

# Contact

M A N A G E M E N T

No 6

PUBLICATION FOR ERICSSON MANAGERS WORLDWIDE

1989

## 'We have strength'



Björn Svedberg, President and Chief Executive Officer, with the record six-month earnings report.

In a prelude to a record '89 first-half earnings report, Ericsson announced the formation of a mobile communications joint venture with General Electric of the United States. Björn Svedberg, attributing the favorable earnings trend to long-term market and development efforts as well as Ericsson's successful concentration on telecommunications, noted that "we have the products and resources to capitalize on the potentials being

offered by the deregulation under way in telecommunications, particularly in Western Europe."

Lars Ramqvist, executive vice president of Ericsson and chairman of the new Ericsson-GE venture, said "our objective is to establish the venture as a world leader in mobile business communications and mobile telephones and a leader in the North American cellular systems market."



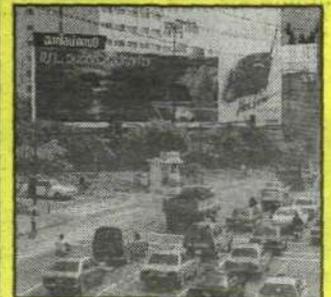
### Network for British Telecom

In the spring of 1988, Ericsson received a major order from British Telecom to set up a local network in the East Midlands. Bosse Lindström, project leader for the operation, draws on a wealth of experience from, among other postings, Iran, Saudi Arabia and Iraq. Page 7



### Ericsson, GE in joint venture

Ericsson and General Electric of the United States announce an agreement to form a joint venture in mobile communications. Ericsson-GE Mobile Communications will be owned 60 percent by Ericsson and 40 percent by GE. Page 3



### World's largest outdoor ad

The 35-meter long hand-painted advertising billboard in Bangkok is certainly an eye-catcher. The commando bridge on the M/S Ericsson Queen forms a fitting backdrop for the Hot Line. Page 12

**Continued strong earnings results • Page 2**



## Long-term investments yield favorable results

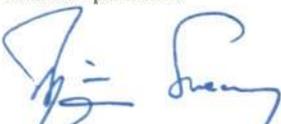
The continuing favorable earnings trend we are now reporting is the result of long-term market and development efforts during a succession of years. Naturally it is with great satisfaction that I can state that our concentration on telecommunications has been successful. The AXE system is being installed at an increasing rate for public telecommunications networks. In mobile telephony, Ericsson is the leader on the world market. With our system for business communications, we can offer total solutions for large and small business and organizations.

We have the products and resources to capitalize on the potentials being offered by the deregulation that is under way in the telecommunications field, particularly in Western Europe. We are a leading supplier of products for the numerous new telecommunications services being developed in the industrialized world.

Our long-term market efforts have focused on countries in which the current rate of investment is high in the telecommunications field. Spain, the United Kingdom, Australia, Italy and the Netherlands are examples. In the U. S., we are continuing our efforts with the same determination as before. We have installed AXE exchanges in the U. S. that are serving a million subscribers, the majority in mobile telephone systems.

In addition to market presence and the appropriate technology, success demands efficient production facilities. At Ericsson, we have continually rationalized and improved the efficiency of our production as well as the installation of systems and products. We shall continue to increase our productivity to become even stronger in the highly competitive fields in which we operate.

We will also continue to focus on those markets that are expected to be expansive in the future. We have the financial strength required to accomplish this.

  
Björn Svedberg

# 1989 FIRST HALF EARNINGS REPORT

## A summary of the numbers

Order bookings amounted to MSEK 20,148 (15,391 in the corresponding period 1988) and net sales to MSEK 17,892 (13,607) a 31 percent increase in both cases. Income before appropriations and taxes was MSEK 1,671 (633) of which capital gains accounted for MSEK 9 (2). Income per share after taxes paid and full conversion was SEK 23.10 (6.69). Income per share after paid and estimated deferred taxes on appropriations, after full conversion, was SEK 22.84 (8.79)

The strong improvement in income, that continued during the second quarter, is attributable mainly to higher sales in the core business areas without a corresponding increase in expenses. In evaluating the increased income, the adverse effect of the labor market conflict on earnings in the preceding year must be taken into account. All business areas reported positive operating income except Defense Systems.

During the period, Ericsson acquired a telecommunications operation in Norway while at the same time Ericsson's road and railway signalling units were sold. The number of Ericsson employees at mid-year was 66,107 compared with 65,138 at the beginning of the year.

### Operations

Deliveries of AXE exchanges for public telecommunications rose very sharply. A marked increase in net sales was also noted for mobile telephone systems. In the business exchange sector, order bookings for the MD 110 and the new generation of smaller subscriber exchanges were exceptionally favorable.

**Public Telecommunications** reported a strong improvement in operating income after an increase in net sales of 44 percent. The increase was attributable mainly to markets in Spain and the U. K., as well as in Italy, Mexico, Saudi Arabia, Sweden and China. Order bookings rose 25 percent.

Order bookings in **Radio Communications** more than doubled. The increase of 105 percent, as well as a rise in net sales of 53 percent was due primarily to the continued successes for mobile telephone systems in North America, Australia, Italy, Taiwan and other markets. Operating income improved significantly.

**Business Communications** reported a strong improvement in

### TREND OF OPERATIONS IN BRIEF

MSEK	Jan-June 1989	Jan-June 1988	July-Dec 1988
Net sales	17 892	13 607	17 690
Order bookings	20 148	15 391	20 242
Order backlog, end of period	28 612	24 927	26 876
Income before appropriations and taxes	1 671	633	1 207
Net income after taxes paid <sup>1)</sup>	977	291	742
Net income after taxes paid and estimated deferred taxes on appropriations	966	382	813
Number of shares outstanding, millions	39	38	38
Adjusted net income per share after taxes paid, SEK after full conversion	24,92	7,62	19,44
Net income per share, after taxes paid and estimated deferred taxes on appropriations, SEK after full conversion	22,84	8,79	19,00

<sup>1)</sup> Period's portion of estimated taxes paid for the full year.

### SALES BY BUSINESS AREA

MSEK	Jan-June 1989	Jan-June 1988	July-Dec 1988
Public Telecommunications	9 010	6 263	8 716
Radio Communications	3 184	2 085	2 751
Business Communications	2 313	1 528	2 175
Cable and Network	2 622	2 839	3 206
Components	1 016	869	870
Defense Systems	1 503	1 236	1 592
Other operations	337	561	436
Less: Intersegment sales	-2 093	-1 774	-2 056
	17 892	13 607	17 690

### SALES BY GEOGRAPHIC AREA

MSEK	Jan-June 1989	Jan-June 1988	July-Dec 1988
Sweden	3 239	2 727	3 279
Europe, excluding Sweden	9 018	6 499	8 658
United States and Canada	1 237	1 093	1 144
Latin America	1 485	1 319	1 717
Africa	281	252	422
Middle East	685	351	720
Asia, excluding Middle East	941	500	807
Oceania	1 006	866	943
	17 892	13 607	17 690

earnings. Order bookings and net sales rose 55 and 51 percent, respectively, partly as a result of company acquisitions and the transfer of operations from Cable and Network. For comparable units, the increase in order bookings and net sales was 20 percent.

**Cable and Network**, previously two separate business areas, reported slightly lower operating income. Net sales declined 8 percent and order bookings 3 percent. This is due mainly to the divestment of signalling operations and the cable activities in the U. S. For comparable units, order bookings rose 32 percent and net sales 20 percent.

The increase in order bookings of 8 percent and net sales of 17 percent in **Components** was attributable entirely to the power

supply equipment sector, while microelectronics sales declined. Operating income improved.

Operations in Sweden accounted mainly for the 22 percent increase in net sales in **Defense Systems**. High project costs in command and control systems, combined with a reduction in production capacity, adversely affected operating income in the business area, resulting in a deficit. The decline in order bookings of 15 percent is due partly to the transfer of operations to other business areas. For comparable units, the decline was 7 percent.

### Financing

Net financial expenses improved by 30 MSEK, mainly as a result of the continued positive cash flow. The equity ratio improved by

2.3 percentage points to 36.0 percent, which was due primarily to the conversion of loans in Swiss francs and U. S. dollars.

### Capital Expenditures

Consolidated investments in property, plant and equipment amounted to MSEK 943 (630), of which MSEK 454 (290) was attributable to Sweden.

### Outlook

The positive trend in order bookings and earnings during the first six months, combined with the effects of the ongoing rationalization programs, are expected to result in income for the full year, before appropriations and taxes, in excess of SEK 3 billion.



The agreement on the joint venture being signed in Ericsson's boardroom at Telefonplan in Stockholm. From left, Björn Svedberg, General Electric's Senior Vice President Eugene F. Murphy and Lars Ramqvist. PHOTO: BO BINETTE

# Ericsson and General Electric form joint venture in mobile communications

**Ericsson of Sweden and the General Electric Company (USA) have announced an agreement to form a joint venture in mobile communications. Ericsson-GE Mobile Communication will be owned 60 percent by Ericsson and 40 percent by GE. It will produce cellular telephones, mobile radio products and systems, and "Mobitex" mobile data communications systems for the international market. The joint venture will also serve the U. S. and Canadian markets for cellular telephone systems**

Åke Lundqvist has been named president of Ericsson-GE Mobile Communications, which will be formed by merging existing units. In 1990, the new unit expects to have 4,750 employees and sales of USD 1 billion (SEK 6,500 million).

Lars Ramqvist, executive vice president of Ericsson and chairman of the new venture, said that combining the units from Ericsson and GE makes good business sense because the companies complement each other.

"Our objective is to establish the venture as world leader in mobile business communications and mobile telephones and a leader in the North American

cellular systems market. Combining resources will provide the financial depth and resources to compete in the future, and provide employment opportunities for Ericsson and GE people. The new company will serve a market that is twice as large as each company had separately," said Ramqvist.

