

contact

ERICSSON  PUBLICATION FOR EMPLOYEES WORLDWIDE

No.2 • 5 MARCH 1998



Photo: PATRIK LINDÉN

Cool investments in Canada

Nortel dominates Canada's telecom market. Nortel is to Canada what Ericsson is to Sweden. In order to create visibility and awareness, Ericsson in Canada is making heavy investments in sponsoring and other external activities. This includes sponsoring of the Canadian national freestyle ski team.

Pages 12-13

Rewards for WCDMA work

The standardization of the WCDMA mobile telephony system is strategically important for Ericsson's future business. Six people at Mobile Systems' have recently been rewarded for their outstanding efforts. **Page 19**

Mobile telephony in Latin America

The Latin American telephony market is becoming increasingly important to Ericsson. The digital mobile telephony system D-AMPS is most prevalent and Ericsson has a 42-percent share of the systems market. **Page 16**

Real wheels

More than 100 years ago, Lars Magnus Ericsson permitted bicycles to be built in Ericsson's workshops as a fringe benefit for personnel. Read more about this historical tidbit, accompanied by a photograph of Ericsson's cycling club of 1895. **Page 5**

News from Mobile Systems see pages 16-19

contact

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ERICSSON
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WORLD WIDE

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Shooting for the stars

Infocom Systems intends to be one of the brightest stars in the datacom world. After a year of intensive efforts out of the limelight, the Datacom Networks and IP Services business unit is now attracting attention. New products include an Ericsson-developed ATM switch. There are also many new development projects that will help the unit achieve its goal of capturing a five to six-percent share of the European datacom and IP market within two years. This year, however, the unit intends to make its entry on the U.S. stage.

"These are completely realistic goals," asserts Lars Fossum, who is acting manager for the business unit. "Anders Igel has challenged us by stating that we should have order bookings totaling USD one billion by the year 2000. During the past year, we have concentrated on shortening lead times in product development and succeeded beyond our expectations."

Partnerships have also been established with the U.S. companies Juniper Networks, manufacturer of gigabit routers, and Sun Microsystems, whose business includes developing Internet servers. These are important alliances that will contribute to Ericsson's rapid growth in an increasingly competitive datacom market.

"This year we are devoting considerable energy to finding attractive business partners or smaller companies that we can acquire in the datacom and Internet areas which will strengthen Ericsson's position in the industry," says Infocom Systems business area manager Anders Igel. "Together with Sun Microsystems, we have an excellent opportunity for getting a foot into the American market with a joint offering of multimedia telephony and public intranets, or so-called virtual private networks, which are intended for operators and large companies."

Internet focus

As the name implies, the Datacom Networks and IP Services business unit, is the unit within Infocom Systems that is focusing on communication networks and services for the information society, in which the Internet Protocol (IP) provides the bearer service. Primary customers include all types of Internet operators, which in practice means Ericsson's traditional customers, the telecom operators, but also completely new customer groups, such as corporate IT departments and fast-growing Internet service providers (ISP). The most promising geographic markets are Scandinavia, Great Britain, Germany, France, Italy, the Netherlands and Austria, countries which the business unit is giving priority this



Henrik van Delden (left) from Ericsson Switzerland was one of some 160 participants from 19 countries at a sales conference in Bad Reichenhall, Germany in early February. "The conference gave us a feeling of optimism and confidence about the future. It is now up to us in the local companies to build on our strong local presence", he said, here shown with the business unit's acting manager Lars Fossum. Photo: LENA WIDEGREN

year. Special attention is also being devoted to the gigantic but extremely competitive U.S. market.

Heading for the valley

"Establishing operations in the U.S. is being given high priority within the business unit," reports Anders Igel. "A solid position in Silicon Valley, which is the heart of the datacom industry, is essential for success. There, among the industry leaders, is where Ericsson can strengthen its competence in datacom and Internet technology. Silicon Valley also has a business climate characterized by innovation and rapid development, which are the cornerstones for Infocom Systems' business strategy."

A platform for Datacom Networks and IP Services has already been established in Silicon Valley.

"We will also transfer some of our business development activities to the U.S.," continues Anders Igel. "Jan Snygg, who was recruited from his position as manager for the corporate product portfolio, will soon move to California to head the new unit there. His assignment will be to establish useful contacts in the industry, to be on the look-out for possible alliances or acquisitions, and to lay the groundwork for new customer contacts."

Datacom Networks and IP Services has succeeded in developing several new and interesting products over the past year. Now the time has come to accelerate sales. Datacom

Networks and IP Services' recipe for success is to work as a small company at all levels. The organization is very non-bureaucratic, with small teams that are dedicated to getting out products as quickly as possible.

"The most important thing for us is to meet all deadlines. My message from the start has been that we would rather eliminate functions than delay deliveries," says Lars Fossum. "The situation today is such that our customers place greater priority on speed and reliability than on perfection. It takes some getting used to, but it's become a way of life for our organization."

Collaboration essential

Datacom Networks and IP Services also does its best to erode internal departmental walls, which create unnecessary confusion and duplication of effort. Internet telephony, or voice over IP, is a prime example. In this area, several different business areas have similar products, which in the final analysis target the same customers.

"We have made considerable progress in Public Networks business unit, where we have managed to present these as a product family, rather than as competing solutions," notes Lars Fossum.

LENA WIDEGREN

More information on the business unit is available at <http://bn-dnip.ericsson.se>

Who does what at Contact?

■ In this issue of Contact, we would like to present the permanent staff members. Contact them with suggestions, ideas and other contributions.

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news briefs

GSM on rails

Ericsson has introduced a communications solution for rail companies known as GSM-R, using GSM technology. This system can be employed for functions such as train signaling and traffic planning. One advantage is that the cost of the infrastructure can be shared with conventional GSM operators.

D-AMPS for Venezuela

A framework agreement worth SEK 1.6 billion (USD 200 million) has been signed between Ericsson and Movilnet, the Venezuelan operator, for digitalization and extension of the Mobile network for D-AMPS (IS-136).

The first step is to extend capacity in the major urban areas, and then the national network will be improved. The digital D-AMPS standard is employed in a total of 35 countries.

New network for Tatarstan

Ericsson will be supplying a GSM network to the Russian Republic of Tatarstan. When completed, the network will be able to handle 100,000 subscribers. The order was placed by TAIF, the local operator.

The contract, which is Ericsson's largest in Russia for a complete GSM system, is worth SEK 400 million (USD 50 million). The first phase of the system will provide capacity for handling 10,000 subscribers and will cover the capital of Kazan and the main roads in the region. The network will be completed within five years, and the first phase is expected to be completed by late 1998.

Dual Band for Portugal

Optimus, Portugal's third-largest GSM operator is purchasing radio and exchange equipment from Ericsson for its

Dual Band network (GSM 900/1800). The order is worth SEK 800 million (USD 100 million).

Optimus received its GSM license in November 1997. Portugal has 1.5 million mobile phone users, which means a penetration rate of 15 percent. Ericsson is supplying equipment to all three operators in Portugal.

GSM 1800 for Hong Kong

A declaration of intent for a framework agreement between Ericsson and People's Telephone Co., the Hong Kong operator, was signed recently. The agreement covers extension of the infrastructure for a GSM 1800 network. The first part of the agreement envisages a SEK 225 million (USD 32 million) contract. Ericsson supplies GSM equipment to 55 countries.

Breakthrough in Romania

RomTelecom, the Romanian operator, and Ericsson have signed a framework agreement for at least 500,000 lines. The agreement, which is for a period of five years, means a breakthrough for Public Networks in Romania, making Ericsson one of the main suppliers for the digitalization of the Romanian telecom network.

NMT breaks new records

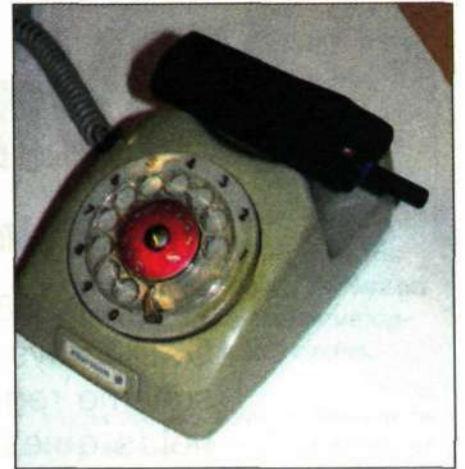
The Mobile Telephone Systems - GSM, NMT, TACS business unit sold more NMT equipment last year than ever before. NMT technology has been around for some time, but it is still alive and kicking!

Ericsson Radio Access, which delivers channel units to NMT, sold more units last year than the total for the two preceding years. NMT 450 is responsible for most of the system's successes. NMT has expanded every year since it was launched in the 1980s.

Home base station links to fixed network

Ericsson's wireless GSM system allows subscribers to use their mobile telephones as a normal cordless phone around the home for calls on the fixed network. Ericsson recently presented this new development at the GSM conference in Cannes.

