

# ERICSSON **Management Contact**

INFORMATION FOR ERICSSON MANAGERS WORLDWIDE

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## SEK 50 M. ORDER FOR NEW DIGITAL LEASED LINE FUNCTION

Sweden is scheduled to become the first country in the world to integrate its public data services with the public telephone network, using telephone exchanges to set up semi-permanent, private data links across the country.

Televerket, the Swedish Telephone Administration, has just signed an initial SEK 50 m. contract with Ericsson to install digital leased line facilities in AXE exchanges in the network. There is also an option for further orders that could include network supervision equipment.

It is Ericsson's first major contract for this new digital leased line function in AXE, which was officially launched at the Telecom '87 Exhibition in Geneva in October last year.

It will enable semi-permanent leased data lines through the public telephone network to either be set up or changed in a matter of minutes, entirely by command from an operator terminal. Ultimately, all 60,000 subscribers on the Swedish Datal Data Service will be served by links set up through these AXE exchanges.

The main benefits for users are expected to be speedier provision of data links in line with changing needs, higher service availability, and better transmission quality. The AXE exchanges will also supervise the

data links end to end.

The multiplexing and other equipment needed to add digital leased line facilities to the AXE exchanges will be manufactured at Ericsson plants in Sweden.

The equipment is expected to be handed over by the end of 1988.

Teli, a subsidiary of Televerket, is supplying the data circuit terminating equipment that will be installed at each subscriber's premises.

### Technical Background

At present, most telecommunications administrations provide private data circuits by hardwiring links between incoming cables at the main distribution frame of each exchange along the transmission route. It takes time, and it is difficult to ensure end-to-end quality and continuity. It also makes it difficult to change data routes on short notice in line with the changing needs of companies.

The digital leased line facility enables AXE digital telephone exchanges to be used to set up these semi-permanent private data links through the public telephone network. It lets the telecommunications administration respond quickly to customer needs, with maintenance facilities that extend over the whole data route, right out to the subscriber terminals.

## Nokia Purchases Ericsson's Data Systems Division

Ericsson and Nokia have concluded an agreement on the transfer to Nokia of the Data Systems Division of Ericsson Information Systems. The Division's operations cover the development, manufacture and marketing of data terminals, personal computers, minicomputers and small business and banking systems.

The resultant combination of Data Systems' activities with those of Nokia's Information Systems Division will create a new and expansive Scandinavian computer unit — Nokia Data — with a head office in

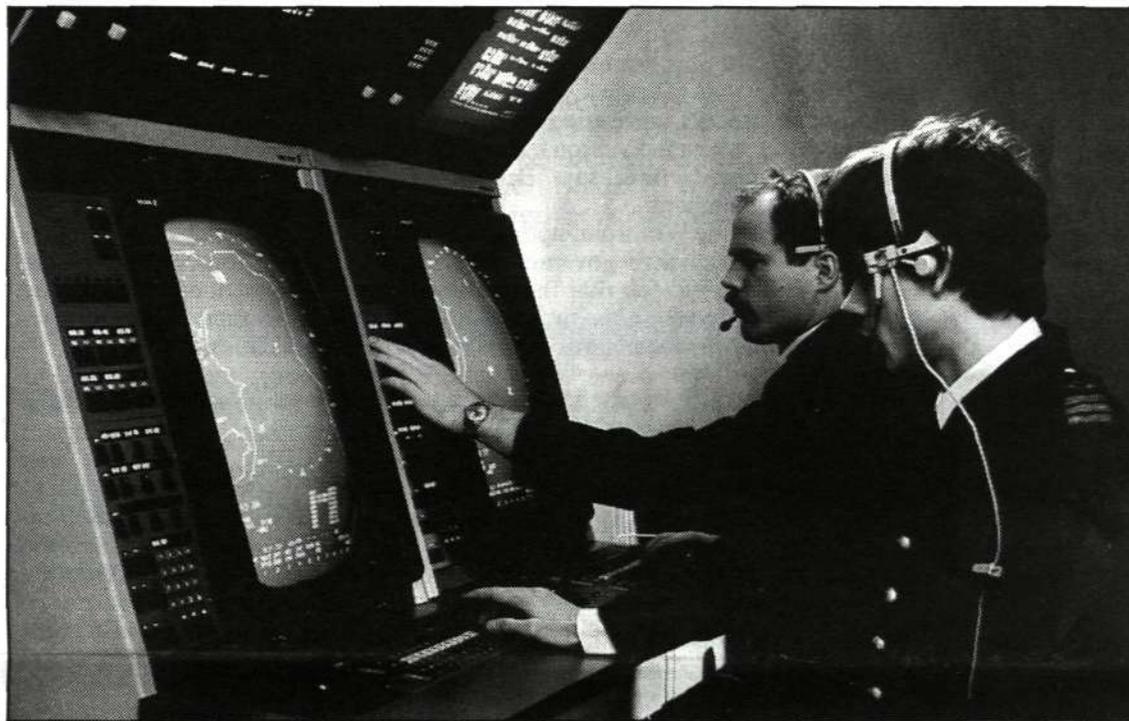
Stockholm and net sales in excess of SEK 7 billion.

The purchase will make Nokia the largest Scandinavian computer company and one of the most prominent in Europe. The new unit will be of particular importance as a supplier of terminal systems, and will stand as the second largest European manufacturer of data terminals.

Included in the purchase of the Data Systems Division are factories in Sweden and sales companies in Sweden, Denmark, West Germany, Switzerland,

*Continued on page 3*

## Armed Forces Order MXD 2000



Ericsson's MXD 2000 exchange is designed to meet the special requirements for integrated communications systems stipulated by the Swedish Air Force. Page 5.

## U.S. Cable Operations to be Sold First

### Axe Switch In Idaho

Mountain Bell Telephone Company has cut into service the first Ericsson AXE switch in the state of Idaho. The cut-over took place at the beginning of December last year in Twin Falls, southern Idaho, U.S.A., where it will serve approximately 100,000 subscribers.

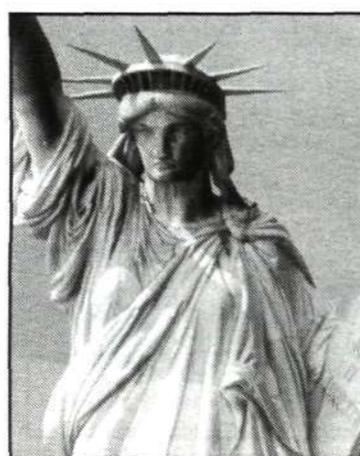
The cut-over is the first step in a major Mountain Bell modernization program in which Ericsson plays a central role. At intervals during the next five years, Ericsson will replace 52 older electromechanical switches in Idaho with its digital AXE switches.

The Ericsson equipment will provide subscribers with equal-access capability as well as custom-calling features. The Twin Falls switch is the second Ericsson local AXE exchange cut into service in North America. The first was cut into service on November 14, 1987, by Mountain Bell in Canon City, Colorado.

At the beginning of January, Ericsson announced that it had agreed to sell the bulk of its U.S. cable operations jointly to the U.S. company, Alcatel N.A. Inc., and BICC Plc. of Great Britain. Ericsson's intention is to sell its copper and fiber optic exchange cable activities, located in the Kansas City area and in Tarboro, North Carolina to Alcatel, while its specialty power cable unit, Continental Wire and Cable, located in York, Pennsylvania, will be sold to BICC. Both transactions are expected to be completed during the first quarter of 1988.

Lars M. Berg, President of Ericsson's Business Area Cables, noted that the Cable Division in the United States has shown unsatisfactory profitability for a number of years, and that this situation had been accentuated by last year's downturn in the U.S. telecom cable market. This is in contrast to other Ericsson Inc. activities, such as network switching, cellular radio systems and business communications systems, all of which have gained strong footholds in the American market in recent years and for this reason the U.S. cable operations are no longer deemed to be of strategic interest for Ericsson.

Ericsson's profitable cable



The new fiber cable used to upgrade telephone connections between Ellis, Liberty and Manhattan islands in New York in 1986 was supplied by Ericsson.

operations in other parts of the world are not affected by the restructuring move in the United States. The Swedish and Latin American subsidiaries and associated companies are coordinated through Ericsson Cables in Stockholm.

In a separate agreement, Ericsson has agreed to sell the assets of its U.S. unit responsible for the manufacture of subscriber transmission products to Optilink Corporation, a California-based developer of digital loop carrier products.