Eugene F. Murphy, GE senior vice president, said the new venture is well positioned for the future.

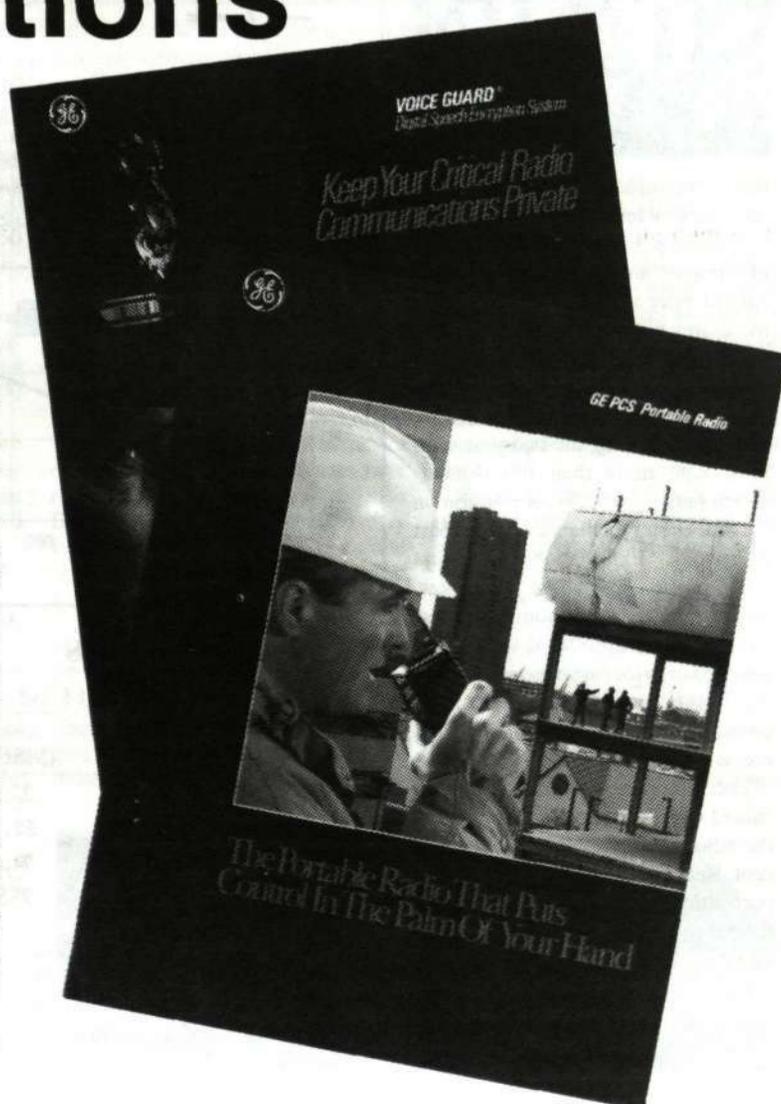
"The joint venture is an excellent fit combining GE's manufacturing and distribution in North American markets with Ericsson's European market strength and world leadership in digital cellular technology. To-

gether we will be able to serve customers on a worldwide basis and — strengthen the business for the venture and its employees. The winners in this business in the competitive 1990s will be the global and technological leaders," said Murphy.

Ericsson units included in the joint venture are those in the U. S. and Canada involved in cellular telephone systems and mobile communications, located in Richardson, Texas and Montreal, Canada. Swedish units included are the parts of Ericsson Radio Systems that work in land mobile radio and mobile data and mobile telephones. Also included are sales companies in Sweden, Norway, Denmark, Finland and Spain. These activities have 2,200 employees who will continue to work within their respective units.

General Electric units included employ 2,300 and produce mobile radio and cellular telephone equipment in the United States and Canada. The employees, most of whom are located in Lynchburg, Virginia, will continue to work in their respective units.

The transaction is subject to requisite governmental approvals.



# NYTT system highlights

Statistics show the following development:

(5 day week)			
Simultaneous log-ons	maximum	average	
v 33	37	23	
v 34	161	80	
Log-ons per day			
v 33	826	688	3438
v 34	3964	2712	13562

In comparison it can be noted that "linje Ericsson" during the first half of the year has an average of 250 or fewer dial-ins per week.

With nearly four thousand log-ons on the final day of the second week of introduction, NYTT is already established as a corporate news media. Suggestions have been received regarding both content and technical execution, and a minimum of problems have been reported. The question is "what do we do next".

On the first day of week 33 we sent a message to Memo users at EDS and HF/ETX, announcing NYTT. The following day we sent the same message to TN/ETX. On Friday evening of the same week the message was sent to the rest of ETX (only those with Swedish listed as language of choice in Memo). No other announcements have been made.

During the first week I received requests from users in Malaysia, Norway (2) and Mexico to be allowed into the system.

At the beginning of week 34, NYTT was added to the EDS network log-on menu as a selection, and to the synchronous dial-up menu selection. It was also added to the VAX log-on menu for Ericsson's Decnet/SNA gateway. NYTTLME has been available via Sim/PC, but is not scheduled for inclusion on the Sim/PC (Sim 3270 VTAM) menu until the beginning of week 15.

## Information Content

There were relatively few comments on information content, and a few requests. Stock quotations are

popular, a number of people wanted more information (including one request for direct access to a certain page of text-tv (information). Number of stocks up and down, plus the addition of ASEA as a benchmark are under consideration. The information could be updated more than once a day.

There were a few requests to add information to the system; both club news and, for example, DK and Ericsson Quality Institute. This is the kind of interplay that should feed Nytt.

## Technical Solutions

Aside from requests to be allowed to get at the system already mentioned, the greatest response from users regarded a print function, often expressed as a function for copying information from NYTT to Memo. Since we use the Memo/API-TSO/ISPF interface for feeding the system, it shouldn't be too difficult to build a module that does the reverse.

## Problems

There have been a few problems with log-on. Two of those were from users with WS286 PC's running an old version of TF2 communications software. The only reasonable suggestion is for the users to update their communications programs.

There was a problem on Thursday, 24/8. NYTT went down at least three times. We used Memo and EEC-INFO/LMEPRESS to spread the interim report, but a lot of people expected it in NYTT as well. A trace produced a fault code showing that NYTT didn't have enough memory region. That was improved by immediately increasing the region size allocated to NYTT, and the following day we had doubled the number of simultaneous log-ons to the system.

Didn't EDS think the system would attract users? One wonders whether some people experienced unreported problems due to lack of memory, since usage was up sharply on Friday after the fix.

Another problem is that the statistical counters in NYTT count to 8 digits, but only 3 or 4 can be expressed in the tables. One can see how many hundred people read JobbNytt every day, but not how many thousand.

## Comments/Suggestions

It is too early to draw conclusions, but the statistics on NYTT indicate that we have a viable and powerful new media for corporate information. We hope that NYTT receives the administrative and financial support requisite to maintain the current impetus.

In particular:

We suggest rewriting the statistics display screen so that total log-ons and "senaste nytt" (latest news) display at least 5 digits, and that the remaining functions display at least 4.

Permeation through the network must be checked so NYTT can be announced generally.

Region size must be checked regularly to ensure sufficient central resources are available for users.

Back-up personnel must be appointed and trained (LME - EDS?)

Data sets must be put under RACF (security system).

EDS or Verimom (Ericsson cooperating sales company) should start a pre-study to determine what is required for a "PF5 - save to Memo" function. (The proposed function could include addressing through Cross Network Authorization to allow network news functions in EIL.)

**Telcommunications manufacture in the West is on the verge of a major new market challenge — the Soviet Union and East Europe. This summer restrictions on exports of advanced equipment to the East were eased and Alcatel and Siemens have had huge deals with the Russians.**

Ericsson can rejoice over the fact that it took the lead after perestroika and glasnost when it opened its first AXE station in Hungary in the winter.

But now, even larger opportunities are presenting themselves. Cocom, the NATO-linked organization that keeps an eye on exports of sensitive high-technology equipment to the East, quietly made it known a few months ago that additional equipment, important for telecommunications, could freely be exported to the East.

This opening is, in part, a response to the liberalization and orientation of the political and economic policies that the Soviet leader, Mikhail Gorbachev, is adopting. This includes, among other things, imports of Western equipment and opportunities for Western companies to go into joint ventures with Soviet companies. This also involves increased communications needs, not least across Soviet borders, so that glasnost can move further ahead.

To date, the real tangible results for telecommunications companies in the West has been Ericsson's entry into Hungary and two big contracts for the West German Siemens and the French Alcatel.

The French will supply digital telephone switches over a ten-year period for a value of more than a billion dollars. The equipment will be manufactured in Leningrad.

At the beginning of August, Siemens signed an agreement on "a joint venture" for modernization of the Soviet telephone network. Details would not be finalized before the end of the year, but there are speculations that it could include supplies of digital switches for more than 1 billion D-mark.

The demands are enormous and it is obvious that the Soviet Union and other East Bloc countries are going to need to do business with many Western companies. It is reckoned that Hungary, with whom Ericsson has just established business relations, is going to more than double its investments in telecommunications equipment from just over 200 million dollars per year to 500 million by 1995 and more than 700 million by the year 2000.

Today, the waiting time for a telephone in the Soviet Union can be as much as 20 years and, typical for Moscow, it is about four years. The country needs at least 100 million new telephones installed over the next ten years, that is three times as many as the present 30 million. That is a telephone density far down the line in world

terms of 11 phones per 100 inhabitants, compared with top-ranked Sweden, which has 64.