With the help of a small home base station plugged into an ordinary telephone socket, subscribers can be reached wherever they happen to be. If the phone is close to the home base station, the call goes via the ordinary telephone network, and if the phone is out of range of the home base unit, the GSM network is used. This means that subscribers can be reached wherever they are, and that a mobile phone can be used as a cordless home telephone for calls on the normal fixed network.



Ericsson's new home base station enables you to use a mobile phone as a cordless handset, over the fixed network.

Facelift for News

Ericsson's "News" service has a new layout and is more compatible with the Internet. All the services previously provided are retained, and new services have been added.

You can pick up News on a normal Web browser, but if you have access to the intranet you also have parallel access to the older News format. The new features include a "top-ten list" of the most popular pages, such as exchange rates, news clippings and vacancies.

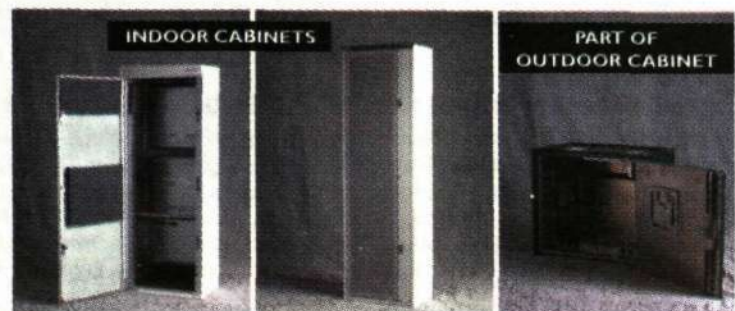
It is now possible to order reminders on your memo when certain pages are updated. There is also a search option and information about current share prices. The News page is linked to several Web sites, but if you want to have direct access, the address is <http://nytt.ericsson.se>.



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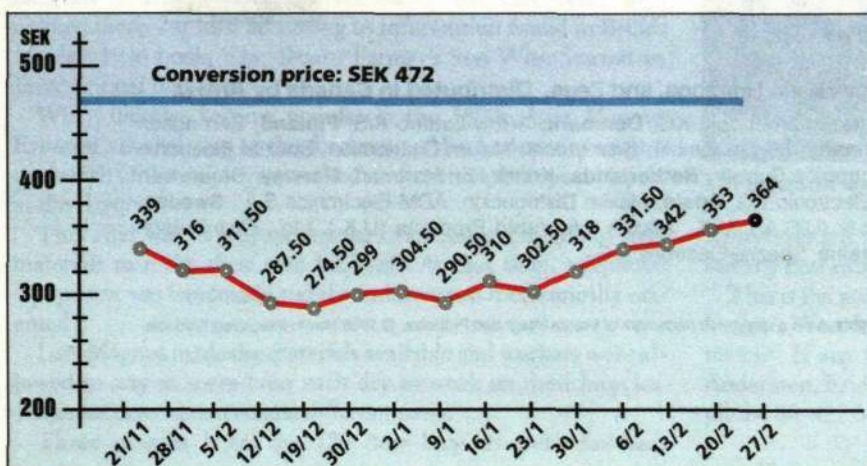
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Share prices week by week in Contact

Ericsson's stock market valuation has indirect effects on all employees of the company. Now that nearly 50 percent of employees in Sweden and many worldwide have a chance to become shareholders in the company through the convertible issue, Contact believes interest in the price of Ericsson shares will increase.

On September 9, 1997, an extraordinary meeting of shareholders approved a proposal to issue convertible debentures to employees in Sweden. The conversion price was fixed later at SEK 472 per share (see diagram). Contact will show share price trends in future editions of the publication. The share price quoted will be the Friday closing sale price for Ericsson's B-shares at the Stockholm stock exchange.

The conversion period extends through June 30, 2003.

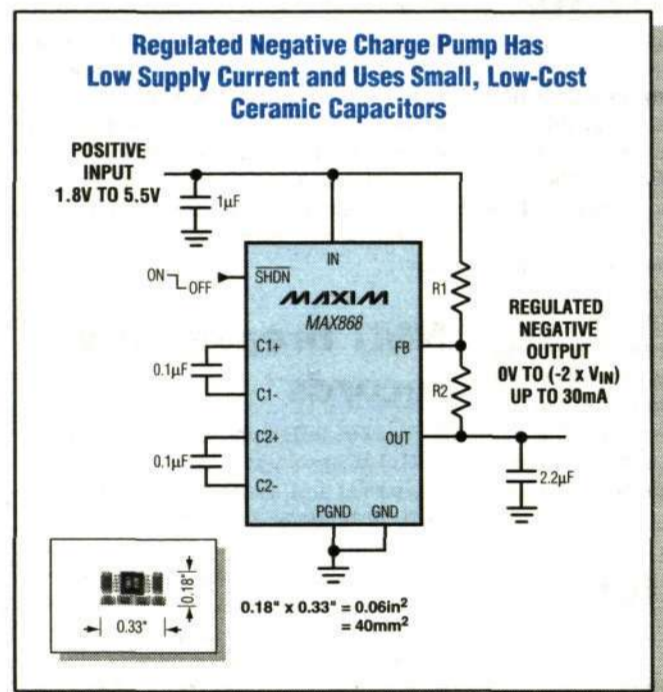


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Asian currency problems directly affect Ericsson

Southeast Asia began experiencing currency problems last summer. The hardest hit countries are Thailand, Malaysia, Indonesia and the Philippines. In other parts of Asia, it seems as though China, Japan and India will pull through without too much damage. Events in this part of the world have an effect on Ericsson, albeit one that should not be exaggerated.

The pace of growth in telecom expansion and numbers of subscribers will subside in 1998, but just how much is difficult to predict. The poorest countries, where the operators also have the weakest financial position, will experience the greatest difficulties. These conclusions were presented at a seminar recently held by Ericsson Business Intelligence Network (EBIN).

Falling currencies

Falling currencies are a problem for operators, since most deals are in US dollars. All planned expansion becomes considerably more expensive than originally planned. In addition, many subscribers incur payment difficulties.

With the operators' weaker positions, there is a greater tendency for companies to merge, which gives suppliers, such as Ericsson, fewer customers.

The financial crisis in Asia affects Ericsson and other telecom suppliers. The rate of expansion will subside somewhat. The effects would have been worse had it not been for the relative stability in China and India. Dire financial straits may lead to changes in the market, such as mergers of operators. Financing solutions will be the key to further business in this region for quite some time.

Southeast Asia has had a subscriber growth rate of 60 percent annually for quite some time. We can now expect half that rate. The fact that China and India are still expanding prevents the situation in Asia from worsening. In these countries, telephone density is still relatively low, so price sensitivity is not as high as in Southeast Asia.

Financing essential

Financing is essential in order to do business in the region. For customers in Southeast Asia, it is virtually hopeless to borrow money in the usual manner in order to finance a network expansion. Difficult demands are thus placed on suppliers' ability to give credit.

From a European or American perspective, it is easy to regard Asia, and Southeast Asia in particular, as a homogeneous region. This is a dangerous mistake, both culturally and economically. The differences between

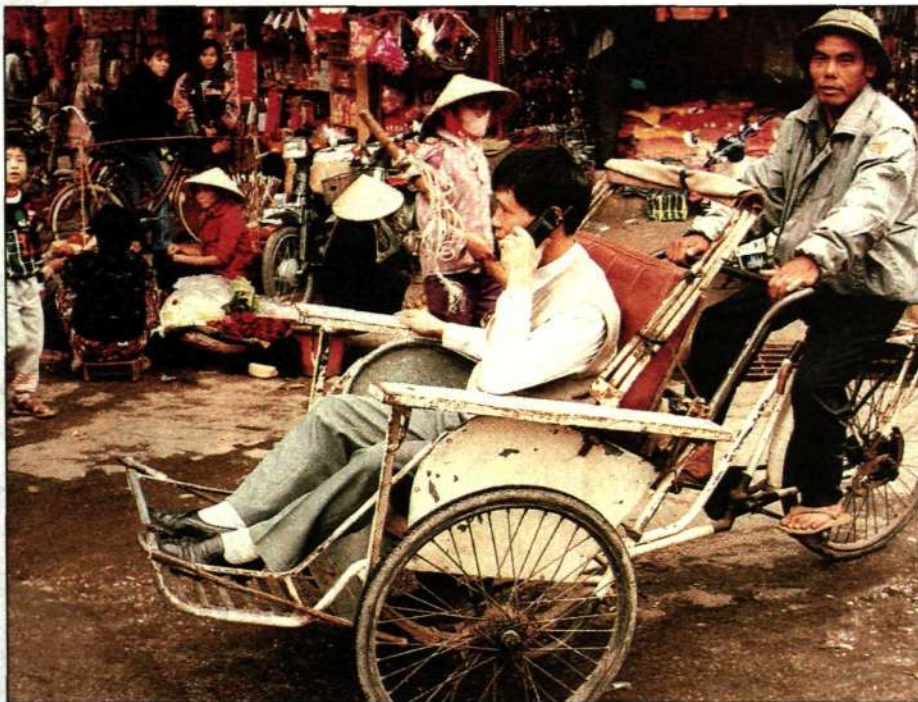
Japan and Sri Lanka clearly illustrate this fact.

