CONTACT

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The goal must be set high!

Hank Hayes, president of Texas Instruments Defense Systems, won the Malcolm Baldrige Award in 1992. Now TQM will show Ericsson the way to the big quality prize. Theme coverage of improvement work and company culture appears in this issue.

Quality for survival

Poor quality will kill any successful company whatsoever. An interview with Jan Stenberg.

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TQM
TOTAL QUALITY MANAGEMENT

- **Customer in focus**
- **Steady improvements**
- **Involvement by all**

Prize-winning TQM-projects

Very succesful improvement work in Spain and U.S.A. delights customers and lifts profitability.

Pages 11, 14

US West must be best

One of Ericsson's customers gives it views about TQM and quality work among suppliers.

Page 15

"We must continue our culture revolution"

This issue of Contact deals with TQM and company culture. We asked Lars Ramqvist to share his views on these matters with fellow Ericsson employees.

The last three years have been very eventful in Ericsson. Within a short period changes have taken place in our work patterns. It is no exaggeration to say that the company has undergone – and continues to undergo – something of a culture revolution. Three important activities have combined together to bring about this: ISO 9000, TRIM and TQM.

These three elements are each and every one in itself a powerful instrument of change. That we in Ericsson have used them all in such a short time is a clear explanation of why the company today is considerably better equipped than three years ago.

TRIM has reinforced us economically. ISO and TQM have boosted quality above the veryday mark. We have really been able to show our customers that Ericsson definitely intends to be a quality company.

Already way back when Lars Magnus Ericsson began manufacturing his own phones in 1878 it was with quality as his foremost means of competitivity that he went out onto the market. Impartial tests of Ericsson telephone sets gave higher quality ratings than for his competitors' products. It was this superiority that set the stage for the initial success and that later paved the way for the development of the small family business. Ericsson would never have become one of the world's leading companies in telecommunications had it not been for this investment in quality.

Today, when competition in our branch is tougher than ever, quality stands ever more at the center. Alongside technological performance it is an extremely important factor we have with which to compete.

What about price then? Yes, indeed, that is naturally also of decisive significance, but I am looking at the price we must ask for our products as a result of our quality work. The higher the quality we have in our products and our work, the lower the price we have the possibility of offering our customers – at the same time that our own profit margins are rising.

Our customers also appreciate the significance of quality. They cannot afford to install equipment that does not function as it should, that is not delivered on scheduled time or that has not have sufficient life span.

Quality in what we deliver must be such that the customer feels secure in not being taken by some negative surprise.

Critical situation

At the end of the '80s, Ericsson's reputation as a quality company was on the decline – for a number of different reasons. Above all, it was the result of the very high level of deliveries. Quality work did not always keep pace. In many markets we had bad control over how our operations functioned. This spread quickly in a branch where customers are few and have many contacts in between.

Above and beyond the quality problem, there was also the recession. The world went into a recession that was deeper than for some time ever and that for the first time also seriously hit investments in telecommunications. That's why 1990, and above all the end of that year, became something of a fateful hour for the company. In the corporate leadership we realized that Ericsson had to do something about declining quality and about an ever more disturbing costs development.

ISO laid the base

Some smaller companies were first, but Ericsson Telecom, ETX, was the first really big company in the group to realize that ISO 9000 offered immense possibilities to correct this in their own activities. An ISO certification is a work-packed but effective way of securing the company's internal processes. In December 1990 when ETX received its ISO certification it was an event that resounded throughout the entire Ericsson group. And that was very much noticed by our customers.

Since then many of our companies have gone through the ISO process. The result has been that we today have greater control than ever before over our activities. This will benifit our customers and it has reinforced our relations with several of our truly demanding collaboration partners – BT in England and Norwegian Televerket, to cite two examples.

There are still a few companies yet to be ISO certified, but they are working on it. It is a task that must have high priority in a market where the demands for ISO certification will be stronger from the customers' side.

TRIM builds further

Costs developments stood at the center when we initiated the TRIM program in December 1991. Thanks to a more than one hundred percent commitment to TRIM in every area of the company, increase in our costs was arrested. During the second half of 1992, when TRIM began its real penetration, we could all be happy about the break in trend that TRIM produced. That the group could report positive earnings results, despite a very difficult market situation and continued hefty technology investments, was to a great extent TRIM's doing.

This year we can attest to continuing good results from TRIM. Now the more long-term changes that TRIM led to are beginning to appear. At the same time work in the TRIM group has expanded from tracking down cost-cutting to including measures that more overall relate to the company's various processes. TRIM is definitely blending into the third of our major efforts for the '90s, TQM.

TQM gives us a future

Ericsson Fatme in Italy was the first to start with TQM, Total Quality Management. It is an important and essential contribution that Fatme has provided for the Ericsson group. Inspired by the Italian experiences, corporate management decided at the beginning of last year that all of Ericsson should be a TQM company. Not just any kind, but one of the leading TQM companies in the world. We have a long way to go before we get there, but we are on the way now.

Changes in the tele markets, in the direction of ever greater competition also on the operators' side, have produced entirely new conditions for our activities. Today, more than ever, it means placing the customer at the center, valuing our customers well.

We must strive not merely to live up to our customers' expectations of us, but also to surpass them. This is one of the most important goals for our future work. TQM gives us the means of achieving it.

Ericsson's TQM efforts are now moving on two different fronts. 25 new companies are joining the business areas and MLCs in TQM work. The companies that have worked with TQM and that have seen its possibilities are now taking the step from improvement project to improvement culture. This means putting the last piece of the TQM puzzle in place, getting all employees involved in the work. Making customer focusing and steady improvements part of our corporate culture, of our daily work.

All must join

No chain is stronger than its weakest link. That's why it is extremely important now that all our activities be incorporated into the TQM culture we are building. And that all of us are participating.

For me as chief executive officer TQM is now one of my highest priorities. It is something no executive can ignore. TQM is our key to the future. Excellent quality is our foremost weapon, precisely as it was for Lars Magnus Ericsson in 1878.

Lars Ramqvist

Breakthrough in India

Ericsson Telecommunications Private Ltd. in India has received an order for 10,000 local AXE lines from the Department of Telecommunications (DoT) in New Delhi.

Penetration of the market for local digital switching systems means a strategic breakthrough for Ericsson.

The order amounts to a recognition of Ericsson as one of the approved suppliers on the huge Indian market.

The purchased system contains the very latest in the area of technology, among other things ISDN.

Deliveries will be made within the coming six months.

In 1991 Ericsson supplied four international exchanges for operators of international traffic in India, Videsh Sanchar Nigam Limited (VSNL).

India with its huge population is expected to be on of the biggest markets for telecom in the future

Tie a yellow ribbon...

More than a year has now passed since our colleagues Christer Strömgren, Leif Westberg and Stefan Wihlborg were put in prison in Iraq.

In Sweden a number of campaigns are active on behalf of our colleagues in Baghdad. A technical publication, Ny Teknik, has started a postcard campaign. The evening paper Aftonbladet, together with TV4, exhorted the Swedish people to wear something yellow – a ribbon or a pin – to show your solidarity with Christer, Leif and Stefan.

Many of their colleagues at Ericsson in Sweden have responded positively. Show yellow too, if you haven't yet done so! Contact is doing it, as you can see on Page 1.

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"ISO, TRIM and TQM are activities that now are making Ericsson stronger than ever before", says Lars Ramqvist . Together with Jan Stenberg (right) and CW Ros, the third member of the Cief Executive Committee, Ramqvist strongly supports all three of these activities. Photo: Lars Åström

Magnetic renamed

On October 1, 1993, Magnetic AB will change its name to Ericsson Messaging AB (ERM). The new name was chosen to better reflect the company's products as well as indicating its link with Ericsson.

ERM will also change telephone number from October 1. The new number is +46 8 757 5900, and the fax is +46 8 757 5910.

China buys more AXE

During July and August 1993 Ericsson signed several contracts for expansion of the tele network in Liaoning province, in the People's Republic of China. The contracts covers supply of AXE equipment for a total value of 117 million kronor. Deliveries will be made in 1993 and 1994.

China is one of Ericsson's fastest growing markets. Already today there are close to two million AXE lines in operation in the country.

Norwegian contract

Ericsson A/S in Norway has signed a contract with China Technical Import & Export Corporation and the Liaoning Post and Telecommunications Administration (PTA). The contract is worth about 115 million kronor (15 million dollars).

The contract covers supply of 31 AXE switches, which will be installed in the countryside in Liaoning province in China. The project has been approved according to rules for soft-loan financing in Norway.

"We have had close and constructive collaboration with the Norwegian aid authority, NORAD, regarding study of the project (Aid Quality Asessment document) which is necessary to obtain approval of soft-loan financing," says Steinar Tveit, president of Ericsson A/S.

Deliveries will commence at the end of 1993 and continue during the first months of 1994.

The Ericsson company in Brazil, Ericsson Telecommunicacoes S.A., maintains a very strong market postion.

Brazil buys more mobile telephony

Ericsson has signed an additional mobile telephony contract in Brazil, this time with TELPE in Pernambuco, a state in the northeast.

The contract, which is worth more than 100 million kronor (13 million dollars), covers a system that will go into operation in March 1994. Since May 1992, Ericsson has signed 13 mobile telephony contracts with different regions in Brazil.Total value is 560 million kronor.

Expansion of the Ericsson system will be done mainly in the country's southern and northeastern areas.

Ericsson's successes in Brazil is a path in the company's rapid growth in Latin America. Market share there for mobile telephony is about 45 percent at present.

EDACS for Los Angeles

Ericsson GE Mobile Communications has signed a contract with the city of Los Angeles, U.-S.A., for the digital communications system EDACS Aegis, wich operates on 800 MHz.

The system, which includes Ericsson GE equipment worth over 200 million kronor, will offer all the security and service requirements in Los Angeles, except for police and fire brigades, a common communications network.

The installation of the network with its 41 channels is expected to be completed during the latter half of 1994.

EDACS Aegis uses a sophisticated voice coding technology for digitalization of voice and fault correcting.

These techniques secure a high voice quality in areas with both good and bad radio coverage.

Patent case in Texas

Ericsson has filed suit against InterDigital Technology Corporation)ITC), a subsidiary of InterDigital Communications Corporation. In the suit, which was filed with the District Court in northern Texas, Ericsson is seeking a ruling that will recognize that certain ITC-owned patents regarding TDMA (Time Division Multiple Access) are invalid and that TDMA equipment sold by Ericsson does not infringe on them. Moreover, Ericsson is also seeking a ruling to forbid ITC from further accusations against Ericsson on patent infringement.

The suit follows a long and thorough analysis of the validity and contents of ITC's TDMA patent and came after attempts to reach a mutual agreement with ITC.

"Ericsson is totally convinced that no infringement was made on valid TDMA patents that ITC owns and that ITC's insistence on fighting lacks real reason," says Thomas Isaksson, president of Ericsson Radio Systems.

Wireless data/faxcommunication with Ericsson and TI TravelMate

Now you can equip your Texas TravelMate notebook computer with a powerful Ericsson V.32 bis modem. And you only need a single cable to connect the modem to an Ericsson handheld mobile phone, NH 97 or NH 72.

- Even sensitive information can be transmitted over the telephone network or cellular phone network since the modem permits data encryption.
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Texas TravelMate notebook computer with Ericsson modem connected to an Ericsson handheld mobile phone NH 97.

ERICSSON

Italian marriage

Ericsson is one of Rome's biggest employers. The two companies Ericsson Sielte and Ericsson Fatme employ 9,000 people.The companies are just about equal in size.

Now they are getting ready for a marriage in Italy. Sielte and Fatme will merge and form Ericsson Telecommunications S.A. It will be one of the group's largest companies.

Ericsson Fatme is one of Ericsson's Major Local Companies, MLC. The company's activities have included public telecommunications, radio and business communications. For many years the company has been very successful in Italy, which has long been at the very top among Ericsson's biggest markets.

Ericsson Sielte is a company that belongs to Business Area Business Networks. With more than 4,000 employees it is by far Ericsson's biggest network construction company. After the state-owned Stet it is also Italy's next largest company in the branch, with several regional subsidiaries all over the country.

Handling exports

The main offices for Ericsson Sielte and Ericsson Fatme are in the same district in Rome's southern suburbs.

Both Sielte and Fatme have been involved with exports in recent years. Fatme supplies, among other things, mobile telephone systems for Greece and AXE switches for China. Sielte has huge network construction projects under way in, among other countries, Nigeria and Argentina.

The successful export efforts have benefited from the devaluation of the Italian currency. Since its main customer in Italy, SIP, cut back its investments, exports are an extremely important part of the companie's activities.

When the new company is established on January 1, it means that the company will be even stronger on the Italian market.

Ericsson Sielte is a large network construction company with operations all over Italy. Now the company is being merged with the other large Italian Ericsson company, Ericsson Fatme.

Ericsson builds telenet in Lebanon

Ericsson has signed a contract with the Lebanese telephone administration which aims at expansion and rebuilding of the tele netv ork in Lebanon. The contract covers supply and installation of, as well as support systems for, switching system AXE. The order is worth about 350 million kronor.Deliveries from Sweden will begin in November 1993 and preparatory work on site has already begun. The project is expected to be completed during 1994.

With this contract Ericsson regains its position as the principal supplier of telecommunications equipment in Lebanon.

EDACS for Vienna airport

Vienna's international airport has chosen Ericsson's mobile radio system EDACS for a communications sytem for personnel working with aircraft servicing, baggage handling, fueling etc.

The system, which is the first EDACS system adapted for an airport, covers the network as well as 300 portable or mobile radio sets. The digital trunked radio system will be integrated with the airport's local network. Vienna's international airport is one of Europe's fastest growing airports.

New chinese joint venture

Ericsson has signed an agreement with North East Communications Company Ltd. in Liaoning province in China to establish a jointly owned company in the city of Dalian. The name of the company is Dalian Ericsson Compnay Ltd. It will have a share capital equivalent to five million U.S. dollars, of which Ericsson will own the majority share.

The company will eventually begin its own operations in the area of plant construction, assembly and technical support for the AXE 10 system, which will be delivered to customers in northern China. When the company reaches full capacity in 1955, it will have about 200 employees.

SGML rips down barriers between data programs

In Ericsson we use a host of different word-processing programs today. In addition, we work in a number of different computer environments. This poses a problem when you want to exchange a text document with another. Now a solution for this problem is finally under way: SGML.

Most word-processing tools have their own way of storing information. Well after the tool is designed there comes a lot of finesses. Sometimes the method of storing that existed in the earlier version is changed. Word processors thus have become more and more different. It can even be difficult to exchange texts between different versions of the same program.

One solution to this problem was for Ericsson to take a definite stand on which word processors would be used. However, there are many diversions to that route. Different programs are good for different things. One user category has greater use of Word Perfect, another of another program.

If all programs stored information in the same way, then on the other hand it does not matter which program is used in writing the text. This is actually fully possible. Here SGML enters the picture.

SGML stands for Standard Generalized Markup Language. It is a standard that describes how structure in a document shall be defined. Not a tool for everyone, but a real aid for those persons whose task it is to determine document structure in different contexts. This could be, for example, technical descriptions, offers or handbooks.

Tags

The finesse with SGML is that some of the larger word-processing programs manage to store text in a format that SGML can use. When the text is edited into a finished document, SGML resorts to a series of "tags" that can be used to identify what is a headline, a preced, body text, diagram etc. SGML has a standing rule for how different rules for different elements should be tagged and for how they should be used.

In practice it functions in such a way that a structure is determined, for example, for a technical description. Type font, text size and other information about layout is stored in the set of tags that will be used for the document. Then when the text is to be written into a document the author has a grasp of these tags and the rules for their use to start with. He or she punches in the tag for the main headline before the headline, then the tag for body text after, etc.

The result is that the document can be electronically transferred to other word processors that understand SGML and packed up for use at customers, suppliers or who knows today to whom documents are sent.

In use already

Ericsson Radar Electronics in Mölndal is the company in Ericsson that got to know most about SGML. The Swedish Defense Procurement Office, FMV, now wants documentation about military products to be written with SGML.

ERA has also come into contact with SGML. Documentation of AXE switches for the Japanese mobile telephony system will be written with SGML. In the U.S.A. is a demand from military authorities.

Ericsson has a work group that is studying SGML and how it can be used for typical Ericsson documents. A list with common company tags is among other things in the works.

Those who are in the process of getting a new word processor would be wise to find out if it can handle SGML. There is no doubt that this will be a very usable tool in Ericsson in the future.

Do you want to know more? You can get information about SGML from Mike Robbins or Ann Fransson at LME, internal address HF/LME/CA, both of whom are in the work group.

A HAPPY COUPLE

Ericsson Hewlett-Packard Telecommunications AB, EHPT, was formed in April 1993. The establishment aroused a lot of interest, above all since a computer company and a telecommunications company formed a jointly owned collaboration company.

Together with ETX, EHPT is now advancing development on the TMOS system, so that it could be operated on the same network and not only on AXE.

EHPT a good base for TMOS development

EHPT has about 350 employees located in Mölndal, Stockholm and Grenoble. Ten employees have been hand-picked by Hewlett-Packard and several more are on the way. In addition, the subsidiary in Grenoble has ten employees.

In the fall the company will present its new product plans. All the employees have worked hard and enthusiastically so that the newly formed company would run smoothly. The president, Anders Engvall, together with a number of employees, has traveled all over the world to present the new company to Major Local Companies. Local Companies and several operators.

Promising combination

Its principal activity is to work with development and global marketing of the operations support system TMOS. TMOS consists of a computer platform with standard products, a platform for telecommunications and several applications for steering and supervising different tele networks. Moreover, TMOS is a development platform for the introduction of operations support functions. Therefore, the combination of a telecommunications and a computer company is very promising.

"Besides, we encounter a new market with new customer demands and we must be able to attack this," says Anders Engvall.

Operators want a supplier with both telecommunications and computer knowledge. EHPT will offer customers unique solutions –. complete systems that make it possible for operators to handle their operations with greater flexibility and sensitivity for their customer's increased demands.

"Tomorrow's operator will to an even greater extent need and demand a broader "help system." And we shall give it to them."

Customers have new demands. When competition increases, higher demands are placed on operators to come out on the market quickly with new service offers. They must streamline their operations and have a qualified system for operations support. Today, most operators have a number of tele networks and work with various suppliers. Previously they were obliged to have a support system for each network, which was both costly and time-consuming. That's why today EHPT is focusing on developing a system with multivendor functions. An operations support system that can operate on and support all networks.

Good base with BRAVO

The possibility of offering an open multivendor operations support system is based on EHPT's product and services range.

"With the BRAVO project, which was launched about two years ago to further develop TMOS, EHPT has built a good base on which to stand. Johan Taurell and his team have done a fine job."

Thanks to BRAVO, EHPT can offer operators a broad and professional system that can be used as a base for functions growth. This saves time and money for the customer.

"Now it is enough for the operators to learn one system for operations support."

Goals

"Our goal is to have satisfied customers and to offer a broadly qualified system. I also hope that we can grow in the immediate future so that we can succeed with our tough business plan."

Good collaboration is also important with ETX and ERA as well as closeness to colleagues working with TMOS in ETX.

"We must have a clear profiling of the company and win confidence."

It is a tough but exciting future that awaits EHPT.

"Great! That's what spurs on and gives results," says Anders Engvall, laughing enthusiastically.

TMOS in brief

TMOS, Telecommunications Management and Operations Support, is a systems family that can facilitate matters for operators to drive and supervise their tele networks and tele services. The system simplifies introduction of new services.