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# Setting New Standards for Survival

**The telecommunications revolution is gathering momentum and there is no doubting the global impact it will have on industry.**

The problems of product standardization in a heterogeneous world are manifold, especially in the area of telecommunications. For many European countries, it could mean the survival of the giant telecommunication companies that are their high-tech national pride. At the center of the telecommunication revolution is the computerized digital telephone exchange. The world's 12 leading telecommunications companies alone have spent more than \$10 billion on developing their own versions of the microchip-powered switchgear that is at the heart of the future transformation of telecommunications. In Europe, the extensive application of technology, from telecommunications networks to software, and its dependence on the interaction between equipment, has given rise to a Green Paper within the European Economic Community (EC), setting forth the objectives for harmonizing manufacture and applications throughout the continent.

Although Sweden is not a member of EC, Ericsson is a major contributor, through its technology know-how, to the ongoing negotiations about standardization.

Three key figures in implementing standards at Ericsson are pleased with the progress that the company has made in this direction. Carl-Henrik Ström, Olle Wikström and Bengt-Olof Malmberg concur in their views that Ericsson is indeed meeting the challenge of European standardization.

Sweden, as a member of the European Free Trade Association, supports the Common Market group in its standardization programs, Carl-Henrik Ström affirmed. The quest for product unification is a key ingredient in Ericsson research and manufacture, says Bengt-Olof Malmberg.

Olle Wikström, noting that interplay with government is increasing, felt that the prospects for reducing the time lag in setting new standards on the international scene were getting better.

Ericsson has been in the vanguard of telecommunications innovation in recent years and, as such, its input on standards in Europe, and, for that matter, around the globe, is widespread.

One can hardly deny that the future of standardization is now. Within a few years the long-heralded "electronic village" will become a reality, thanks to optical fiber cables and digital switchgear that will be able to handle a sophisticated mixture of different services. These will range from the familiar voice telephone to high-speed "interactive" services in which the customer can put questions to the computer and even to the television set.

In another area, the market for digital switchgear and for the next generation of goods and services that would be carried by the new Integrated Services Digital Networks is huge. EC officials in Brussels say that by the turn of the century 7 percent of the member countries' gross domestic product will result from telecommunications, instead of the present level of 2 percent. They also forecast that more than 60 percent of all jobs in the EC may by then depend on telecommunications.

In money terms, it is hard to put a meaningful figure on a market that is snowballing so rapidly. But, as the EC "Green Paper" noted: "The strengthening of European telecommunications has become one of the major conditions for promoting a harmonious development of economic activities and a competitive market throughout the Community for achieving the completion of the Community-wide market for goods and services by 1992.

The overriding aim is to develop the conditions for the market to provide European users with a greater variety of telecommunications services, of better quality and at lower cost, affording Europe the full internal and external benefits of a strong telecommunications sector."

## JAPAN

In a recent review of standards in technology, it was pointed out that standards and standard-setting provide, in particular, a double-edged policy instrument. Their potential influence on the conditions of competition have long been recognized and used, in conjunction with homologation/type approval procedures, to protect markets from foreign competition. Standards adopted by international agreement establish, and often, extend, the limits of competition among firms in specific industries and also for potential new competitors.

Japan, as a major manufacturer of telecommunications equipment, has played its part in international forums on standardization. But as a market unto itself, innovations and standards have more of a national ring to them.

The showpiece of Japan's fiber optics industry is the Information Network System, the country's next-generation telecommunications grid. Once it

becomes fully operational within the next decade, anyone in the country will be able to plug into a full range of telecommunications services, including high-speed digital telephone connections, facsimile and data communications, video conferencing and videotex, teleshopping and telebanking.

The issue of standards in Japan centers to a considerable extent on product certification. This has proved to be an effective means of limiting competition by keeping foreign — mainly American — products out of Japan.

However, international standardization is rapidly making inroads into what has hitherto been a "selective" market. In a move to foster free and open markets, global standards are being implemented. The spinoff of bringing Japan into the standardization process, a leading American trade official pointed out, is a possible means of assuring reciprocal openness in the Japanese telecommunications market.

## UNITED STATES

Cellular phones, which operate by direct radio links to antennas set up around scores of American cities, have finally been liberated from the dashboard of cars. They have shrunk and lost a few pounds and can run for upward of four hours on a small rechargeable battery. In short, they are truly portable. And thanks to an industry approach to standardization in the States, they are also conveniently "user friendly."

Unlike the European tradition of telecommunications development through national PTTs, the American concept of standardization is based on developing a consensus of all interested parties. Historically, the U.S. had no need for telecommunications standards procedures since AT&T coordinated the needs of the local Bell System Operating Companies (BOCs). The independent phone companies

willingly followed AT&T's dictates and accepted its standards since they lacked the necessary clout to press for their own needs.

Since divestiture, and the introduction of competing long-distance carriers, the opinions of the independents are equal to those of the BOCs when establishing standards. All telecommunications standards must now comply with a predetermined set of procedures, like every other industry.

A committee, designated T-1, has been formed to deal with standardization in the telecommunications industry. It consists of representatives from local exchange carriers, long-distance companies, manufacturers and related government agencies. T-1 is now affiliated with the American National Standards Institute (ANSI). Ericsson is a member of the committee.

Standards for Customer Premise Equipment (CPE) are determined by the Electronic Industry Association (EIA) committee. Like T-1, the industry has the opportunity to present its side of the CPE story. EIA is associated with ANSI, which is a privately-supported institution.

Recently, the European Community standards group has agreed to exchange information on standards with ANSI, a move some inside observers view as a step towards a world standard, which has long been Ericsson's goal. The company believes that this would ensure compromise among all interested parties and avoid clashes that would lead to problems within the industry.

A debate is currently going on regarding the relaxation of standards in the cellular field. The Federal Communications Commission is in the process of examining this issue.

The cellular phone industry is also studying a new set of transmission standards that will allow it to switch from the current analog radio waves to digital ones that carry more calls in the same frequency spectrum.

## A Visual Winner



Concept, copy and image, three elements that must come together perfectly if an advertisement is to reach its target, did exactly that with an award-winning "T-Bird" ad for the Ericsson cellular system in the United States.

The winning ad in the Telocator Awards for Advertising Excellence featured a sleek, red Thunderbird with a cellular antenna, and copy that reads: "In 1957, Ed Sullivan, Elvis and Eisenhower were on everybody's mind. And cellular communication was only a passing thought. Today, however, we offer the technology to take your cellular operations into 2057. And beyond."

The quality of the copy, not-

withstanding, the Ericsson ad was a winner based on visual appeal alone, according to the Telocator judges, who awarded it the prize for best artistic presentation. "It couldn't be missed," a member of the judging panel noted. "It was beautiful, elegant and sleek," added another.

In another Stateside campaign, Crume, the Irving-based, Texas agency, positioned Ericsson Network Systems AXE as a "different animal" within the network switching marketplace.

The complete "animal" campaign featured a cheetah representing speed, a camel representing capacity, a hermit crab utilizing existing structure and a shark representing competitiveness.

## STOCK QUOTATIONS

1987	Stockholm Stock Exchange			NASDAQ		
	SEK			USD		
Week of:	HIGH	LOW	VOLUME	HIGH	LOW	VOLUME
Nov 9	170	149	608,900	27 1/4	25 1/4	279,200
Nov 16	173	159	689,600	27 1/4	26	524,200
Nov 23	178	165	436,515	29 3/8	27 1/8	354,300
Nov 30	162	157	1,202,400	27 1/2	25 3/8	350,100
Dec 7	170	160	765,300	28 1/8	26 3/8	310,800
Dec 14	167	161	938,700	28 1/8	26 7/8	251,000
Dec 21	167	160	351,100	28	27 1/4	153,900
Dec 28	162	152	110,300	27 1/8	26 1/4	617,000
<b>1988</b>						
Jan 4	170	162	78,000	28 1/8	26 3/4	301,100
Jan 11	155	164	372,750	28 1/8	26 5/8	120,000

The tables above show the highest and lowest prices paid for LM Ericsson Class "B" shares on the Stockholm Stock Exchange, and the highest and lowest quotations reported by NASDAQ for these shares (represented by American Depository Receipts) in the United States. The quotations are reproduced only to indicate the general trends of Ericsson share prices in two countries.