However, even if the countries cannot be lumped together in one group, Asia's importance as a region should not be ignored. The current economic crisis is not permanent. Many analysts believe that the situation will return to normalcy within a couple of years. Asia's importance to the world economy is steadily rising.

In 1970, it represented 4 percent of the world economy; today that figure has risen to about 25 percent and by the turn of the century, Asia is expected to represent about one-third. By the year 2000, Asia will also represent 60 percent of the world population.

PATRIK LINDÉN

More information about the crisis in Asia and other useful information can be found on the internal Web site from Ericsson's worldwatch experts called Business Information center: <http://bic.ericsson.se>



from the past

A different sort of core operation

As a bicycle enthusiast and member of the Historical Bicycle Association, I became very interested in the photo below, which Nina Lundgren at Ericsson Radio Systems recently found in their archives.

The photo, taken in Stockholm's Liljansskogen park in 1895, shows members of the LM Ericsson & Co. employee bicycle club.

Believe it or not, the bicycles shown in the photo were manufactured in LM Ericsson workshops by the employees who worked there – at least according to information found in Bruno Mylén's 1946 book, *The Tenant Farmer's Son Who Started an International Industry*.

When bicycles became popular in the 1890s, Lars Magnus Ericsson allowed one of the foremen, a Mr. Andersson, to find out which of the employees wished to construct their own bicycle at the factory.

This offer was to prevent anyone from being tempted to steal materials to make their own bicycles. At that time, telephone equipment was handmade and the industry was mechanically oriented.

Lars Magnus made the materials available and workers were allowed to stay an extra hour each day to work on their bicycles. Different departments made different parts.

Three months later, the 120 new bicycles were finished.



LM Ericsson employees out on a bicycle excursion in 1895.

Everybody got their own, personally manufactured bicycle, without any cost except for their own labor.

This is the account that Bruno Mylén gives. True or not? Who knows? Were bicycles really manufactured at LM Ericsson's factories? If any reader knows the answer, please contact Thord Andersson, Ericsson Business Networks, 131 89 Stockholm, telephone 08-422 0316, memo EBC.EBCTKAN.

THORD ANDERSSON

hello there!

How will you present Ericsson?

Arne Johnson has just started a new job which involves ensuring that Ericsson is presented in a uniform and professional manner all over the world. This is known as "brand implementation and development" in marketing circles.



• How are you going to manage to achieve a uniform presentation of Ericsson?

This is very much a question of being consistent and making sure people know why we want to do this. There's an enormous amount of good work going on in the company. My job is to circulate good ideas and hints about ways of going about things. I will be primarily concerned with exhibitions and similar arrangements – that's what I have been working with previously. There's no point in people coming along from the parent company, and admonishing everyone else, telling them how to do things. We have to make our contribution, and demonstrate how things can be done.

• Why are perceptions about Ericsson so important?

It's no longer possible to compete simply because you have good products. We are also competing on the basis of our brand. This is much more than a question of logotypes and colors and so on. It is also very much a matter of how our personnel behave and what associations people have with Ericsson – what our buildings look like, and a great deal more besides – the way the rest of the world perceives us. We spend a great deal of money on external activities, so we have to make sure the budget is used as effectively as possible. Ericsson participates in about 150 or 200 different exhibitions a year.

• When do you start your new job?

As a matter of fact, I have already started. Previously, I was working in the Ericsson Events unit, which functions as a support group for major events, helping local subsidiaries that don't have enough experience or resources. We prepared an "Events Guide" at my last job, which is one of the things I am going to develop further and implement.

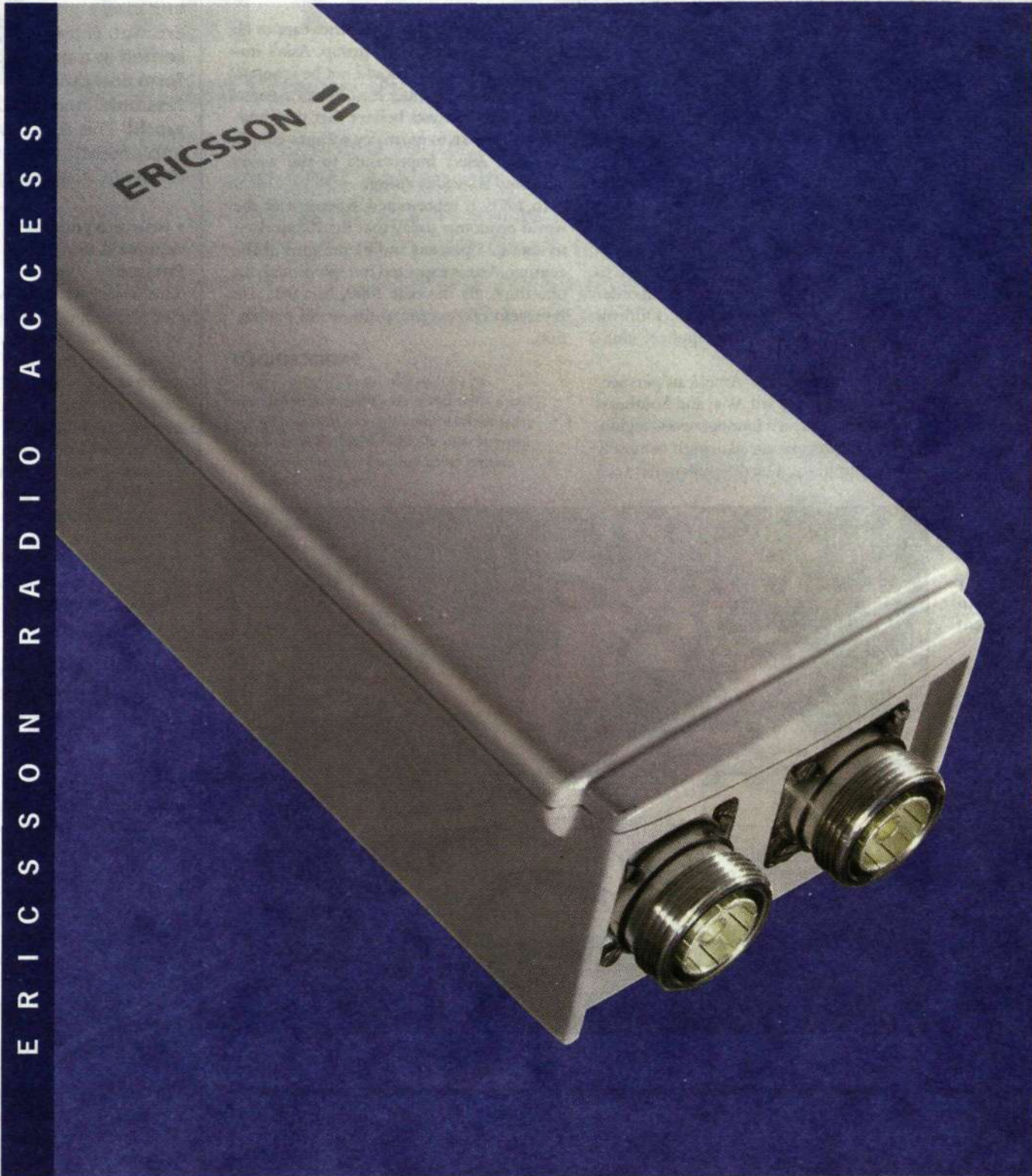
• Do you travel much now?

I'm used to traveling a lot. It's important to meet people and build up a contact network. It's not enough just to dispatch pieces of paper around the world if you want to get things done. The real solution is communications between people... You have to get out and about. We alone can't change the world from the parent company in Stockholm. There are currently 150-200 people in Ericsson who are working on exhibitions on a professional basis.

PATRIK LINDÉN

Ericsson's Event Guide can be accessed on the Internet on <http://www.lme.ericsson.se/lmeevents/guide0.1.htm>. This site also contains other information about developments in this area.

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portrait

She has worked at a kibbutz and as secretary for a commercial airline company, designed jeans and worked at CNN's news office in Jerusalem. Today, she's a secretary at LM Ericsson Israel Ltd. in Tel Aviv.

"This time, I think I've found my dream job," says

From jeans design to Ericsson

I was fascinated listening to Shelli Mansfeld describe her experiences in professional life, although she doesn't think her background is anything special.

Shelli Mansfeld was born and raised in New Zealand.

At the age of 20, like many other young people in those days, she boarded a boat bound for Israel, where she worked at a kibbutz. Eventually, she went to London and worked as a secretary before moving back to Israel, where she worked for the country's commercial airline, El Al, for five years.

"After that, I studied fashion design and worked in the Israeli textile industry for ten years until its collapse. I mainly designed jeans," she continues.