TMOS was launched in 1990 by Ericsson and has been sold so far in 16 countries. Simply put, one might say TMOS consists of a computer platform with standard products, a platform for telecommunications as well as various applications for steering and supervising different tele networks.

BRAVO was a great project

Thanks to the project BRAVO, Ericsson and EHPT have further developed the TMOS system so that it can operate simultaneously as a tele network. An operator that has both AXE and a competitive network can now purchase an operations support system that covers all networks.

This means that TMOS is a true multivendor system. Moreover, BRAVO means that collaboration between Mölndal, Västberga, the Tellus plant and ETO in Oslo has increased significantly.

The project is a success and it forms the base for a great deal of EHPT's activities.

"It all began in 1991. We should further develop and introduce the next generation of computer platforms in TMOS as well as develop new operations support functions for delivery for, among others, the Dutch PTT", says Johan Taurell at EHPT, project responsible for BRAVO.

The project got off the ground in January 1992 and about 200 workers were involved. Delivery to Norwegian Televerket was made in April 1993. BRAVO went through two restructurings and extended over four different geographic areas.

Guru called in

At the start the project moved a bit sluggisly.

"We knew what we wanted to achieve but realized that it would be difficult to hold to the timetable for the customer Norwegian Televerket,NT.

"At this point we brought in Ulf Jerndal, ETX guru in project steering. Day and night over two week's time we worked with Ulf and his team, who all the time pushed us and helped us to keep our word to the customer. When the time came for delivery to NT, we could supply a true multivendor system. This means that NT got one operations support system for both AXE and Alcatel's S12. Since then, deliveries have been made to BT, Mannesmann and the Dutch PTT.

Experiences from BRAVO

Johan Taurell has since researched how the project workers felt about BRAVO. Positive and negative experiences were gathered up.

"Today we have learned from this and we are working differently:".

- We have established a contact network among the various sites.
- We have worked out job patterns that make it possible to develop TMOS distribution.
- We have gained a solid understanding for platforms and made many valuable contacts.
- The project's importance has forced us to close loopholes in a number of areas, for example product structure, handling change and upgrading methods.

Spreading experience

In order to collect the experiences from BRAVO, Johan organized a seminar for the project management. The results from this will be dispersed to all units that work with TMOS. In EHPT a special unit for project steering will be established, with Johan Taurell as head. The unit will see that experiences from various projects are coordinated and spread throughout the organization. Both in EHPT and in ETX

"We are working together and are all striving for the same goal: So that our customers will be satisfied. The faster we can learn from each other's mistakes the faster we can acquire satisfied customers."

Joséphine Edwall

Microcells cover Indy

The well-known American race course, the Indianopolis Motor Speedway in the state of Indiana is one of the places where Ericsson's CMS 8800 MS Microcell is installed. The installation, done in May this year before the Indy 500, one of the world's largest sporting events, was done like clockwork. The microbase stations are developed by Ericsson at RTP, Research Triangle Park, North Carolina, and installation was done by ERU, Ericsson Radio Systems Inc., Texas.

Ericsson radio technology at famous raceway

Microbase stations are used to improve and raise a mobile telephone system's capacity in places such as train and subway stations, airports, office complexes and in tunnels.

"To handle the huge overflow of mobile telephone users in May we complemented the network with a microbase station and expanded nearby base stations with as many canals as possible. So says Bill Wheeler, president of Cellular One in Indianopolis.

RTP

"We have developed two microbase stations for the two systems AMPS and TACS," says Bengt KH Nilsson at RTP. Bengt is project leader for development of TACS microbase ststions.

Work with AMPS variants was concluded last year and production was done at the EGE factory in Lynchburg. It is marketed under the name CMS 8800 MS Microcell and the race course in Indianopolis is one of the first sites where it is installed.

In December last year work began with development of a microbase for TACS and it will be completed now in the fall.

As many as 16 persons have worked on the project. Three of these are Swedish.

In mid-September, pre-serial production will begin. Of the planned 100 transceivers 40 will be shipped to Fatme in Italy for installation in a so-called beta system.

"Serial deliveries for commercial use will begin in October," notes Bengt.

Similarity

Mechanically, AMPS and TACS microbase stations are identical, dimensions and weight are the same. On the other hand, the radio in the TACS variant is newly designed. In TACS there are tougher demands on radio parts than for AMPS but in the same way a board common with the large radio bases can be used interchangeably. Radio Frequence distribution and combining are also newly designed for ETACS frequency band.

"In order to meet the higher demands on TACS we had to build extra equipment for control interface between switch and base station."

For Bengt's team at Research Triangle Park, RTP, in Raleigh, North Carolina, the work with microbase stations for TACS is almost completed. Now they are doing studies and development work for a digital microbase exchange.

Tested in Kista

During this summer microbase stations for both AMPS and TACS have been a reality for fellow-workers at Ericsson Radio in Kista.

"We have done function testing on a pre-series for AMPS micro bases and it was just completed at the end of August. The prototype for these was tested at Ericsson in Montreal. For TACS on the other hand it was a matter of integration tests on the prototype," says Matz Norling, responsible for integration and verification.

Jan Knipström and Rufat Kriman did the tests on ETACS.

"Our mission was to test how communications between microbase and the other system function. AT RTP in the U.S. they had already done detailed tests before the prototype came here," they say. In Kista they use the same software as in RTP.

Regarding installation of TACS there are many variations on the number of antennas and how they are connected.

"We must take this into consideration when we test," says Jan.

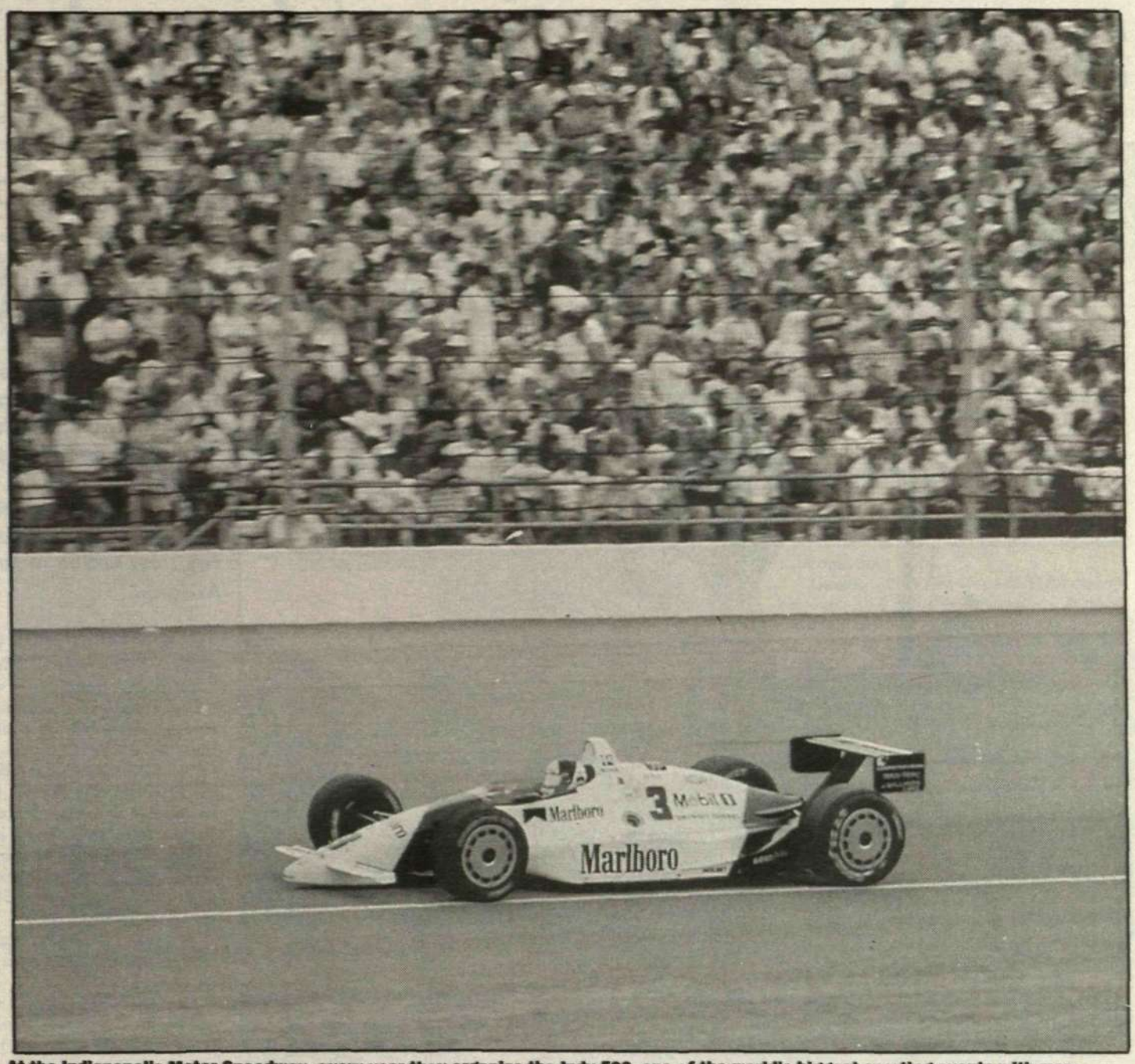
Three AXE switches

"Our task is to support base stations for all CMS 88 systems. Here in our testing facilities we have three complete systems with AXE switches as well as several variants of radio base stations," says Matz, indicating three base stations standing beside each other. One belongs to the first system that was delivered to the U.S. and put into operation in Buffalo in 1984.

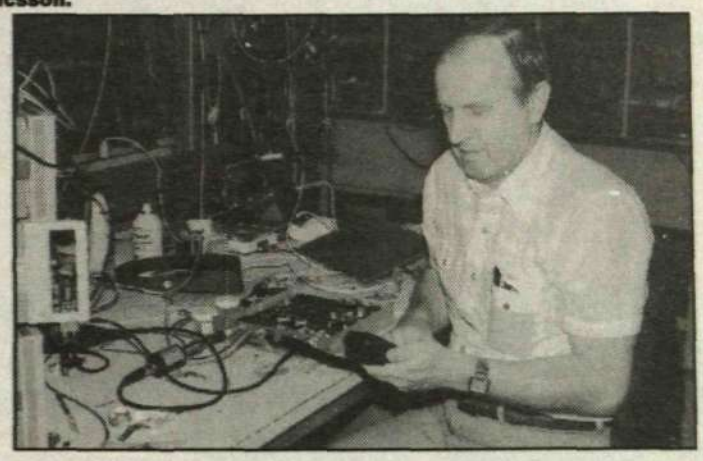
All new Radio BaseStation functions that were put into systems in the CMS 88 family are tested here. One also maintains all related products on the market.

In line with Ericsson's success in mobile telephony work assignments for the testing teamare on the rise. Later in the fall the present three AXE switches will be increased by two. The group has also been given responsibility for tests of program blocks in the AXE switch. This job was previously done by ERA in Sweden at Mjärdevi, Linköping.

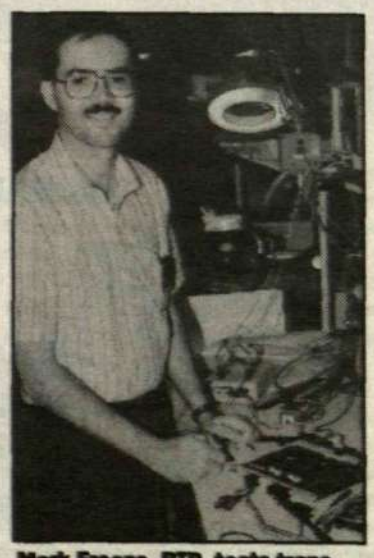
Gunilla Tamm



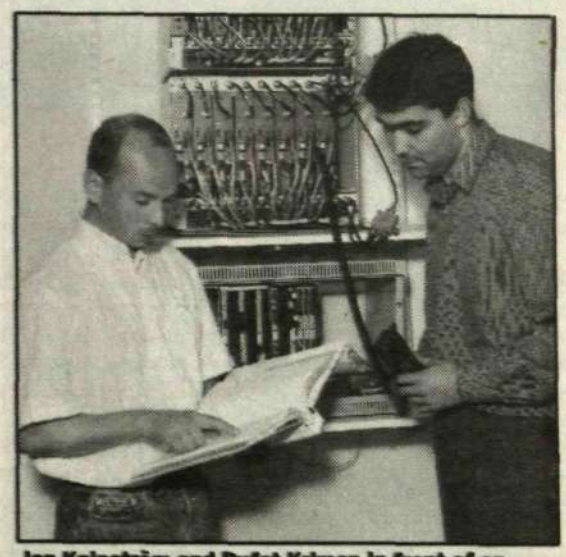
At the Indianopolis Motor Speedway, every year they organize the Indy 500, one of the world's biggest sporting events with more than 350,000 spectators. In order to handle the huge overflow of mobile telephone users the operator Cellular One in Indianopolis has complemented the network with a micro base station from Ericsson.



Jeff Michalak works on verification of ETACS transceiver. Photo: Bengt Nilsson

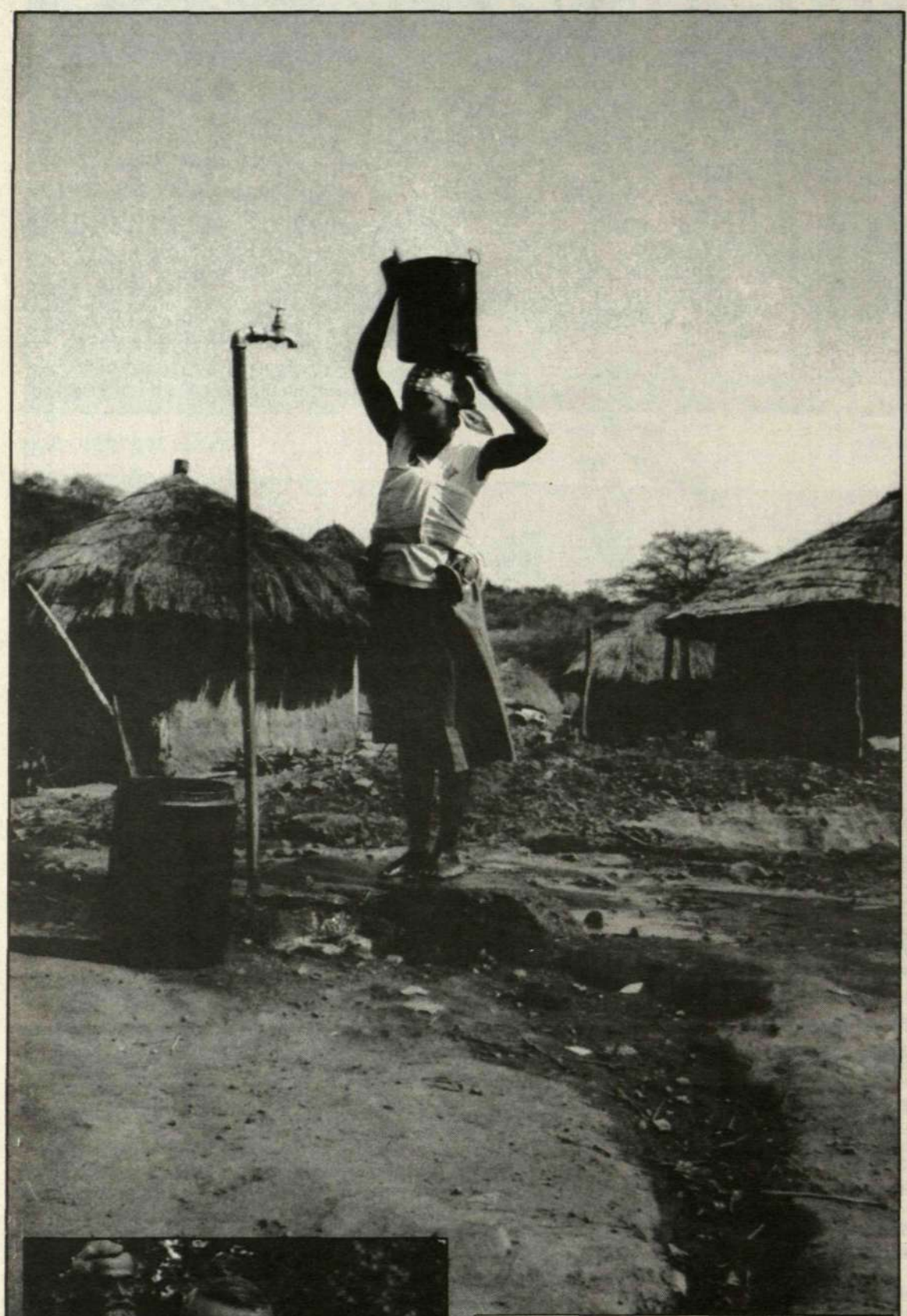


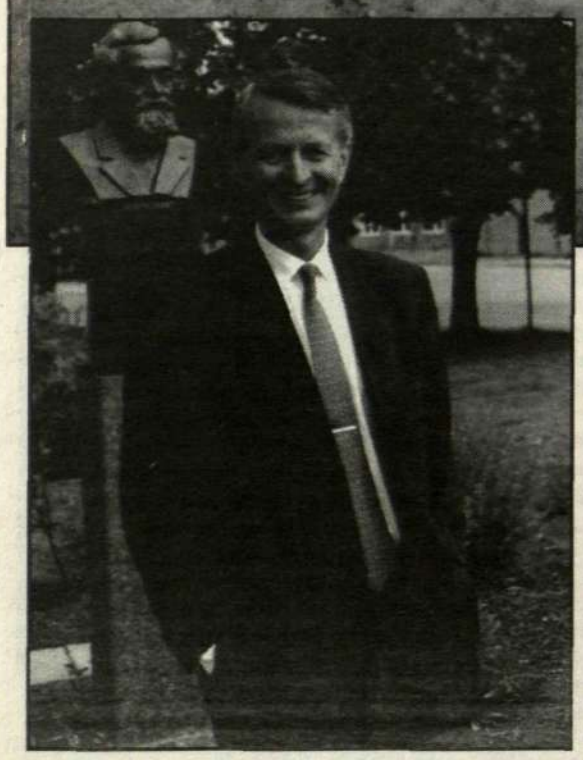
Mark Freeze, RTP, tests transmission card for ETACS micro base. Photo: Bengt Nilsson

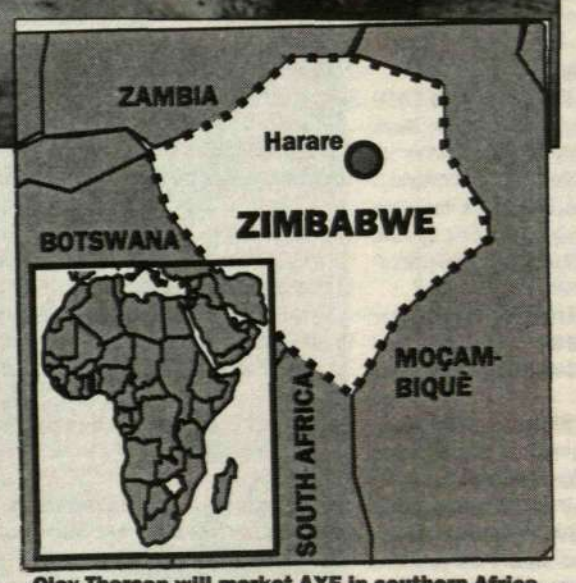


Jan Knipström and Rufat Kriman in front of an AMPS microbase station. In August tests were completed on the pre-series.