## RIFA's Capacitor Operations to Fininvest

On December 1, last year, The Finnish group Fininvest announced its intention to acquire from the Ericsson component company, RIFA AB, that part of RIFA's operations which is concerned with the manufacturing, development, and marketing of capacitors, and the RIFA name. Another capacitor company, EVOX, is already part of the Fininvest group. RIFA's microelectronics and power supplies equipment operations, as well as its sales organization, will remain within Business Area Components at Ericsson, but under a new name. Ericsson will remain an important cooperation partner and hold a minority interest in the new capacitor company. The newly established capacitor company, which will operate under the RIFA AB name, will offer all personnel in the acquired operation the opportunity to remain as employees of the new company. Following co-determination negotiations with union representatives and authorities, final agreement on the change in ownership was reached on January 15, 1988. The takeover is expected to be completed by March 1, 1988. RIFA's capacitor operations include units in Kalmar and Gränna, in Sweden, and at a subsidiary, RIFA SA in Boulogne-sur-Mer, in France. A marketing unit in Stockholm is also included.

### Equal Partners

"We plan to allow EVOX and RIFA to operate as equal partners," says Jorma Eloranta, president of Fininvest Oy. "The proposed arrangement will enable development and investment resources to be coordinated

to strengthen the know-how contained in each of the two units. The coordination of resources will allow both EVOX and RIFA to further develop their product ranges, production knowledge, marketing and quality. Coordination of the Scandinavian resources in this field provides us with a significantly stronger international market position," adds Jorma Eloranta.

"For Ericsson and RIFA, the proposed solution means that the capacitor operations will be further developed under improved conditions," commented Ronny Lejdemalm, head of Business Area Components at Ericsson. "For Ericsson, capacitors will continue to represent an important product category, which is underscored by Ericsson retaining a minority interest."

Ericsson's capacitor operations, with annual sales of approximately SEK 350 million and some 1,000 employees, is part of Business Area Components, which in 1986 had total sales of about SEK 1.5 billion and around 3,900 employees.

Fininvest is a stock exchange-listed Finnish group that is primarily engaged in the electronic components and industrial automation fields. It has about 1,150 employees.

### Ericsson Components AB

The remaining operations within Business Area Components — microelectronics, R&D, power and agency activities — are currently being registered under the Ericsson Components AB name. The company will operate under the new name from March 1, 1988.

Continued from page 1

The Netherlands, Great Britain, France and Spain. The terms of the agreement also allow for Nokia's takeover of OY Dava AB of Finland, an Ericsson associated company.

Nokia is offering the opportunity of continued employment to the approximately 5,000 personnel affected by the transfer, some 3,200 of whom are based in Sweden.

### Rationalization

Operations within Ericsson Information Systems have been undergoing a high degree of rationalization over the past two years. Overheads have been reduced, along with the capital tied up in production, stocks and accounts receivable. Since the Office Equipment Division is also in the process of being sold, operations will be concentrated in the Communication Systems Division.

The Chairman and CEO of Nokia, Mr. Kari Kairamo, says that the purchase of Ericsson's Data Systems Division will sharpen Nokia's established ef-

iciency through a synergism in which production costs are spread and product development focused.

"This takeover will greatly enhance Nokia's product range and competitiveness," Mr. Kairamo states. "Ericsson's prodigious terminal systems volume and strong position in retail, industrial and banking systems admirably complement Nokia's smart workstation and shop terminal systems and its role as a leading supplier of localized network systems in Scandinavia."

### Concentration of Forces

According to Björn Svedberg, the sale of the Division is part of a concentration of forces in those areas where Ericsson has its greatest strength.

Mr. Svedberg explains: "The development of the market that has taken place, characterized by an increasing degree of standardization, has made it possible to connect terminals and computers of different makes to telecommunication systems. As a consequence, it is no longer strategically necessary for Ericsson to main-

## Public Telecommunications

# The Process of Change

Marketing strategy and a number of other key objectives are the vehicles for a process of change within Ericsson Telecom.

An in-depth analysis, carried out in conjunction with McKinsey Consultants, confirms that the approach is on the right track. Changes in the market in recent years dictate that we, too, must change. Our customers, operating in a competitive milieu, are looking for better prices, as well as better quality and precision from their suppliers.

### Strategic Development and Cooperation

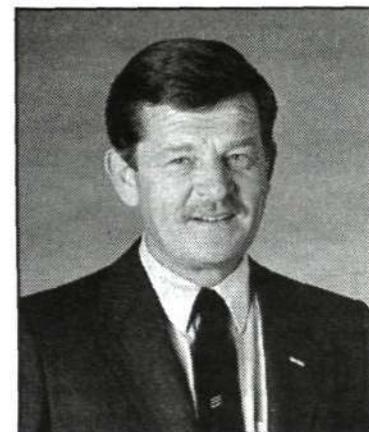
To rise to the challenge of these demands, we should concentrate our development resources on those systems and products that we consider strategic and we

should strive for cooperation within Ericsson and with other companies when they offer access to new technology, a wider product range, a better market position and low development costs.

We should coordinate construction and production processes so that we can maintain our market lead and reduce overhead. In addition, we should develop a market-oriented organization that supports and fosters our overall strategy.

Toward this end and to meet the challenges of the Nineties, a regional organization has been implemented, covering five areas, with the following named as Division leaders: Ragnar Bäck for Europe, Torbjörn Andersson for the Nordic Countries, Anders Igel for Africa, Asia and

Latin America, Ingemar Nilsson for Great Britain, and Jan Stenberg acting for the United States.



Executive Vice President Jan Stenberg is introducing a Process of Change within Public Telecommunications.

## Legal Affairs Moves Closer To Operations

**At the beginning of 1988, the final phase of an extensive reorganization program took effect within the Corporate Legal Affairs Department.**

The reorganization started at the end of 1987 with the announcement that each business area would be assigned the services of a specific member of the reorganized Department who would have "primary responsibility" for handling the legal affairs of the area. In addition, a new legal affairs office was opened in Kista, just outside Stockholm.

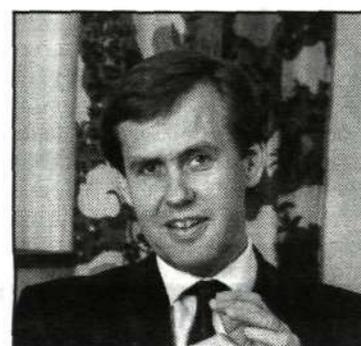
In the second and concluding stage of the reorganization, the Corporate Legal Affairs Department announced the establishment of two subsidiary legal units, LME/J, a combination of the main parts of the previous Legal Affairs and Licensing staffs, and LME/B, comprised of the Patent and Trademarks department from within Corporate Services. Both new units report to Senior Vice President & General Counsel Lennart Grabe (JD).

Mr Grabe has also streamlined his DJ unit to comprise himself, two senior members, Bengt Gamstorp and Thomas Landahl, and one additional lawyer. Mr Gamstorp is now responsible for matters relating to intellectual property rights, and Mr Landahl for licensing and technology-transfer matters. The DJ staff unit will concentrate on overall corporate affairs, policy

tain this Division?"

Nokia Data will be a subsidiary of Nokia, with Ericsson as a partner holding one-fifth of the interest of the new unit.

As Nokia is not acquiring any operations in Norway, Belgium, Ireland, Austria, Italy, North America, Australia and New Zealand, related activities in these



Senior Vice President & General Counsel, Lennart Grabe, describes the rationale behind his new organization.

questions, cross-boundary business area matters, monitoring, information and service to the Chief Executive Officer and the Executive Committee.

The LME/J unit is divided into two offices. One (JF) is based at Ericsson headquarters in Stockholm under the management of Mats Fagerlund. JH will mainly serve the Public Telecommunications, Cable and Network Engineering and Construction Business Areas.

The second unit, JK, is located in Kista under the management of Måns Ekelöf to primarily serve the Business Areas Information Systems, Radio Communications, Defense Systems, and Components.

"This reorganization is a conscious attempt to bring our legal services closer to the business operations," says General Counsel Lennart Grabe. "Today, there are greater demands for legal services within our international business corporation than

at any other time previously. This means that we have to increase our resources in a way that was not possible within a centralized staff unit."

Mr Grabe also noted that one of the most important reasons for combining the legal affairs and licensing units stemmed from the fact that Ericsson's agreements today tend to be increasingly complicated, containing equally as many legal questions as licensing matters. In this context, he named Ericsson's recent agreements with Digital Equipment, Siemens, Matra, Texas Instruments and IBM. "Now that we have gathered our expertise in these affairs in one unit, we can expect to reap the benefits of the anticipated cross-fertilization between the lawyers' general legal knowledge and the engineers' licensing and technological know-how," he said.