Naturally, thanks to its immense size and huge population, the Soviet Union is one of the world's foremost communications markets with an estimated value in 1986 of 8.4 billion dollars, larger than Japan's but only one-third of the United States' and the European Community's. In the five-year plan for 1990-1995, the country has factored in an increase of 52 percent, which many doubt the domestic industry can handle. In money terms, some seven billion dollars have been allocated for investments in telephone switching by 1995.

Even the other Eastern Bloc states are now studying the possibilities of importing Western telecommunications technology. Growth plans for the coming five years vary from 100 percent increase in Czechoslovakia to 40-50 percent in Poland and only some 10 percent in countries like Bulgaria and Rumania.

It does not appear to be an easy market to penetrate. East Bloc states have huge problems to pay with hard currency, and no one really believes the ruble will be a convertible currency in this century. Payment could very well take the form of barter trade in which telephone lines are traded for oil, minerals or whatever else the East Bloc has to offer.

Then there is the business problem with an economy in flux, uncertain institutional relationships, displacement of people, changing laws and regulations and the physical problems with transport and installations in remote regions with harsh climates and weak infrastructures.

But these are no new hurdles for Ericsson. Even to this day, in some places at Ericsson in Telefonplan in Stockholm, one can see the beautiful color plates of Ericsson's huge factory in St. Petersburg, as Leningrad was called before the revolution. Czarist Russia, at the beginning of the century, was the company's largest market and at one point, the corporate leadership contemplated moving the entire company to the expansive Russian market.

This market tie-in gives added impetus to Ericsson's attempts to return to the Soviet and the Eastern Bloc. And that has a headstart — Ericsson's Russian telephone stations served the revolutionaries well. In Lenin's workroom at the Kremlin there is a beautiful old telephone on the desk with the Ericsson name on it. It continues to function.

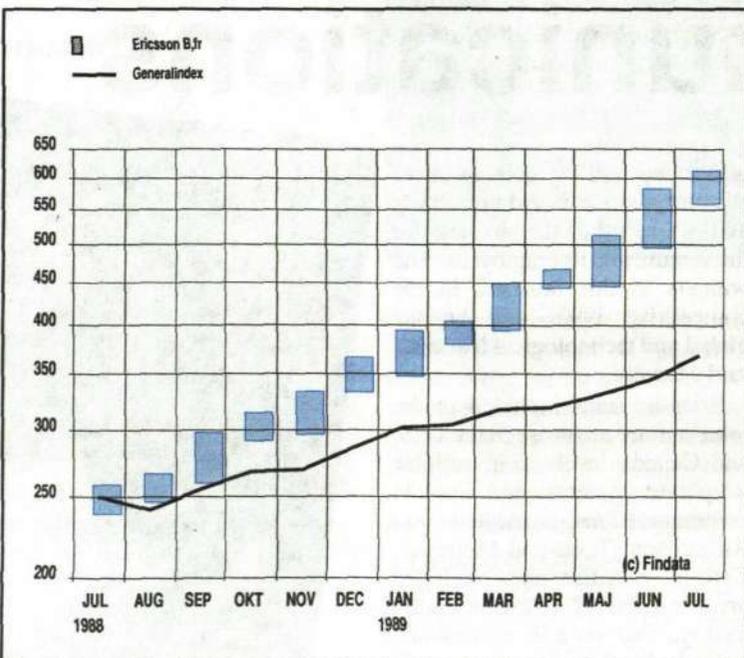
## SHARE TRADING

Rejoicing and happiness among Ericsson shareholders.

B shares passed the 600 kronor level in summer and at the beginning of August were at 615 kronor. As such, the shares were among the year's top performers with a gain of over 60 percent, while the general index rose a "mere" 27 percent.

It is also among the two-year winners, with more than 140 percent, which puts it in the No. 4 position on the Stockholm Exchange over the past 24 months. Expectations for Ericsson's profits are riding high now. Share prices, in relation to Affärsvärlden forecast profits of 40 SEK per share gives price earnings ratio of over 15, slightly more than the industrial average of 10 and the bourse's total average of 13.

The company's worth is highly valued with a share price in relation to the adjusted capital of over 200 percent. But the market isn't ready to support such a figure. Ericsson continues to be recommended by the majority of analysts at home in Sweden and abroad.



## 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
30 June 1989	207	74,1	545	62,1
31 July 1989	215	75,8	569	63,8

During the first seven months of the year, there was a share increase of 59 percent for the mutual fund and 66 percent for the share savings fund.

Share trading for the end of July is

based on a price for B shares of 605 kronor, and mutual fund holdings of convertibles have been estimated at about 230 percent of nominal value.

For a long time now, the name Ericsson has been linked through its operations in distant exotic parts of the world such as Southeast Asia and Latin America. Now, huge investments are being made in North America and in the European Community. For some time now, Britain has been a somewhat reticent market, the result of, among

other things, a monopoly hindrance. But now, Britain has become the third largest of Ericsson national markets, with 8 percent of Ericsson's total sales. Only Sweden and Italy are larger.

Ericsson editors Gunilla Tamm, Lena Öberg and Thord Andersson look at our expansion in Britain in their report on Page 5-7.

# MOBILE TELEPHONE'S STRONGEST LINK

"The world's largest parking lot," the English call the M25, the large motorway that goes round London. Road works and heavy traffic give the route during rush hours the air of a parking lot — even more so with the subway and bus strike in London. Here, there is a huge need for mobile telephones; and it is in Britain, too, where, in terms of density, the world's largest mobile telephone system is to be found with more than 650,000 subscribers.

*England has the world's largest mobile network in terms of density*

At the beginning of the eighties, the British government approved licenses to two competing companies for their mobile telephone networks. British Telecom, that is, the British telephone administration, was one of the companies that was granted a license and whose system goes under the name Callnet. The electronics company Racal Electronics was chosen as the other system operator. In September '83, Ericsson Radio Systems received a Racal order for a mobile telephone network. In the first phase, it should cover London and large parts of southern and eastern England.

## Miniature cell technology

The British system, which is known as TACS (Total Access Communications Systems) uses miniature cell technology and 900Mhz frequency. Miniature cell technology involves the use of a large number of radio base stations, which covers a relatively small area. In this way, one can accommodate hundreds of thousands of subscribers in a big-city area although the number of channels for communication is not so great. One can use the same frequency in several different areas simultaneously in the system.

The first phase of the mobile telephone network was accomplished with a 15-man ERA team, who for almost two years were employed by then Thorn-Ericsson just for the mobile telephone projects, as a so-called turnkey project. That means



*A colossal number of motorists who drive quite slowly in a limited area. Therein lies the concept for a huge mobile telephone market. The largest of them all is London, which, in every way, corresponds to this. It was an unusual strategic accomplishment when Ericsson received the contract to supply a mobile telephone network there.*

that everything was supplied and installed so that the customer hand only "to turn the key."

When Phase 1 was completed in December '85, the system consisted of four MTX switches and 100 base stations. The heart and brain of the mobile telephone network is the AXE switch.

"It was AXE that made us choose Ericsson to supply our mobile telephone system. We have never regretted that choice and we continue to maintain that AXE is the best switch." So says Ian Volans, who is information manager at Vodafone, Racal Telecom. Vodafone is system operator for Racal's mobile telephone system and is a subsidiary of Racal Telecom.

Mobile telephony has had a record rapid development in Britain. At the beginning of the eighties, the British government set a goal that by 1990 ninety percent of the population should have access to a mobile telephone. This was reached already in July '87, only two and a half years after the system was initiated. Today, a mobile telephone network covers all of Britain, with the exception of a few sparsely populated areas in Wales and Scotland.

## In the center of London

In the center of London on the roof of the Royal Lancaster Hotel, near

Hyde Park, is "Site 3," that is one of the radio base stations that comprise the system. "Site" refers to where the radio base station is installed. Today, the mobile telephone network has 450 radio base stations and some ten switches spread throughout the country.

In the autumn of '85, the system had 12,000 subscribers and on July 1 this year it had grown to 350,000. The competing network has about 40,000 fewer.

The expansion of the system which followed after '86 was done jointly by Racal and Ericsson, and part of the radio base stations was manufactured under license in Britain.

## Built-in Services

Racal mobile telephone system offers its subscribers more services than Cellnet. The different services were developed in collaboration with Ericsson. A notable service is "Messenger." This means that if a subscriber is not reachable then the call is automatically transferred to a "telephone answerer." The caller hears the subscribers personal greeting and then leaves his message exactly as with a regular telephone answering machine. When it is then possible for the mobile telephone subscriber to call, he or she rings up "Messenger," punches in a personal, secret code and then listens to the recorded messages.

"Meterfone" is another service to be found in the system. This makes it possible for a subscriber to see how much a call costs. It is used in car phones in London taxicabs, on trains, long-distance buses and ferry boats.

## R-division

"When car phones were new here in England, it was a job rescue for small companies, craftsmen and salesmen. The number of car phones increases every year and many employees have company cars with phones." So says Bengt Forsberg, head of the newly formed division Cellular Systems and Special Networks at ETL, Ericsson Limited in England.

The division belongs to Ericsson Telecom's British subsidiary ETL, but BR, Business Area Radio Communications, has the responsibility for operations. Racal is an important customer and it was to concentrate resources for the various Racal pro-

jects that the special R-division was set up.

"The TACS system, the current analog mobile telephone system, is today our most important achievement with Racal," says David Colbeck, head of marketing in the R-division. TACS can deal with up to a million users, and that will be the case in two years, Colbeck believes. At about the same time, the pan-European digital mobile telephone system GSM can take over part of the subscribers from TACS.

Racal has chosen Ericsson as supplier for part of its GSM system, which means that GSM is going to be an ever more important part of the collaboration between Ericsson and Racal. In June next year, it is expected that the first test system will be ready. That means that Ericsson and Racal together have an exciting future in one of the world's largest mobile telephone markets.