Seven-year wait for a phone in Zimbabwe







Olav Thorsen will market AXE in southern Africa. He expects support and backup from "Lars Magnus Ericsson" in Sweden.

Ericsson invests in southern Africa

Zimbabwe in southern Africa lies close to and along the bordering South African high plateau. The country is bordered to the south with South Africa and Botswana and to the north with Zambia and Mozambique.

More than nine million inhabitants live in Zimbabwe. The capital is Harare, where Ericsson opened a regional office in July to cover the southern part of Africa.

The head of the office is Olav Thorsen from Norway. He is 48 years old and until recently was vice president and export manager for Ericsson AS public telecommunications products in Norway.

Olav Thorsen's career began in the Norwegian Televerket. In 1978 he came to Elektrisk Bureau ABB, which became Ericsson AS in 1988.

When I met Olav Thorsen at the end of June shortly before his departure in July, he had just sold his house and his sailboat.

He had just come back from Harare, where he had gone to look for a house.

Olav is married to Ingrid, a language teacher, and they have two children, Fredrik, 17, and Heidi, 14. Fredrik will not be going with them to Africa. He plans to study in Switzerland.

Heidi, on the other hand, will accompany mom and dad to Zimbabwe. She will attend an English school and will be taught in Norwegian by her mother in order to receive school credit in her native language.

Problem for democracy

Olav Thorsen says the most important thing with the house in Harare is that it has a well, electricity, burglar alarm and telephone.

Zimbabwe became independent and democratic in 1980 but it still has a number of social and economic problems.

Inflation is very high, currently at 35 percent. So a hotel room, for example, costs about 3,000 kronor a day in Harare and this has to be paid in U.S. dollars.

Many are HIV-infected

Some 35 percent of all new births are HIV-infected, and there are not enough health-care resources.

The regime is communist, based on the North Korean model.

President Mugabe, the Zanu party leader, won 75 percent of the electoral votes as the base of his party.

Starvation and drought create major problems. Hence it is important to have one's own well, when water rationing is imposed.

Violent crimes are rare in Zimbabwe, but petty crime is fairly common.

Auto theft and burglary occur daily on a large scale, and houses in Harare's better residential areas have guards round the clock.

Hopeful country

The climate is subtropical. In April-May the windy winter sets in with low temperatures, which during June and July can drop to under zero. After that comes a warm and dry period.

The country's manufacturing industry has a low production level, but they hope that GNP will eventually grow.

Despite this problem, since colonial times Zimbabwe has had a good infrastructure and the country has rich natural resources.

The country's goal is to achieve a modern democratic society, with a working telephone network as an important component.

Here there is a lot for Ericsson to do.

Marketing AXE

Telecommunications in Zimbabwe, like that in other southern African states, is very underdeveloped in terms of switches and cables.

For example, you have to wait seven years for a phone.

This is what Olav Thorsen hopes to change, when he opened the office in Zimbabwe, Ericsson's first office in southern Africa.

"A challenge"

His goal is to market and sell AXE, not only to Zimbabwe but also to neighboring ststes.

"I see this as a challenge," he says. "I am enthusiastic and I think I have a creative streak. I want to build up something with my own efforts."

What will he miss most?

Without a doubt, sailing, which is the family's biggest leisure activity.

In the end, Olav Thorsen hopes that the home market will have an understanding of the African communications problem and that he will have ample support and response from Sweden.

Text: Gun Nygren
Photo: Reportagebild and Per B. Adolphson

A couple of years ago, something of a revolution took place in Ericsson. In order to secure a leading position on the tele market of the future, Ericsson began investing in TQM, Total Quality Management.

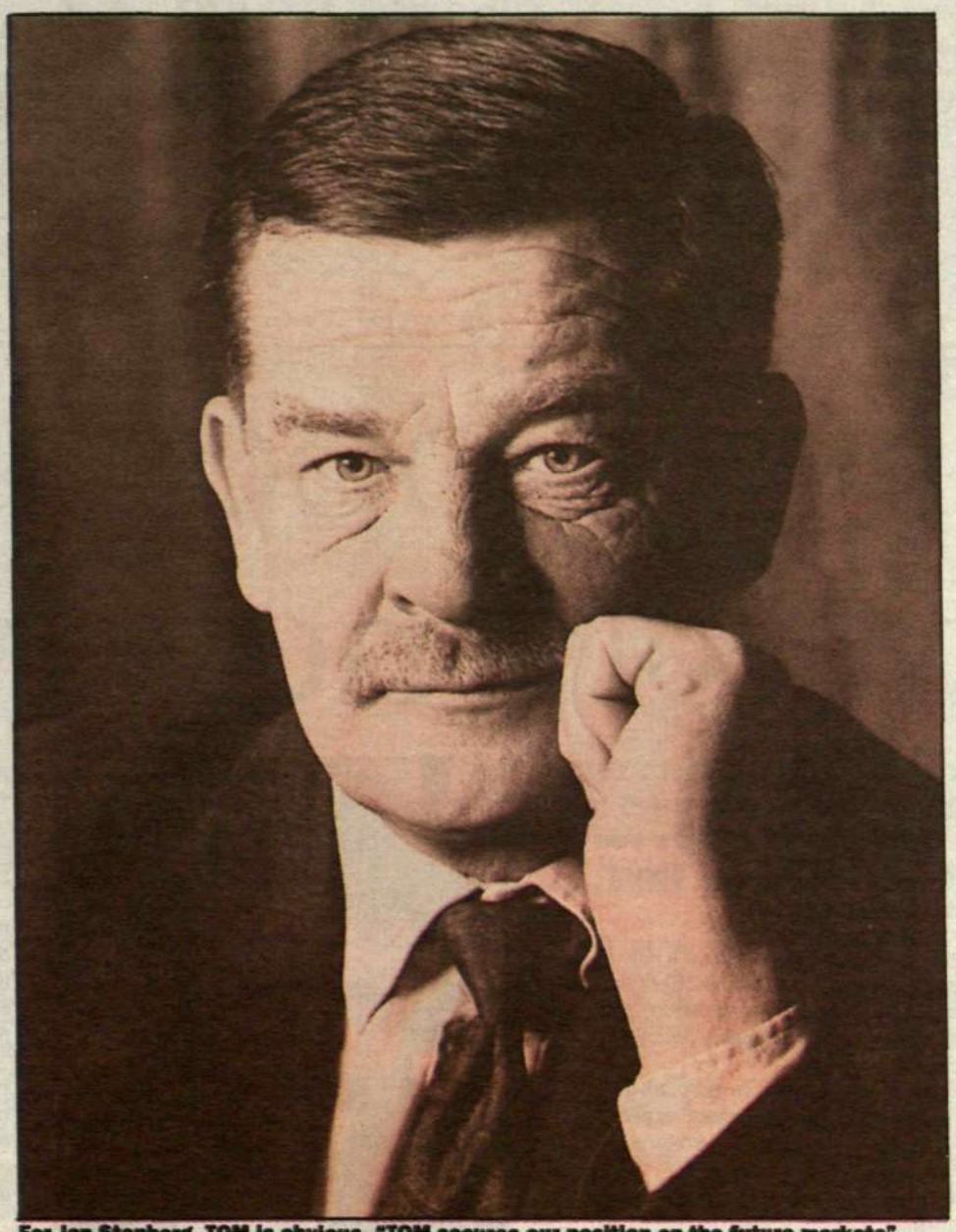
This is not a matter of some new quality campaign, but rather a whole new way of working and running a company. An entirely new corporate culture is being built up. It is a culture where continous improvements play a central role in the everyday job and where the customer is placed in focus. TQM affects all employees in the company. In the following pages you will have a basic introduction into what TQM is all about.

"Poor quality can actually kill us"

Jan Stenberg is deeply involved in Ericsson's quality work. From his position in the corporate leadership, he is a driving force behind efforts in TQM. Side by side with Lars Ramqvist's personal commitment, Jan's role as inspirer and in some ways overseer has had immense significance in many companies already being well on the way in their TQM work.

TQM TOTAL QUALITY MANAGEMENT

"There are billions for Ericsson to gain by reducing quality costs," says Jan Stenberg.



For Jan Stenberg, TQM is obvious. "TQM secures our position on the future markets".

"TQM has far greater significance for Ericsson than many believe. We are working in a market with clever competitors. Poor quality in our products and our work can actually kill us," says Jan. "There are many examples of successful companies that fell by the wayside as a result of losing customer confidence."

He is an old hand in the field, Jan Stenberg. He has been an executive for many years in the company, most recently as president of Business Area Public Telecommunications and currently a member of the Executive Committee. Hence, Jan has a good overview of how quality work has been developed and nurtured in Ericsson over the past ten years.

"In the early '80s we invested in Ericsson Quality, EQ. It was a huge investment, with above all a lot of training and setting up of quality teams. Nevertheless, EQ never really did pull it off, maybe because it was too limited an activity, aimed primarily at quality in production of hardware. And so whole-hearted support from top management was lacking," Jan Stenberg recalls.

The result was that EQ thrived mostly as a campaign, that would soon "blow over." At that time quality thinking was never something that naturally entered into everyday work.

Turning point with ISO

Quality people in the company, those who have quality as their main mission, still continued with their urgent task. It took ever more systematic expression. They wrote policies and manuals to create a framework for Ericsson's quality work. Quality audits were done throughout the company, but there never was any real driving force for improvements.

"We got the first real driving force with ISO 9000." Jan Stenberg voices immense respect for the enormous work that, for example, was put into Ericsson Telecom's ISO certification in December 1991.

"With the help of outside consultants and the fiery spirit of our own people, like quality manager Bengt Holm, ETX did a fantastic job," Jan points out. As former head of the business area Jan knows only too well how tough it must have been for Håkan Jansson when he made the daring decision to go for ISO certification.

Took on quality responsibility

At the same time that Jan moved up to the Executive Committee, Bo Hedfors took over leadership for the corporate function technology, just as quality work was being defined at the corporate level.

"One of the first things Bosse did was to promise that Ericsson would win the Malcolm Baldrige Award in 1995. This was a daring promise and apparently he was not entirely clear about the demands that the prize's various criteria imposed. But it was an inspiring message to everyone working with quality."

In mutual understanding with Bo Hedfors, Jan took the leadership for quality work, with Sture Ögren at DT as his right-hand man.

"Sture and I began by replacing the quality audits with more systematic "house examinations" around the companies. We looked at their quality systems, applied points to various things and ranked the companies. It was a procedure that produced significantly better results. Now the companies have a better approach to the shortcomings we found in their operations."

Fatme example

When recession hit the tele branch in 1990, corporate leadership understood immediately that they needed a strong pull to increase profitability. Quality work again came into the picture. Their gaze was turned to Italy, where Fatme under the leadership of Giovanni de Guzzis and Paolo Fraioli had taken a new grasp of things by starting work with TQM.

"Today it is no exaggeration to say that Fatme's initiative was extremely important for the rest of us in the company. It came just at the right time. By focusing on TQM, Ericsson could quickly espouse an entirely new and more modern view of quality work," says Jan.

Of major significance at the beginning too was a strong commitment from Britt Reigo and her organization. Ericsson Management Institute, EMI, quickly devised specially-designed training courses. This was the starting shot to the first round of qualified TQM training for top managers.

The official starting shot for TQM was a decision by corporate leadership in February 1992. The entire matter came as a result of a two-day session with all the heads of the business areas and the MLCs. They were assigned to start TQM work in their own operations and to appoint "TQM champions," people charged with the task of being the manager's right-hand man regarding TQM.

"Training of the first corps of TQM champions was what really got Ericsson's TQM efforts seriously under way. During 1992 and the beginning of 1993 these champions, together with their presidents, worked hard to get their homework assigned by top management done:

- Start improvement projects to finance TQM.
- Make the results of these projects visible to their entire organization.
- Gain TQM-experinece.

Rewarding

"TQM is really a rewarding activity, there is no doubt about that," says Jan Stenberg. "Take Spain as an example. A single improvement project there, with the aim of increasing customer satisfaction, produced such huge profits that it is enough for the entire group's TQM activities for several years. The project meant that payments held back because of quality problems were reduced from 52 million dollars in 1991 to almost zero today."

The results of the first year's TQM work are encouraging. On average the TQM companies reported some 50 ongoing improvement projects. The majority of these were successful.

"Important evidence that TQM is beginning to make its mark on the company is that "customer satisfaction" is now the goal that ranks highest when companies draw up priorities."

"What was once a fleeting promise by Bo Hedfors is now on the way to becoming a reality. An important part of TQM efforts is namely to judge the company's activities against the different demands that the big quality prizes entail. Several companies have gone so far as to include an application for the big prizes in their planning, some have already applied.

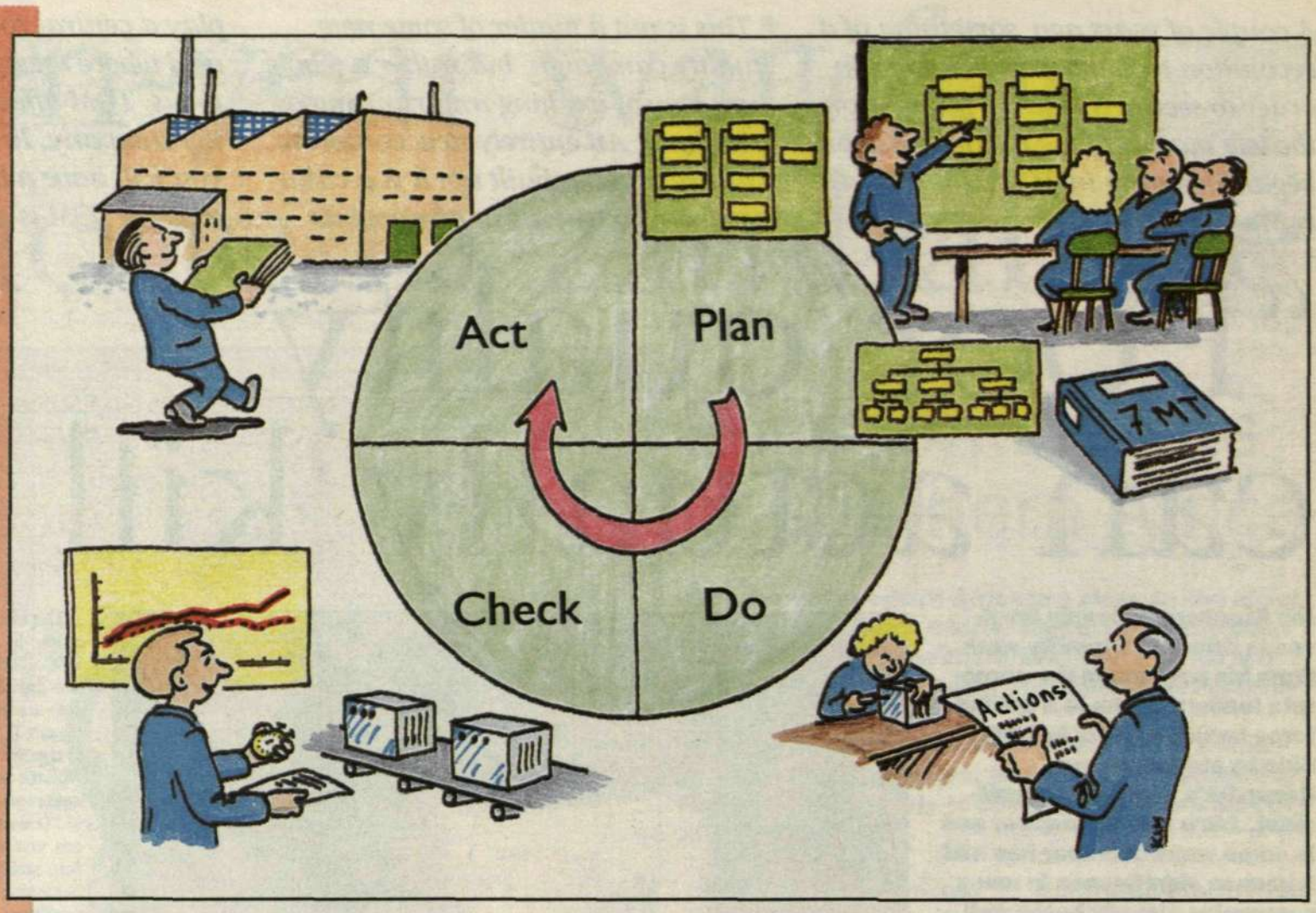
"One cannot help but be impressed by the ambitions that some parts of our company have. It is really a marvelous thing to begin a job with prize criteria, since it actually lays out the course for a company that wants to be a world-class quality company."

Enormous potential

"The quality prize, however, should not be the absolute goal for our TQM efforts," says Jan. "It may be as prestigious as ever, but it is only a means to achieving what is the real goal: To surpass our customers' expectations of us.

"And for those who still live in a world where figures in the annual earnings report are the only relevant yardstick for measuring how good a company is going or not, TQM also has a lot to offer. Bad quality and dissatisfied customers cost money, lots of money. Ericsson's quality costs, that is to say costs that we incur as a result of shortcomings in quality, amount to 19 percent of the group's invoicing. That corresponds to more than 10 billion kronor. Just think, if we could only reduce half of these costs in our earnings report calculations..."

Text: Lars-Göran Hedin



TQM opens up a whole new world

Wheel at the center

When one speaks about methodics in TQM, one is peaking above all about the Deming wheel. It is a model for how one can better drive improvement work. "PDCA," as the model is also called, is built on four steps:

1. Plan – plan, analyze

The first step in the process is to describe the problem that has to be solved. Here you need facts, which are gathered, more than subjective judgments.

When sufficient facts are gathered up, the cause of the problem is analyzed from these facts, various theories are tested on the reasons and these point out the most significant ones.

Next different measures are discussed and analyzed. Alternative solutions are developed and introduced with the departure point of which is most effective, most economical and that has the greatest chance of being accepted by employees concerned.

When a solution is selected, it is also determined how it is to be decided whether it functions or not, what measurements are needed, etc.

The last stage of the PDCA wheel's first phase is to plan how the improvement will be realized: Where in the organization the solution will be tested, what will be the procedure and eventually how the said problem will be tackled.

2. Do – try the solution

Step two means that the solution and the measuring methods arrived at in the first stage are realized in a limited form.

That's why one often speaks about pilot projects in TQM, the methodic of testing an improvement on a smaller scale before it is realized in a total capacity.

3. Check – evaluate

When a pilot project is completed, it is time to draw on the measurements decided in the first step. Fallout is anayzed and evaluated by the same methods used earlier.

When the evaluation first shows that the desired goal is reached, the pilot project can be withdrawn as completed.

If the goal is not reached, one controls that all the measurements decided upon in the first phase have been truly and thoroughly pursued.

If all the measurements have been gone through and the goal is still not reached, the project must be declared unsuccessful. Then it could be necessary to start all over again from the start with other solutions.

Should the goal of the project be met, then it is a matter of developing a decision base for a more comprehensive realization of the improvement.

4. Act – carry through

By documenting enough of the improvements that were realized in the pilot project, one obtains a base for the impremement as a standard in the operation.

Information and motivation for concerned personnel are also part of the fourth and last phase of PDCA. Education and training is also important, as well as pointing out the employee who will oversee that the new work method will be really implemented.