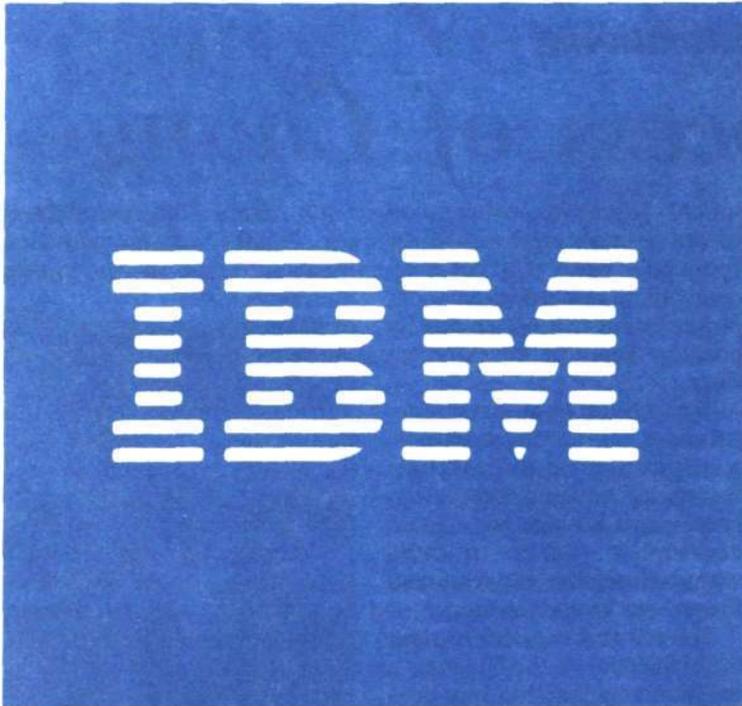
Mr Grabe concluded his comments on the reorganization by saying that there was one step left to take. This is to review the legal affairs functions of the Ericsson companies around the world in order to improve ties with the corporate staffs in Stockholm. "This is a project that I am really looking forward to," said Mr Grabe.

### Two New Companies Formed

Two new companies have been formed in Business Area Network Engineering and Construction: Ericsson Traffic Systems AB (ENG), in Sweden, headed by Tomas Julin, and Ericsson Traffic Systems A/S (ENV), in Denmark, headed by Jörgen Green-Petersen. The new units emerge as a result of the ongoing restructuring of the road and rail signaling group, following the purchase of Fiskars' signaling activities last year.

countries will be handled by Ericsson's present sales organizations.

With industrial co-determination negotiations between the two principals already under way, one condition of the implementation of the deal is the approval of the authorities in Finland and Sweden.



# BIG BLUE STAGES A COMEBACK

Two consecutive years of reduced profits, stiffening competition and a slowdown in its mainframe activities are factors that are currently putting considerable pressure on International Business Machines Corp.

Despite the problems, Ericsson's new partner remains in a class of its own in the sheer scale of its operations in the world's computer industry.

- With around \$52 billion in gross income in 1986, IBM accounts for close to 40 percent of the worldwide computer industry's total annual revenues — or more than half of Sweden's annual gross national product.

- With earnings before taxes of approximately \$8.5 billion, IBM accounts for between 60 and 70 percent of the earnings of the entire U.S. computer industry. IBM earns twice as much as General Motors, the world's largest company, which has double the revenues of IBM.

- During the past five years, IBM's investments have totaled close to \$30 billion. This equals the combined investments made by all other computer companies in the world. IBM's annual capital expenditures are almost as large as Ericsson's yearly sales.

There are no clear-cut explanations for IBM's unique achievements. The many analysts who study the company usually point out that IBM simply has superior technology, better production techniques, and unbeatable marketing.

## IBM Spirit

The cement that holds the organization firmly together is the so-called IBM spirit, a uni-

que company philosophy, deliberately created and fostered by the company's founder, Thomas Watson. Most people have heard about the little sign on his desk bearing the single word, "Think." This simple command continues to be applied diligently in many areas throughout the organization.

As a form of reward, the company displays exceptional loyalty to its employees, providing benefits that far exceed those offered by other American companies. These can take the form of extra compensation, time off, social benefits and educational programs. In addition, no employee has been fired by the company since the crisis in the 1930s.

An average of \$2,000 is spent on training each IBM employee annually. An employee who shows promise can expect the company to invest at least this amount on his training, career

planning and job rotation programs in the U.S. and overseas. The end result is a very strong bond of loyalty to the company.

## Most Profitable

IBM dominates all major segments of the world's computer industry, an impressive record considering how explosively and rapidly the field has developed during the past 20 years.

In perhaps the most demanding segment, mainframes, IBM has a world share of about 60 percent. Its closest competitor has approximately 10 percent of this market. These large, highly complex and very expensive computers are the most profitable of all IBM's product lines, with reputed margins of around 70 percent on annual sales of approximately \$20 billion.

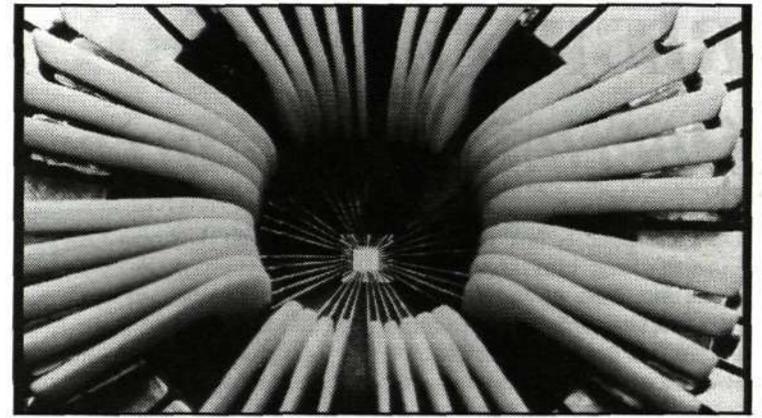
IBM is now encountering certain problems in the mainframes area. Today, most companies, especially in the United States, are already equipped with mainframes. No longer is it a matter of putting a company's entire accounting program on a mainframe. The critical need today is to maintain and improve the existing program. As a result, mainframe capacity is not quite as exhausted as earlier and, consequently, companies don't have to purchase a more powerful one so soon.

Another cause for concern at IBM is that increasingly powerful smaller machines — PCs and minicomputers — are now meeting much of the demand for additional power. They can perform many jobs that used to require mainframe processing. Additional mainframe capacity may one day be needed to coordinate the smaller machines, but for the present the smaller units are cutting into mainframe demand.

All this adds up to slower growth in mainframe sales. In addition, IBM's share of that growth is dwindling as competitors, particularly the Japanese, gain at IBM's expense.

## Growth in Software Revenues

IBM has said, however, that it will be introducing new mainframe hardware and placing new



Like the petals of an electronic daisy, the probe wires of test equipment at the IBM Thomas J. Watson Research Center in New York radiate from a silicone chip holding the smallest transistors in the world.

emphasis on operating systems software. Early this year, the company is expected to speed up its mainframes by approximately 20 percent. Later on it is expected to roll out software that will increase processing speed even more sharply and allow programmers to take advantage of some of the new features of the current hardware. Then, by 1990, IBM is expected to announce a whole new line of mainframes, starting the cycle all over again and once more putting itself ahead of the game — at least for some time.

While hardware profits are being pressed, margins have been rising on IBM's mainframe operating systems, indispensable software on which IBM holds a near monopoly. Even when customers move over to competitive mainframe systems, they still need IBM's software.

## IBM'S SHARES

IBM stock is traded on the New York Stock Exchange, other exchanges in the United States and exchanges in Austria, Belgium, Canada, England, France, Germany, Japan, Switzerland and the Netherlands.

IBM officials say that overall operating-system revenue will continue to grow 20 to 30 percent a year, far faster than the rest of IBM's business, and they are allocating substantial resources to maintain this pace.

The company has been increasing its programming staff about 10 percent annually and now has 26,000 people actively engaged in this segment in the U.S. alone. As part of a broader emphasis on software, IBM has also started to push what it calls Systems Application Architecture, or SAA, which is expected to generate substantial increases in demand for hardware and operating system software. SAA represents a set of standards for programmers that are arranged so that corporate customers will be able to easily move software between different-size machines, a practice that currently requires considerable rewriting.

## Small Computers

On the midrange computer front, IBM is exposed to much heavier competition, especially from another Ericsson partner in the U.S., Digital Equipment Corp. IBM's share of the world market in this segment is around 20 percent, with yearly sales of close to \$20 billion.