Not as bad as it's perceived

For a few years after her designer days, Shelli Mansfeld worked at CNN's news office in Jerusalem, managing production logistics, perhaps better known as the practi-

cal details surrounding news broadcasts.

"Jerusalem is not as dangerous as many people might think when they see broadcasts by TV news teams from the city," she says. "Of course there is unrest and tension, but conditions are sometimes exaggerated by the media. It was a hectic job, but, at times, it seems just as hectic here at Ericsson."

Shelli Mansfeld, her husband and two sons are secularized Jews; they moved two years ago from Jerusalem to Tel Aviv, where the lifestyle is completely different. "It's easier to live here, and the entire family is happier in Tel Aviv."

Shelli got her present job as a secretary at Ericsson through a recruitment company. She started working at Ericsson in May 1997. The company was established shortly before, with Shelli Mansfeld as one of its first employees.

Unknown company

"At the age of 50, it's not easy to get a job. I was very fortunate - this is a dream job. It's enjoyable and stimulating to be involved from the beginning in building up new ope-



"It's enjoyable and stimulating to be involved from the beginning in building up new operations," says Shelli Mansfeld. She was hired as a secretary in May last year at the newly established LM Ericsson Israel Ltd. in Tel Aviv.

Photo: GUNILLA TAMM

rations. I also find it easy to cooperate with Swedes," she continues.

Ericsson is not particularly well known in Israel, and Shelli Mansfeld knew virtually nothing about the company when she applied for the job. One of her sons collects telephone cards, and he told his mother that Ericsson operates in the telecom industry. He also showed her a card with the picture of an old telephone and a few words about Ericsson.

"Of course, it's extremely interesting to work in telecommunications, an industry of the future. For me, however, Ericsson is also all of its other employees and the culture that characterizes the company," Shelli Mansfeld explains. She appreciates the freedom and opportunities to improvise, and the considerable scope offered for personal creativity. But she also likes the sense of order and accountability, an area in which she believes Swedes are highly proficient.

"We have a balanced mixture of Swedes and Israelis at the office, and it generates a strong feeling of solidarity. It's a good feeling," she says.

Shelli Mansfeld is interested in literature and history, often visiting antique and second-hand bookstores. She is extremely fond of Selma Lagerlöf, and we also talked about Gösta Berling and the Swedish Province of Värmland. She says she has learned a little bit about Sweden reading the works of Selma Lagerlöf.

"I understand that it must be very beautiful at Lake Fryken," she says.

The undersigned told Shelli that Selma Lagerlöf once wrote a book about a group of Swedes who emigrated to Jerusalem.

"I didn't know that, but I will certainly look for a copy the next time I wander through the bookstores where it might be found," Shelli Mansfeld said.

GUNILLA TAMM

The art of finding a company's soul

The process of getting employees sold on Ericsson's soul is now in full swing. During the spring, all 11,000 employees of the Mobile Telephones and Terminals business area will have completed training regarding the values associated with Ericsson's brand - values that should permeate all aspects of the company's operations. Contact was present at a seminar in Kista.

The training program consists of an information package and a half-day seminar. The latter is intended to engage the participants in exercises that will explain the values that constitute the brand image. The next step is to translate this knowledge into practical guidelines for use in one's own job.

The exercises were carried out in small groups of participants with various functions in the business area. The step-by-step process begins with an analysis of Ericsson's competitors and the customers' needs and leads to an understanding of the value concepts.

However, the seminars are only the first step. The project is not completed until everyone has a concrete understanding of the significance of the different values, something which takes time. Deeper insight takes time to sink in, according to several of the seminar participants in Kista.

EVA GÄRDSMO PETERSSON

"If Ericsson has a strong brand image, it will be easier for me to sell modules."

- Louise Barnes, sales support, Card Phones

"I work within the data section with marketing and sales of modules and PC cards. Before the seminar, I did not have a clear understanding of how values so clearly associated with mobile phones could have a practical application for those of us working in the data section and in Ericsson as a whole.

"I wholeheartedly feel that this is something I can make use of. If Ericsson has a strong brand image, it will also be easier for me to sell modules."



Photo: CATHARINA WISTRAND



"Sell the brand and reap the benefits."

- Kjell G. Pettersson, finance manager, Data Development, Mobile Phones

"It's understandable that a well-established brand name means a lot. If Ericsson succeeds in communicating the brand name in the right way, we can reap many benefits. We will experience a demand for our products from customers who are prepared to pay more, just like my daughter is prepared to pay a fortune for jeans with a Levi's label."

Ericsson's corporate network under continuous development

Ericsson Corporate Network (ECN), is the world's largest Sweden-based private network. Today there are more than 150,000 users. The network links together virtually all local networks and most company exchanges in the Ericsson world. The wind of change is blowing briskly. Larger amounts of data, Internet, virtual organizations – a new age with new demands. ECN is now being developed at a rapid pace. At year-end new services and a new way to receive payment will be introduced.

"An Ericsson employee will have global status – a person who can be contacted from anywhere. It is one of the most clear-cut goals in the IT segment of Ericsson's strategic planning and is thus one of our most important goals," says Stefan Birksjö at Ericsson Data in Älvsjö, south of Stockholm.

Älvsjö is the network hub with the highest traffic volume. Stefan Birksjö is responsible for the 120-person unit, whose main task is to conduct and develop Ericsson's corporate network, with respect to both infrastructure and services.

In addition, a range of other communications services are handled, including Ericsson's Stockholm telephony. The work is customer-oriented, with most of the customers being Ericsson units.

New price model

Receiving payment in a new way is a key focus of this work. Effective January 1, 1998, connection to the network will be packaged with added services, including network supervision and security.

This combination will be designated Erinet. At the same time, an entirely new price model is being launched which, in part, consists of a fixed monthly charge per user, and a variable increment, per kilobyte of transmitted data. The aim is to adjust the tariff to the extent the network is used and

to even out the fixed costs to a greater degree than exists today.

"We measure traffic volume continuously, observing how heavy the network load is. Our need for bandwidth and flexibility is increasing. We are devoting our best effort to 'scrutinizing the map' to determine where upgrades must be made. Our ambition is to already increase capacity before the customer demands it," says Stefan Birksjö.

Long number is made short

In many countries, Ericsson's local organization operates its country's segment of Erinet. Ericsson's goal, to the greatest extent possible, is to gather the responsibility for the widespread network under one hat – its own.

"Being able to operate a large, global network is a part of Ericsson Data's core expertise. Our goal is to increase our participation in the development work in the IT area throughout Ericsson.

The Ericsson network does not handle data traffic exclusively. Telephony has long been operated over the data network's excess capacity, supplemented with called connections.

All Ericsson units have a so-called ECN code, similar to a country code of three digits, which is used for calls within Ericsson. In itself, the Ericsson network is so smart



that a call from an Ericsson unit to another is forced into the system regardless of whether the calling party has used the ECN code or not.

There is one finesse, however, which has resulted in some absurdities: When Ericsson in Singapore calls Ericsson in

Shanghai, the connection goes via Älvsjö in Sweden! This peculiarity is being reviewed, and with a view to the coming of refined functions for selecting the optimal economic choice, to guide calls over regular public networks instead, when appropriate.

KARI MALMSTRÖM

Network Compass shows the way

That ECN is a well-managed network is clearly demonstrated in the 1996 round of the benchmarking study, Network Compass, which compares communications networks within different companies. Network Compass is one of many key studies developed and introduced by Nordic Compass Analysis AB.

"In the latest study, we obtained a highly satisfactory result," says Jan Holm, quality developer at Älvsjö. "In six of eight ar-

eas, ECN's values were better than – or as good as – the values of the international reference group with which ECN was compared."

"In the previous Compass in 1994, we received clear indications that our software costs were much too high. Through focused efforts we succeeded rather quickly in reducing them considerably," says Jan Holm.



Jan Holm, quality developer.

This is the Ericsson network

■ The term Corporate Network has nothing to do with what is transmitted over the network. It is a physical infrastructure for many different logical networks which link together a multitude of servers, routers, and bridges, data exchanges – for example Eripax equipment – and company exchanges, Ericsson's MD110, in diverse variations.

The connections – the actual Ericsson network – consists both of its own lines and leased connections. From the beginning, the network was strictly a data network using a star topology with Älvsjö as the hub. With time, more major hubs de-

veloped, for example, in Richardson in the U.S., Telstra in Australia and Rijen in the Netherlands.

Thanks to the network, Ericsson's employees have, during a long period, easily been able to reach one another via E-mail, in which Memo is the system most used.

Other typical application areas are the many support systems for everything from product development to logistics and invoicing. The Internet boom has been duly noted – in only six months, the volume of IP traffic has increased by 300 percent.

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Chile, widely viewed as the great economic success story of Latin America, is also head-and-shoulders above its neighbors when it comes to telecom.

Chile – a booming cellular industry

The mountainous country, which stretches 4,000 kilometers from north to south, has enjoyed an average 6.1 per cent annual growth in GDP over the past ten years, and in 1995, Chile's 8.5 per cent economic growth surpassed the inflation rate (8.2 per cent) for the first time ever. Chile is viewed favorably among international credit rating institutes and is one of Latin America's most competitive nations.