The last measure in this cycle is to report to management which improvement measures were adopted and their value for the company.

Everybody is talking about TQM today, but what do the three letters really stand for. Here you have a chance to learn about what TQM really is.

In February 1993, Ericsson issued a new quality manual. It is a document that describes the company's quality system. The departure point for the task is the company's quality policy.

- Ericsson is known by its world-class quality.
- We must surpass our customers' expectations.
- We continously improve our products and processes.
- Quality and improvement is everyone's concern.

Ericsson's quality system is built on TQM, Total Quality Management.

Many depths

TQM is both a management philosophy and a model for how activities should be driven. The direction is crystal clear: Steady improvement of the company's performance, that is to say of all the processes used in the company.

"Traditionally, quality work has often been geared toward products, but TQM emphasizes the processes, that is to say the ability itself to produce new and better products," says Sture Ögren, quality manager at LME.

The utmost aim of total quality is to have satisfied customers. It is the customer's needs and expectations that drive improvement work forward. This focusing on the customer is the hallmark of TQM.

Tools and culture

TQM offers an operations model with a number of different tools. These are aids and techniques for practical improvement work, for example the PDCA wheel, which is described above. But in order to achieve total quality one must have more than just techniques and methods –you must also have motivation, positive attitudes toward change and a work organization that facilitates application of TQM. The work climate is also important.


Sture Ögren

"In other words it calls for a company culture that is such that TQM can take root and grow strongly," says Sture. Only when the culture is right can one of the most important prerequirements for TQM work be met, namely that all employees – all – are involved.

Highly placed goals

Now that Ericsson is embarking on TQM, it is doing so with highly placed goals: The rate of improvements in the company should be raised considerably and reach such a level that in a few years Ericsson companies can seek – and win – some of the major quality prizes.

"We have chosen the line of the quality prizes since they give a clear indication of what an excellent company should be. Through us ourselves and with the help of others should Ericsson be judged worthy of the prize, we will have had a yardstick by which to measure where we stand in the matter of total quality. The experiences this provides us must serve as a base for new improvements, new judgements, etc.

ISO is only a base

It is easy to be bewildered by all of the different concepts in the quality world. Most companies in the group have recently won ISO 9000 certification. Approved certification does not mean that the company is a TQM one or that one is qualified for some sort of quality prize. Sture Ögren explains:

"ISO may be seen as a platform on which to build TQM. It assures that the process from contract to delivery in the company is under full control and in this way offers protection for our customer. That's why more and more customers are demanding ISO 9000 from suppliers.

"The demand for the bigger quality prize goes further than that. It has to do with customer satisfaction in a considerably broader sense. Leadership, employees and their commitment, how operations can be improved from year to year – that's what quality prizes are all about. If ISO has its focus on steering and control, one can say that quality prizes – like TQM – has its focus on improvements."

Room for play

In the fall of 1991 Ericsson's top executives and managers of the MLCs met to position Ericsson as a TQM company of world class. It was not determined exactly how the individual companies should formulate their TQM strategies. Corporate leadership left room here for local adaptation.

"The second step in Business Area Radio Communications is a good example of negotiating room that is found here," Sture Ögren emphasizes. "It really does not matter what names are used to designate what – the important thing is that the aims are the same.

- **Customer in focus**
- **Steady improvements**
- **Total commitment**

Text: Lars-Göran Hedin

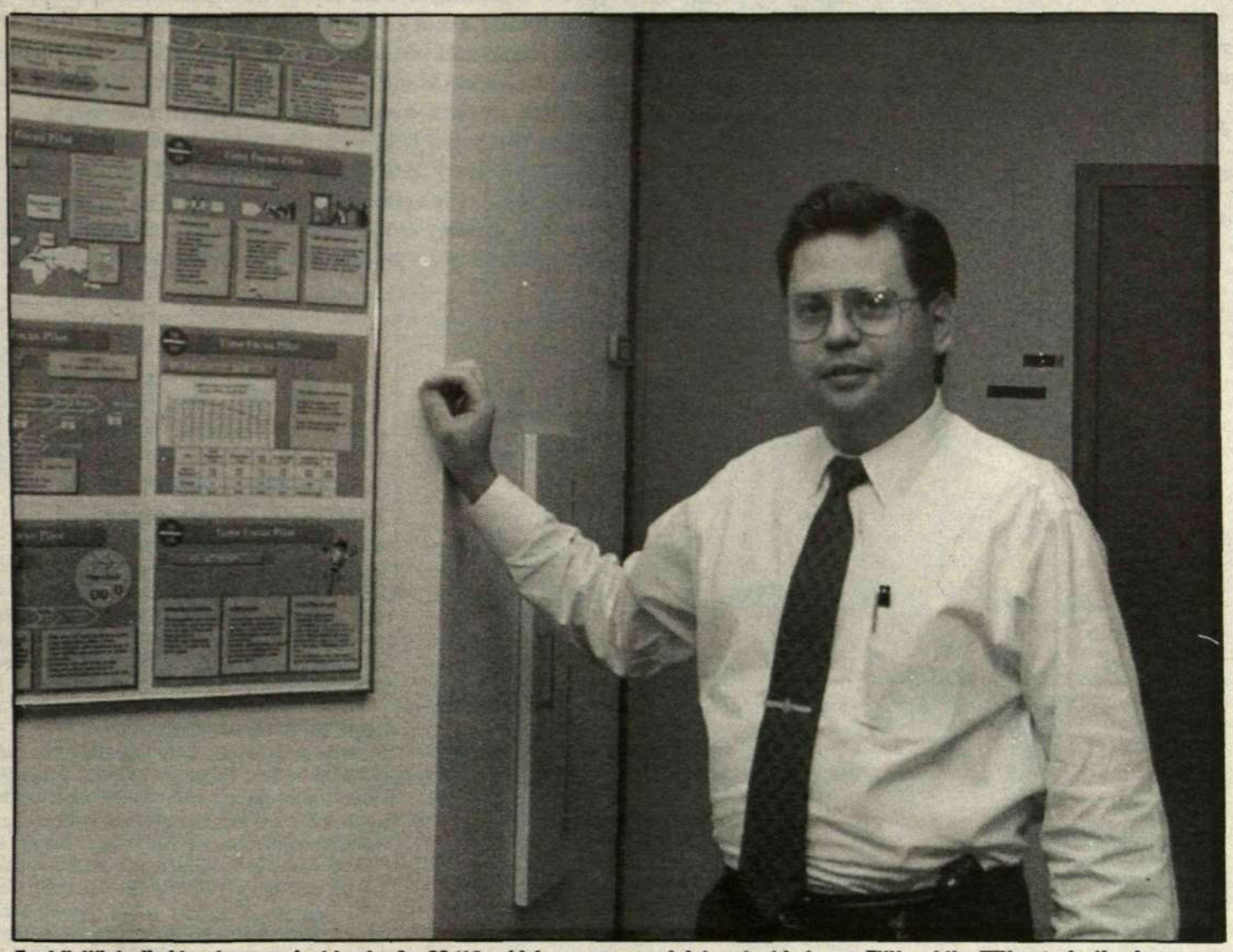
"Achieving the goal must be a challenge"

EXU project cut AXE delivery time in half

At Ericsson Management Forum, the big management meeting held in Stockholm in June, participants voted for 1993's best large and small improvement projects. The prize for best small project went to Ericsson Network Systems, EXU, in Richardson, Texas.

TOTAL QUALITY MANAGEMENT

Quality is improved in EXU-s AXE-installations. Time from order to acceptanse test is half of what it used to be.



Fredrik Winterlind has been project leader for 38/19, which was run as a joint project between EXU and the ETX organization in Sweden. It was through dedicated input on both sides of the Atlantic that the project could be accomplished. Photo: Lars-Göran Hedin

Project 38/19 is a pilot project that led to halving the time from order to finished installation for AXE exchanges. A reduction from 38 weeks to 19 weeks means above all a more satisfied customer, but also economic savings.

Bo Ohlsson is head of the division Customer Service in EXU. Bo was the one who saw that the target for project 38/19 was set as high as cutting by half.

"We began a number of various cost-effective activities during 1991 and 1992," Bo recalls. "At the same time we got word from the TRIM group in Stockholm that overall there was a need for better time-focusing in the company. That was the starting shot for 38/19.

"The lead time for installation of AXE exchanges in the order of 10,000 lines was 38 weeks. That was considerably longer than what our competitors could offer. Undeniably we needed to do some cutting here. Initial discussions indicated that a reduction to 22 weeks could be attainable. Bo did not think this was enough. He wanted a halving.

"It is very important to set a target for your improvement work that could truly be seen as a challenge," Bo points out.

TQM input

When the task of cutting lead times for AXE switches was laid down, it was only natural that TQM methods would be used in solving the problem. TQM is well known in American industry today, so it was not hard for EXU to implement TQM among its employees.

Four different improvement teams were formed, three in the U.S. and one in Sweden. On the Swedish side, among others people from production and those handling Swedish orders participated. In the U.S. all functions linked to the project were involved. Fredrik Winterlind served as project leader and coordinator.

Defined process

"We started by defining the entire process and dividing it up into sections. We had the help of TQM tools such as Seven Management Tools, since experience showed that it was unbeatable for such work. We have seen that with these methods a few people who normally have difficulties speaking with each other can together achieve constructive results," says Fredrik.

"It's nice to know, when you go into a TQM session, that in a few hours you will have concrete, usable results in hand."

Simplified order handling

Order specification and order handling were the first two categories in the process. It called for two weeks of time. Analyses showed that the total time could be reduced to a week.

"Order specification is mostly a question of communication with the customer. By improving that you could remove ambiguities that took up a lot of time to straighten out," Fredrik explains. When it comes to handling of orders, it was shown that there were possibilities for removing a path in the process – the handling that was done by ETX's so-called "country desk" in Sweden.

Showed courage

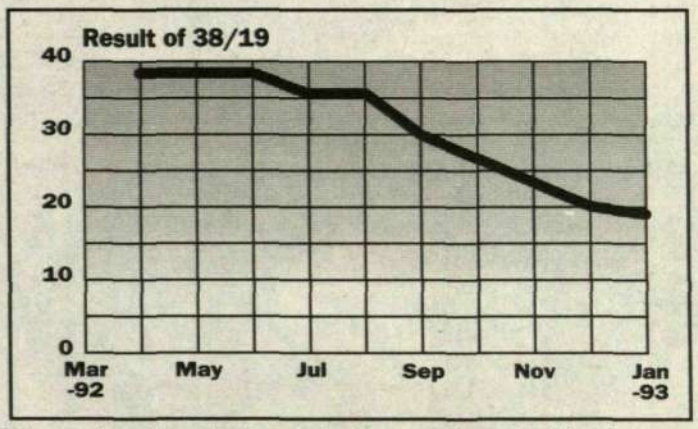
"Representatives for order handling in the Swedish improvement team showed tremendous courage when they supported the conclusions that their role in the process was no longer needed. Higher efficiency in the factories made it possible to send the order dircetly from EXU. Although it led to eliminating their own jobs, the Swedish order handlers supported this solution – and they now have other assignments within the organization.

"Example shows that it is right to invest in change. By getting to the crux of the matter, you can show the company that there are qualities within you that are valuable – in a new position in the organization.

The principal force behind 38/19 achieving its goal, Fredrik Winterlind would like to ascribe to Swedish production.

Work was already being done in that area for cutting lead times.

"Lead time in the factory could be cut from 25 weeks to 12. That gave us 13 of the 19 weeks we needed to cut back."



The number of weeks from order to acceptanse test has been decreased from 38 to 19 weeks, wich was the target set for the improvement project.

Cheaper freight

Freighting material from Sweden to the U.S. takes a week, both before and after 38/19. There is not much you can do about the time there, but you certainly can about costs.

"Deliveries are divided into so-called A and B packages, where A packages for the most part consist of hardware and B packages the intelligent parts. Previously, both A and B packages were sent by air, but now A packages are being shipped and only B packages are being airfreighted.

Pre-formatting

Time for delivery and testing, the last section, was previously eight weeks. This has now been reduced to five, through a number of measures that the improvement team came up with.

"We do considerably more work now on the switches here at home in Richardson, so that as far as possible we can send out ready tested cabinets to the sites where they are to be installed. As an example of how you can better pre-prepare the job on the home front, Fredrik points to pre-formatting of hard disks. This is now done in advance at EXU. This time-consuming process was previously done at the site.

Goal reached

The result of all these measures was that halving lead times was actually achieved. EXU follows up all installations now. Time frames in all sections are measured, experiences from installers are gathered up after completed work, etc.

"In January this year our measurements showed that that the target was reached," Bo Ohlsson explains. "We also noticed in our post-calculations that 38/19 resulted in tremendously reduced costs.

"But most important of all is that we can now prove to our customers that Ericsson is at least as good with delivery times as our competitors."

Text: Lars-Göran Hedin

A winner in quality

William F. Hayes is president of Texas Instruments Defense Systems and Electronics Group. To his employees he is "Hank" Hayes, a manager who in his own persona symbolizes the company's very successful quality work.

In 1992 Hank and his colleagues in TI Defense won the desirable Malcolm Baldrige National Quality Award. Perhaps the world's most sought-after quality prize.

"We won the prize last year because each and every one in the company felt that it was he or she applying personally. The entire organization wanted to have a reward for the quality work that everyone had input. Hank Hayes explains in an exclusive interview with Contact.

TOTAL QUALITY MANAGEMENT

To succeed in quality is a matter of "Management", says Hank Hayes, who won the Baldrige-award in 1992.

Texas Instruments has its headquarters in Dallas. One of the divisions in the company is Texas Instruments Defense Systems and Electronics Group. It is known popularly as "TI-DSEG." The division became world-renowned last year when it won the world's most prestigious quality prize. the Malcolm Baldrige National Quality Award. Naturally, a company with such merits has a lot to teach about quality work.

Hank Hayes, president of TI-DSEG, gladly shares his ideas. He is by nature an open and outspoken person. These are qualities that Hank utilizes in his daily task of leading one of the world's foremost companies in the American defense industry.

Replies to questions

"Some years ago I picked up something that I believed the head of Cadillac – a former Baldridge winner – was working with: To turn up out there in operations and to gather all workers to an open meeting, in the morning before work began. At these meetings anyone who wanted to could put questions to me, about whatever they wanted, or simply come forward with their views on how the company or their own activities were going," Hank Hayes explains.

"Instead of the traditional approach of discussing only the burning issues Hank let employees determine what should be discussed. And he replied to everything that he could. Listening to what employees saw as serious problems, sharing their feelings.

"This is an extremely good thing; it has produced the best possible communication between the organization and myself," says Hank. It is not least an excellent way to kill off rumours.

A lot of managers in the organization have adopted Hank's ideas and set up their own meetings of this type.

Training provided the base

It was back in 1982 that TI-DSEG began to work with TQM. Already from the very start management was convinced that improvement work was something that had to be driven from the top. To achieve success it was necessary to have knowledge and commitment from top management.

"We sent managers for advanced quality training. In one and a half year's time some 400 managers were trained in TQM and other quality matters. The entire organization was involved in this effort, but it was only the start of TI-DSEG's route to the Malcolm Baldrige prize.

Sluggish at the start

When TQM and improvement work is first introduced in a large company, naturally it does not run on its own. Like most other companies, TI-DSEG got to know the resistance to change that characterizes many of us human beings.

"Two typical traits at the start were arrogance and cynicism. The arrogant dismissed TQM with a "we already know how to do this..." while the cynics tried to keep a distance with "yeah, this too will pass...," Hank Hayes points out. But today, after many years of laborious work with changing the corporate culture, there is noone who dismisses quality work. It has become a far too important part of the entire company's activities.

"Previously we often made the mistake of not recognizing the uneasiness we felt. Now, instead, we say "Okay, this is wrong – how are we going to make it better!"

Customers surprise

In the defense industry traditionally they do not work so much with advertising and the common type of marketing. But in 1986 TI-DSEG decided nevertheless to go out with a broader advertising campaign. Before doing so a survey was conducted on what customers expected from suppliers, what qualities were demanded most among suppliers.

"The results took us by surprise," recounts Mike Cooney, quality manager. "We had expected that technology and research investment were what customers were most interested in, but instead it was a totally different requirement that topped the list: Commitment to quality.

"We did not fully take the result seriously until the following year when we repeated the survey – and got the same response. This experience convinced many in the company of how important our quality work really is," Hank Hayes recalls.

"Quality means competitive advantages that are absolutely indisputable. When a company really becomes known as a "quality company," it is also reflected in its business side".

Hank Hayes and Mike Cooney agree: The arguments for TQM center around the competitive advantages.

Leads with good examples

That the customer must be at the center is one of the fundamental thoughts behind TQM. It is for the customer's sake that improvement work is being driven. But how is successful quality work really driven? What role do Hank Hayes and his colleagues in top management play in their own company's quality work?

"Everyone talks about the manager's role, how important it is. Naturally, I couldn't agree more. A manager must set a good example, must show that improvement work is his or her own responsibility, that he or she really believes in what improvement work can do for the company.

"But it is also important to recognize a manager's limitations. One cannot order up TQM in his organization, one should not immerse oneself in it. The manager's role is to lay out the course for quality work and to define the framework for the task. He or she must persuade the employee to do as much as possible oneself and must provide the resources to achieve this. When the improvement work is under way, then and only then the manager can begin to let up".

"It would be disastrous if the manager eased up before the job really got under way. Then no one would believe that the manager's commitment to TQM was really genuine."

A marked teamwork philosophy is now being spread throughout all of Texas Instruments. Corporate leadership has long ago concluded that improvement work functions best if it is driven by the entire organization.

Improvement teams

In many instances self-guided groups have sprung up spontaneously and improvement teams have been formed throughout.

"We created Quality Improvement teams already back in the '80s," Hank Hayes explained. "Their work was reflected in all our activities. But we eventually discovered that a quality improvement team was missing at the top level, in top management.

"Maybe it was this lack of an improvement team at top-management level that made us miss out on the prize in 1990 and 1991. Who knows? In any event we have now established such a team and are working hard on improvements at our level."

Implemented rapidly

An important lesson from the improvement team, both out in the company and at top management, is that it makes for faster decisions regarding improvements.

"When you work in a team the decision is not so top-guided but rather everyone shares in making it. Hence, it also goes much faster to implement measures that are already decided upon. We have licked the earlier problem where arriving at a decision could go quickly in itself but where implementing it could drag on.

"A decision is not truly thorough before it is implemented, so now we implement immediately."

Hank Hayes does not always himself participate in his own improvement team's meetings, but he is never unaware of the decision that was made in his absence.

"Teamwork is a an absolute must for a company that strives for top quality. The best of it is that the team's value is far greater than the sum of the value of each participating member."

Took over responsibility

The improvement teams and the self-steering groups are visible proof that TI-DSEG today is fully into quality-thinking. But TQM investment and the decision to aim for the Baldrige prize have meant more than just this," says Hank Hayes.

"A very important change entered into our organization when we began to evaluate ourselves against criteria for winning. The responsibility for quality issues, which we gave to Mike Cooney and his colleagues in our quality organization, gradually began to overtake each other. Now the entire organization has taken on a responsibilty for quality and Mike functions mostly as a consultant. The fantastic happened: Everyone took over ownership for quality work.

Text: Lars-Göran Hedin

When TI-DSEG applied for the Baldrige award, the entire company became involved in improvement work.