Gunilla Tamm

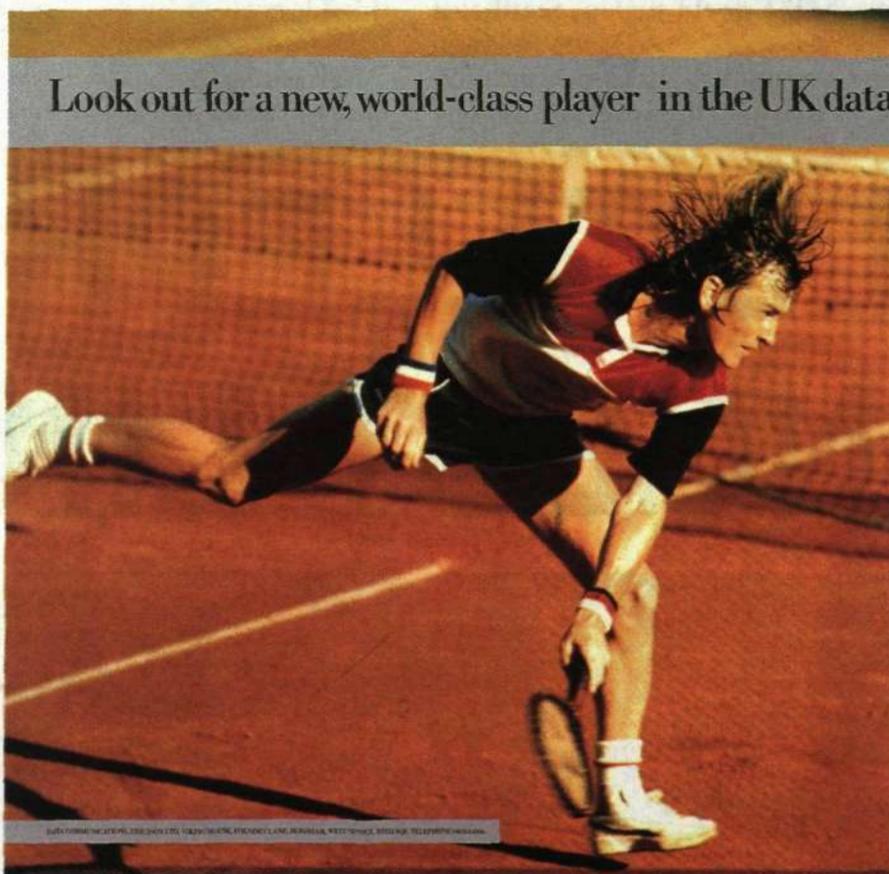
ERICSSON TAKES TO THE NETS AT WIMBLEDON...

OVER!

In Britain, the name Ericsson is associated with telephones and voice communications.

But just now a campaign is under way, where, with the help of tennis players, we shall make Ericsson known as a supplier of data communications.

The campaign, which started in conjunction with the Wimbledon tournament, is promoting ERIPAX — Ericsson Packet Switching System — a data network from Ericsson Business Communications, based on a standard within data communications known as X.25.



Look out for a new, world-class player in the UK datacomms market.

You have probably heard of Ericsson's reputation in communications. But are you aware that the same company has an equally formidable reputation in Europe and around the world for Wide Area Data Networks?

Having left the computer market, Ericsson are concentrating on their strengths in communication. The way is clear to provide what the market requires — high-quality, long-range data networks from a respected, multi-national, independent supplier.

Ericsson are focusing on the UK market and bringing a level of proven technology, support and commitment that few could match. The result of having more than 60,000 employees working in 90 countries.

Who else could lay claim to the largest X.25 network in Europe — or the International Stock Exchange network that has consistently delivered 100% performance.

Within the next few months you will understand why Ericsson are becoming a major force in the UK market. You will hear about the modular Eripax product, the concept of customer network management and the NM400, one of the most powerful network management units available today.

Or alternatively, you could contact Ericsson, using the coupon below.

Now the ball is in your court.

Please send me full details of Ericsson in Wide Area Data Networks.

Name \_\_\_\_\_  
 Position \_\_\_\_\_  
 Company \_\_\_\_\_  
 Address \_\_\_\_\_  
 Telephone \_\_\_\_\_

Return coupon to: Data Communications, Ericsson Ltd, Viking House, Finsbury Lane, London, EC2A 4DF.  
 Telephone 0432 62366

**ERICSSON**  
 The World-Class Player in Data Communications.

Here is one of the advertisements that is just going into the British data press. In conjunction with Wimbledon, Ericsson Limited in England started a campaign that will run through the autumn and make Ericsson known as a supplier of data communications.

## Eripax on the offensive in Britain

Within Ericsson Limited, 200 people work with private (business) systems. The business switch MD110 accounts for 65 percent of sales; ACD — Automatic Call Distribution — for 20 percent. The remaining 15 percent comes from key systems, people pagers and data communication.

Already in 1984, Ericsson Information Systems (EIS) sold its first ERIPAX system in Britain through then Thorn-Ericsson. The turbulent situation that existed within EIS at that time and even years later, together with the need to quickly acquire volume of established products, meant that sales investments in the field of data communications did not get enough attention. Moreover, at the time there was some doubt as to whether the market for the X.25 network would grow as strongly as the forecasts showed.

### Large market

Today, data communications is a large market in Britain, a market where X.25 is most popular. In the last few years, X.25 technology has had a real upswing. For this reason, Ericsson Business Communications is investing in heavy expansion.

Division Datanet at Ericsson Business Communications has in recent years organized its operations and is now in eight countries in Europe. In Britain, Andrew Evans, head of sales and marketing for data networks, will form the new organization that will comprise some ten persons.

"Before I came, there were four persons working with ERIPAX. That was Charles Smith and his technical gang. They functioned as support for the customers we had, the London Stock Exchange, the Central Electricity Generating Board and British Rail. They had been there for five years before I came. It was exciting to start something new with people who had solid knowledge about the products. But we had no salesman that was specialized in selling ERIPAX. There was one who was specialized in the London Exchange but who was not a specialist in data communications. Now we have established a sales force of two per-

sons and are looking for a third," says Evans.

### Campaign

Evans began at Ericsson Limited in February. He started by preparing the campaign, which from now until November will promote Ericsson in data communications.

He has been in contact with the advertising agency Baker & Smith, with whom he worked earlier, and has sought their help.

"I knew I had some money for advertising and that we had a job to do. In the data industry, Ericsson has been best known for its PC products and terminals, more than for its PBX products. And I believe the market here in England got the impression that Ericsson was sold to Nokia. That the entire company had been sold and that there was nothing left," says Evans.

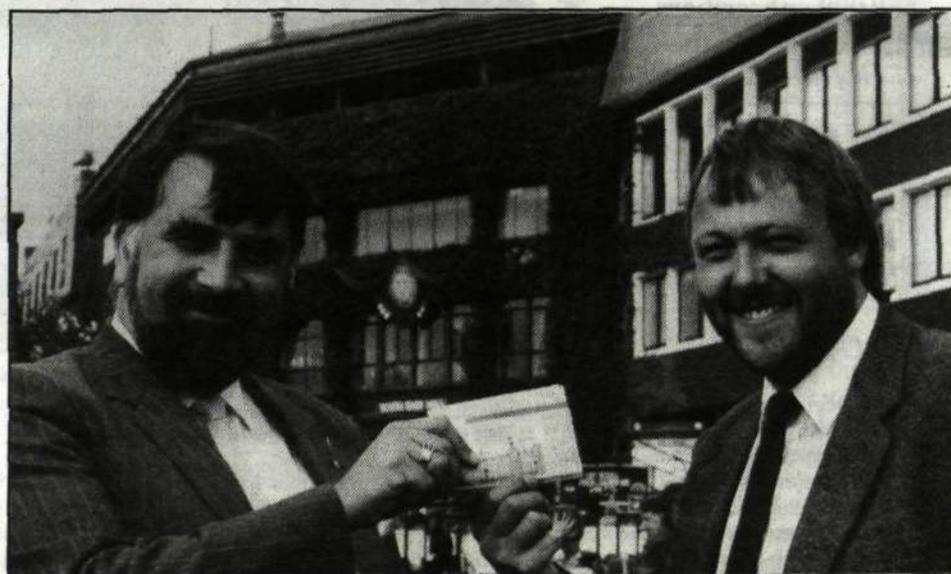
A campaign should change the picture. Besides, Ericsson Limited is now a wholly owned Ericsson subsidiary since we bought Thorn's share in the company.

Evans holds that Ericsson in itself is a well respected name in telecommunications in Britain and well-known in the data industry since EIS times.

"I wrote to the advertising agency that we should focus the campaign on us as a company instead of on our products. Our qualities should be described with words like dynamic, strength, active supplier, flexibility and precision. The agency answered that these qualities come from a great sportsman or sportswoman. And since Sweden has many leading tennis players, the idea to use a tennis theme as a slogan in the advertisement was born: "A world-class player in the UK datacomms market."

"I approved the message, for it does not say, as so often in advertising campaigns, that we already are a name in data communications. We are more an unknown tennis player who comes to Wimbledon, fight to reach the finals without anyone having heard his name before," says Evans.

That the campaign ran during Wimbledon, one is naturally well aware. One day, we thought of sending up air



Andrew Evans, head of sales and marketing for data networks at Ericsson Limited in England, left, hands over to the happy winner, Neville McCulloch, tickets for the men's singles finals at Wimbledon. The tickets were raffled at the start of the campaign with a tennis theme, which will promote Ericsson in the field of data communications.

balloons that fly over Wimbledon with Ericsson's logo or buy a sponsorship backed by Stefan Edberg. When that seemed impossible or too costly, instead we sent out 3,000 tennis balls in packages to prospective customers so that they would come to the display at the exhibition "Networks '89" in Birmingham on June 6-8. There, the latest addition to the ERIPAX family was launched, a network surveillance center called NM400.