Given Chile's newfound prosperity and its per capita income of nearly USD 5,000, it is only natural that its 14 million inhabitants would demand high-quality telecom services.

Privatization of the telephone monopoly was considered in 1987, but it was the Telecommunications Policy Act of 1992 that really got the ball rolling.

In October 1994, Chile implemented a multi-carrier system, allowing users to select the company of their choice for both domestic and international long-distance calls. This, according to the International Institute of Wireless Communications, "has created a feeding frenzy among the nearly dozen licensed operators" in Chile. As of December 1997, the Chilean market for international long-distance was dominated by Entel (33 per cent of the total), followed by Compañía de Telecomunicaciones de Chile or CTC (21 per cent, Chilesat (17 per cent), BellSouth (11 per cent) and VTR (10 per cent).

Chile's market for telecom equipment and services is expanding at 20–25 per cent a year, or nearly three times the economic growth rate. Between 1993 and 2000, CTC alone will have spent USD 2.6 billion to install three million new phone lines, with Entel spending USD 441 million and CMET another USD 350 million. The Chilean phone network is already 100 per cent digital, with carriers tripping over themselves to install synchronous digital hierarchy (SDH) fiberoptic networks from one end of Chile to the other.

Testing ground

"It's one of the most open systems in the world," says Dean Alexander, director of Grant Thornton International's business center in Santiago. "Chile is being used as a testing ground for liberalization of the telecom industry. There are six or eight carriers providing long-distance service, and it's very, very competitive."

But the real battle is being fought in the cellular arena. Ericsson's biggest customer

in Chile is Startel, owned by Telefónica of Spain. Andrew M. Geisse, former executive president of Startel, says the company has already given Ericsson USD 97 million worth of orders for cellular infrastructure, and will spend a total of USD 300 million with Ericsson over the next three years.

Startel already has 200,000 cellular, 60,000 paging and 8,000 trunking customers, and is Chile's first nationwide digital cellular network. Its growth has been phenomenal since Startel's establishment in June 1996, but it hasn't been easy.

"Chile is extremely difficult for RF technology because of the multiple mountain ranges and the length of the country," explains Geisse.

Solution with the best value

He says the mobile network is gradually moving towards using Ericsson D-AMPS equipment because it is the solution with the best value. What the customer wants is good service and high voice quality. Customers don't care as much about the kind of technology used as the suppliers seem to think.

"However," Geisse adds, "when we evaluated the different technologies out there for our particular license and frequency, we had two choices: TDMA or CDMA. We chose TDMA because at that time, not only was TDMA ready and more developed, but CDMA terminals were substantially more expensive."

Startel's success is mainly attributable to customer access to inexpensive telephones.

In addition to Startel, Ericsson recently signed a contract with Chile's Entel to supply infrastructure for a GSM 1900 cellular phone network – the first major contract for a GSM system anywhere in Latin America.

"It's not that Chile is particularly suited, but that it is perhaps the most deregulated country in the world – certainly in Latin America," says Sune Gustafsson, project manager for GSM infrastructure in Chile.

Some 190 persons out of Ericsson's 400 employees in Chile work with the GSM project.

When asked why GSM has not been implemented in this part of the world before, Sune Gustafsson replies that this is due to the prevalence of the 800 Mhz standard in Latin America, which has traditionally followed the U.S. in defining frequency standards.

LARRY LUXNER



The head office of the Chilean operator CTC clearly resembles a cellular phone. Startel, CTC's mobile division, is Ericsson's most important customer for mobile systems infrastructures. The market for telecom equipment is growing at a rate three times faster than the rest of the economy.

Photos: LARRY LUXNER

Footnote: Contact no. 20/1997 contains an article by Gunilla Tamm about Entel's GSM network in Chile.

It can also be found on our Web site "Inside Ericsson." <http://inside.ericsson.se/>

Speaking Out at CeBIT '98

March 19 – 25, 1998, Hannover, Germany

As part of Ericsson's overall approach to CeBIT '98, a series of 23 co-ordinated lectures will be presented. In addition to visiting the two Ericsson stands at the fair, the targeted audience is also being invited to attend the Corporate Lecture series in the TCM Convention Centre, Room Frankfurt.

The lectures are aimed at illustrating some of the new and exciting developments taking place in the world of telecommunications and what Ericsson has to offer to meet these challenges. Each lecture is 30 minutes long, is free of charge and is held in English with simultaneous German translation. The comprehensive programme is designed to encourage the audience to select and attend the lectures that interest them most.

For further information, please contact the Project Leader for Ericsson's Corporate Lectures at CeBIT '98, Annelie Hellström. Memo: LME.LMEANNE. E-mail: annelie.hellstrom@lme.ericsson.se. Phone: +46 8 719 5563 (ECN 850 95563). Fax: +46 8 719 0880 (ECN 850 90880).

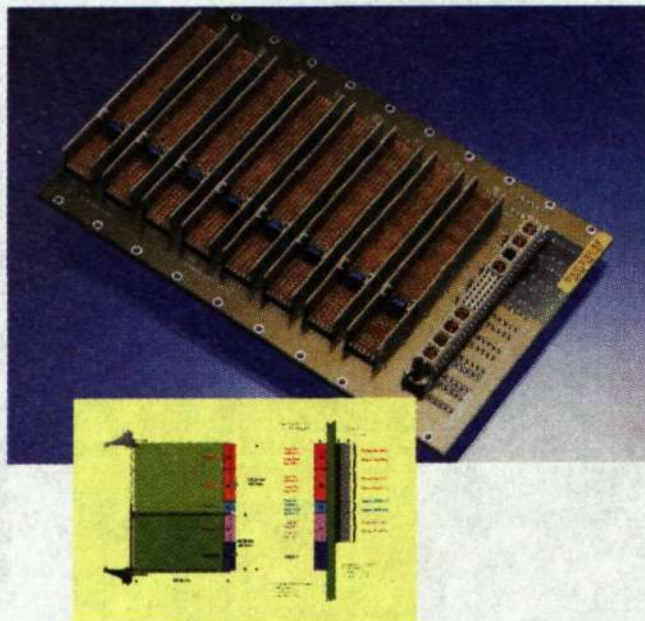
Friday March 20th

10.00-10.30	Driving Global Markets: Establishing a UMTS/IMT-2000 World Standard for Third-Generation Mobile Communications	Åke Persson
10.40-11.10	AXE and the Networks of Tomorrow	Staffan Åstrand
11.20-11.50	Enhanced Video Conferencing Solutions for Intranet and Internet Environments	Thomas F Anglero
12.00-12.30	ATM for Enhanced Network Capabilities	Gert Öster
12.40-13.10	Efficient Handling of IP Traffic in Public Backbone Networks – Multi Protocol Label Switching	Loa Andersson
13.20-13.50	High-performance ATM Switching	Bengt Lagerstedt
14.00-14.30	Access Networks Using PTP (Point-to-Point) and PMP (Point-to-MultiPoint) Microwave Radio	Hans Herbertsson
14.40-15.10	Flexible and Scaleable Managed Transport Network Solutions – a Fast Pay-Back of Investment for Operators Using Carriers Carrier Network	Tage Routuvaara
15.20-15.50	Managing a Chaotic Reality with Telecom Management Systems & Services	Per-Erik Gustafsson

16.00-16.30	Ericsson's Service Solutions for Network Operators – a Way to Stay Competitive	Lawrie Baker & Antal Ritzl
16.40-17.10	GSM Radio Network Optimization Using Ericsson's New OSS Features	Anna Rimhagen
17.20-17.50	Optimizing Flexibility and the Cost of Transport Capacity: Optical Networking the Ericsson Way	Magnus Grenfeldt

Monday March 23rd

10.00-10.30	Wireless Local Loop – a Technology Deployed World-wide	Ron Johnston
10.40-11.10	Achieving Commercial Success by Introducing GPRS in Your Existing GSM Network	Lisa Englund
11.20-11.50	Wireless Information Access – How Wireless Data Can Help You Cope With the Increase in Internet/intranet Communication	Per Stein
12.00-12.30	Dynamic Allocation of Applications and Future Mobile Wireless Devices	Joakim Nelson
12.40-13.10	WAP – Internet Applications for Mobile Users	John Darroch
13.20-13.50	Wireless Messaging Solutions for Value-Added Applications	Bengt Didner
14.00-14.30	Unified Messaging: Adding Subscriber Value to Your Networks	Patrick Kane
14.40-15.10	Are You Getting the Most out of Your Call Centre? – Migration from Inbound ACD to Integrated Contact Centres	Malin Johansson
15.20-15.50	Out Searching for the Right Solution? How about Managed Services?	Jonathan Smith
16.00-16.30	Successful Implementation and Launching of Intelligent Network Services	Mats Wennerberg
16.40-17.10	Evolution of Multimedia Services on Copper	Arun Bellary



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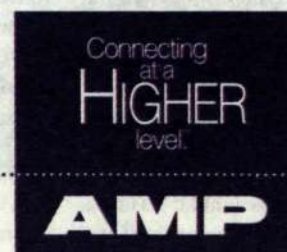
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Local involvement seen at Ericsson childrens' party

The fresh, green lawn was full of children in brightly colored clothing and child-care workers in beautiful saris. The night before, carousels, climbing towers, miniature chairs and tables had been put out. Between lunch and playtime, a magician put on a show. The delicious smells of vegetable and meat stews tickled the nose, giving a completely different picture of Ericsson in India.