Quality prize paved the way to involvement

When Hank Hayes and his colleagues saw how important quality work was for doing good business, they decided to register as applicants for the Malcolm Baldrige National Quality Award. It was an important decision for TI-DSEG, not because the company eventually won the prize but rather because the route to the top was so important for the company's development.

"It was the desire to make our company even more competitive that drove us to apply," Hank Hayes recalls. Hank and his colleagues, however, were really skeptical about their chances of winning when they were confronted with the various criteria that went into deciding the winner. Expectations sank as they read on.

"But when we went through the prize criteria, we quickly realized that this was really a good way toward achieving higher quality. The prize appeared to function as a very thought-through path – and, indeed, that it was.

After the first application in 1990, TI-DSEG got a lot of feedback from the auditors. Their viewpoints were incorporated into all the shortcomings that the company's own internal assessments pointed to. People at the highest level of management were assigned to see how these shortcomings could be corrected.

"Right away we realized that we had to raise the level of most of our internal goals if we were to have greater success the next time we applied."

Dizzying visit

Came 1991 and it was time for the company's second attempt at the prize. This time things went better, in fact so well that TI-DSEG actually had a visit from the Baldridge prize assessors. It was a very valuable and dizzying visit.

"We were visited by eight assessors who over the course of some very intensive days spoke with at least 1,000 persons in our organization, all chosen at random. They praised a lot, but they were also critical about many aspects.

"Then, and not before, each and everyone of our employees was made to understand what quality work was all about. I myself had the task of giving a half-hour pep talk before the assessors spread out through the operations".

"I had practiced a bit and I stressed very clearly how unique we were in the defense industry. But that was not enough to win the prize".

"When we were visited again in 1992, we never mentioned the word 'unique'. We had learned a lesson, and we no longer felt as though we were unique".

"That was definitely a step forward in our quality thinking," Hank emphasizes.

All wanted to be better

Between the 1991 visit and 1992 the entire company was involved intensively with improvement work. The level for several of the company's goals was raised again and, above all, motivation for quality work increased as a result of missing out on the prize in the first two attempts.

"When we were again confronted with the assessors, most of us had a remarkably humbler attitude toward our chances for winning. Maybe that was also a reason that this time around we really succeeded in pulling it off.

TEXAS INSTRUMENTS TI-DSEG in brief

TI-DSEG is a subsidiary of Texas Instruments Inc. The company manufactures, among other things, precision weapons, airborne radar systems and infra red surveillance systems.

Turnover was 20 billion kronor in 1992. The bulk of production is geared to American defense, and U.S. allies account for about 10 percent of sales.

The number of employees today is 15,000, scattered over 11 different plants, test laboratories, etc. The geographic home base is north and central Texas, with head office in Plano outside Dallas.

From chaos to control

Ericsson regains quality reputation in Spain

Some 400 million in content payments, more than 30 percent late deliveries and more than 7,400 unattended faults. This was the alarming situation for Ericsson in Spain at the beginning of 1991. The company's reputation as a quality supplier was in danger.

"That's why we started the TQM project for "improved customer satisfaction," for which we won Ericsson's TQM prize in the summer," recalls Raimo Lindgren, president. The price was the internal award for the project being a success. Externally, the huge reward is a considerably happier customer.

TOTAL QUALITY MANAGEMENT

A satisfied customer is the best measurement of top quality, says Raimo Lindgren, head of EME.

During 1989-91 Spain had a fantastic growth in its economy. Economic support from Brussels helped the country to reap the fruits of its membership in the European Community. This applied not least to telecommunications.

Telefonica, the country's state-dominated tele operator, invested in hefty expansion of its tele network. For Ericsson S.A., EME, this meant an annual increase in order bookings of more than 50 percent. In 1991, it was up to 1.2 million lines. Raimo Lindgren, president of EME since 1989, describes today the situation at the beginning of the '90s as close to chaotic.

"Both Telefonica and we were aware that the enormous expansion would take its costs in quality and follow-through. It was quantity that took center stAge, both with us and with the customer."

Enormous sums left

In February 1991, when the economic accounting for 1990 began to become clear, suspicions were confirmed that the high pace of delivery had cost Ericsson huge sums.

In order to make the deliveries, installation staff was rushed from one tele exchange to another, leaving the customer entirely on his own to carry through with acceptance tests. Telefonica did not have the resources to do so , and as a result Ericsson lost the opportunity to quickly correct small faults in connection with the testing.

"The economic result of this helter-skelter approach was something of a shock for us," Raimo recalls. By the turn of 1990-1991 Telefonica had withheld more than 50 million dollars worth of payments to Ericsson. The customer, who also began to see the situation more clearly for itself, was concerned and questioned Ericsson's previous reputation as a quality company.

Raimo Lindgren quickly drew up a project group to clean up the fault reports from Telefonica. Under the leadership of Miguel Arenas, responsibel for quality at EME's division for public tele networks, the group went through the report from Telefonica and analyzed EME's methods of following up the installations. At the same the decision was made to ISO certify EME as soon as possible, as a way of striving for better order in the operations.

Will for improvement

"The ISO decision was met at first with mixed feelings, but it quickly became clear to me that the Spanish organization had the capacity to handle the giant job that was required before the ISO review. I was absolutely astonished by the commitment and will for improvement that quickly came forth," Raimo recalls.

On January 1, 1992, EME received its certification. ISO 9000 helped to regain Ericsson's quality image at Telefonica.

Parallel with ISO Miguel Arenas's project group worked with developing new routines for installation and fault-handling. In the job were representatives from all the various departments in the company that participated in the original job. The task was conducted in an informal manner.

"It should be pointed out that we did not really drive this project as a rule-bound TQM project," says Miguel. "No improvement team was ever formed, but instead a broader grasp of the problem was taken. But of course we used TQM methodics in the form of PDCA, or the Deming wheel as others call it, as a methodic in the job. The result was not unexpected.

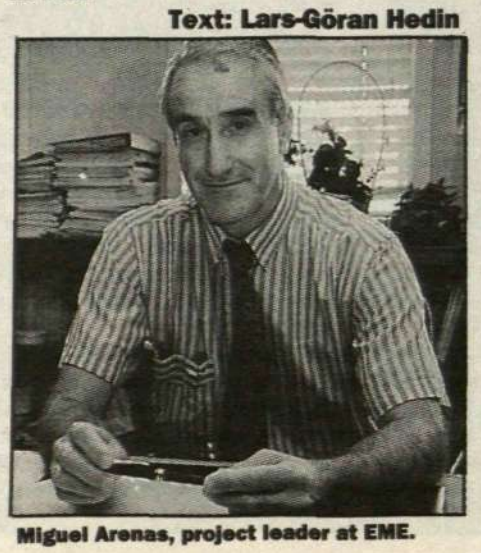
Enormous improvement

"When you discuss the result of our work, you must keep in mind that we began from a catastrophically bad level," notes Miguel. "But even so there is no doubt that there is a complete turnaround that EME has accomplished."

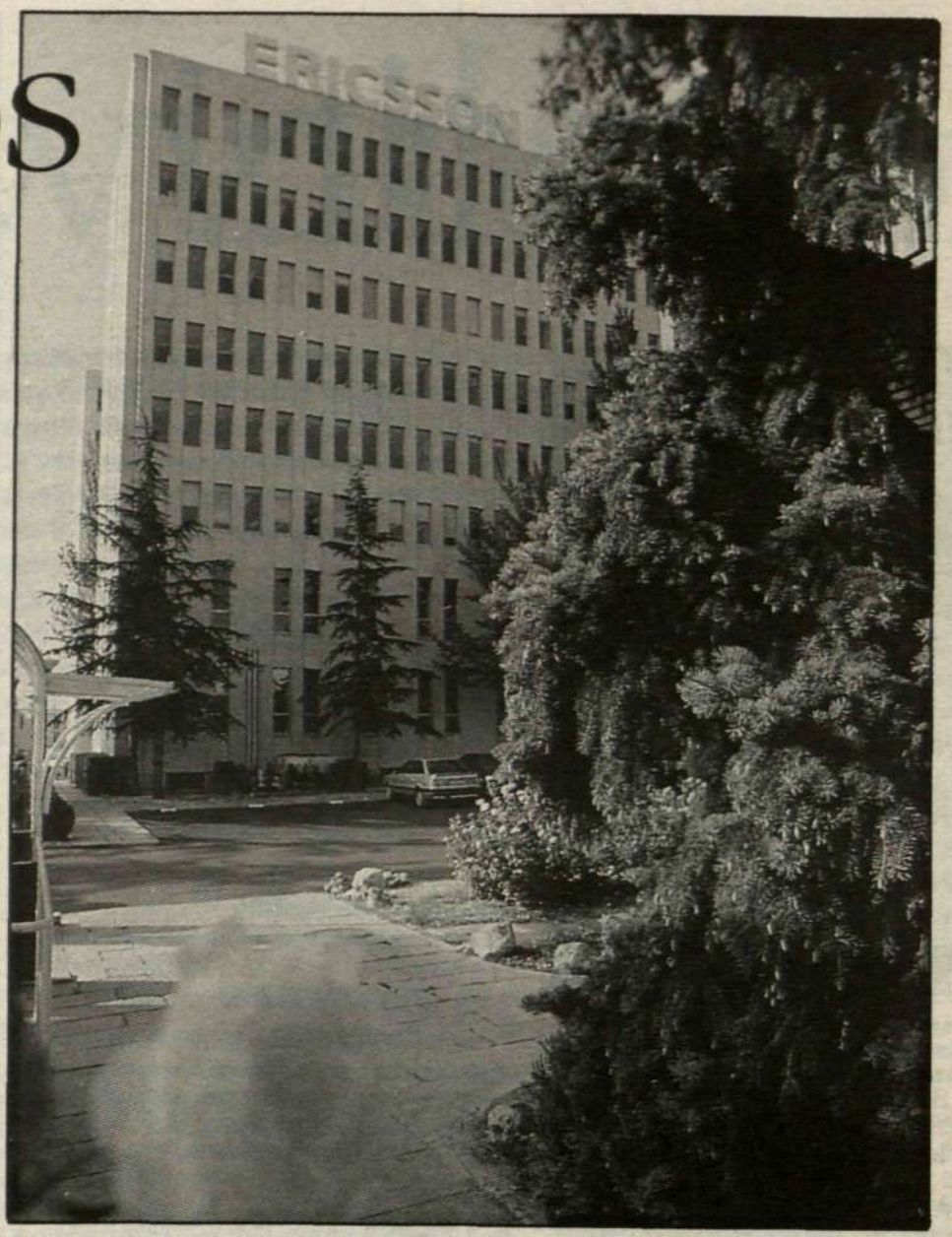
Today the extent of outstanding problems is as good as down to zero. The number of unmeasured faults reported fell from 7,452 to 87 (December 1992) and the share of delayed deliveries from 30 percent to none at all. Today the customer is very pleased. Here one can really talk about surpassed expectations.

"We have recently learned that Telefonica today ranks Ericsson higher than our two main competitors, Alcatel and AT&T, regarding quality. But we can be even better," says Bengt Holm, quality manager at EME. "That's why EME is continuing now with a number of different projects to improve quality even more in its work."

Text: Lars-Göran Hedin



Miguel Arenas, project leader at EME.



EME's main office and plant is in Leganés, on the outskirts of Madrid.

Creating a new company culture

Today improvement work has top priority at EME. Raimo Lindgren, president, himself activley leads the work. Quality manager Bengt Holm coordinates TQM activities that will now be extended to include all employees in the company.

"I myself admit to being a "convinced" TQMer and would now like to get my 3,000 fellow-workers to join me," says Raimo Lindgren. Soon he will start a "cascade program" that aims at changing outlooks and attitudes in the entire company.

There are a lot of indications that it is Raimo Lindgren who personally leads TQM work at EME. One of these is his decision that the company should go after the European Quality Award for 1995. This means that EME has to have 900 out of a maximum 1,000 points possible in assessing how the company fulfills the different judging criteria for the prize.

"With ISO 9000 we reached a level of 300 points and by reaching the goal in Ericsson's quality manual we got about an additional 100," Raimo explains. A test assessment that was recently done gave EME just under 500 points.

Changing views

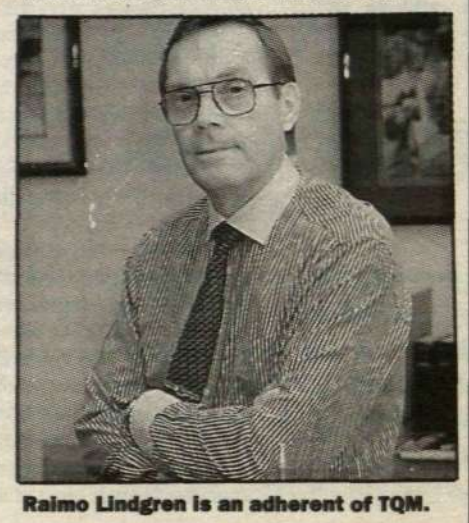
"A great part of the points that we are lacking can be won by taking TQM and improvement work into all aspects of the entire company," says Bengt Holm, quality manager at EME. Like many other Ericsson companies, today EME is good at improvement projects, measurements and other easily-grasped TQM activities. Still, there is a need for an all-encompassing company culture. This Raimo Lindgren intends to pursue.

"Soon we will be driving a program for attitude change and culture building. This is designed according to the cascade model, where information and training will flow through the organization in several stages." Raimo Lindgren starts by training and convincing the entire management group in the company.

Agreement with employees

The aim of the cascade program is that all managers must strike an agreement with their employees. The agreement fixes how and when behaviour changes will take place. Each and every one will then set about doing the improvement work in his own workplace, to fulfill the commitment he or she made in the agreement.

"This way we place huge responsibility on all our employees, but at an even higher level on managers," notes Raimo Lindgren. "It is managers that must make TQM visible in the organization and it is they who have responsibility for "measuring." "Here it is a question of recognizing solid input and giving constructive criticism when it is called for."



Raimo Lindgren is an adherent of TQM.

US West must be best

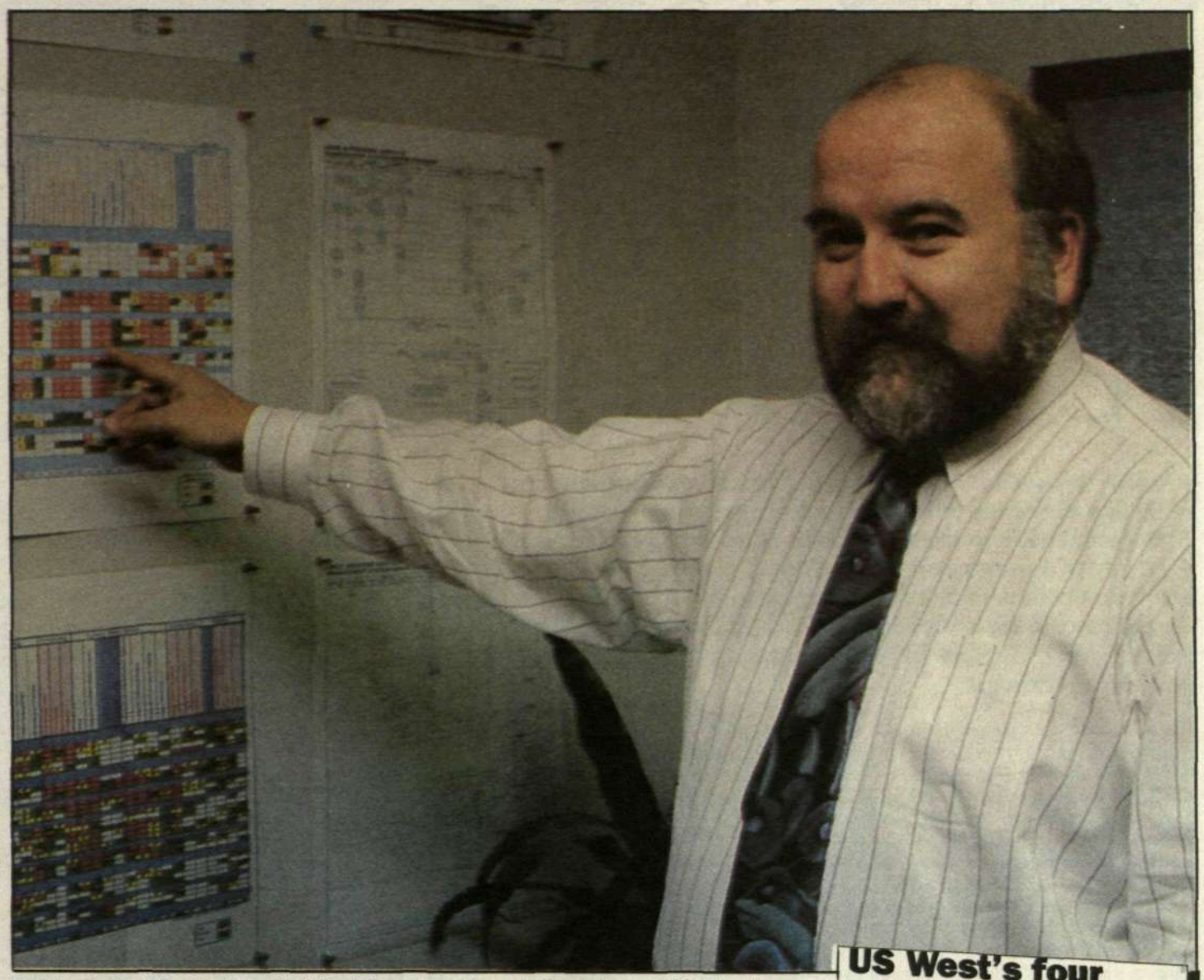
TQM-work started in top management

With 25 million telephone subscribers, US West has many customers to listen to. Since the telemarket in the U.S. is marked by tough competition, the company must put customers in focus of its thinking.

Top management is well aware of this. That's why U.S. West is investing in TQM to move closer to customers' demands. Year 2000 US West should be regarded as the world's best company, by customers, shareholders and employees. US West is setting high goals.

TOTAL QUALITY MANAGEMENT

It is the company management that should "own" TQM and lead the work, according to US West.



Bob Young, quality director of US West Communications, believes in a combinaton of TQM and Process Management as tools for improvement work. Photo: Lars-Göran Hedin.

Gary Ames is president of US West Communications. He very early realized the importance of raising the level of quality improvement in the company. The tool he visualized as the only right one for achieving this was TQM.

The goal was to increase US West's competitive strength, to prepare for the huge efforts needed for moving into the 21st century. One of the first measures was to recruit Bob Young, as quality director. As chief industrial engineer Bob had been a leader of Florida Power & Light's quality work which in 1989 was awarded the Japanese Deming prize, one of the most sought-after quality prizes in the world.

Top first

Bob Young was assigned the mission of accelerating US West's quality efforts. This meant adapting TQM in all operations and spreading TQM thinking and methods throughout the entire organization. Gary Ames was convinced that this type of work must begin with the company's top management.

In the spring of 1992, a two-week study trip to Japan was arranged. Before setting out, participants were given huge quantitites of literature to go through. Four two-day seminars wre conducted to learn about TQM from the start. Those who undertook the trip were the president himself, the board chairman and the top 20 executives under them. In Japan they visited companies that were noted for good quality work. On their return home to the U.S. the entire group was convinced that TQM was something that US West really needed.

A turning point

In May 1992 the company's top executives gave the green light for a very comprehensive TQM program, This was a real turning point for US West. Ever since then quality improvement work has kept pace, with activities lik e training in TQM, study trips, courses in process management and problem solving.