"To receive a tennis ball in the mail is not very common. It had a remarkable effect. We ask recipients to tear off the coupon on the package and fill it in with their information and take it with them to the exhibition. The winner will receive tickets for the men's singles final at Wimbledon, but now it turns out they might even get to see the ladies' final," says Evans, laughingly.

Ads with four different messages, all having to do with tennis, have been placed in all the large publications for data communications in Britain. At the same time, we are actively seeking new customers.

## THIS IS ERIPAX

**ERIPAX — Ericsson Packet Switching System — is a data network based on a standard within data communications known as X.25. Since this is the only agreed international standard for data communications today, it is especially interesting for communication between different data systems.**

The advantages of this technology are that the customer, instead of having different data networks for different data suppliers (for example, IBM, DEC, UNISYS, WANG etc), can build a single network and, to that, can add different data products. An example is our own Ericsson-net that is to a great extent built by ERIPAX. Other advantages are that the network is very easy to adapt. It is also very secure, since data can be fed into various tracks in the network, should there be a line breakdown.

Typical customers are banks, stock exchanges, large widespread companies, organizations, public administrations.



Cable laying in a residential area in central Nottingham.

PHOTO: THORD ANDERSSON

For some years now, Ericsson Network has also been working in Britain. On the one hand, setting up a data network in the London area, and on the other, through a major order in the autumn of '88 from British Telecom for the construction of a local telecommunications network in the East Midlands. It is BN's British subsidiary Ericsson Network Engineering Ltd. (ENE) that is administering and carrying out the project that is currently put at about 10 million kronor.

## Ericsson builds network for British Telecom

The job involves planning and implementing a local telecommunications network within the city areas of Derby/Nottingham, Leicester, Peterborough and Northampton. The project is headed by Bosse Lundström from ENS Swedish network construction operations in Sätra.

Lundström is no newcomer to networking. Already in 1972, he was with Ericsson in Iran, where he stayed for five and a half years. He participated afterwards in the huge Saudi project up to 1982. The following two years, he was in Iraq and then in Indonesia until 1986. After nearly two years in Sweden, he was abroad again. So it was only natural that when the British project came up, Lundström was the perfect man for the job.

### Directed from Leicester

Lundström has set up a project office on Cop Dale Road on the outskirts of Leicester. From two rooms and a garage, and a handful of staffers, he directs the entire project.

"Each city area comprises a district with a cable laying team and two splicing teams. A cable laying team today consists of five men; previously, it was four. Each splicing team has two men. Together with the four job supervisors and installation manager Bill Tumblety, as well as the economic manager Gill Nielsen, I have slightly more than 40 persons in my organization," says Lundström.

In the parking lot, there are 12 Ford Transit vehicles and four jeeps, all leased in Britain. In addition, there are two jeeps that we took with us from Sweden, adds Lundström.

But before they could come this far with the present effective production and well-equipped organization, they began from absolutely nothing — and they were in a hurry, too, recalls Lundström.

### Flying start

"On October 17th we received the formal order. The contract period began from November 7th," Lundström points out. "I was alone and lived in a hotel. Only one

man, Bill Walters, now a job supervisor in Peterborough, was employed."

But then everything moved quickly. Already, after one month, on December 7th, the first cable laying was done in Leicester.

"We had a large team of 16 men then, with cable layers and splicers mixed in," says Lundström.

To move ahead faster it was necessary to obtain a large part of the basic equipment from Sweden, among other things two jeeps. These Swedish-registered vehicles are often seen in the cities and on the rural construction sites in the beautiful East Midlands.

"In January, we split up the large team and began to organize ourselves in districts. We had one in Leicester and one in Northampton. Already in February, districts were established in Peterborough and Nottingham.

### Own office

"April 4th was a big day, when we moved into the present office on 11 Cop Dale Road. Here we have a good location and can take care of the very important training of our fellow workers," says Lundström.

On our visit to Leicester, a course on fiber optics was in session, with Anders Karlsson as instructor. In everyday life, he works with Network Construction in Sätra.

Recruiting the right workers has also been an important matter. All project leaders have prior Ericsson backgrounds. They have taken part in large Iraqi and Saudi projects or have been involved in building telecommunications networks in Southeast Asia. Bill Tumblety, who is head of installations, have been involved with most of the major network projects around the world.

Tumblety took us on a tour of the summery East Midlands. Along winding paths we went through the imposing landscape. We went by small charming villages and even a middle-sized city like Nottingham. Here, the local network is rapidly expanding. In the center of the city, the blue-clad Ericsson workers work with cables, so that Nottingham inhabitants can hook up several



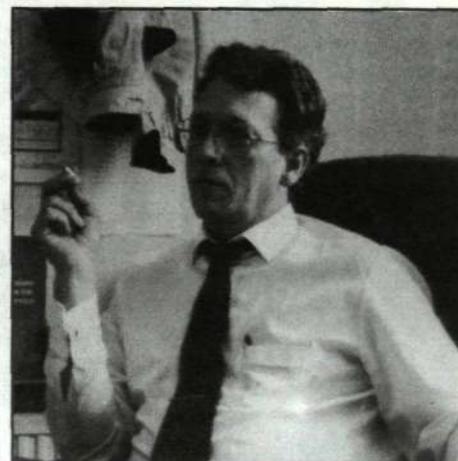
"Working hand in hand": Bob Pepper, Supervising Officer with British Telecom, together with Bill Waters, project leader with Ericsson.

phones to BT's network. (As a matter of curiosity, it may be noted that Ericsson is now building a local network in Grantham, where Prime Minister Margaret Thatcher was born).

### Tough competition

Among competitors, there are a number of British network builders, but so far Ericsson is the only foreign network builder in Britain.

"Our intention is to grow here and establish a long-term relationship with British Telecom," says Lundström. "Beyond the district where we are now working, we hope soon to be able to build in the West Midlands and East Anglia. The objective is to be the main contractor for British Telecom."



Bosse Lundström, project director for network construction in the East Midlands.

# 1989 FIRST HALF EARNINGS REPORT

Jan Stenberg, Public Telecommunications

## 'Improvements that further surpass our expectations'

In Business Area Public Telecommunications, operations under the first six months of the year have developed very well.

The positive trend of 1988 continues and has even strengthened.

We had anticipated some improvement, but we never thought that it would be so extraordinary good. Naturally, there is reason to be happy.

Our companies in Western Europe — where we clearly decided that our investments in the first place would be made — were the ones that did exceptionally well, but even markets like Mexico, Brazil and Australia have surpassed our expectations.

Among the European markets that deserve special mention again were



Jan Stenberg

Spain, the Netherlands, Britain and Italy.

At the same time, however, we see a continuing and considerable increase in investments by telecommunications administrations around the world.

Business Area Public Telecommunications	1988	1989
Sales (in MSEK)	6263	9010
Employees	30799	33496



Jarlath Bleach works with ACA testing for BT-Local at the Field Support Centre in Kempton, Brighton.

Sales rose 44 percent from the corresponding period of the previous year while order placements for the first half grew by 25 percent. The high volume continues to give us good inventory in the workshops, where as a result of this production facilities can be utilized effectively and to the maximum.

In part, as a result of increased sales, operating costs have risen somewhat compared with the preceding year. At the same time we can confirm that they are within the budgeted level. Moreover, the increased sales limit any potential imbalance.

Margins have improved somewhat,

compared with the fall. This can be attributed to the fact that deliveries in large part reached the market with a good price level and with quality products.

We have maintained good control over our financial costs. Through an initial increased capital outlay, we have tied up less capital in operations. We had said that by the beginning of the nineties we should achieve a ROCE (Return of Capital Employed) of 20 percent. We have already surpassed that goal.

Our operating results have improved considerably compared with the previous six-month figures. The result was about fifty percent over what we

had anticipated at the beginning of the year. One should bear in mind that these comparative figures already included a strong increase over the first half of 1987.

The changing process that has been taking place in the business area over the past two years has produced very good results when it comes to efficiency, quality and productivity.

This, combined with the better financial performance we have achieved, makes us better equipped to meet the challenges that Business Area Public Telecommunications faces before and during the nineties.

Ronny Lejdemalm, Business Communications

## 'Continued successes for MD110 — new breakthroughs for Eripax'



Success continues for the MD110 and Eripax has increased its turnover for the year as a result of the market inroads made in the previous year.



Ronny Lejdemalm

The business area's performance has improved tremendously through the continued success of our main products, business exchanges and Eripax data networks. Order placements are fifty percent above the previous year's.

MD110, which accounts for almost half of our sales, has strengthened its position in many markets. Moreover, BCS 150 has now been introduced in several markets as a very important complement to MD110. BCS 150 is an extremely user friendly and advanced office switching system with up to 150 connections.

MD110 has been successfully sold to universities, above all in the United States. During this year, we received yet another major order in connection with the University of Trondheim in Norway.

In Australia, we have made a solid breakthrough and a number of contracts have been signed with, among others, the industry and foreign affairs departments and the Sydney police: the West Australia State Railways and the University of Adelaide, as well as

an ongoing network for BP. In addition, we are involved with New Zealand Railways.

In May, we received an order for a hotel version of MD110 from CIGA, the most prestigious hotel chain in Italy.

During the year, Eripax has considerably increased its turnover as a result of the market investments that were made the previous year. Major orders were signed with the Milan subway system and the Stock Exchange. Just before the summer, a Belgian order was placed for a state-backed Bankomat network.

This year, data networks have been started up in Britain, Germany, Belgium and Holland. That means that today we are in ten markets with Eripax. Next in line is Spain, which in the second half of the year will be starting its sales. Before the end of the year, data networks will be present in 15 markets.