The fastest-growing computer segment is, of course, the micro-computer, or PC market, which for a long while seemed to be IBM's Achilles' heel. At the start of the 1980s, however, the company began to introduce its new PCs into this discriminating and tough market segment. Today, IBM has a world share of about 25 percent of this market and sales of just over \$10 billion.

## The Computer Crisis

A few years ago, when IBM seemed invincible, its management began to speculate about the company's future growth curve. There was talk of achieving gross income of \$200 billion by the year 2000. At this level, IBM's sales would exceed Sweden's gross national product. Then came 1985 and the global downturn in demand for computer products, a trend that had an extremely negative effect on Ericsson.

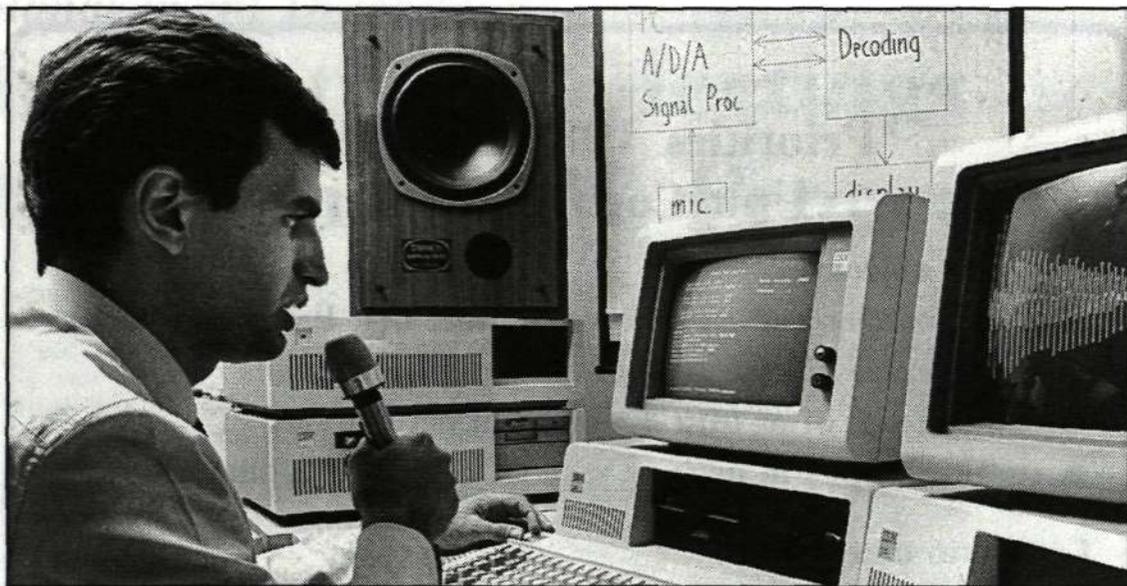
It became apparent that "Big Blue" was not so invincible after all. Big Blue is the name by which IBM is commonly known in the United States, where the top stocks are called blue-chip investments and where IBM has traditionally been the bluest of them all.

During the past two and a half years, IBM's profits have been weaker than at any previous time. The company had \$4.7 billion in net earnings in 1986, the first time that the company

## IBM FIVE-YEAR COMPARISON OF SELECTED FINANCIAL DATA

(Millions of U.S. dollars, except per share amounts)

	1986	1985	1984	1983	1982
<b>For the year:</b>					
Gross income	51,250	50,056	45,937	40,180	34,364
Net earnings	4,789	6,555	6,582	5,485	4,409
Per share	7.81	10.67	10.77	9.04	7.39
Cash dividends paid	2,698	2,703	2,507	2,251	2,053
Per share	4.40	4.40	4.10	3.71	3.44
Investments in plant, rental machines and other property	4,260	6,430	5,473	4,930	6,685
Return on stockholders' equity	14.4%	22.4%	26.5%	25.4%	23.4%
<b>At end of year:</b>					
Total assets	57,814	52,634	42,808	37,461	32,541
Net investments in plant, rental machines and other property	21,268	19,680	16,363	16,142	17,563
Working capital	15,006	14,637	10,735	8,168	5,080
Long-term debt	4,169	3,955	3,269	2,674	2,851
Stockholders' equity	34,374	31,990	26,489	23,219	19,960



A researcher at IBM's Scientific Center in Rome, Italy, demonstrates an experimental system — the first European prototype — for real-time speech recognition.

had reported declining net earnings in two consecutive years.

To the surprise of many analysts, the results of their investigations showed that Big Blue did have a few weak points. Three areas in particular were identified. First, the company's sheer size. This was believed to make it vulnerable to changes in the general economic climate, especially in the area of investments. If cutbacks in corporate spending could cause a computer crisis, as had occurred, then IBM must be negatively affected, the analysts reasoned.

Dependence on the general business investment level has been heightened at IBM since the 1970s, when the company abandoned its previous policy of leasing machines as well as manufacturing and selling them. The revenue from leasing contracts provided a useful hedge against fluctuating economic conditions.

The analysts also pointed out that over the years IBM had accumulated a great many different computer families, each with its own technological architecture. The different forms of architecture meant that the families were unable to communicate with each other. The inherent weakness of IBM's position was exposed even more clearly in the mid-1980s when several competitors, among them Digital Equipment, introduced a number of new midrange product families, all of which offered high levels of compatibility. The new machines were also so advanced that they could compete with many customers' mainframes.

### World Standard

IBM has also been hard hit by cheap clones, originating mainly from countries in Southeast Asia, where production costs are low. These clones are copies of the company's PCs, machines that were easy to duplicate because of IBM's "open" architecture systems — a feature originally intended by the company to facilitate the establishment of a form of world standard.

IBM's problems should not be exaggerated. Big Blue has by far the greatest resources within the industry. It is well equipped to correct its mistakes and fight back.

Chairman of the board John F. Akers has initiated an action program to accomplish three primary objectives:

- Strengthening and renewal of IBM's product line.
- Significantly increasing the number of IBM people directly serving customers, and sharpening the focus on customer requirements.
- Streamlining the company's operations and redeploying resources to make it "lean and vigorous."

As part of IBM's cost-reduction program, there has been a freeze on hirings, while



*New chip "reads" four-million bits of data in quarter second. IBM engineers have described the design of a computer memory chip that can store more than four-million bits of data — four times the capacity of any memory chip currently in use.*

around 10,000 employees have taken early retirement. A great number of corporate jobs have been eliminated and many IBM veterans have been dispatched back to their old sales outposts. However, the tradition of not firing anyone is still being maintained.

On the new-product front, work has been concentrated on developing computer families that can communicate with each other. In the PC market the company is fighting back strongly with very competitive models that contain all the IBM hallmarks but that are priced at about the same level as the clones.

Parallel with this revitalization work, IBM is becoming involved in the long-term integration of the data processing and telecommunications markets. There is universal agreement that the future of both industries lies in the development of integrated voice-and-data communications networks. Progress towards achieving this end is, however, slower than forecast some years ago.

IBM made an early start in becoming acquainted with telecommunications technology and gaining a foothold in the industry. A bigger step was taken in 1981 when the company invested in the business communications network, Satellite Business Systems. The venture was expensive and unprofitable, mainly because of the drastic fall in prices in the long-distance telecommunications market in the United States.

In 1986, IBM sold the entire system to MCI, a long-distance common carrier, in return for 16 percent of the latter's shares. (Ericsson has supplied substantial amounts of transmission equipment to MCI).

### Tough Competition

An even more powerful indication of IBM's interest in the telecommunications area took place in 1984 when it acquired Rolm for \$1.6 billion. Rolm, the third largest U.S. manufacturer of office exchanges, had annual sales of around \$700 million when IBM took it over.

The private market for subscriber exchanges in the United States is worth close to \$4 billion and has been characterized by tough competition throughout the 1980s. Despite its good market share and fine products, Rolm's operations have not been profitable. And, during recent years, even MCI's earnings have been squeezed.

To date, therefore, IBM's experience of the telecommunications field has not been overly positive.

IBM people say that — contrary to the opinion of some analysts — the main reason for the company's investment in the telecommunications area is to boost sales of computers — and *not* to break into new markets. It is against this background that one should view the cooperation agreements recently signed between IBM and Ericsson.

Commenting on Ericsson's recently signed agreement with IBM, Executive Vice President Jan Stenberg notes, "The cooperation between Ericsson and IBM in studying the so-called "Intelligent Networks" is producing very interesting results, which we are convinced will have a strong impact on the shaping of the telecom networks of the 1990s."

