There are winners and losers. Even in the bright eighties, companies have gone under.

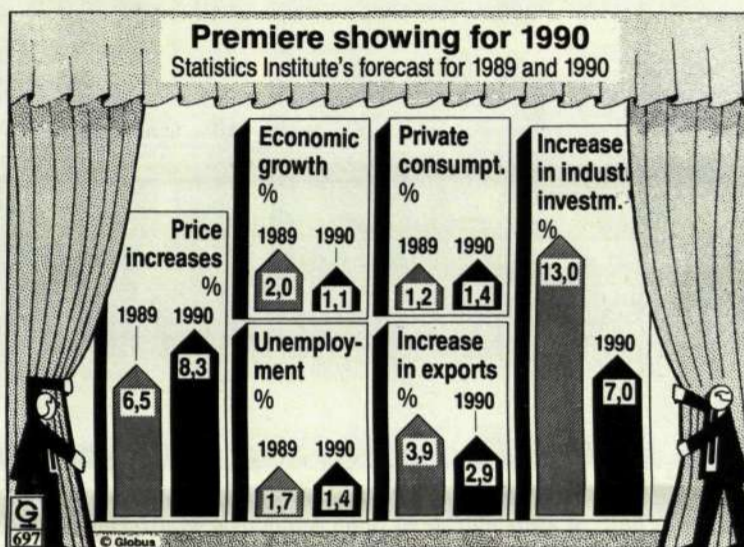
Source: SCB



1990 worse?

In its forecast for 1990, the Statistics Institute has taken a pessimistic stance. It feels that the strong 1989 will be followed by a weaker year. For example, inflation will be affected in 1990 through tax reform. The positive aspects of tax reform will come much later. In 1990, inflation is expected to increase 1.8 percent to 8.3 percent. Growth will shrink from 2 to 1.1 percent. Increase in exports will fall to 2.9 percent and industrial investment from 13 to 7 percent. The buying spree will continue and private consumption will increase to 1.4 percent. On the positive side, there will be continued low unemployment.

Source: Statistics Institute



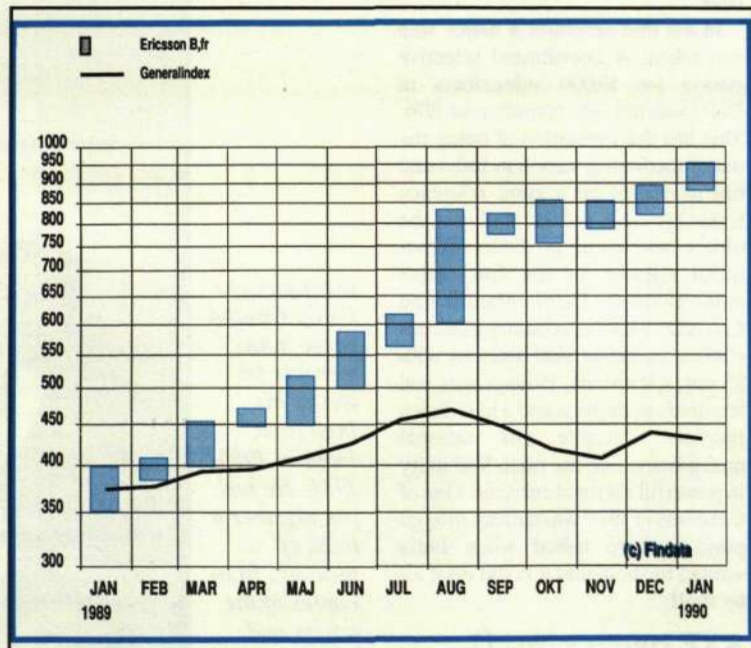
SHARE TRADING

It has been up and down on the Stockholm Exchange so far this year, but mostly down since the Total Index at the end of January showed a downturn of 2 percent for 1990.

The slide did not, however, affect Ericsson B-free shares, which rose 6 percent over the same period. The company continues to receive a favorable press and a number of articles in recent times have singled out Ericsson as a "winner for the nineties." Brokers and analysts have also said that the stock is worth buying at the present time.

This means that they foresee continued increased profits in the coming year. Ericsson B-free shares can no longer be seen as cheap in comparison with the Bourse's average.

The p/e ratio, that is earnings in relation to price, is 17, compared with 14 for the entire Bourse and 11 for industrials. Ericsson's adjusted own capital in relation to the share price is also an entire 330 percent, according to Affärsvärldens indikator, well above the Bourse average of 140 percent.