Modem activity continues to be stable, with good results.

Business Area Business Communications	1988	1989
Sales (in MSEK)	1528	2313
Employees	6451	7783



# 1989 FIRST HALF EARNINGS REPORT

Lars Ramqvist, Radio Communications

## '1988 was a good year: 1989 will be even better'

Figures for the first six months reflect very good results. Both order bookings and sales are better than for the corresponding period of the previous year. The result for all of '89, based on the half-year figures, clearly promises to surpass 1988, which in itself was a successful year.

The mobile business unit has had a great success. Above all, through growth in Australia, Canada, the U.S., Britain, Italy and Taiwan, says Lars Ramqvist, head of Business Area Radio Communications. He emphasized that the Swedish factory in Gävle, where radio base stations are manufactured, has shared in this success. The factory has met production capacity above and beyond what was expected.

The unit's sales and order bookings are ahead of budget. The forecast for all of '89 shows considerably improved results compared with the previous period.



Lars Ramqvist

### Car Phones

The business unit for mobile telephones, which are based in Lund and Kumla, had results that surpassed those of the previous comparable period.

In the first half, the unit has developed several new products and, with that in mind, it is even more heartening that it can show such good results, says Ramqvist. One of the new pro-

ducts will be launched very soon and is certain to attract keen attention on the market. Keep your eyes open in the fall!

Mobile telephones are manufactured at the Radio factory in Kumla. In order to meet the demands of mass production, the factory has undergone major restructuring with good results.

### Mobitex

Results for the business unit Mobile voice and data system is on the way to improvement. Order bookings are three times as large as those of the previous year's comparable period and sales are within budget. The division could post results for '89 that are clearly better compared with the previous year.

Even if the traditional products, land mobile radios, do not have large enough sales, this will be compensated for by Mobitex.

Mobitex is a new system for data communicators for national and regional networks. The large order placements that were received for Mobitex in the U.S. have been very significant for the business unit.

### Defense

For the defense communications



Terminal for Mobitex, a new system for mobile data communications.

business unit, sales are approaching budget. At the same time, order bookings are better than in the fall and many large business deals are in the closing stages.

### Paging systems

The business unit for paging systems, with the parent company Ericsson Paging System BV, ERH Holland, shows a stable order flow and sales well in line with the previous year, which was a good one.

In Emmen, Holland, ground has been broken for a new factory, solid evidence that paging systems activities have a positive future.

Within ERH, development is proceeding with DECI telephone, that is a cordless digital personal phone. The

first test system is expected to be completed later this year.

### Expansion

Radio Communications is in the midst of a major expansion, especially with mobile telephones, and the future looks very bright. Ramqvist cites U.S. orders for Mobitex and several GSM orders as the most positive achievements so far this year. GSM is the pan-European digital mobile telephone system that will come into use in 1991.

"The success we have had would not have been possible without the hard work of all our working colleagues," says Ramqvist. "Should we succeed in keeping costs under control and in achieving top quality in all our work, 1989 will be a very successful year."

Business Area Radio Communications	1988	1989
Sales (MSEK)	2085	3184
Employees	5953	7107



Ulf H. Johansson

Ulf H. Johansson, Defense Systems:

## 'Very positive order flow for the Swedish operations'

Business Area Defense Systems order bookings have been satisfactory for the first half of '89. This despite the fact that the market has been receding somewhat, both in Sweden and internationally. Above all, it is the Swedish operations — the business area's core company Ericsson Radar Electronics — that has shown very positive order bookings.

The Swedish defense has, during the period, ordered the local reconnaissance system HARD, an order worth 475 million kronor, and the Norwegian defense has ordered the mobile radar system GIRAFFE 50AT in a contract totaling MSEK 615. With this, large orders are expected for, among others, MINI-LINK.

However, operations in the business

area's Italian subsidiary, FIAR, reflect a falling off compared with the projected order bookings as result of delays in project completions.

Just now, market activity in the business area is high. There are prospects for positive market developments in the fall when several major international projects are expected to be concluded.

As for first half results, the business area as a whole has a negative showing. The Swedish sector's ongoing long projects with low margins weigh heavily on earnings results. The Italian operations in FIAR, as stated above, have had delayed deliveries, which tend to drag down results for the unit. However, a turnaround is expected by the end of the year.

As for the Swedish operations in Ericsson Radar Electronics, one can confirm that the turnaround that marked the previous year's results continues to be positive. Major deliv-

eries are a matter for satisfaction and capital outlay has had positive results and is now significantly lower than before. The company's costs are in line with revised planning, and there have been staff reductions.

In the spring and summer we have worked with a more effective organizational structure. The aim of the new organization is to achieve clearer lines of responsibility and shorter decision routes, as well as making better use of given resources. Corresponding efficiency measures have also been implemented in FIAR.

Several noteworthy inroads have been made in various areas during the half year. The West German flight simulator project, ASIM after much work now reflects good stability. ASIM is now in a customer operative stage and discussions on continuation of the projects are in process. Radar deliveries in connection with the Canadian project is another example where a problem has been turned to success through good and intensive work.

Ericsson Radar Electronics has, after comprehensive negotiations, submitted an offer on the new Swedish



The Giraffe 50AT is a radar for air defense with advanced technology and high mobility. The Norwegian defense placed an order in July for the Giraffe.

system Stric90, a very important sweeping project.

As for the JAS 39 Gripen, the test program has been revamped to compensate for the loss from the first prototype. Test flights with the prototype 2 are expected before the end of the year. The equipment that Ericsson supplies for the JAS 39 Gripen will

mainly be tested in a later test flight. The economic consequences of the wreck are still uncertain and negotiations are continuing.

During the year operations have been shifted from Business Area Defense Systems to other business areas, chiefly Public Telecommunications and Radio Communications.

Business Area Defense Systems	1988	1989
Sales (MSEK)	1236	1503
Employees	6193	5795

# 1989 FIRST HALF EARNINGS REPORT

*Bert Jeppson, Ericsson Components:*

## 'Continued expansion and improved results'

The business area continues to expand on all fronts. Sales for the first half on 1989 increased 17 percent, compared with the corresponding period a year earlier, in spite of the shortfall from the disposal of condenser operations as of March 1. Order bookings reflect a continued growth, which is evident from the improved results.

PHOTO: DON TITELMAN



*Bert Jeppson*

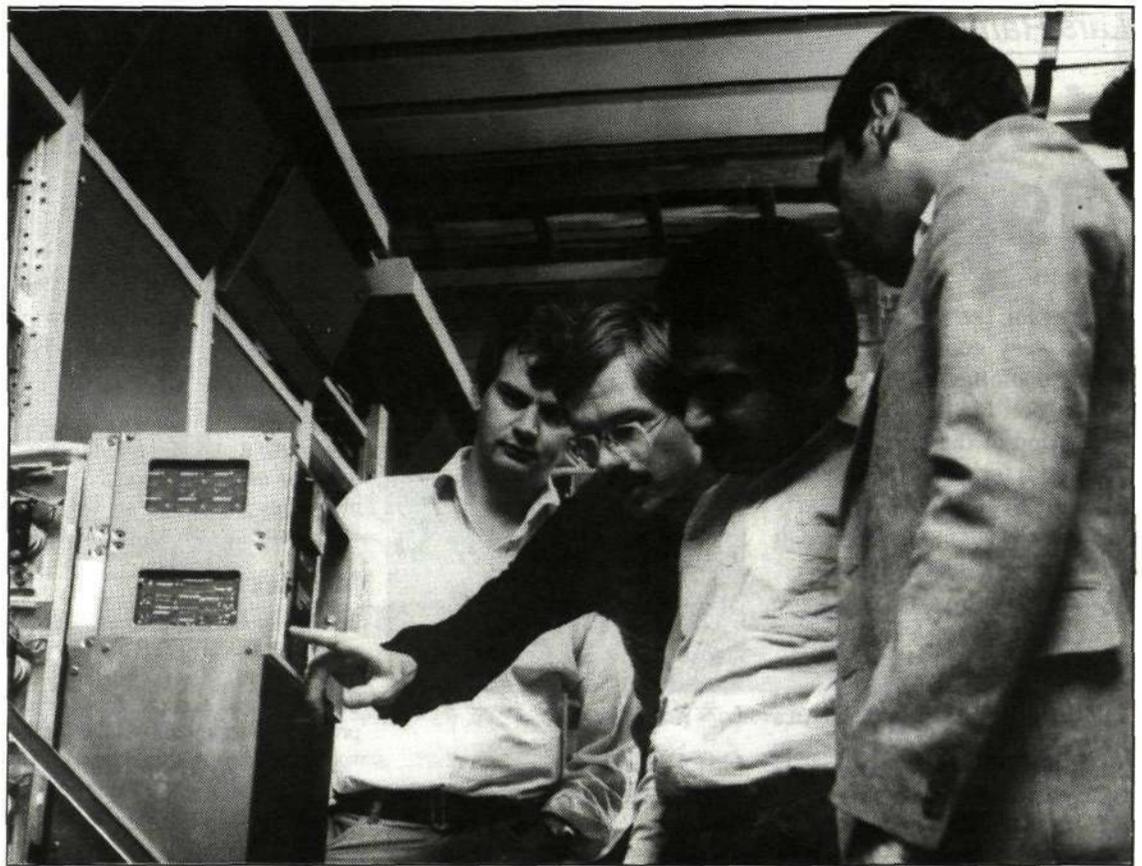
The expansion can be attributed to power operations, which have had exceptional growth, above all with telecommunications power. Even power installation and cooling systems have developed well. The most suc-

cessful export markets have been Mexico, Britain and Spain.