## Swedish Armed Forces Order Ericsson MXD 2000 System

In the face of keen international competition, Ericsson Radio Systems AB has won a contract valued at SEK 100 million from the Materials Administration of the Swedish Armed Forces (FMV) for the supply of Ericsson MXD 2000 digital exchanges for Sweden's air bases.

The new MXD 2000 exchange is designed to meet the special requirements for integrated communication systems stipulated by the Swedish Air Force in its "Base 90" concept for modern air bases.

A further development of the AXT system, Ericsson's exchange for military and civil applications which is based on the AXE digital switching family for public telecommunications, the MXD 2000 is described as an advanced system for voice and data communications with several new features. Capacity has also been expanded and the amount of hardware required has been reduced substantially.

The equipment will be manufactured by Ericsson in Sweden, with delivery scheduled to start in January 1989.

## The Making of an Image Harry and the HotLine



When communicating a product and its features, a good brand name is crucial. Ideally, the brand name should be unique and self-explanatory and easy to remember. This facilitates product identification and enhances product differentiation.

With these guidelines in mind, Swedish advertising agency, Welinder Industrireklam, set out to create a concept designed to attract attention to Ericsson's new generation of mobile telephones. The result was an eye-catching, attention-getting image that set Ericsson's cellars apart from the rest. Enter Harry and the ubiquitous HotLine, calling from a traffic jam to hold a Paris-bound flight for his companion Chris or contacting the captain of the Queen Mary to alert him about the stowaway on board.

Initially known as Sonab and later as SRA before becoming part of Ericsson in 1984, the HotLine theme was added in 1986. Why the catchy nickname? "Ericsson is many things to many different people," explains agency chief Nils Welinder. "To most people, Ericsson stands for public telecommunications, large AXE switching systems, nationwide networks and telephones. A mobile telephone is far more personal. Even though it's often purchased by a company on behalf of an individual employee, a unit is often chosen on the basis of personal preference by one person."

With an attractive new look

and the Harry character, the HotLine is readily distinguished from its competitors by its design and image.

HotLine is bought by a wide variety of people, individuals of all different ages, professions and lifestyles. There is no typical customer or market to zero in on. "That, says Welinder, "is why we have chosen Harry as the star in this campaign. There is a certain universality about this fictional hero that people can relate to and even identify with."

And who, exactly, is Harry? Harry, from all accounts, is anything you want him to be, he's a vehicle for your imagination, someone you might want to be, going somewhere you want to go, doing something you want to do. He is a man suspended in time, living in the fast lane. Moreover, he is a man in urgent need of a phone.



## Two-year Priority: UNIT COST REDUCTION

Ericsson has one major priority area for the next two years: Unit Cost Reduction. The unofficial announcement of Unit Cost Reduction as the 1988 priority area was made at the Executive Meetings in June/July 1987 by CEO Björn Svedberg. He noted then that improvements in gross margins are essential in order to maintain our aggressive levels of R&D and retain the active marketing plans while also improving profitability. "One of Ericsson's most important priorities is to generate a high return on equity (ROE). We have made significant strides in the right direction, in recent years, but we must do even better.

"We must meet price squeezes on many of our products and markets by reducing our costs in all areas" says Mr. Svedberg.

The background, strategy and long- and short-term objectives of the Program are being prepared as a package of information for Ericsson's managers to assist them in explaining the campaign to their respective departments, divisions and organizations. Responsibility for

Throughout the communications business, price-cutting will be the name of the game in '88.

BUSINESS WEEK  
JANUARY 11, 1988

coordinating and supervising the campaign has been assigned to Executive Vice Presidents C.W. Ros and Lars Ramqvist. All managers are expected to plan appropriate activities in line with "Priority 88/89" within their areas of responsibility.

Reviewing the strategy that has been formulated to meet the campaign objectives, Mr. Ros stresses the importance of efficient cooperation between the marketing, design, production and purchasing functions to achieve the desired results for both hardware and software.

"We tend to forget that one of the greatest potentials for making improvements and achieving our priority goals in 1988 and 1989 lies in our ability as managers to efficiently utilize and develop the resources of all our employees," says Mr. Ros.

### Review of 1987 Priorities

## Good Progress in all Target Areas

Priorities in 1987 centered on three major and closely-linked areas — Business Orientation, Management Development and Asset and Liability Management. Examples of some of the projects and results are being featured in this review, and future issues of *Contact Management* will devote space to additional reports on outstanding performances.

The individual targets were

coordinated and supervised by Senior Vice President, Corporate Market Coordination, Magnus Lemmel in Business Orientation, Senior Vice President, Human Resources and Organization, Rolf Skiller in Management Development, and Executive Vice President and Chief Financial Officer, Carl Wilhelm Ros in Asset and Liability Management.

### Business Orientation

#### RADIO SYSTEMS' "GOLF" PROJECT IMPROVES ORDER HANDLING

"Business Orientation" involves a great deal more than product development, aggressive marketing and continuing contact with present and prospective customers.

The efficiency and speed with which customer orders are handled plays a significant role in establishing a company's reputation and creating a climate for increased business.

During the course of the restructuring of the Mobile Radio Division of Ericsson Radio Systems (ERA) in Kista in 1985, several "business orientation" problems became apparent. An unacceptably large amount of capital was being tied up in operations, and delivery performance — notably where spare parts were concerned — was not up to Ericsson standards.

## Priorities 1988 and 1989 Unit Cost Reduction

### Two-year objectives:

Improve margins and cash flow to ensure that Ericsson achieves:

- an increase of at least 3 percent in gross margins
- an increase of at least 4 percent in net margins
- improvements in margins without decreased capital turnover

### Long-term objectives:

Our margins should

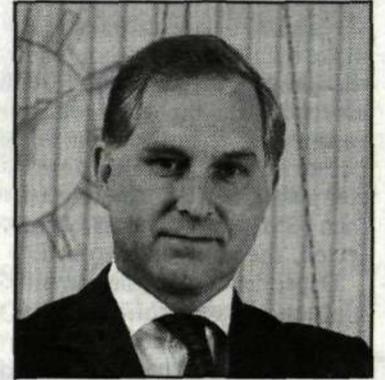
- be at least at the same level as those of our most profitable competitors
- provide the prerequisites necessary to attain growth with satisfactory profitability



**Björn Svedberg:** "We must meet price squeezes on many of our products and markets by reducing costs in all areas."



**Carl Wilhelm Ros:** "Our profit margins have dropped in recent years, as competition has grown stronger. We must become more cost-efficient to survive and compete effectively."



**Lars Ramqvist:** "Only high-quality, competitive products and systems count in the marketplace. We will achieve our cost-reduction goals by more efficient cooperation — with third parties in basic technologies and marketing, and internally between the design, marketing, production and purchasing functions."

The Division's response was to introduce a comprehensive project — designated GOLF, an acronym based on the Swedish words for "general," "orders," "inventory" and "sales".

The new computerized procedures and controls proved highly successful in strengthening the business orientation of the Division in 1987 and the GOLF system is now being introduced in other divisions of the Radio Systems Business Area.

In a brief report on the GOLF project recently, Åke Persson, sales manager of the Kista-based operations noted that the project had been planned and implemented "in an unusually businesslike manner." As a result, he said, the deviations from anticipated results have been relatively modest.

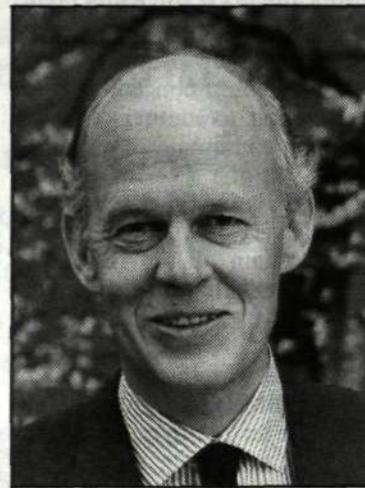
### Information to all Units

The effectiveness of the GOLF system derives from its ability to generate and transmit information to all units within the Division that are involved, directly or indirectly, in filling an order. The system supports and reinforces the existing systems used in order-handling: credit-checking, accounting, manufacturing, replacement-ordering, warehousing and invoicing, among others.

The GOLF system gives the division managers as well as the financial department, the infor-

mation they require in order to stay "on top" of the order at all times. It also alerts the production and purchasing departments to the need to manufacture or procure components or materials. And the system makes it a simple matter to record deliveries from suppliers and changes in the Division's inventory.