Tommy Eriksson is a member of the executive management at Ericsson Communications and his wife Liz is a nurse, but right now

she is busy taking care of the family's four children. Two of the children were adopted in India during a previous visit to the country.

When Contact payed them a visit, they had, together with other Ericsson families, invited all or 80 of the children from the orphanage where they once adopted their daughters to a garden party.

"The drawbacks of life in India are the traditional views of women, the strict caste divisions and the difficulty in getting practical things to work properly. Positive aspects include all of the friendliness in society and, once one has adjusted, the different concept of time. One learns to focus on those things that are truly important and not waste energy on small things," says Liz while she tries to keep track of



Living abroad places special requirements on initiative and involvement. Some of the overseas employees' families invited all 80 children from a nearby orphanage to a party.

which children want meat stew and those who prefer vegetarian.

BRITT-MARIE WIHDÉN

Canada first to offer new service

Ericsson Virtual Office (EVO) is a new service developed by Ericsson Communications in Canada, and launched internally in December. This new service enables employees to hook computers up to the company network without having to use a modem on the fixed network or with a mobile phone. Instead, the computer can use the Mobitex network, the mobile network or CDPD technology. In Canada, EVO uses the Cantel Mobitex network, which has national coverage.

Brad Matching, who takes care of Ericsson Canada's major customers, was one of the first to have a chance to try out the technology.

"It is a pleasure to use EVO and Mobitex. Now I can keep in touch with colleagues and customers wherever I happen to be in the country, without having to continually hunt for a telephone jack," Brad says.

For more information about the Ericsson Virtual Office, see Web sites: <http://www.emc.ericsson.se/preview/products/md/evo.htm> <http://www.emc.ericsson.se/business/mobiledata/evo/whitepaper.htm>

Design award for broker telephone

Ericsson's telephone for stockbrokers and financial consultants has received the Norwegian Design Council's award for good design.

The Design Council explained their choice, pointing out that, among other things, the text shown in the colored display window gives informative and easy-to-read information to the user. The telephone has a simple and efficient design.

"For brokers, the telephone is their most important work tool, and ordinary telephones do not have the special functions that this user group needs. Customers demand that their brokers always be available. They find it unacceptable to get a busy signal. That is why brokers must be able to handle many calls at once," says project manager Øivind Nyegaard at Ericsson.

The new telephone can theoretically handle up to 250 active connections at one time. The user can listen to 14 of these calls at the same time through separate loudspeakers, but can only speak with two at the same time. The telephone also automatically forwards calls to preprogrammed numbers, i.e. to a mobile phone or home number, if the broker does not answer.

More than 40 people in 12 countries have been involved in the development of the special CTT11K Key Terminal.



The Ericsson-developed broker telephone CTT11K can handle up to 250 connections at once.

Germany thinks again

Ericsson's traditional hierarchical organization in Germany is being replaced by a structure which is more project-oriented and with a closer focus on the customer.

The reorganization program, which started last summer, is headed by Karl Alsmar, the new president. Ericsson's company in Germany made a profit

of about DEM 1.2 billion last year. So why rock the boat?

"We want to be a market leader, but we also want to make changes. We have to think of the future. Our customers are looking for more than technology - they also want advice, support and a personal approach," Karl Alsmar explains.

In addition to a new organizational structure with less bureaucratic methods, Ericsson will soon be moving into a completely new building in Düsseldorf, on the other side of the street.

diary



Katarina Sidén (left) has overseen the task of starting up a production line for optical signal boosters, at the Microelectronics division in Kista.

Photo: ANDERS ANJOU

Production philosophy is Katarina's thing

She's worked at Ericsson Radio and Ericsson Components. Katarina Sidén's specialty is the construction of new production lines, overseeing everything from equipment investment planning to production facility design to making sure that production actually works. Now she has been given the task of starting up a production line for optical signal boosters at the Microelectronics unit in Kista.

Monday I'm sick, and there are only four days left until the inauguration of the new optic amplifier production line.

On Friday we got the go-ahead to install the equipment in a larger and better-looking facility, which will also be more appropriate for the inauguration ceremony.

Tuesday Yet another day in bed (help!), but I know that Per and Henrik, who are very familiar with the design and the equipment, will make sure that everything gets installed correctly.

We have talked a lot about the Japanese philosophy of production, with which I was involved at Ericsson Radio in Gävle. I have recounted how well it worked there and that productivity increased by 50 percent, as did enthusiasm and involvement. The philosophy is based on production teams of 4-8 people who have shared responsibility for all aspects of production. The [manufacturing] equipment is positioned in a circle so that people are close to each other.

Wednesday Back to work. I went directly to the production area where they had, just as I had hoped, installed all of the equipment according to the plans. It looked really nice. The equipment worked well and production was once again under way. All that was left were the finishing touches to convey a professional image.

Before coming here, I didn't know about these exciting products, products for tomorrow's multimedia communication.

At the Ericsson Components optoelectronics unit, components are being manufactured that transmit, receive and amplify optical signals

during the transmission of data, images and sound via fiber optic cables. I have never before met so many creative and enthusiastic people gathered at one place. It is a joy to get up and go to work in the morning.

Thursday Today is D-Day, a very suspenseful day. The inauguration begins at three-thirty.

Some thirty people arrived at the production facility around three o'clock. A customer from Ericsson Telecom cut the ceremonial ribbon. Jan Söderström, manager of the optics unit, gave the inaugural speech. Magnus Öberg, from transportation networks at Telecom, representing the customer, cut the ribbon and said that this was a step towards the goal of Ericsson Inside, where the entire transportation network is built upon Ericsson-based products and know-how.

We toasted with champagne and ate hors d'oeuvres.

During my presentation, I told a little about my own background and the theories behind the layout and the flow of materials. It was important to emphasize that the operators themselves will be responsible for customer contact, logistics and quality. By placing the equipment in a circle, the production sequence will flow in a logical order.

Friday All of us in the production unit have received high praise. It was a nice day. The operators overseeing the new line are all skilled, hand-picked technicians: Walter Canales, Carl Eloffsson, Randy Crosson, Henrik Olsson and Per Lahti. Being an operator here is an attractive occupation with a future, backed by a sound philosophy.

Now things are underway!

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Ericsson in Canada

Emerging from Nortel's shadow

Ericsson is doing extremely well in Canada. Last year was Ericsson's most successful year financially since its Canadian operations began 45 years ago. Despite this fact, Ericsson is a relatively unknown company for most Canadians.

Art McCabe, corporate communications manager at Ericsson in Canada, says, "We live in Nortel's shadow. The Canadian telecom giant is to Canada what Ericsson is to Sweden. Therefore, we have to make an extra effort to create awareness of our name and trademark through, for example, image campaigns and sponsorship activities."

One way to create visibility is to support the Canadian national freestyle ski team. Ericsson signed a three-year sponsorship

contract last year. In addition, Ericsson is also the main sponsor as of this year of an annual world-cup freestyle event at Mont Tremblant, north of Montreal.

"We were looking for a sport that could be associated with Ericsson - a sport with the same values that could provide us with the publicity we needed," explains Art McCabe.

Canada's national freestyle ski team is among the best in the world. Ericsson is also a world leader in its field. Ericsson's values - respect, perseverance and profession-



Art McCabe

alism - are also shared with the national team and the sport as a whole. Other reasons for sponsoring the sport include its televisibility and the fact that it is a rather original type of event to which the company can invite customers and other guests. In addition, many of Ericsson's mobile telephone customers are interested in skiing. All of these factors led to the decision to support freestyle skiing.

Show goes on despite weather

The weather gods were ruthless during this year's world cup championships at Mont Tremblant. Large areas of Quebec lost power for several days due to freezing rain and ice storms. More than three million people had no power when the storm was at its worst. The ski area was also without

electricity during parts of the competition. Nevertheless, this did not stop the organizers from going on with the show.

"The competition took place without disruptions. The organizers truly did an excellent job. Unfortunately, only two-thirds of Ericsson's invited guests could make it to the event. But those who did had an unforgettable experience," says Jennifer Hillborn, who together with Art McCabe, led Ericsson's sponsorship project.

Many people are needed in order to hold a world cup event. About 250 people volunteered to help with everything from slope preparation to keeping the photographers at a safe distance from the contestants. Some 30 volunteers came from Ericsson in Montreal.