The market for microelectronics has been down somewhat, the result of a decreased demand for certain of our

Business Area Components	1989	1988
Sales (MSEK)	1016	869
Employees	2238	2172

Results for 1989 and 1988 are not entirely comparable. The 1988 figures include condenser sales for January and February, which partly fell off after the disposal of condenser activities on March 1, 1988.



*Ericsson Components power division showed considerable expansion. Customer training is an important part of its activities. The Middle East, South America, U.S.A., China and Europe all come to the power division in Kungens kurva in Stockholm for training in the operation and maintenance of Ericsson's power installations. Lars Persson demonstrates a 400 Amp power installation for customers from the Middle East.*

customers' products. In particular, industry groups have felt the significant downturn on the market for peripherals in data processing, areas in which these groups are prominent. Even the price fall-off in systems and terminals has affected sales as a result. The positive element is that the expanded systems field is on the right track and results in a number of "design-ins" that can produce increased volume overall. Of particular

interest here is the U.S., which has generated several interesting projects.

Happily, opto operations, which accounted for its own results, had a good start. Orders for transmitting and receiving modules are clearly larger than expected, with initial successes on export markets.

The collective strength that the newly formed development division has achieved makes it possible for other

business areas to begin with their own development projects.

Standard components are beginning to feel the effects of the generally weaker downturn on external markets, which is expected to continue in 1989.

Thanks to improved results and decreased tying up of capital, earnings and the overall financial returns have improved satisfactorily.

*Lars Berg, Cable and Network:*

## 'Growth potential and development possibilities'



*Cable and Network in action. Ericsson Network Engineering AB lays "national digital cable" in Värmland for Televerket. The fiber cable comes from Ericsson Cables AB factory in Hudiksvall.*

Business Area Cable and Network	1988	1989
Sales	2839	2622
Employees	9755	8494

The figures are not entirely comparable, mainly because of the disposal of cable activities in the U.S. as well as road and railroad signals activities.

**A 20 percent increase in sales and a 30 percent increase in order bookings. There's a business area with its sails to the wind! The new Business Area Cable and Network shows muscle, and the head of the business area, Lars Berg, has plans for expansion.**

Admittedly, Business Area Cable and Network shows somewhat lower figures for sales and order bookings in the first six months of '89 compared with the corresponding period a year ago. But, nevertheless there is some justification for talking about a marked increase. How can one explain this?

"This is the result of the disposal of certain units, carried out over the last year," says Mats H. Olsson, controller for the new business area. Over the past year, the major part of cable operation in the United States was disposed of, and this year the entire rail and road signal divisions were bought by ABB-owned Elektrisk Bureau in Norway.

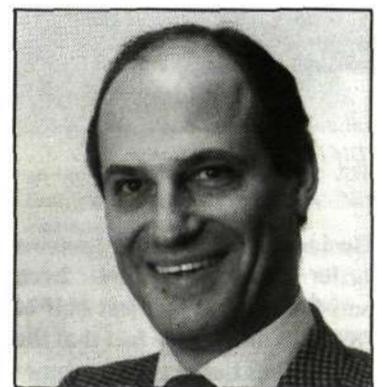
Added to this, the earlier tele-material operations within the Sweden division in Ericsson Network Engineering AB (ENS), after being taken over by Ericsson Sverige AB, no longer form part of the business area.

"If we disregard the units that are no longer part of the business area, we can see a marked increase in sales as well as order bookings," notes Olsson. The increase applies to both cable and network operations.

The result for the first six months of '89 are marginally better than for the first half of '88.

The major concern in the business area, however, is the profitability problem for network project operations within ENS.

Network construction operations in Italy have progressed very favorably;



*Lars Berg*

so, too, have the Swedish operations with the cable area.

"I am, to a great extent, pleased with the figures for the first half," says Lars Berg. "The marked improvement for both cable and network operations as far as sales and order bookings are concerned, as well as the good results shown by most of the units in the business area, show that we have growth potential and development possibilities.

"This is a good starting point for new joint ventures within the cable and network areas." Berg emphasizes, pointing to Spain as a current example. "There we have acquired a majority share in the cable manufacturer Fibroco in Barcelona and are on the verge of establishing ourselves also in the network field."

Autumn is going to be an exciting time for the new business area.

## New order for Kuwait

Ericsson has received an order from Mobile Telephone Systems Co. (K.S.C.) in Kuwait for a mobile telephone system estimated at around MSEK 290.

The order is a so-called turnkey project involving among other things an AXE Switch and 86 radio base station cells. The system is of E-TACS standard and will, in the first phase, serve 20,000 subscribers but is designed to be increased to 50,000 in the near future.

With this order, Ericsson cements further its position as the dominant supplier of mobile telephone systems in the Middle East. Ericsson has previously delivered systems to Saudi Arabia, Oman and the United Arab Emirates.

## Management changes within Ericsson

Peter Thomas is leaving his position as president of Ericsson North America Inc. and will be establishing his own company. He will continue to remain on the board of Ericsson North America Inc.

"Peter Thomas is leaving the company in the best of standing. His input has been remarkable and his knowledge and expertise will be very valuable as he continues on the board of Ericsson North America Inc.," says Björn Svedberg, president of Ericsson.

Leif Källén, president of Industrias de Telecommunication S.A. (Intelsa) in Spain, will replace Thomas as head of Ericsson North America Inc. and Ericsson, Inc.

Källén will be replaced as head of Intelsa by Raimo Lindgren, president of Teleindustria S.A., in Mexico.

Lindgren's position at Teleindustria Ericsson Mexico will be filled by Gerhard Weise, responsible for operations at Ericsson do Brazil.

Weise's job in Brazil will be taken over by Björn Jonsson, president of Compania Argentina de Telefonos S.A.

## Collaboration with Hungarian company

An agreement on collaboration has been signed between Ericsson and Videoton Electronic from Hungary concerning the manufacture of communications equipment.

Ericsson has had operations in Hungary since the end of the sixties. A great part of the Hungarian telephone network is run today with licensed manufactured Ericsson equipment.

Recently, the first totally digital AXE station was set up in Hungary. The station is geared for international traffic and is supplied directly by Ericsson. Moreover, it was the first totally digital system to be installed in the East Bloc.

"We see Hungary as an important bridgehead for further cooperation with countries within the East Bloc. Videoton is a modern equipped electronics manufacturer and we see a fruitful collaboration ahead of us. The need to expand telecommunication is great and we have the right products," says Knut Albertsson, Regional Manager Europe, Ericsson Telecom AB.

## Ericsson wins bid competition for Norway's mobile network

Ericsson has won a bidding competition for supplying telephone stations for the Norwegian Televerket's expansion of its mobile telephone network. The accord, which went to Ericsson in tough competition with, among others, Nokia, has a potential value of 250 million kroner and extends over the period 1990-1995. During this period, it is reckoned that the number of subscribers in Norway will grow from 250,000 to 450,000.

"We fought hard to win this contract," says Nils Grimsmo, managing director of Ericsson Telecomm Norge AS. "The contract gives us a good headstart before the next bidding competition that deals with construction of the new digital mobile telephone system GSM."

The present agreement in principle involves NMT — the Nordic mobile telephone system, operating in Scandinavia and 12 additional countries. In Norway there are two systems: NMT 450, state linked, and NMT 900 which covers densely built areas and the major routes. The new construction mainly involves NMT 900, which will be eventually state linked.

Ericsson is a world leader in the field of mobile telephone system, with installations in 32 countries and a market share of close to 40 percent. Of all the countries in the world, Norway is the one with the largest number of mobile telephones per inhabitants. At the beginning of the year, the figure was almost 4 per 100 inhabitants.

## Oman order

Ericsson has received an order involving construction of a telecommunications network in Oman for a value of MSEK 115. With this, Ericsson will have built networks and supplied AXE stations and other telecommunications equipment to Oman for a combined worth of close to 1 billion kroner, including a mobile telephone network, since ongoing telecom construction in Oman got under way in 1985.

The present order involves delivery and installation of cable and telephone network in 29 towns, expansion of AXE stations with an additional 15,000 lines as well as installation of a fiber optic network in the capital, Muscat.

It is Ericsson's network construction company, Ericsson Network Engineering AB, that will be responsible for seeing the project through.

## Business Communications strongest in Europe

"We must stop thinking Swedish," emphasizes Ronny Lejdemalm. And the majority of employees in Business Area Business Communications have never really thought Swedish — since they were born overseas, and lived and grew up there. The business area is estimated to have close to 4,874 persons overseas right now. Only eight percent of sales come from Sweden.

We are by far the most international business area in the group,

with almost two-thirds of our personnel overseas and with some 90 percent of our sales. Forty markets are covered by some 30 companies and a number of agents.

The business area is strongest in Europe, where 45 percent of sales of business switches and private data networks are currently within the Common Market countries. The largest market is Italy. Holland comes second and our home market in Sweden is third.

"What happens in the EEC is obviously of highest significance for us," says Gunnar Wiklund, head of the business area's European operations. "Here we have a strong position, with 45 percent of our sales and some 1,800 employees. We are already established in 11 of the 12 member countries."

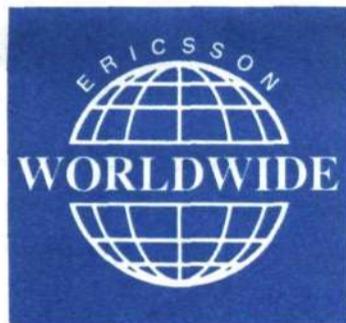
## Breakthrough in Taiwan

Taiwan has ordered a nationwide paging system from Ericsson. The order is valued at MSEK 220 and it means a breakthrough for us when it comes to wide area systems.

The main supplier of equipment will be ERA's subsidiary Magnetic, which from now up to the end of 1990 will produce and supply base stations for some 50 sites in Taiwan.