ERICSSON'S SHARES

	Mutual Fund		Share Savings Fund	
	Share Price (SEK)	Assets (MSEK)	Share Price (SEK)	Assets (MSEK)
31 Dec. 1987	70	27,1	147	31,7
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

Over the past two months, above all, the mutual fund has sold shares and instead has gone to convertibles. Following the shift, convertible dealings for the mutual fund amounted to 85 percent of assets. The corresponding

figure for the share savings fund is 6 percent.

Furthermore, a "split" has been effected in the share saving fund which means that the new trading price has been put at 1/10 of the old.

OUTLOOK

BY MATS HALLVARSSON

In the last month of the eighties a major breakthrough came for one of the foremost activities in the nineties for Ericsson and the telecommunications branch in Europe: a liberalization of tele services within the European Community. Further steps are expected but also dangers in the form of discrimination against non-EC manufacturers.

Telecommunications has a special place in the EC's major goal to have by 1993 a free and open internal single market for goods, services, employment and capital. Thanks to its border-hurdling character in bringing people together through dialogue and cooperation, telecommunications technology symbolizes in a distinct way the aims and objectives of the EC.

Despite this advantage, it has still been very difficult for EC countries to be united in a free and open telemarket concerning both equipment and services. Telecommunications authorities keep a close watch on trends and have favored domestic manufacture.

However, the objectives for the nineties are clear and are spelled out in a so-called "green book," which the EC Commission, the Community's policy-making body, published in 1987.

It was decreed that free competition shall, in principle, be applied to all the telecommunications markets, for equipment as well as for services. The PTTs, however, would retain exclusive responsibility for basic network and services.

After that, not very much in particular has happened, more than the usual arguments among member states and how the goals could best be realized.

But then suddenly at the beginning of December 1989 came one of those unexpected breakthroughs that can suddenly inject new life into EC cooperation in bringing about a compromise that opened up the large EC market for tele services, worth more than 500 billion kronor annually.

Markets for the bulk of tele services will be opened up to free competition in the coming year. However, the PTTs will retain control over basic services, that is the regular telephone traffic, if the member country so desires.

Toward the end of this year, electronic banking, electronic mail and other customer services will be set free for competition from private companies. After a transition period which ends at the beginning of 1993 private companies will also be free to compete in the huge and fast-growing data communications market.

Several European companies in countries outside the Common Market have acted in different ways to minimize the consequences of not being in an EC member state. For example, both Ericsson and Televerket, the Swedish telecommunications authority, are participating in the EC's huge research project RACE, Research and Development in Advanced Communication for Europe. Ericsson is participating in eight projects within RACE and is project leader for four. Televerket is participating in nine and is project leader for one.

Ericsson is also reinforcing its already strong market and launching positions within the EC.

With the opening of the free services market, the EC has also made a decision on the so-called Open Network Provision, that is the harmonization of tariffs, technical standards and conditions for entry to the public tele networks. That will now be made alike and with a minimum of discrimination.

With this, a major step has been taken that involves important changes in the marketing approach of equipment manufacturers. It means more customers to serve and tougher competition. The policy changes are expected to expand even more in the areas of customer services and development.

The same applies to the EC's other major liberalization move, free competition in the terminal markets. The step is already half-taken. In 1988, the EC Commission presented a proposal on how this rapidly growing market could be opened up but the member states objected to the legal aspects of the proposal and brought the Commission before the EC Court.

The proposal included free competition for telephone apparatus, office switches, terminals for data transmission, modem, fax, personal computers and other equipment that could be hooked up to a telephone network. When this issue will be resolved is still uncertain at the moment, depending on the arguments in the EC Court. But few doubt that the goals will sooner or later be realized.

Still to be taken up is the important question of broader trading, the purchase by public administrations of tele equipment, which concerns Ericsson to a high degree.

Here, too, the EC would like to have a freer market with orderly competition. But the feeling up to now has been that proposals along this line actually carry elements of discrimination. For example, there are notions that EC manufacturers should be treated in a different way. A bid from an EC company can, for example, be 3% higher than a non-EC company and still be seen as similar in value. And if at least 50 percent of the value of products and services in the bid did not originate in the EC, it will be seen as a non-EC bid. This can be a danger for Ericsson, if the regulations remain so.

Major and revolutionary changes are also on the way in the group's most important markets. Hence, CONTACT will soon publish a special issue on the EC where all these changes will be described and with commentaries from Björn Svedberg and a number of personalities in Sweden connected with the EC question.

Mats Hallvarsson is a freelance contributor.

India holds the door open

What does it mean to have four international AXE switches with a total of 6,500 connections in a country like India with 800 million inhabitants?