PATRIK LINDÉN

Ericsson in Canada

There are two main units of Ericsson in Canada. Ericsson Research Canada is located in Montreal with about one thousand employees. The company is involved in research and development of software design for the D-AMPS standard. A large portion of the assignments come directly from Mobile Systems' business unit for American standards.

Ericsson Research began operations in Montreal in 1986 with only 50 employees. The location was chosen in conjunction with a major order from the Canadian operator, Cantel.

"Ericsson's rapid growth in Montreal is partly due, of course, to the growth of the entire industry, but the geographical location is also a factor. Within a 120-kilometer radius, there are 12 relevant universities, of which four are located in Montreal," relates Sven Borgström, who heads the operations in Montreal. "This enables us to easily recruit qualified employees. Ericsson is now the seventh largest R&D company in the province of Quebec and second in the industry only to Nortel."

Sven Borgström sees both the pros and cons of being a Swedish company in Canada.

"The prevailing culture at the company is probably more typical of Ericsson than it is of Sweden. Respect and concern for the individ-

ual is definitely a positive trait that reflects favorably upon us. On the other hand, there may be a measure of bureaucracy where decision-making is concerned that is not as positive."

Towards a more solidly based company

The other part of Ericsson in Canada is Ericsson Communications Canada, which is located in Toronto and is the national sales office. There are 350 employees, with branch offices in Vancouver on the west coast and a few other cities.

The company focuses mainly on sales of mobile telephone systems and private radio systems. It also sells mobile telephones, but to date, Canadian mobile phone density is only about 13 percent.

"Business will definitely increase when more people obtain mobile phones. At this time, no one can explain why there are so few subscribers in Canada," says Bryan Barry, manager of Ericsson in Canada since October of last year.

One explanation could be the confusion between various mobile systems. AMPS/D-AMPS, GSM 1900 and IS-95 are all available in the country. This creates confusion for consumers when faced with a decision.

"Our organization here in Canada has grown by some 300 percent during the past five years. We must now become a more solidly based company and must expand our presence into other market segments, such as the Internet.

We are still too dependent on a small number of customers within a single sector, which today is under severe price pressure. While we are pleased with our success to date, we must be prepared to expand our operations," says Bryan Barry.

PL

■ If you would like to know more about Ericsson in Canada, check out the Web sites listed below.

■ <http://www.lmc.ericsson.se> is Ericsson Research Canada's site on the intranet

■ <http://www.emc.ericsson.se> is Ericsson Communications site on the intranet.

■ Information about Ericsson in Canada is available on the Internet at <http://www.ericsson.se/CA/>

Montreal a pioneer in open systems

Software culture and open systems are two of the ten critical points in Ericsson's 2005 vision. It requires that Ericsson approach software companies and begin to take advantage of standard software development tools to be able to compete as telecom and computer technology become increasingly interlinked. Ericsson's research and development center in Montreal serves as a successful example of both points.

Ericsson in Montreal is collaborating with Rational, a consulting firm, to develop new software for mobile telephony switching.

"We are at the forefront within Ericsson when it comes to joint development with standard development tools and open systems," says Sven Borgström, manager of Ericsson's R&D company in Montreal. "It's rather unique within Ericsson, but what it's really about is catching up with the rest of the industry."

"We must rethink everything within Ericsson. Many still consider us to be an industrial company, when what we really are is a software company. Hardware and the various devices we sell are becoming commodity products, while software and services are the areas in which we can earn money."

Positive experiences.

Michael Gallagher is responsible for Ericsson's role in the joint development venture with Rational. He explains, "We have a unit consisting of 30 people from Rational working in our premises. In Montreal, we are a test site of sorts for joint development."

Someone must get the ball rolling and so far, we have had mostly positive experiences. I believe that our cooperation with Rational is one of the most important events of the past ten years for development of switching products within Ericsson."



Sven Borgström



Freestyle skiing received a more official status as a sport during the 1980s. Sponsorship money was particularly important in making the sport more visible. Many of the athletes who are not skiers from the start have a background as gymnasts or divers. At Nagano this year, it will be the third time freestyle skiing has full Olympic status. It was previously only a demonstration sport.

Photo: PATRIK LINDÉN



Caterina Faralle from Ericsson in Montreal was one of the 30 or so Ericsson employees who volunteered to help out during the Freestyle World Cup at Mont Tremblant, for which Ericsson was the main sponsor.

For Caterina, freestyle was a change of pace

"I wanted to try and experience something new," says Caterina Faralle about why she was a volunteer during the Ericsson-sponsored Freestyle World Cup in Mont Tremblant, Canada.

For the past eight years, Caterina Faralle has worked in the library at Ericsson Research in Montreal. Her job mainly concerns technical documentation, but she also keeps track of industry magazines, CD-ROMs and videos for employee reference.

Caterina worked for the event organizers from Tuesday through Sunday. She received her salary as usual during the weekdays, however, volunteers paid for their own travel and lodging expenses.

"The days were very long. I've done everything from helping with accreditation of the athletes to keeping the media behind the guardrails, and made use of my different language skills (English, French, Italian and Spanish)," Caterina relates. "I stayed with eight colleagues from Ericsson at the hostel in Mont Tremblant. During the past week, I have met many new people and had a lot of fun. I plan to volunteer next year as well."

PL



Craig and Tanya Young were members of Canada's national team and participated in the Winter Olympics in 1992. Now they work as a link between the freestyle athletes and the sponsors. They were the ones assigned to explain the sport to Contact's roving reporter. Craig insists that the sport involves very few injuries, even though, as a spectator, one has difficulty understanding how anyone survives at all. All of the athletes are in very good shape and, thanks to the steep hill, the landing is relatively soft after the jump.



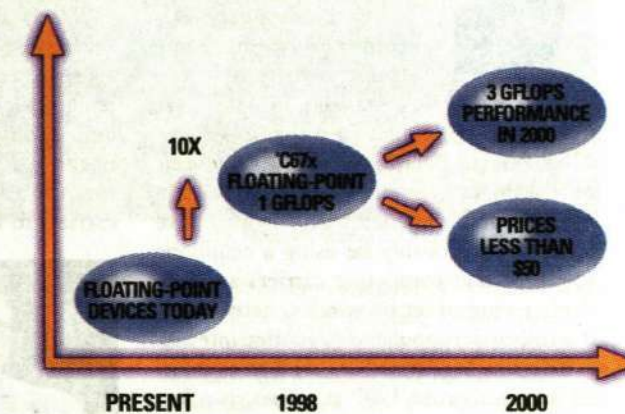
Nathalie Fortier and Trond Fidje from Ericsson in Montreal worked as volunteers for three days during the Ericsson-sponsored Freestyle World Cup event at Mont Tremblant.

"We have been assigned to the task of handing out chocolate bars to the spectators - a rather pleasant job. It is also fun to be able to help make Ericsson's name better known in Canada," say Nathalie and Trond.

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T H E W O R L D L E A D E R I N D S P S O L U T I O N S

 **TEXAS
INSTRUMENTS**

Mobile Systems begins production in São José dos Campos

Mobile telephony is in its infancy in Brazil. The number of subscribers is expected to increase from today's 3.2 million to 9.7 million by 1999. In order to manage the anticipated demand, the Mobile Systems business area started production in February of radio base stations in the plant at São José dos Campos, while the production of mobile phones at the plant will be five-fold this year.

New Brazilian import laws will mean considerable tax reductions and customs exemptions on, among other things, electronics produced in the country. Ericsson's decision to begin manufacturing radio base stations domestically may reduce equipment costs by 40 percent.

"Local radio base manufacturing is necessary in order to be able to compete in the Brazilian mobile telephone market. Preparations have been under way since last autumn and the first deliveries were made in February," says Janir Aloísio dos Santos, plant manager at São José dos Campos.

Large plant

The 500 square-meter plant facilities previously housed manufacturing operations that Ericsson had in a joint venture with General Motors. Ericsson also manufactures mobile telephones and AXE equipment in the same industrial complex. A total of 630 employees work for Ericsson at the plant site, plus an additional hundred or so in the affiliated companies Matec and Informat.

Mobile Systems currently employs about 100 people in logistics and production at São José dos Campos. Models 884 and 882 of the radio base stations for D-AMPS/AMPS are assembled at the new plant.

"We will have our own manufacturing of radio transceivers (TCB) and the switch-in-

terface (CRI). Circuit board manufacturing, however, has been outsourced to Solectron," Janir Aloísio dos Santos explains.

Production is mainly designated for the Brazilian market. The principal customers are the state-owned Telebras operators but, with the ongoing privatization of the B-band, the entire telecom industry is expecting enormous growth of mobile telephony in Brazil.

"I am very optimistic. We have 22 customers at present, and are in a favorable position to obtain many more, especially since we are a strong name in Brazil with a long



Janir Aloísio dos Santos is the manager of the new radio base factory in São José dos Campos, about 120 kilometers northeast of São Paulo.

history of manufacturing in the country," says Janir Aloísio dos Santos.

Many competitors

He continues, "Good delivery times and good prices are essential if we are to get the B-band orders. We are also creating our

own repair center in order to offer better customer support."