The system is geared for 750,000 subscribers, but can be increased to 1,200,000.

Ericsson sees this order as an important reference point when it comes to future business with a nationwide paging system. The large pan-European paging system ERMES that is expected to come into use at the beginning of the nineties is a good example. (ERA Nyheter)



## Modem launching in Mexico

Sistemas Ericsson S.A. in Mexico earlier this year launched our Modem line Series 7.

The launching attracted a great deal of attention, not least of all through three lengthy articles in local newspapers.

Among the comments were: "With the launching, Ericsson accomplished a major part of its overall objective to introduce new and advanced high-technology equipment that is linked to the integration of telecommunication systems that modern companies need."

Ericsson also strengthens its position in the telecommunications field through offering a system that is tailor-made to customers' needs and that integrates voice and data.

The Modem line Series 7 covers the entire range of speed recommended by the International Telecommunications Union (ITU), from 2,400 bit/s to 19,200 bit/s over telephone lines. This is a complement to Ericsson's other system for voice and data.

Ericsson leads the way in Mexico for public and private systems for telecommunications and has more than 3,500 employees there.

## ERA thanks ETX

When the long truck on the route to Frankfurt Airport, loaded with AXE switches for our new mobile telephone system in Hong Kong, drove into a ditch somewhere in southern Småland one night toward the end of May, the situation seemed hopeless. The equipment was damaged and it would have taken half a year to obtain a new switch.

But thanks to a solid input from ETX, the situation was corrected within six to seven weeks, and on July 22 the AXE arrived in Hong Kong. A huge round of thanks from ERA, which now believes it can have the system operational by the end of October (as against the planned timing of end of July).

The background to this is that China Telecom in Hong Kong is changing its old system for an Ericsson system with full capacity, which is expected to serve 45,000 subscribers within three years. (ERA Nyheter)

## First order for Mobitex in USA

Ericsson has won an order for the first stage of a mobile data communications network in the US worth SEK 360 million from American Mobile Data Communications Inc. (AMDCI). The Mobitex order involves delivery of switches and radio base stations and will be financed by Investeringbanken.

AMDCI is expected to invest about SEK 1.5 billion in a nationwide network over the coming years.

Lars Ramqvist, the president of Ericsson Radio Systems, says: "This first order for a Mobitex system in the United States shows that Ericsson is far ahead when it comes to mobile communications. We were first with modern mobile telephony. The new digital mobile telephone system for the nineties in Europe and the U.S. will be developed according to Ericsson systems standard. Now we are strengthening our position even more within mobile communications through the introduction of a mobile data communication system on the international market."

The Mobitex network, which transmits data via a so-called "packet data network," is the first of its kind in the U.S. and it will give subscribers the possibility of using portable and vehicle-connected data terminals to hook up with data bases and exchange data or message texts.

Ericsson has already sold a Mobitex network to Cantel Inc., Canada's largest operator of mobile telephony. Cantel and AMDCI are negotiating on a cooperation agreement that would integrate both Mobitex networks so that they cover both the United States and Canada.

## Ericsson buys Spanish company

Ericsson has purchased a majority share in the Spanish cable company Fibroco S.A.

Fibroco, which is located in Barcelona, manufactures fiber optics cable and accessories, mainly for the Spanish market.

Other owners in Fibroco are the Swiss cable company Cables Cor-taillod and a local industrial group, Coguesa.

## Radar for Norway

Ericsson Radar Electronics AB in Mölndal has received an order worth MSEK 615 from Haerens Forsyningskommando in Norway for the mobile radar and reconnaissance system GIRAFFE 50AT for the army's air defense. The radar will be used in the Norwegian anti-aircraft system NALLADS (Norwegian Army Low Level Air Defense System).

Ericsson's subsidiary in Halden in Norway, Nordic Electronic Systems, will be responsible for part of the software for the radar's data systems, assembly, system testing and delivery control. Deliveries are scheduled to start at the beginning of 1992.

Ericsson won the order after two years of extensive tests carried out by the Norwegian army with a prototype that Ericsson delivered in 1987.

GIRAFFE 50AT, installed in Hägglunds armored vehicle Bv206, D6, meets requirements of the North Atlantic Treaty Organization (NATO). The radar system is designed to be manned by military personnel and is equipped with a number of automated functions, including zeroing in on targets, as well as determining the type and threat potential of the target. The radar also has a function that allows it to distinguish between helicopters and other flying objects.

## New Zealand: a new and large market

New Zealand has rapidly become a major market for Ericsson products. Earlier this year, the monopoly that Telecom, the New Zealand telecommunications administration, held on business switching, was split up.

Ericsson Business Communications (EBC) was, together with our company in Australia (EPA), fast on the move and already they have established Ericsson operations Down Under.

Ericsson Communication Ltd. (ENZ), as our company is known, has been in New Zealand since the end of the seventies. At that time Ericsson bought a factory that manufactured transmission equipment. The reason was that we needed local manufacturing in order to win a contract for AXE. This did not come off and for a few years the company was fairly dormant until in 1980 when we obtained a contract for mobile telephones. Ericsson Radio was chosen to build a nationwide mobile telephone network. When the project drew to a close in 1988, there were other benefits that followed from the operations.

Now it is EBC that will maintain Ericsson's good name with a contract for MD110 and BCS 150.

The factory that Ericsson bought is still there and it continues to manufacture transmission equipment, which is sold through many agents around the globe. The factory, which also serves as our headquarters, is on the North Island in a little town called Napier, with 60,000 inhabitants. Napier lies between the two main cities of Auckland and Wellington. We have always had an office in Wellington and we have now opened one in Auckland, the largest city.

## The world's largest outdoor advertisement?



Largest in the world? The 35-meter long hand-painted advertisement in Bangkok.

**B**angkok's midday traffic builds up in both directions of the eight-lane boulevard. Here, everything rolls, from heavy diesel-spouting lorries and buses to all types of vans, cars, motorcycles and passenger "tuks-tuks," open three-wheelers with a driver and a back seat with room for three.

We stand on a pedestrian bridge, coughing, and look out over the chaos. Queuing up to two to three hours is standard here in this city of eight million inhabitants. No one knows the exact figure.

Bangkok is one of Southeast Asia's fastest growing cities, and it suffers a great deal from its growing pains. Among things that are lacking most is a built-up road system. Cars, on the other hand, are in abundance, to such an extent that even the city planners can hardly keep up.

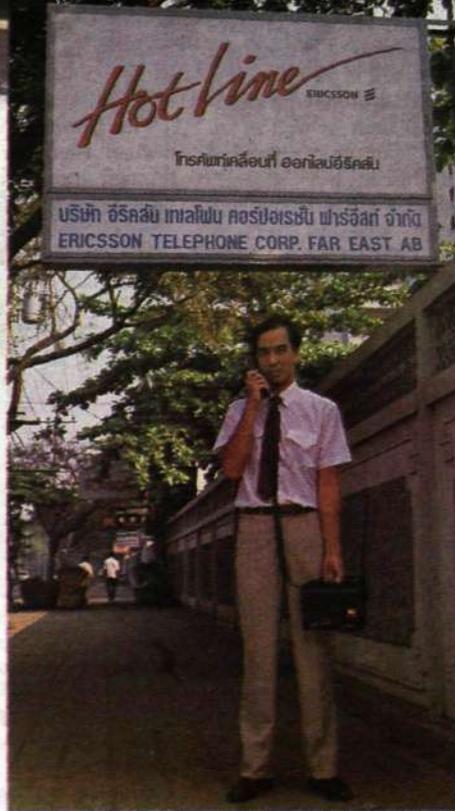
Nevertheless, the city offers eye-catching sights for the traffic lines. Skyscraper-type buildings are scattered here and there, and in the midst of it all lies the fantastic Buddhist temple with its golden fringes and tower. A giant outdoor billboard, typical of Bangkok, dominates the entire scene.

The advertising billboard before us shows a man standing and telephoning from the commando bridge of a boat named the M/S Ericsson Queen. Added to the boat motif is a giant Hot Line mobile telephone.

Huge, in the true sense of the word, is the hand-painted advertising billboard, which forms a very integral part of the city's sights. Above it all, alongside the main roads and the city's boulevards, there are huge pipe constructions that support these often beautiful and well-executed ads.

The distinctly well-placed Ericsson billboard is placed at a crossing which makes it noticeable from several angles. It is 35 meters long and 5 meters high, and consists of 30 different pieces, each one painted by a different artist. Above, to the left, there is a beautiful lettering combination in Thai characters, which freely translated, reads: "Hot Line Combi — the light mobile telephone that you can take with you everywhere."

"We set up this advertising billboard to achieve an image around the Hot Line name and Ericsson," says Santibhan Chartikavanij, head of mobile telephone sales with Ericsson Communications Ltd. in Thailand.



"Here in Thailand, the name Hot Line is synonymous with mobile telephony," says Santibhan.

Santibhan Chartikavanij is responsible for Hot Line sales in Thailand.

"Our product becomes more and more known every day. We now have just about half of the market for base stations and about 35 percent of the market for mobile telephone apparatus.

In a country like Thailand, where there is a constant shortage of fixed telephone networks despite heavy construction, the market for mobile telephone is very large. It comes up in the most unexpected contexts and environments and is a worthy complement to cable-linked telephones.

"We would certainly like to have ten of these billboards in Bangkok," says Santibhan, "but it would be too costly."

"It costs about 130,000 baht (about 33,000 kronor) to paint each billboard. Moreover, we pay 60,000 baht in rent per month."

"It is worth every baht several times over," concludes Santibhan, as he leaves for the city to sell several mobile telephones.

The billboard is put up for half a year, after which, when the wind and rain have taken their toll, it is replaced with a new one.

Text and photo: Thord Andersson