After the top 20, managers on lower levels were shown the necessity of being active as an advocate and model in TQM work.

"It is the managers who possess the resources, hence they must be aware that TQM is the method that will help us to reach our goal for improvement work," says Bob Young.

Processes at the center

Process Management – steering and leading the company's various processes – is one of the most important tools for US West today. Therefore, along with the traditional TQM tools for driving improvement work, a lot of effort is now being put into describing the various processes within the company.

"We began with the real "core process," service-supply. This process alone accounts for 63 percent of our activities. When we analyzed this we were readily able to formulate four subordinate processes".

"Then we looked more closely at how these processes related to each other. By studying the processes this way, we have learned a lot about the relationship to internal and external customers and where it is most beneficial to concentrate on improvement measures".

Flow charts

"Now many units are working with devising flow charts about their own operations, which describe the process in diagram form. In the diagram one could see what functions smoothly, what needs to be improved and what needs to be dramatically improved. The conclusions are drawn first subjectively by those who make up the diagram. Then data is drawn up to control that the conclusion is correct – and for the most part it is," notes Bob.

It is in the weak areas that measures are then taken, through Process Management and improvement work with TQM methods. Bob Young is certain that this is a real "gold mine."

"I see our approach to Process Management as state of the art. And I dare say that no other company in the U.S. has come as far as US West when it comes to linking together TQM and Process Management."

US West is constantly evaluating its activities in many different ways. There are three "voices" that the company must listen to: the customer's, the activity's and the employee's.

Critical measurements

The company measures what customers think through regular customer surveys on a large scale. The views of personnel are gathered in the same manner. Operations are charted with flow schemes and process analyses.

"Then we analyze how customer needs compare with what we have learned in our processes," explains Bob Young. For this we use a variant of QFD, one of the tools used in TQM. This is a cross-section diagram where you grade how different customer needs in this regard are being fulfilled by various factors in the processes and afterwards also prioritizing which of these customer needs are most important and should therefore be given priority.

"These measurements are extremely important. Therefore, we are developing a system of indicators, which will be described to show how US West really functions.

"We draw factual conclusion regarding our activities. Then, it is management's responsibility that the resulting measurements are constantly improved," Bob Young emphasizes.

ISO inevitable

What drives US West most in its work with TQM and Process Management is customer demand.

"Hence we are now in the process of working with getting US West certified according to ISO 9001, a demand that is being formulated more and more clearly in the U.S.," says Bob.

Of course, this also means that US West's suppliers are affected. Pressure for ISO certification is inevitably transmitted directly down to supplier management.

"Our suppliers must have a quality system that guarantees us that their products are good, which minimizes the need for tests and removes the risk of equipment being dismantled because of malfunction. No question about it, our suppliers must be able to produce fault-free."

Text: Lars-Göran Hedin

US West's four guiding principles:

Everyone must participate
- Everybody must be concerned
- We support pluralism and differences – everyone's thinking must be utilized.
- Training and learning never end

Customer at the center
- The next person in the process is the customer
- The customer himself or herself determines when he or she is satisfied
- We develop new products and services rapidly.

Committed management
- Managers are responsible for the customer being totally satisfied
- Managers must identify problems and underlying reasons and focus the organization on improvements.
- Utilize facts and data. Never attack people– only processes

A quality-driven system
- All our work must provide added value
- Attack all wastefulness
- Utilize trusted methods

US West in brief

US West is one of the seven regional operating companies. With head offices outside of Denver in Colorado, US West has 25 million subscribers in 14 states. Turnover in 1992 reached close to 90 billion kronor. That same year the number of employees was 63,000.

The company is involved in tele operations on the national as well as international levels. Mobile telephone networks and paging systems are part of its operations. U.S. West has interests in mobile systems in Eastern Europe, as well as fixed networks in other countries, among them Russia, Hungary, the Czech Republic and Slovakia.

Everybody a winner after Lynchburg revolution

Imagine the scene: A fellow-worker at one of Ericsson's factories is talking about his job and his role in the company.

"Before, I used to leave my brain outside the factory but now I am living in a whole new world. When I come home on evenings I often talk with my family about my job, about how I am just as important as the top executive. We talk about how good it is that our company has common values. About professionalism, respect and perseverance."

TOTAL QUALITY MANAGEMENT

A more"total" approach to improvements than the one in Lynchburg is hard to find. Here, everyone's involved.

The speaker is Lonnie Harper. He is an important person in his company, an ambassador for Ericsson GE and its factory in Lynchburg, U.S.A. Lonnie is one of 2,000 such ambassadors. At Ericsson in Lynchburg they have certainly come further in building a company culture for improvement than anywhere else in the Ericsson Group.

One could discuss endlessly which of the three letters "T, Q or M" is the most important in Total Quality Management. In any case one thing is certain: To succeed in quality improvement work, everybody in the company must be involved. Everyone must feel commitment, each and everyone must comprehend his or her own significance for the totality. Everyone must take his share of responsibility for Ericsson's customers being satisfied.

For many of us perhaps this sounds like a lot of froth and empty words. Listen then to our colleagues at the Ericsson-GE factory in Lynchburg. There they work very hard to live up to their vision: "To see that all fellow-workers have the possibility, when they choose to retire – of doing so with dignity."

"Here we work with rebuilding the American worker," says Sam A. Hedrick, coordiantor for Winshare. Winshare is the improvement program, or better yet the improvement culture that has revolutionized existence for close to 2,000 employees in Lynchburg.

Winshare has given me a good view out there in society. Now I am not just a face," says Bill Crawford, currently team leader in the tool department.

Impressed

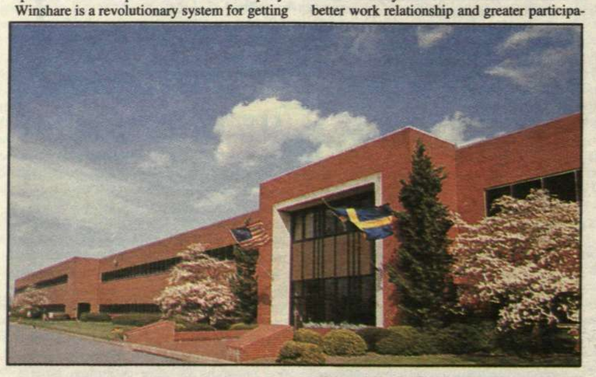
"Winshare is the best practical example of a system for collective decision-making that I have ever seen. Every employee I talked with spoke as if he was part-owner of the company. Winshare is a revolutionary system for getting the netire work force to join in creating a vision for company and leading it to its success."

The man so impressed with Winshare is an American Congressman, Lewis F. Payne, who wrote the above in a letter to Ericsson-GE. He and many, many others have been deeply impressed by what was accomplished in Lynchburg.

Matter of survival

One of the key aims of Winshare is to achieve better work relationship and greater participation among employees. But this is far from being the only aim. When the program began at the end of the '80s, it was a matter of the factory's being or not being. Lynchburg belonged to the General Electric division for mobile radio. The company posted a loss several years in a rowand it began to talk about shutting down.

"Through hefty cutbacks in personnel, from 4,000 to 2,000, and through other streamlining measures we were able to turn around the losses," Sam Hedrick recalls. "But everyone understood that more than just that was needed to really secure their current jobs. In this spirit Winshare was born. And at about the same time Ericsson came into the picture.



The Ericsson GE plant in Lynchburg is beautifully situated. For four years now, the Swedish flag has been hanging next to the Stars and Stripes at the main entrance.

Ericsson inherited

As a means in the process of quickly establishing itself in the American market for mobile telephone systems, Ericsson sought a collaboration with General Electric. In 1990 a jointly-owned company was formed, Ericsson-GE, where Ericsson initially owned 60 percent of the shares. Today, the company's share has grown to 80 percent.

Besides a number of products mainly in land mobile radio, Ericsson also took over Winshare from the American partner. This is an inheritance that is well managed in Lynchburg, but which has not yet spread to other Ericsson units.

"We have had many visits from other parts of the group and we gathered that they all liked what they saw and heard here," says Sam. But so far he still has not heard of any other unit that has adopted the good example of Winshare.

Improvement team

One of the secrets of Winshare's success is that from the very start it was developed by fellow-workers themselves. Of course there was an external consultant in the picture in the planning stage, but shortly thereafter Winshare became the employees' "own thing."

The backbone of Winshare is a large number of improvement teams, known here as Win-teams. They are everywhere in the company and consists of 8-40 persons. The team is led by one of the team leaders and in addition in every team there is a spokesman, an "ambassador," who is ready to explain his team's viewpoints on and work with Winshare. These ambassadors are often called upon sice Winshare has become a hot number with company visits of all types.

All employees are encouraged to submit proposals for improvements. These suggestions are discussed in a team and it is often in the team meeting every week that ideas come forth. The ideas that concern operations in the team's own unit are discussed and carried through on spot as a rule.

Winshare is a real hot number when visitors

Own budget

"Every team has a budget of 6,000 dollars a year to implement improvements," says Sam. "It is also possible to borrow money from other teams, in this way to achieve better financing – an enlightening experience in itself. In total, Winshare activities dispose of some 312,000 dollars a year. It's a lot of money but it is well spent.

"During 1992 the total value of Win-teams' improvements amounted to 9 million dollars. Add to this the immeasurable value of productivity increase, which improves the spirit of the workplace, better job milieu and improved work methods.

Bonus abolished

A group bonus is part of the Winshare program. The first years it amounted to between 150 – 250 dollars per quarter, but in resent years, the company could not afford to pay a bonus. Despite this, activity in Winshare did not diminish.

"I believe we had come so far in thinking about improvements that the motivation was still there," says Sam Hedrick. "Moreover, people feel it's fun to work when you yourself have the possibility of taking the initiative for change that makes the job easier."

There is no doubt that there is also a keen awareness that the Lynchburg plant needs Winshare in order to be able to survive tough American competition.

come to Lynchburg. Here, Sam Hedrick is telling visitors from the town of Odessa, Florida, about the improvement work being carried out in the factory.

Competition means

Above all Winshare is, like TQM, a means for improving competitivity. Many customers and prospective clients have in Lynchburg a clear indication that here all employees are responsible for products, that all of them have a commitment to the company and to its customers.

"Our competitors can quite readily copy Ericsson's products, but they can never compete with our company in this area," Sam notes. When visiting customers see clearly for themselves that the team that is building a radio base station is not thinking of disregarding a customer's trust, then you know that you are dealing with a real quality company.

Visitors also marvel at how well informed everyone in the factory is. Every month team leaders share in all current information about the company – economy, order bookings, warehouse situation, etc. They in turn inform their colleagues about what is important.

"And we subscribe to trade publications so that those who want to do so can take home material and read about what's happeneing out there in the market," says Sam. "It's a small detail, but very significant for the philosophy behind Winshare."

Winshare is built a great deal on total trust between company management and labor.

"This is something that employees truly deserve."

Text: Lars-Göran Hedin

The Lynchburg factory manufactures among other things radio base stations, mobile phones and land mobile radio. Work is organized in teams.

Winshare = TQM

Ericsson GE is sweating it out now with ISO 9000. At the same time guidelines are being drawn up for how TQM should be driven in the company.

"We must plant TQM thinking in the mind of every employee here," promises Roger Hessenius, quality manager in Lynchburg. Thanks to Winshare there are good preconditions for making this a success.

Winshare provides a remarkable base for TQM work. Improvement teams are already in place. Now they have to learn about the tools and the methods that TQM can provide for further gains in improvement work.

"With TQM we must also take a bigger leap than before. Special teams will be put in place to expand and further develop our processes. We must also use the current improvement teams to handle projects that transcend across function borders." Even though it's a tough job to build up a structure for TQM at the same time that the company is working with ISO certification, Roger Hessenius feels that it would have been even tougher had Winshare not existed.

"Now we must all be involved"

Working for continous improvements – that is the core of TQM, Total Quality Management. In order to get the entire company to participate in this work we need continuously huge efforts. Above all from the company's managers, who must always be at the fore of improvement work.

"Now our leaders must show their commitment," challeneges Britt Reigo, personnel director in the company. For Britt, TQM does not stand only for continous improvement but it is also a management style. A style that will mean a lot for Ericsson's continued development.

Ericsson's shared values, professionalism, respect and perseverance, is a good base on which to build a corporate culture. All three concepts are relevant also when you talk about TQM and quality improvement work.

"The comprehensive work that is put into spreading these values and to make them understood in the entire company, will serve us well now when we need to build a corporate culture around TQM," Britt Reigo feels.

Britt is well aware that Ericsson has quite some distance to go before these values permeate the entire company, but nevertheless she is convinced that it is of extraordinary value for Ericsson to have these three central concepts around which to function.

"Our values provide a common platform that everyone in the company can draw upon, regardless of where in the world you are operating or in which job you are performing your daily work in the company."

Culture building

Now that Ericsson is taking its next large leap in the building of a corporate culture for the future, it is quality issues and improvements that stand at the center.

What is at hand is a mission that concerns all employees in the company. A corporate culture cannot be built up and maintained without the effort of every individual.

"It is important to see TQM as a culture-building, something far more sweeping than the methods we used previously in quality work. Today we are striving to improve our work methods, or processes as we sometimes say. Yes, in this very task we are working at changing ourselves – for the better," Britt points out.

"In a world where products' life cycle are shorter than ever it is necessary to focus the job on our capacity to introduce new products and to produce them effectively, than on the products themselves.

Nothing new

Britt Reigo is keenly aware that TQM makes high demands on company managers. Demands that must be reflected in all recruiting programs and selection processes that are used in recruiting new managers.

"When we began to work with Ericsson Management Planning, we concentrated our interests around qualities that very well matches our ideas behind TQM. The will and capacity to realize improvements is not something that was born with TQM.

"But on the other hand today we must be clearer in our demands on managers and give greater weight to personal qualities when we consider various people's suitability for management positions.

Leadership responsibility

Successful examples, which Contact has reported elsewhere in this issue, show that managers' commitment in improvement work is always of crucial significance.

"No company can succeed in building a quality culture if managers at all levels do not come forth as good examples.

TQM
TOTAL QUALITY MANAGEMENT

Above all, success in building a TQM culture in Ericsson hinges on company management.

"It is obvious that the manager must determine the course and set up the goals that the company must strive for, and it is he himself who must take the first step.

"The manager must show the way and at the same time see to it that he involves all his fellow-workers in the improvement work.

"It is of crucial significance for the manager himself to take the highest responsibility for TQM work. To help him in this direction our company managers have a so-called "TQM champion." This is a person who functions as a coordinator and an expert, the president's right-hand man in quality matters.

"But it is the president himself who must lead improvement work," notes Britt.

Learn from each other

Ericsson is a large company with operations in a hundred different countries. That's why it's only natural that the scope of how far it has come with TQM is equally large.

This is something that the companies that have not come so far yet can take advantage of.

"One of the big advantages with a company as huge as Ericsson is that there are almost always experiences in which we can learn from each other." Britt challenges the various companies and units in Ericsson to utilize these opportunities.

"We who work with TQM on the central level try in every way to stimulate increased experience exchange," she says.

"But also in this case it is out there in the organization that initiative must be taken for benchmarking and other similar activities."

Everyone involved

Britt Reigo's vision of Ericsson in a few years is a company where words like TQM and TRIM no longer have a role to play.

The activities that these words stand for are instead a natural part of the company's way of working. All employess take – with the common values as the guiding light – continuous improvement as something that it is totally understood.

"We must have a culture in our company that is aimed at constantly improving our daily job. It is important to improve communications in order to better understand each other and to facilitate understanding for what our customers really expect from us".

"The will and decisiveness to constantly be better, this is something that I hope that all of us in the future can associate with Ericsson," says Britt.

Text: Lars-Göran Hedin

Britt Reigo challenges the company's managers to move to the fore with TQM. This is a necessity if we are to build a TQM culture in the company. Photo: Magnus Torle

What does TQM mean to you?

An important element in TQM is that all employees in the company must be part of the job. The goal must be for TQM to be an important matter for all of us.

Hence, we wonder: What does TQM mean to you? Do you have some good TQM experiences to communicate? How do you react to the TQM theme in this issue?

Feedback is always important, especially when you utilize your energy considerably in your daily job, which in my case were the articles on TQM.

Since we intend to continue to keep improvement work and corporate culture in focus in our internal publications, you now have the chance to come forth with ideas and opinions. Call, or better yet, send me a Memo.

You will find the telephone number and memoid in the masthead on Page 2.

Lars-Göran Hedin, editor.

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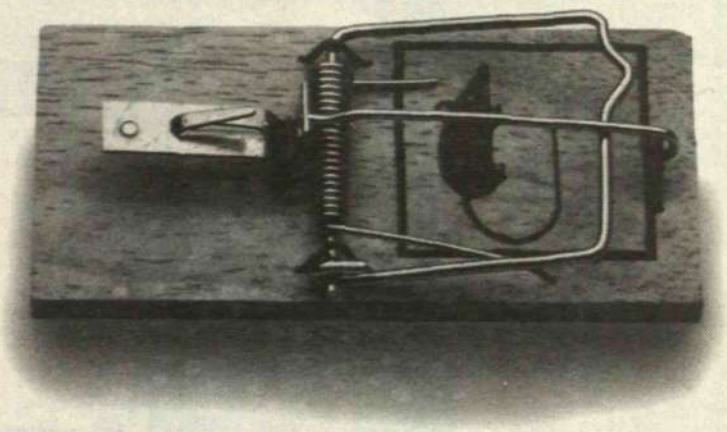

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System telephone talks to the future

The telephone set, perhaps the most indestructible of all Ericsson symbols, is still going strong. At the beginning of 1994 Ericsson Business Network's new telephone series was introduced. With hypermodern technology and well-thought fresh design, they are part of the profiling in the battle for customers.

Top of the line in the Dialog 3000 family. This set does everything.

In the more flexible and effective communications solutions that customers are demanding, an advanced and user-friendly telephone set has its place. It must facilitate life for the user whether it be a single connected terminal or part of an integrated multimedia solution.

End user in focus

The section for End User Products in Ericsson Business Networks K-Division is ready for launching the good news. Juri Vajdaffy, product manager for analog telephones and ISDN terminals, and Bart van Dijk, product manager for digital systems telephones, are "fathers" of the new phone series. Having the end user in focus has always been the guiding light in product development.