It can mean incredibly much for both Ericsson and India. Ericsson has made its long-awaited market entry into the world's largest democracy. The door to a fantastic market is open and it beckons. In its turn, India has made an important choice after a politically disturbing year, in which a powerful nationalist wave halted many foreign projects.

China has about one billion people and India some 800 million. But in terms of markets, one cannot compare the two countries.

"In China, everyone is more or less poor," notes Eric Strindlund, who is responsible for Indian sales within Ericsson Telecom. "In India, a large proportion of the people are as poor as those in China. But, nevertheless, there is a significant middle class that has the same or even higher purchasing power as the average West European. This group is estimated at about 80 million, of whom 76 million do not have a phone. This, together with the fact that 450,000 Indian villages lack phones, makes India a giant market with significant purchasing power."

Pioneer work 1935

Ericsson has been more or less in India since British colonial times. But the very first instance goes back to British Ericsson. But in 1935 the Swedish L.M. Ericsson built a four-channel frequency wave system that linked Bombay with several other Indian cities.

"It was a major adventure to travel to India at that time," recalls the 81-year-old India pioneer Philip Odland, who together with Ragnar Stålmarm was responsible for Indian operations.

Eighty percent of the 12,500 switches that exist in India today have fewer than 100 lines. In general, they are of the British Strowger system.

Twenty-five percent of the population own 90 percent of the telephones and about one million are waiting for a phone. According to the country's development plans the number of telephone lines is to increase from the present 4 million to 20 million by the year 2000.

When India became independent



A symbol for the epic-laden and wealthy India is the Taj Mahal, considered one of the seven wonders of the world. It sits alongside the Yamuna River, 20 kilometers south of Delhi, and was built in white marble by Shah Jehan as a mausoleum for his wife Mumtaz Mahal.



The enormous throngs of people is also something we associate with India, for example, during the height of the pilgrimage season and along the rivers.

in January 1947, an agreement was signed granting Britain sole rights for supplying telephone networks for 15 years. This agreement expired in 1962 and already in 1957 Ericsson had opened an office in Delhi to penetrate the market until it became completely open. Bengt Barkland was responsible for this office.

Not much money

"What we could work with was mostly local manufacture of transmission," he recalls, from his pensioner's home in Tranås. "There wasn't much money but in any case we went around and positioned ourselves within the development

that we knew would come sooner or later."

In the mid-seventies a major step was taken. A coordinated selective station for 10,000 subscribers in Delhi was put into operation in 1976. This has the reputation of being the only functioning station in India and has proved to be a good reference frame for AXE orders. And now the orders have come in. Four international stations for the four major cities Bombay, Delhi, Madras and Calcutta. This for a country that constitutes an entire subcontinent with 23 states, 9 unions, 15 languages and hundreds of dialects and a half dozen religions. Despite this national multiplicity, one can often find unity in powerful national currents. One of these was in 1989 when many foreign projects were halted when India wanted to show that it could do it all by itself.

AXE country No. 77

"It felt uneasy when that occurred," explains Tommy Eriksson over a static local line from Delhi to Stockholm via satellite. He is head of Ericsson International in India.

"We were never licked but several competitors were stopped in their tracks. During colonial times it was the British who supplied everything. Now the Indians want to show that they can manage without foreign help and that they can manufacture everything themselves." That attitude is understandable but naturally there are limits to what is possible. In the autumn there was a change and then came the strategic decision that led to India becoming AXE country No. 77. That bodes well for the future. The future is also now for Ericsson, with a new office that was



India pioneer Philip Odland wrote innumerable letters to his Inga from India in 1935-1936. He has put together a book of memoirs from copies of the letters and other material.

inaugurated at the end of February by Gunnel Svedberg. She and her husband Björn were visiting India then.

The office building will be called Ericsson House and is a four-story construction where Ericsson International will occupy one floor and the 40-percent owned Ericsson India another. Today, Ericsson International has 2.5 floors and expects to need one or two more in the new building.

Limited operations

Operations in India have been limited until now. There are five licensed manufacturers of telephone apparatus and, in addition, Ericsson

owns 40 percent in a small factory that manufactures switching equipment. Where operations have been maintained to a large degree has been a local manufacture agreement on transmission which amounted to 100 MSEK since 1986.

"The AXE orders, our new building and Gunnel and Björn Svedberg's visit have come at the right time," says Tommy Eriksson, in the roundabout connection from India. "Earlier, we worked as hard outside the customer's closed door. Now the door is opened a bit and we are on our way in."

Bengt Plomgren
Photos: Indian State Tourist Bureau and K-E Eklund