Project managers and department heads, in particular, benefit from the GOLF system, which gives them instant access to in-



**Magnus Lemmel:** "A great deal of effort has been put into the various 'Business Orientation' projects during the past year and the focus on this area has definitely increased our ability to attain better results."

formation that earlier was more difficult to obtain. Changes in an order, or errors in filling it, can be detected and corrected promptly, if necessary. And the managers are in a much better position to prepare accurate reports on the status of an order.

### Contribution in Key Areas

While the GOLF system simplifies the performance of perhaps 20 or 30 different operations within the Division, its most significant contribution lies in two areas: speeding up delivery of spare parts to a customer, and reducing the amount of capital tied up in production and inventory.

The following table reflects the volume of external transactions handled in the Division in a typical month (September 1987).

Number of orders.....	1,855
Number of order lines...	8,280
Number of invoices.....	1,487
Number of invoice lines...	7,460

Åke Persson says the GOLF system has strengthened the Division's business orientation in a number of ways:

*Continued on next page*

## Management Development

# International Meetings Highlight 1987 Program

Corporate management development activities in 1987 reached a highlight toward the end of June with two sessions involving Ericsson executives from around the globe. The meetings, held in Lidingö and spread over two days, were attended by some 300 top-level decision-makers worldwide.

In October, an important step was taken when Ericsson launched its first International General Management Program. During 35 days of intensive discussion, 21 Ericsson managers from all parts of the company met to study and assess diverse aspects of management. Experienced Ericsson executives, as well as professors from major management schools, participated in the program.

### Corporate Policy

In March 1987, noting that generally accepted values and policies were necessary for Ericsson to be developed as an industrial unit with decentralized decision-making functions, the Company issued its booklet, *Ericsson Corporate Policies and Guidelines*.

Björn Svedberg, in his introduction, stressed that the aim

of the publication was to create opportunities for vivid information and discussion about all the relevant matters, enabling everyone to exert an influence on the conditions under which Ericsson is and will be operating. The booklet will be subject to annual revisions.

### OPUS

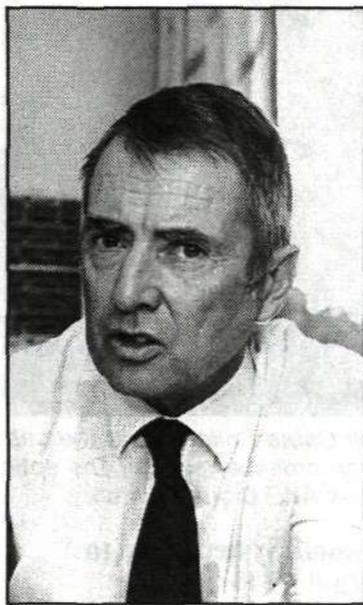
The OPUS program, led by Jan Krook in conjunction with the Human Resources and Organization corporate staff, is proving to be a most effective tool in boosting the Management Development Program within Ericsson. The opinion research project has so far extended to about 25,000 employees in some 60 Ericsson units in Sweden and abroad. Since its introduction a few years ago, the project has been enjoying widespread acceptance at managerial levels generating a growing awareness of the importance of motivation in the workplace.

OPUS provides management with the means for taking the "temperature" in the organization, says Jan Krook, who sees personnel development in terms of a social balance sheet.

One particular aspect of

OPUS is that it measures attitudes in two dimensions: satisfaction and meaningfulness. It is the combination of these two factors that influence the desire for change for the better within the organization, Jan Krook noted.

Citing some examples of exemplary motivation at Ericsson Cable units in South America, as



Jan Krook, coordinator of the OPUS project.

well as EIV in Sweden, Jan Krook stressed that the success of any OPUS project was contingent upon the commitment of managers to act on research findings. He attributed the gains made at Ericsson to the fact that managers on all levels participating in OPUS were aware of what the project meant in terms of corporate culture.

## More Cellular Contracts

Ericsson Radio Systems has been awarded three additional international cellular contracts totaling \$50 million.

In addition to the 23 countries around the world already using Ericsson mobile telephone systems, can now be added the United Arab Emirates, Macao and Cyprus.

The United Arab Emirates and Macao installations are of the Total Access Communications (TACS) type, which is already in operation in the United Kingdom, the Irish Republic and the People's Republic of China.

Cyprus has chosen the Nordic Mobile Telephone (NMT) 900 system, which is in operation in the Nordic Countries and Switzerland. The NMT 450 and 900 systems are specified by the various telecommunications administrations in Scandinavia and are used in a total of 15 countries all over the world.

## "RACE" ROLE FOR ERICSSON

Ericsson has signed contracts with the Commission of the European Communities to enter the "Race" European research program, and is currently working on development and implementation strategies for a European broadband communication network for the late 1990s.

Ericsson will participate in nine different research and development projects with partners from other European telecom manufacturers and operating companies. These include, among others, GEC, British Telecom and the Swedish Telecommunications Administration. These nine projects cover various aspects of the technology that will be needed for low-cost broadband equipment and services. They include strategic areas, such as customer premises network, broadband customer access, broadband switching technologies, optical switching, mobile communications and software engineering.

Ericsson will participate through Ericsson Telecom and Ericsson Radio Systems AB, and the companies in Italy (FATME), France (MET) and Ireland (Broadcom). Ericsson will take a leading role as prime partner in three of the projects. The total value of the projects is \$130 million over three years, 50 percent of which is being contributed by the Commission of the European Communities.

## Asset and Liability Management

# COMPONENTS PROGRAM STRENGTHENED ASSET MANAGEMENT

In one of the critical priority areas for 1987 — Asset and Liability Management — Business Area Components, achieved significant results through careful planning and follow-up of a comprehensive program of capital control.

"We have increased turnover by more than 17 percent, while at the same time reducing capital employed and improving cash flow," notes a delighted Gösta Burlin, Business Area Components Controller. "Encouraging changes in key ratios related to capital turnover, trade receivables and inventories were also noted, and working capital as a percentage of total sales decreased."

### Introduced in March

Following careful preparation, the Components program was introduced in March via a detailed memorandum from Gösta Burlin to all Components companies and to managers and

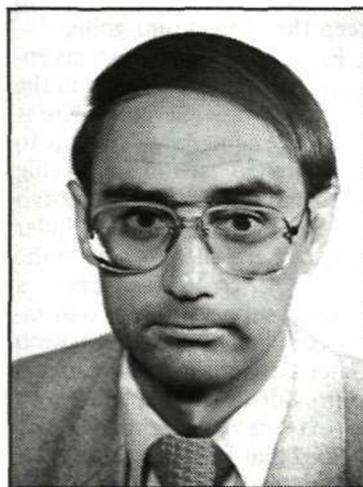
controllers of the principal operating units in Sweden. Targets specifying specific results to be achieved by June 30 and December 31 were established in the following areas:

- Cash flow
- Total capital employed and capital turnover
- Total accounts receivable and accounts receivable turnover
- Total inventories and rate of inventory turnover
- Working capital and rate of working capital turnover

It was emphasized that the managers of all companies, divisions and departments within the Components Business Area were responsible for implementing the program within their units.

### Coordinators Designated

In addition to Mr. Burlin, the following business unit controllers were designated as "coordinators:" Hans Elgqvist



Gösta Burlin.

(Capacitors), Staffan Hermodsson (Power), Lars Brunér (Microcircuits), Johan Nylund (Development) and Kiellar Kiellarsson (Foreign sales companies).

Three projects were set up. One focused on studies of cash-management procedures. The second dealt with production

planning, purchasing and inventory control. The third concentrated on the sale of machinery and other fixed assets that were not being fully utilized.

Detailed procedures for following up the progress of the program were also established.

The regular monthly financial reports were examined to determine trends in cash flow, capital employed, trade receivables, inventories, working capital and other key ratios, and corrective measures were taken, as needed.

### Status Reports on Projects

Reports on the status of the three special projects were submitted to the respective coordinators each month.

The coordinators prepared periodic summaries dealing with the trend of capital tied up in operations, key ratios and the status of the three projects. These comments supplemented the monthly reports made to Components' controller by the various companies and divisions within the Business Area. He, in turn, reports to Ronny Lejdemalm, head of the Business Area and to Åke Stavling, Ericsson's senior vice president-corporate financial control.

As part of the continuing effort to reduce the amount of money tied up in accounts receivable, RIFA has instituted a separate project to deal with overdue accounts. The con-

troller's department and the sales departments of the divisions follow up these accounts each month and agree on who should take steps to obtain payment. A bonus system, designed to encourage RIFA accounting personnel to further reduce accounts receivable, is being introduced.