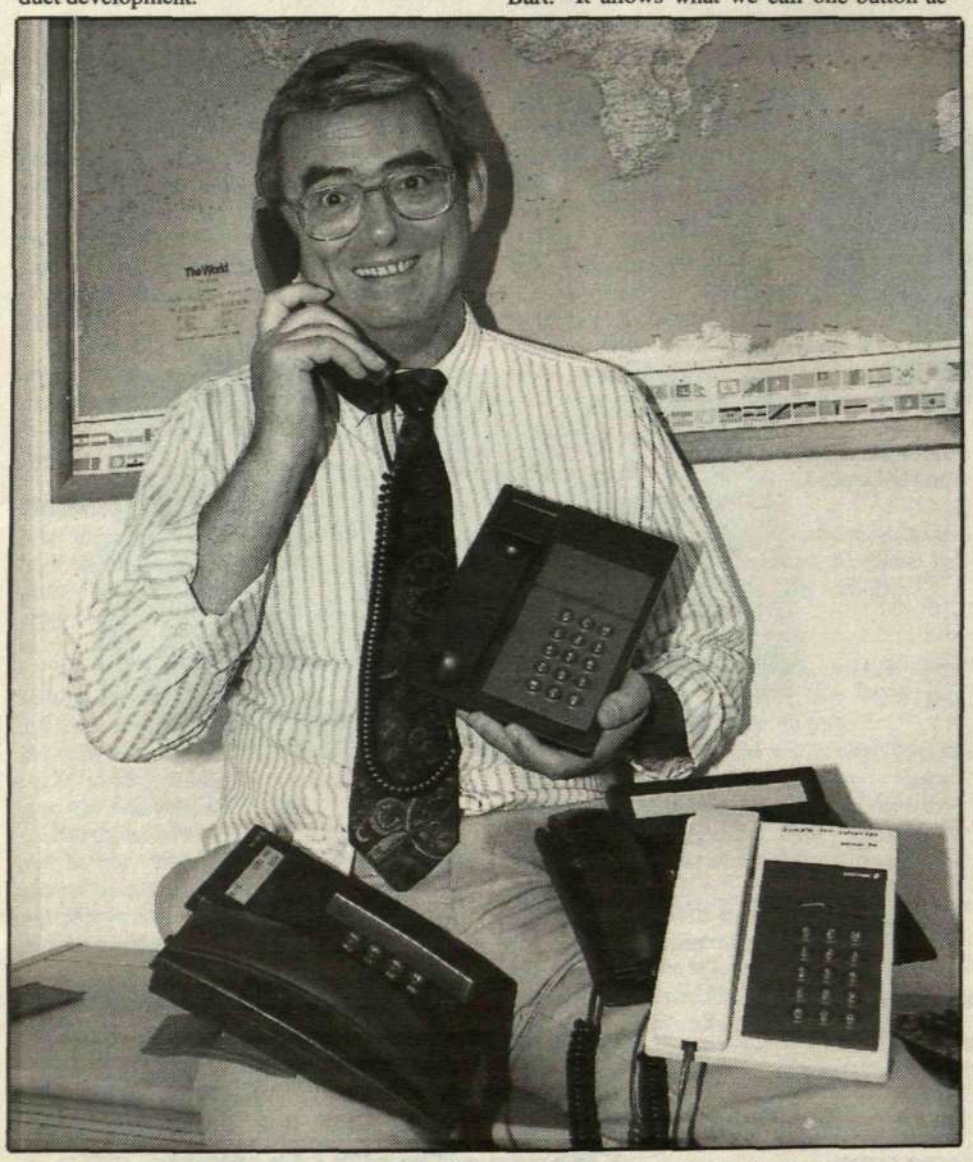
"The telephone should render the user as effective as possible," Bart van Dijk emphasizes. "Here, ergonomics is vitally important. The phone should be easy to use, all the buttons well thought out in place and as self-explanatory as possible. Among other things, we are working with Ericsson Radio, ERA, and Ericsson Telecom, ETX, to improve ergonomics in all end-user products in the group."

Function most important

It should not be frightening for a phone to have many buttons, say Bart van Dijk and Juri Vajdaffy. More important is what function the buttons serve.

"Many buttons actually make it easier," says Bart. "It allows what we call one-button-access, you only need to press one button to use a function and thus avoid programming with numbers, asterisks and squares.

"Moreover, we use so many symbols, without indicating what the different buttons can do," says Juri. "We also try to place important function buttons in the same place, regardless of the size of the set. The user should not have to relearn simply because one has changed sets to another size."



Bart van Dijk with digital phones. He is holding a POTS in his hand, a Dutch low-price variation. It is also shown in white. The other two sets are part of the new Dialog 3000 family from Karlskrona.

First with letter tableau

The display, the little window that Swedes refer to as a letter tableau, is also an important asset that makes the telephone easy to use. Ericsson was the first in the world to offer a variable display window, where the angle could be adjusted. Loud-speaker function, which very often is critical in a phone, is one of the best in the world in the new sets. We have also worked hard on developing a convenient and user-friendly receiver.

"But we did not beat the Diavox receiver,"says Juri, with a smile. "That receiver is the best Ericsson has made, but in any case we came pretty close to it.

Replaces all forerunners

The new system telephone is an heir of today's MD110 telephone. Moreover it will be compatible with the anticipated terminals in the BusinessPhone program. The design is planned throughout to be the same also for ISDN telephones and the advanced analog phones that are used together with AXE.

"Ericsson has its own service known as BGS (Business Group Services)," says Juri Vajdaffy. "With the help of this the customer can use services in AXE for its business communications. One can say that BGS possibilities complement the MD range."

Total responsibility

"BGS services are AXE-related, so it is only natural that the customer will come via ETX, which in its turn will come to us in K division," says Juri, who is responsible for collaboration between ETX and EBC. K division has technical responsibility for all cord-bound terminals in the company. We have chosen to concentrate all competence in one place and by doing so we get a maximum exchange from investments.

" We have several interesting projects going in collaboration with ETX," says Juri Vajdaffy. First and foremost we are developing an ISDN set, in the first instance for ETX reckoning for AXE. It will also apply to MD as the need arises.

Juri Vajdaffy surrounded by new analog phones. At left is a set from Holland, in the middle is Response from Telia (part of Ericsson's assortment on the world market). In his hand Juri holds the new Dialog 2144 from Karlskrona with many different functions. At right is a new set from Austria's Schrack.

Bart van Dijk and Juri Vajdaffy see the increased focusing on the end user, those who will use communications solutions, as a stimulating challenge. They are both technicians at heart and have a long Ericsson career behind them – important experiences that provide perspective both ahead and behind.

Close customer relations

"In a hundred years we have worked with a hundred customers, namely tele administrations (PTTs)," says Bart van Dijk. "But increased deregulation makes it all the more important for us to have direct dialogue with end users. Our section has an important task here."

"Morover, regarding telephones it is such that 15-20 years ago the same dialogue with end users was not necessary. A telephone was a telephone. It was as simple as that," adds Juri Vajdaffy.

"But times have changed. Customer demands have grown, as well as our possibilities for providing advanced and flexible solutions. That's why it is necessary for us to maintain close and continuous communication with our customers."

From cycle to plane

Developments in the communications area have been explosive, not least concerning the speed of transferring information.

Bart van Dijk offers an illustration:

"One can say that analog transfer is like a cycle. It takes you from A to B in a given time. Digital transfer is like a car, which also gets you to B, but much faster. ISDN is a plane."

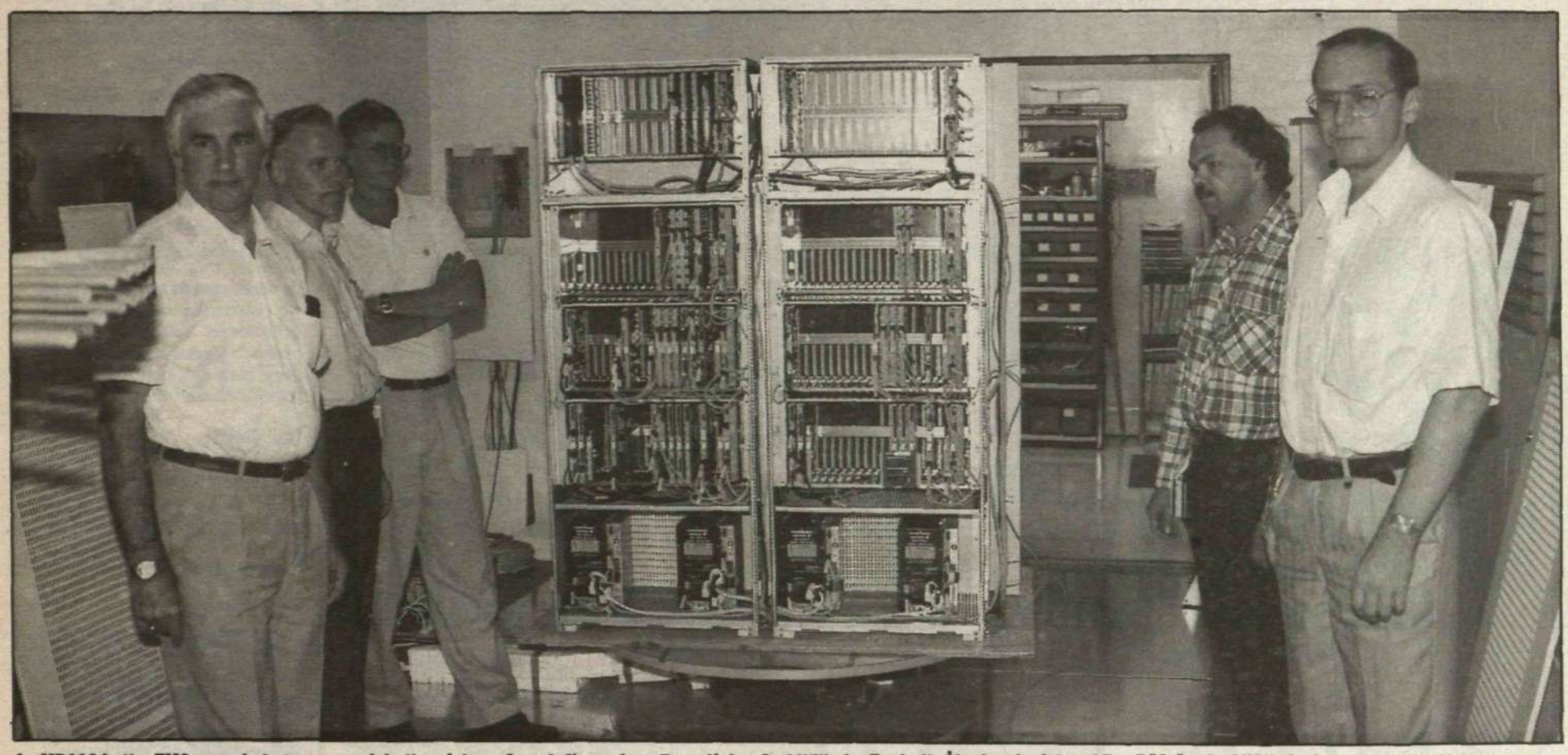
The section for end-user products foresees a market with important terminals that facilitate the task of transmitter and receiver along the way. Development of End User Products can go in several directions, people in the section say.

The new multimedia efforts, with total integration of different media, perhaps carry with it the possibility that eventually one can combine various technical units to new terminals that until now were only seen in its initial development. The telephone set, however, will be with us for some time yet, Juri believes.

"For you must have a receiver."

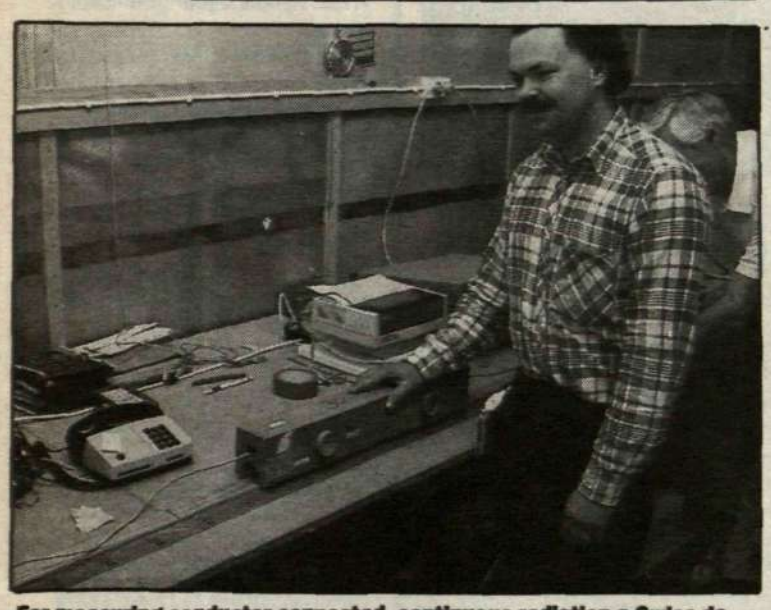
Karl Malmström

Power milieu passes test



An MD110 in the EMC room being measured. In the picture, from left, are Lars-Rune Holm, Carl-Wilhelm Enstedt, Åke Lundquist and Per Döfnäs. Carl-Wilhelm belongs to the Market Approval unit and Lars-Rune is from Bygsätt (Design Methods). *Their presence shows very clearly how several units share in the job of electricity milieu security.*

All apparatus is found outside the measuring room, connected by filters so as not to create unnecessary disturbance in the measuring procedure. Measuring is being done here by the unit's EMC expert, Thomas Haglund.



For measuring conductor connected, continuous radiation a Swiss design is used, known internally as "loket" (the engine), which Åke Lundquist has his hand on. It is actually pliers that holds the conductor and takes up the radiation.

Ericsson must meet international demands

Since Sweden ratified the EES agreement and is on the verge of joining the EC our products must meet specific international demands for, among other things, electric milieu controls (EMC).

This calls for specialists with competence to help our designers to meet these EMC demands. The work is done in two units, in Järfälla and Bollmora.

"One difference between the two electric milieu units is that we are working with radiation up to one GHz, while in Järfälla they are working with above one GHz," says the manager in Bollmora, Ulrich Herzig.

"Another difference is that we are working with products for civilian use while they also have military equipment in their area," he adds.

In the section, which pertains to the department for Design Support in Bollmora, there are 17 persons. Six of these are working solely with EMC, both from a theoretical and a practical viewpoint.

EMC includes both emission, that is to say radiation from our products that can affect other equipment, and immunity – that our products cannot be affected by other sources of radiation.

"In the first instance," Ulrich emphasizes, "we must help designers in our business area, BZ, to develop designs that meet EMC demands. In the second, we work for other comnpanies in the group.

Can cut costs

All divisions use the electric milieu group in Bollmora. To equip an entire laboratory calls for an investment of about four million kronor, so the most cost-effective solution is to consolidate this resource.

"It is important to point out that what we do is help the designer. This way we are often involved in resolving design problems so as to get a subsequent approved measuring.

Third-party

This approved measuring is done by a third-party laboratory that must be approved by the authorities in the receiving country, in Sweden for example by SEMKO.

When we visited the operation they were in the process of measuring an MD 110 and two LIMs (Line Interface Modules).

"This will be going on for approval measuring by the French authorities, and we will be there as observers," Ulrich explains.

When a product is finally approved by the authorities in a country, Ericsson can benefit from it in future business with other customers in the country.

Several labs in one

"A complete laboratory" is in itself several labs for measuring different aspects of the electric milieu.

In the largest lab they measure radiation. In a special lab they measure conductor-bound continuous and intermittent disturbances.

"In addition we have a high-voltage room, where we can control the climate for repeated mesuring during identical conditions, as well as a temperature chamber where we measure temperatures between +5 degrees and +45 degrees C," Ulrich Herzig points out.

"A common source of disturbance are air-conditioning plants that play havoc with thermostat setting. This is particularly sensitive for data transfer that needs an even signal current, and our switches must handle this.

"We often simulate different types of disturbances to see how much the equipment can tolerate," says Ulrich.

Ulrich says they often get visits from Ericsson units in other countries, which send observers to exchange experiences and knowledge about EMC measuring.

Transmission group

In the transmission area, where they do measuring of switches and, among other things, research attenuation, they have taken the initiative on an NST group. Ulrich explains.

"NST stands for network and system transmission. Here are assembled all of us in Ericsson who work with transmission – from ETX, ERA, Ellemtel and other companies.

This way we hope to be able to help each other so that all of Ericsson can stand for the same high competence in this area.

"Of course we are also part of a reference group for Ericsson in Sweden as far as EMC goes."

Signaling is coming

The most important measuring areas are EMC, high voltage and transmission.

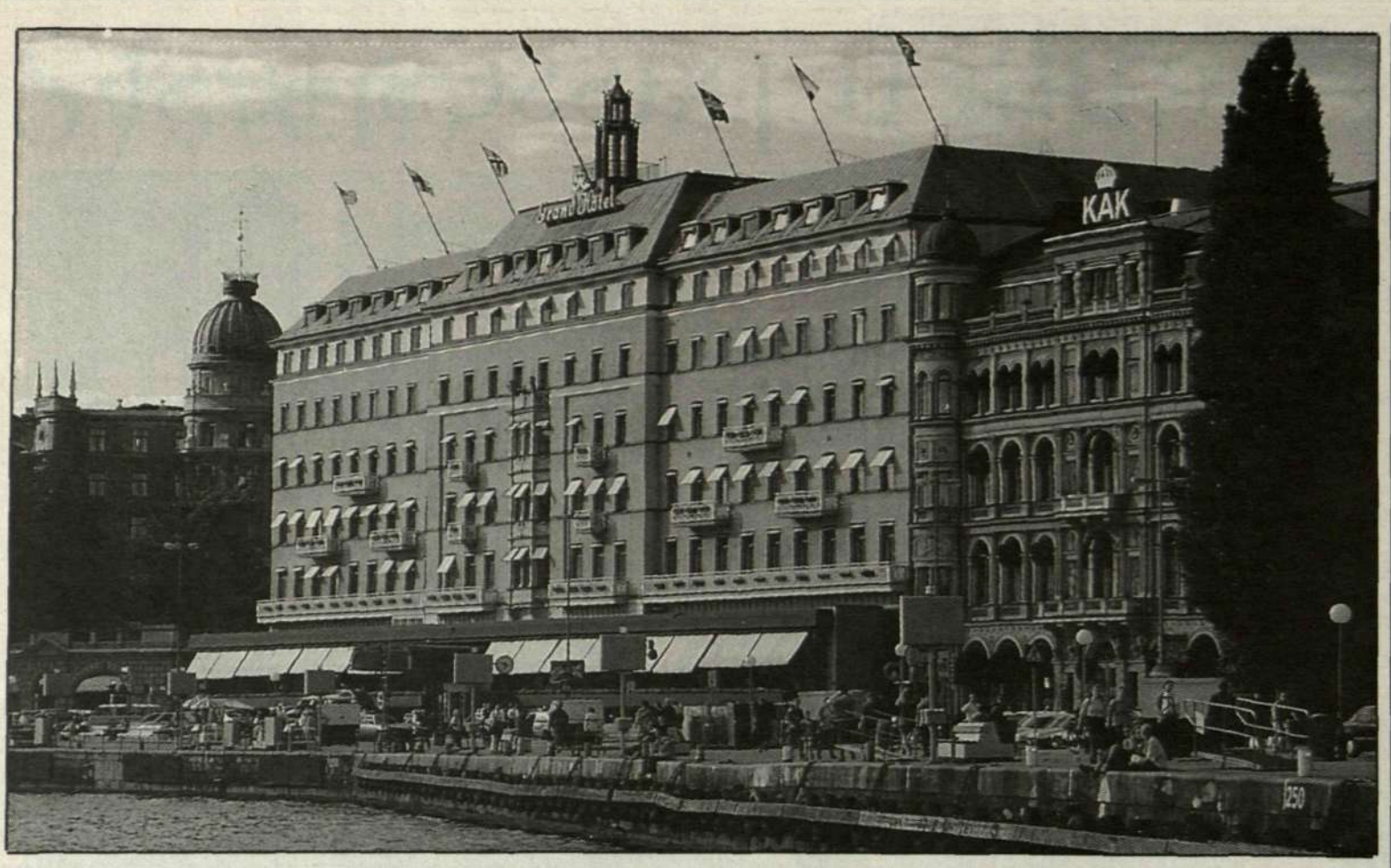
"Since May this year we have also had responsibility for signaling, so we have two new employees who will drive these issues," Ulrich says, adding:

"Previously it was designers that checked and approved signaling. But if we are to meet international demands, in the spirit of ISO 9000, this verification as far as possible must be done by what is called an "independent body."