One disappointing development during the year was the failure to sell a substantial portion of idle fixed assets. It is proving extremely difficult to divest much of the equipment used in manufacturing microcircuits, since this machinery is based in part on U.S. technology that is subject to reexport regulations imposed by the American authorities.

### Summary

The following summarizes the major gains made by the Components Business Area in the field of Asset Management during 1987:

1. The rate of capital turnover increased by 20 percent.
2. The turnover of accounts receivable rose 35 percent.
3. The rate of inventory turnover rose 35 percent.
4. Working capital was reduced to 35 percent of invoicing.

Business Area Components anticipates further strengthening of its asset management program in 1988.

## Golf Project

Continued from previous page

- Increased delivery reliability
- Higher levels of service to customers
- Smaller inventories, coupled with reductions in personnel
- Faster invoicing
- More orderly procurement operations

### Control over Profitability

The Division can now obtain correct information on orders without delay, he notes. In addition, it now has better control over the profitability of orders and can determine the availability of materials more readily. The system also provides "monitoring" signals when there is a risk

of shortages of materials that have to be ordered. And it offers a better base for setting priorities.

Last but not least, the GOLF "information bank" offers new possibilities for analyses of the Division's performance, enabling it to strengthen its business orientation in the future.

## U.S. Round-Up

# ERICSSON NORTH AMERICA CONCENTRATING ON CORE BUSINESS

**From an AXE cut-over in the Rockies to a trade show extravaganza in Las Vegas, 1987 was the year that Ericsson came of age in the United States.**

As Larry Lannon, the editor of *Telephony* magazine observed, "Two years ago Ericsson's U.S. operation had a blurry image. You've done a tremendous job in changing that. Today you're viewed as a company with a strong commitment to America."

That sense of commitment engulfed all four business areas and led to a sweep of contracts and agreements in 1987. And according to Ericsson, Inc.'s President M. Peter Thomas, it is still a driving force in 1988, a year in which the U.S. company is changing its appearance as it sharpens its focus.

"1987 was a year in which our major systems business took great leaps forward," said Mr. Thomas. "We had our first AXE cut-over in the U.S., we developed a new cellular marketing strategy by introducing a small system and we enjoyed major successes with our MD110 by implementing good product management."

"But 1987 was not a good year for our transmission and cable businesses and we are selling the bulk of our U.S. cable operations as well as our domestic subscriber transmission products (S6A S6B and Time-span). Ironically, it is the result of the success in our major systems business that causes us to reinvest our resources where we are the strongest. The Ericsson, Inc. of 1988 will be leaner and more focused as we concentrate on our major areas," he said.

### Network Systems Enters the RBOCs Door

Four of the seven Regional Bell Operating Companies (RBOCs) signed contracts with Network Systems in 1987, despite fierce competition from other suppliers. Presently doing business with Ericsson are NYNEX, U S West, BellSouth and Southwestern Bell. Contracts include Class 5 subscriber service in Idaho (where digital AXEs will replace 52 electromechanical switches); Class 5/STP applications in Tennessee (the first of its kind in the country); AXE for interactive message service in New York and an AXE for southwestern Bell's Advanced Technology Laboratory in St. Louis, Missouri.

"Our greatest triumph in 1987 was our cut-over into the U.S. telephone network," said Ted Franks, vice president and general manager of Ericsson, Inc.'s Network systems division.



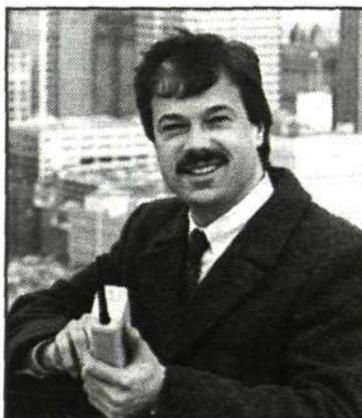
*Larry Livingston, a Mountain Bell Cable Splicer, cuts the cables that connected Canon City subscribers to the old step-by-step crossbar switch. The splicing took place seconds before connections were made to the new AXE Digital Switch.*

The history-making event took place on November 14, 1987 in Canon City, a small town in the mountains of southern Colorado. It was followed quickly by an AXE cut-over in Idaho, which was also the first step in Mountain Bell's "Technology Plus" modernization program.

"We're proud of our accomplishments but we've set our goals high for 1988. We're aiming for new switching orders of 250,000 lines and we're also after a fifth RBOC customer," Franks said.

"Looking back, I would say that in 1984 our emphasis was on software. From 1986 to 1987 we concentrated on the delivery of trial systems. In 1988, we're focusing on building up our customer support. We realize that it will take tremendous effort to reach the level of our competitors, such as AT&T and Northern, but it's crucial that we develop a more professional interface with our customers," he said.

Meanwhile, Phase B of the Bellcore evaluation of AXE continues in Canon City, Colorado and New York City. Phase B results are expected later this year.



*Ericsson's cellular systems now in service in the Pittsburgh area.*

### Small System Key to Radio's Success

"You could say that 1987 was a revolutionary year for Radio Systems in the U.S.," said Manfred Buchmayer, the division's Vice President and general manager. "We changed our strategy, introduced a small cellular system and penetrated a new market. Now we have to keep the momentum going."

Previously, Radio Systems enjoyed tremendous success in the Metropolitan Service Areas (MSAs), selling large systems to non-wireline customers in big cities like Los Angeles, Chicago and San Francisco. Once cellular systems were implemented in the MSAs, Ericsson developed a regional service concept that involved filling in the gaps between major areas with smaller systems to provide uninterrupted service to customers. Buchmayer explained that Ericsson's timely introduction of the smaller system allows it to be a major force in regional systems implementation.

"It's a competitive advantage for a cellular service provider to be able to offer its customers uninterrupted service within large areas," explained Buchmayer. "We want to sell systems to customers with licenses in areas adjacent to the cities where our large systems are already operating. In this way we increase our market share, grow geographically and add value to the licenses."

Also critical to Radio Systems success is its relationship with McCaw Communications, the largest U.S. cellular operator. "We can easily say that we are a preferred supplier to McCaw. In fact McCaw was the first U.S. customer to purchase our new offering."

### MD110 Orders Doubled In '87

"In 1987 we doubled our MD110 billings and bookings over the previous year and we improved our customer relations on the Financial systems side," said Lars Jarnryd, Vice President and general manager of Ericsson, Inc.'s Information Systems division. "We underwent a major reorganization and there was an overall staff reduction of 10 percent. In short we made changes, became more efficient and realized successes, too."

The division's Communications Systems unit achieved a strong foothold in its two target areas, the university and local government markets, landing contracts with San Diego State, Sonoma State and Oklahoma State Universities. On the public sector side the division signed a five-year contract with the state of Arkansas.

"In 1988 we will expand our customer base by selling to commercial customers while continuing to sell directly to schools and local governments," said Jarnryd.

### The Corporate Image

While the divisions enjoyed success, it was a unified Ericsson that had the most impact on the American public in 1987. The full strength of the organization was brought home to guests at the U.S. Telephone Association's (USTA) showcases in Indianapolis and Las Vegas early in 1987. There company officials from both sides of the Atlantic hosted a debate on the state of the industry and told the Ericsson story to an American audience. To the thousands who attended the shows, there was no doubt that Ericsson had arrived in North America.

### U.S. Cutback

In an effort to improve operating results in 1988, Ericsson Inc. plans a series of measures to reduce expenses related to corporate staff and administrative function.

Many operating functions currently within Corporate will be merged into Network Systems Division, which will then provide these functions for Corporate and the other American divisions.

In the course of the next few weeks, Corporate Accounting will be eliminated, with corporate consolidation, corporate general ledger, corporate payables and FIRE reporting activities being transferred to the Network System's Controller's department. Corporate Human Resources will also be eliminated, with compensation and benefits, payroll, training and EEO activities being transferred to Network Systems.

The Richardson Facilities Department is being transferred to Network systems and the Corporate MIS Department will be merged with the Network systems MIS function. Corporate Communications day-to-day activities are also being transferred to network systems. Business Planning and Development activities are to be conducted primarily at the divisional level, with Corporate providing a consolidating and supervisory role.

Future Corporate activities will consist of a President's Office, a Corporate Legal Department and a Chief Financial Officer's Department.

Policy implementation and conduct of operations will continue at the divisional level.

These measures do not change the reporting structure for divisions (to the President), relations among divisions or relations with Business Areas in Sweden. Specifically, the present steering committees for Quality and MIS will continue unchanged, as will the present Policy Committees.

**Contact**

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