However, they can never get as far as having their own lab according to the European norm EN 450001. This calls for a financially independent test lab.

"We can never get there as long as we belong to Ericsson Business Network and receive money for our activities from our customers in Ericsson," Ulrich Herzig concludes.

Alf Öst



Hotel with marvelous tele service

At Grand Hotel guests are invited to use Ericsson's Freeset during their stay.

"Just as important as maintaining the hotel's sumptuous atmosphere and traditions is to make sure that the demands of today's modern hotel guests are met," says Peter Wallenberg Jr., director of Grand Hotel.

Prominent guests gather at the sumptuous Grand Hotel in Stockholm, among them statesmen, world artists and businessmen from all over the world.

Ever since the hotel was dedicated more than 100 years ago they have been very careful to maintain its atmosphere and traditions. But they have also kept up with developments and adapted to the demands that a modern hotel must meet.

Freeset service

Some time ago Grand Hotel installed Ericsson's cordless business phone, Freeset. Pocket phones are used both by the hotel's own personnel and as a service offered to guests.

"International businessmen make high demands on accessibility. To be reachable can be as equally important for those staying here overnight as for those who are just lunching in the hotel," explains Hans Lindh, manager for Grand Hotel.

Total coverage

Freeset gives both personnel and guests the chance to move about more freely in the hotel without having to reach for a phone. The system covers the hotel's 320 rooms and suite, 19 meeting and banquet rooms, restaurants and other areas. Radio coverage is done with 29 base stations and there are about 30 Freeset telephones in use.

"With Freeset we have a top modern communications system that gives our guests a unique tele service," notes Peter Wallenberg Jr.

Proving its worth

Among the staff, work managers, personnel with mobile jobs and other key persons are equipped with Freeset. This applies, for example, to the hotel manager, the chef, hostesses and room service.

Freeset was installed in connection with the International Monetary Conference in June that drew banking executives from all over the world for conference and stay at Grand Hotel.

"It was a conference that placed extremely high demands on security and communications. Here the system really proved its worth. Several guests also expressed their delight with the staff's fast and smooth-functioning communications during the conference days," says Hans Lindh.

Pioneer

At Ericsson Paging, which sold the system to Grand Hotel, they are also thrilled at having got a hotel among "The Leading Hotels of the World" to choose Freeset.

"Moreover Grand Hotel is the first hotel in Sweden to install Ericsson's business phones. With this as a reference we hope to pave the way for other hotels," says Richard Magnebrant, salesman at Ericsson Paging.

Helena Andersson

Margareta Mattsson, technical director at Ericsson Radio's Kumla factory, and her colleagues will produce Freeset terminals.

Longer passwords

In October changes will be made in the central computer systems at Ericsson.

The longer the password used in computer systems, the more secure it is. That's why at the beginning of next month it will be necessary to have a password that is at least six letters long. Previously the minimum length was four letters. Users who already have a password with six or more letters do not have to do anything. Those who have a shorter one must shift to the longer one the next time he or she changes. The shift must be made before October 16. Follow the instructions below:

DO THIS:

For milieus that use RACF (Resource Access Control Facility) the change can be done in just one milieu, then put it into the others. This is because RACF in this case deals with the password.

TSO – all users
With signon /logon when the password is requested, this appears: **pw/newpw** (**pw** stands for password and **newpw** stands for new password). During the session appears READY: PW PASSWORD (**pwnew pw**). TSO uses RACF.

IMS – all users
With signon/logon new password appears in the signon panel in the field NEW PASSWORD. The new password does not have to be verified. During the IMS session you cannot change passwords. IMS uses RACF.

CICS – all
With signon/logon new password appears in the signon panel in the field New Password as well as in the field Verify new password. During the session the command **YYLG** is given on a blank screen (after reset). This allows the signon panel to remain accessible and the password change can be made as above. CICS uses RACF.

SS (RACF)
With signon/logon **Y** appears in the field Change password. Then new password appears in in the panel Change password twice. During the session you cannot change passwords.

VM/CMS – all
With signon/logon you cannot change passwords. During the session under READY the command VMS USER appears, then pw, after which User Selection Menu appears. In the menu Alternative 1 is used. After Password, newpw appears.

Memo – all
With signon/logon in memo newpw appears in both fields New password. During memo session passwords cannot be changed.

More information can be had from your security administrator in HELP and under NYTT.

EDT:Tel. +46 8 726 2800, memo EDT.EDTKUND (order) or 7262700, memo EDT.EDTCSC (inquiries).
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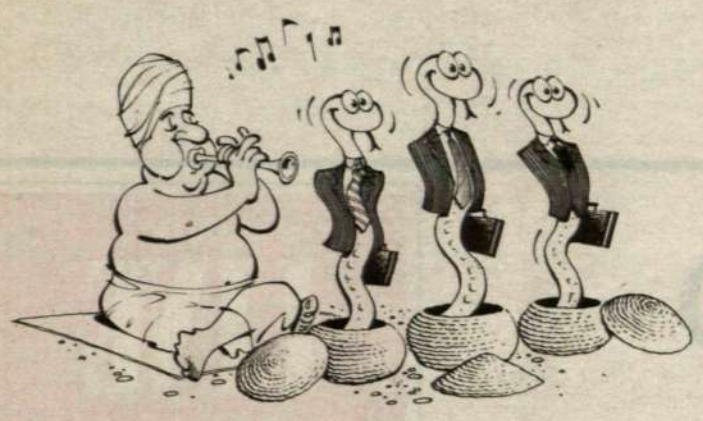


Ericsson penetrates the Indian market. Illustration: Ulf Jansson

Strategic breakthrough in India

- a land with acute tele needs

Now it is opening up in India. Ericsson Telecommunications Pte. Ltd. in India received an order at the beginning of September for 100,000 local AXE lines from the Indian tele administration, DoT, in New Delhi.

This is Ericsson's first order for AXE local stations in India. At present the country has only 5 million lines and a population of over 870 million people, so the need for telecommunications equipment is enormous.

Penetration of the market for local digital AXE switches means a strategic breakthrough for Ericsson.

All the big telecommunications suppliers are battling on the Indian market, and Ericsson together with the biggest suppliers will deliver 500,000 lines for the Indian tele administration.

India, which has long been a huge potential market, have also finally ordered AXE local exchanges, and Ericsson expects an exciting future ahead.

Approved supplier

The order is a recognition of Ericsson as an approved supplier on the Indian market and it also means that the country has also now officially accepted and approved Ericsson's validating switch. The switch is a local exchange with a capacity for 10,000 subscribers. The order includes the absolutely latest in the area of technology, among other things ISDN.

Indian history

Ericsson's first AXE order in India came in 1989.It was an order for four international switches for Calcutta, Madras, New Delhi and Bombay. In 1991 Ericsson delivered the four switches to operators of international traffic in India, Videsh Sanchar Nigam Limited, VSNL. In 1992 Ericsson received an extension order for these four switches, which means that today Ericsson has a tele network for international traffic in India consisting of 35,670 national and international trunks.

Company in India

Ericsson's subsidiary in India, Ericsson Telecommunications Pte. Ltd., EIL, was established in 1992. The company is 51 percent owned by Ericsson . The remainder is owned by a private Indian individual, S.I. Jiwarajka.

EIL handles all BX and BR activities in India and has about 45 employees. Among other things, the company has a service center for international AXE switches and a factory is currently being built in Jaipur. Per Karlberg is head of EIL.

Joséphine Edwall

Acute need for telecommunications in India

Only 32,000 of India's 600,000 villages have some form of telecommunications. The country has only 5 million lines for a population of more than 850 million people. In order to achieve a telephone density of ten phones per 100 inhabitants by the year 2000, you need an investment of 40 billion pounds, that is about 484 billion Swedish kronor. The Indian government has budgeted only 5 billion pounds, about 60.5 billion kronor for this purpose, which means a telephone density of 2 lines per 100 inhabitants.

Source: Electronics Weekly, July 28, 1993.

Newly formed unit concentrates all its efforts on China

With 1,2 billion inhabitants, China represents an enormous market for telecommunications.

In recent years China has taken a major leap into the top-ten list of most important markets for Ericsson. Today, China is definitely one of the most important markets, and the hefty volume increase is expected to continue.

Hence the creation of an entirely new unit in Business Area Public Telecommunications, BX: Market Operations China.

The number of AXE lines sold to China has doubled several times over in recent years. A doubling from a million lines in 1993 to about two million lines is expected in 1994.

The long-term potential for China is also very good. Like many other countries in Asia, China has at the moment very buoyant economic growth. GNP per capita is increasing by about 10-12 percent a year. It should also be noted there are 1.2 billion people living in China. That in itself is an enormous market.

A huge challenge

In recent years, BX, like other business areas in Ericsson, has established several joint venture companies in China. This to have a solid establishing and industrializing of products in order to maintain and increase market shares.

Thanks to the goal-oriented work that is being done, Ericsson today has access to several customers in China, a major challenge in itself. In order to further concentrate and focus activities and to handle this access, a new unit is being formed, Market Operations China.

Coordinating

The people who work with China, Hongkong and Macau in Market Operations Africa, Asia and Latin America will move to the new unit in the fall, which will be in full operations by January 1, 1994.

Apart from deliveries from Sweden the new unit will also be responsible for coordinating with subsidiaries around the world that also supply to China: EPA in Australia, EME in Spain, Fatme in Italy, MET in France and ETO in Norway.

Market Operations China will also work in close collaboration with the local marketing organizations in China, which, through their hard work in the field, have laid the base for the marketing successes and which are also in the midst of a major expansion phase.

Kjell Nilsson manager

The head of the new unit is Kjell Nilsson, responsible today for BX activities in Germany.

Kjell joined Ericsson in 1967 and since then has worked in the regions Asia, Africa and Latin America. During 1969-1973 he worked in Lebanon and Iran. Kjell Nilsson moved to Germany in 1989.

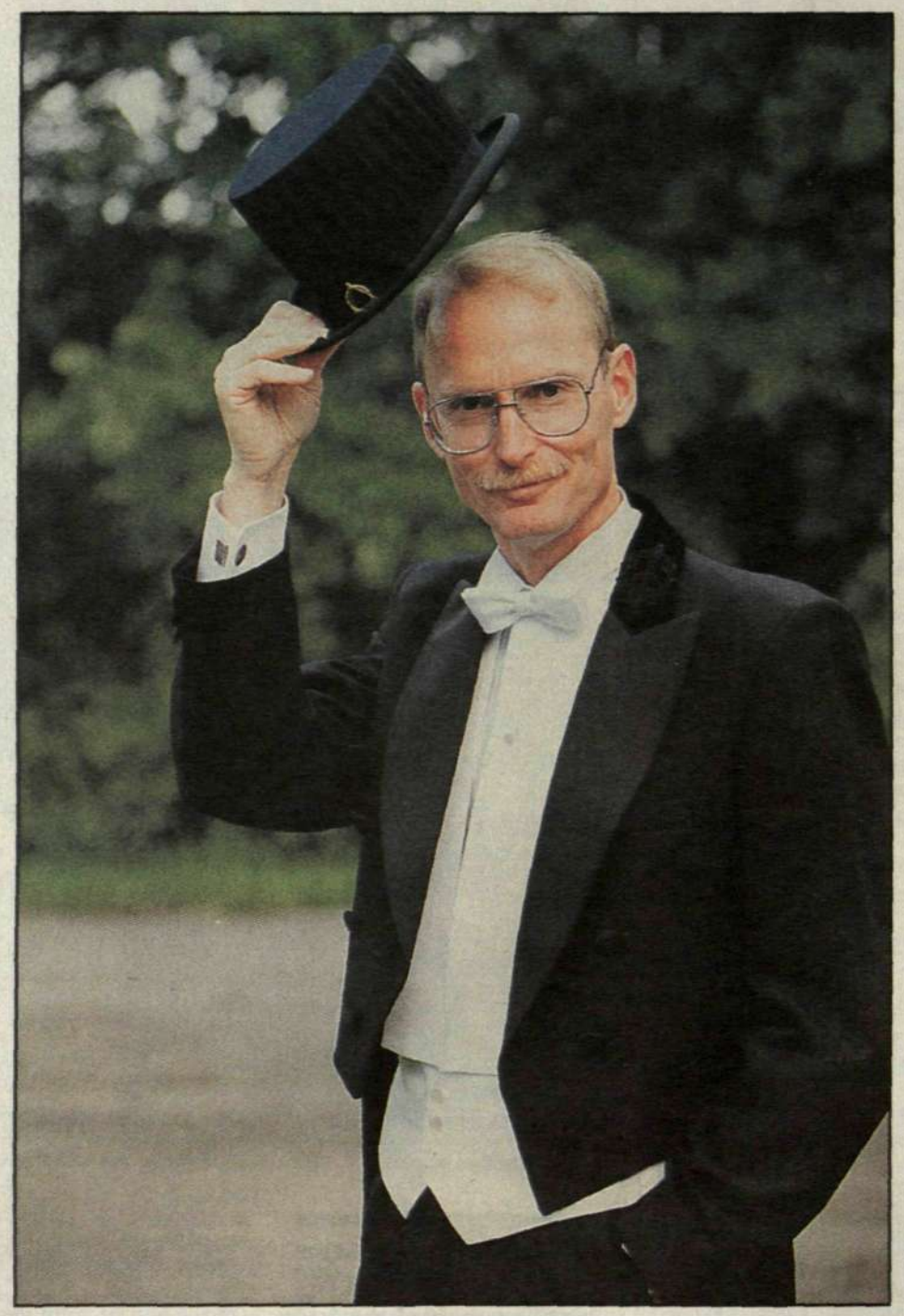
Helena Lidén

CONTACT
Ericsson, HF/LME/A, Room 4313, S-126 25 Stockholm

Hats off to Doctor Däcker

Hanging on the wall in Bjarne Däcker's office at Ellemtel in Älvsjö are several diplomas. But the most important diploma he keeps at home, together with the accompanying insignias: the doctoral hat and ring.

In spring he was granted an honorary doctorate from Linköping University.



Honorary doctor Bjarne Däcker feels that programming is more and more important. Today, eight of ten designers at Ellemtel are programers.

It is very rare that industry people receive this kind of honor.

But Bjarne Däcker has long been a driving force in projects between industry and academic institutions.

"I believe the university wants to note that they are happy to be part of research collaboration and technology transfer in an area as new as programing," he says.

That he was immensely proud over this recognition was clearly seen when he showed a photo of the ceremony that took place in June this year. In the picture he posed with Education Minister Per Unckel, university rector Sven Erlander, and governor of Östergötland Rolf Wirtén.

"The recognition of honorary doctor came straight out of the blue. You just do not go around and wait for this," Says Bjarne Däcker.

4-day celebration

But it was not until he came to Linköping that he realized what the occasion would be like. There were celebrations for four days, big receptions in Old Linköping, academic festive concerts in the cathedral and reception by the provincial governor.

The ceremony itself took place in Linköping's concert house.

"I was nervous, to say the least. I was worried that I my trip or lose my hat."

He smiles. Everything went fine in the end, and after the march he could relax.

Bjarne Däcker has long been a driving force in several collaboration projects between industry and academia.

Laboratory head

In 1990 he was appointed to the Royal Engineering Science Academy.

He was one of the initiative takers in setting up the computer laboratory at Ellemtel, of which he is now head. Through a window frame in his office you can see right into the laboratory.

Apart from the many diplomas hanging in Bjarne Däcker's office there is a reproduction of "The Duke of Wellington." The duke is a special person for Bjarne Däcker.

"Yes, he never lost a battle. I have read quite a bit about him and the Battle of Waterloo.

Bjarne Däcker's interest in history goes a long way back. On his nighttable he has "Frankisk krönika," (Chronicle of the Franks) based on the fifteenth century. The migration of people in that era is particularly exciting, he feels.

A view from Antibes hangs beside the Wellington portrait. Bjarne has been around France, but he prefers Scotland as a vacation spot. "I usually go to the Outer Hebrides for vacation. The Scots are kind and jovial. I take the car by ferry to the outer islands. There I stay in "Bed and Breakfast."

Bjarne Däcker reaches for a map in his little pocket agenda and points out next year's anticipated vacation route: Ferry from Norway to the Shetlands and then via Orkney down to Scotland.

Scotland is the home of golf, and Bjarne has a 25 handicap. Not particularly good, he himself thinks. He usually goes out to the golf course in Ågesta, near Segeltorp where he lives, a couple of times a week.

Launched new language

Bjarne Däcker has been at Ericsson since 1966, where he began to work with AKE (predecessor to AXE). He has been involved with programming and systems analysis all his professional life.

"It's fun. If you are going to build a system you must think out a solution. If you think correctly, it will work the way you want it to. It's exciting."

"As long as you have new fun projects there is no need to move around. People tend to change jobs because they are stuck in the same place."

The big thing now is the launching of the new program language Erlang, which they are working on in the laboratory. Productivity is estimated to be about ten times with Erlang than with other program languages. The technology will be launched at the coming IT fair (computer exhibition) in Älvsjö from 20-24 September.

"Then I will think about what could happen next year. Among other things we will work with data bases for telecom systems."

"Engaging personality"

Däcker's achievements are characterized not only by the fact that he has significant influence with regard to developing collaboration between business and academia but also through his engaging personality and his lively intellect he can also arouse interest among and stimulate the researcher as well as the practitioner."

That's what it says in Bjarne Däcker's award for the honorary doctorate.

"I certainly did not write that myself," says Bjarne, laughingly. "Some measure of this there must be."

Text: Stina Blomgren
Photo: Magnus Torle

END LINE

LARS-GÖRAN HEDIN

A must to recognize

This issue of Contact is without doubt the most important I myself have participated in. Here in this publication is the key to the continuing success of our company and for all of us that have the good fortune to work for Ericsson.

The key is "continous improvements" and quality work in every nook and cranny of our company.

Today we call that work TQM, yesterday it was EQ, and perhaps tomorrow something else. Regardless of how we play around with letters, the futrure will never allow us to ease up in our striving to improve our products and our jobs. There is only one way ahead: outward and upward – ever further up the quality ladder.

ISO 9000 laid the groundwork. TQM built on further. Those who build are you and I. The boss of our building crew is a guy called Lars Ramqvist.

Lars and his colleagues in corporate leadership, for our seventy-thousand-led building teams, place – and rightly so – high demands on our commitment and our performance. What we expect in return is recognition when we have done a good job or constructive criticism when it did not turn out as we expected.

Quality must be recognized.It is indeed an important mission for the management, at all levels, to see that good quality work has rewards for him or those that accomplished it. Salary bonuses, suggestion rewards or internal quality prizes – whatever means are used does not matter. What really counts is that one is recognized for doing something good.

There are far too many colleagues in the company who are frustrated today over the fact that the word "recognition" seems to have been eliminated from the Ericsson vocabulary. Someone has to see that there is a change in this situation. The company too has a lot to gain by it.

Many succesful executives have realized this: Positive attention breeds pride and from that stems commitment and a desire to do better. The example of Ericsson GE in Lynchburg teaches us that it really works: You can build a company culture for steady improvement by stimulating individual initiative and truly attending to it.

I would like to take the liberty of singling out Raimo Lindgren as "the hero of the month," president in Spain, who with his own commitment and initiative led a TQM project there, and his colleagiues at ETX, who rationalized their very own jobs with order handling from the U.S. market in work with improvement project 38/19. Daring to change is winning the future.