The large investments in mobile telephony in Brazil have attracted several of the world's major telecom suppliers to begin operations in the country. NEC of Japan, Nortel of Canada and Lucent and Motorola of the U.S are among those who have extensive production plans for radio base stations in Brazil. Several large manufacturers of terminals are already represented with local production.

With a 40 percent-market share, Ericsson is today the largest supplier of mobile systems in Brazil. Ericsson, however, has only 10 percent of the market for mobile terminals, where Motorola is dominant.

Ericsson began manufacturing mobile phones in Brazil in the spring of 1997, using expertise from the master plant in Lynchburg, Virginia in the U.S. The new plant produced 300 000 mobile phones in 1997, most of which were for the D-AMPS standard. The majority of the terminals were exported to Argentina, but this year a boom is expected in the Brazilian market.

Major volume growth

Plant manager José Ricardo Franchito says, "Last year, the challenge was to begin factory operations; this year, we are supplying our own market. In 1998, we plan to increase production to 1.4 million mobile terminals."

Production takes place around the clock. There are 200 employees at present, but by year-end the number should increase to 500. In addition to larger volumes, new products will be put into production.

"The most difficult challenge will be competing with other companies for technically competent personnel who speak English, which is necessary for direct contact with Lynchburg," José Ricardo Franchito concludes.

NILS SUNDRÖM

Major telecom investments

All of the major players in telecommunications – from suppliers to operators – are represented in Brazil as this gigantic market becomes deregulated and privatized. During an eight-year period, an expected USD 83 billion will be invested in the country's telecommunications, IT and cable TV.

Economic growth, political stability and an extensive privatization process have spurred investments in the Brazilian telecom sector. In 1997, Brazil became Ericsson's fifth largest market and forecasts for 1998 indicate that it could be a breakthrough year for mobile telephony, even though activity is

slow at the moment. The process of auctioning licenses on the AMPS/D-AMPS system's B-band has been under way for one year. International consortia are investing multi-billion dollar amounts for the licenses.

The country has been divided into ten regions, and licenses for the first four regions have been finalized. Negotiations for the strategically important state of São Paulo have taken longer than expected, however, delaying the entire process.

The consortium containing Telia of Sweden, which has submitted the highest bid for the region, has been charged with making formal mistakes in the application. The issue has been in the courts for several

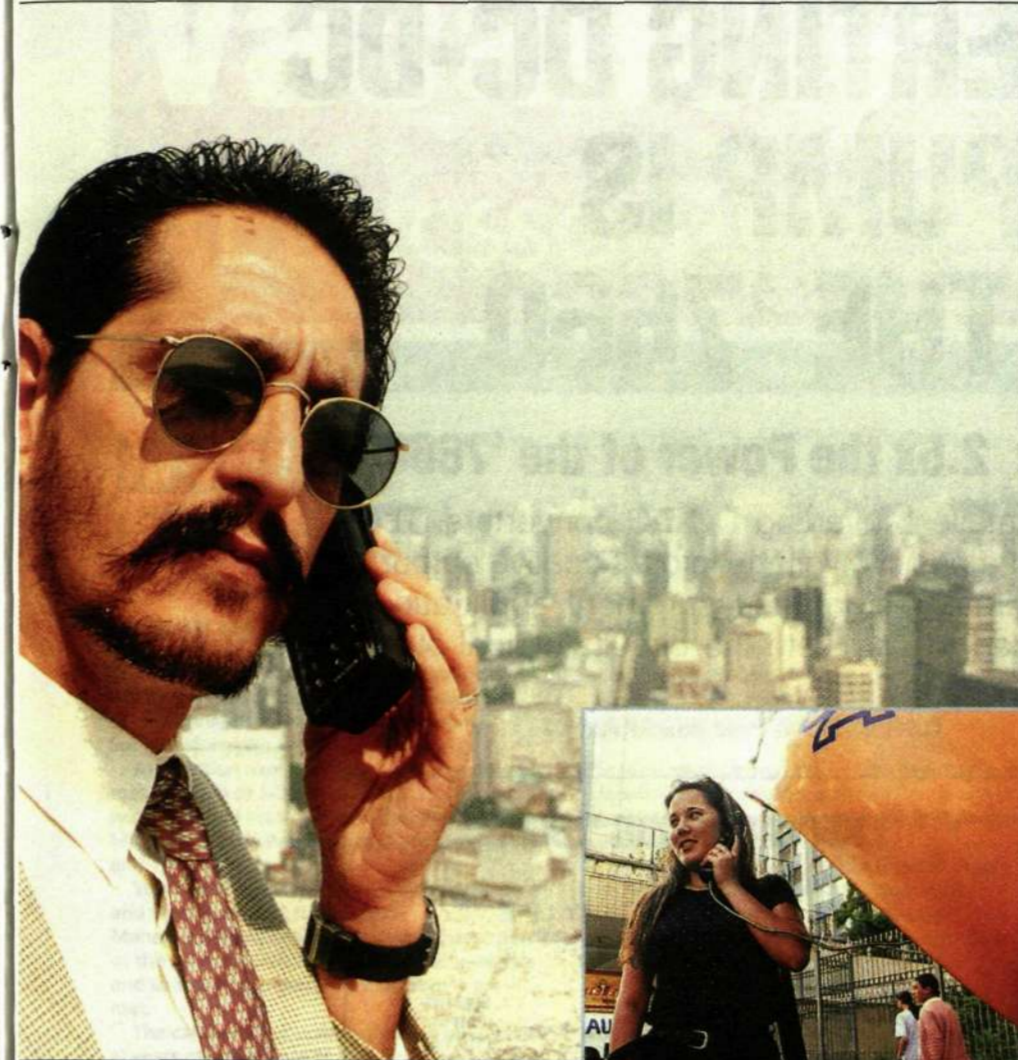
months and has brought the remainder of the licensing to a halt.

The next step is the privatization of Telebras, the state-owned operator, which is expected to begin during the second half of 1998. Telebras currently has 26 regional mobile telephone operators on the A-band. They will disappear in conjunction with privatization, as the licenses are divided among nine new areas. A couple of the Telebras operators have already begun digitalization of their AMPS systems, while others will most likely await the impending privatization. For Ericsson and other telecom suppliers, there is a huge market at stake, which sooner or later will take off with a blast.

NILS SUNDRÖM

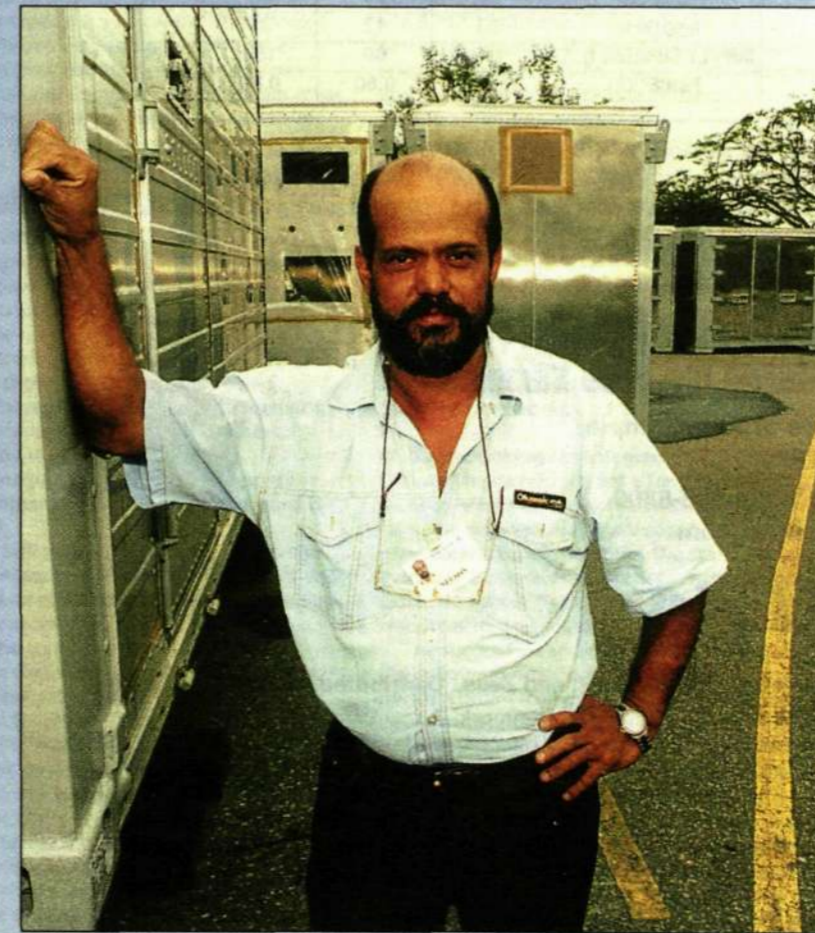


Photo: NILS SUNDRÖM



Brazil is the world's fifth largest company in terms of land area. The country covers nearly half of South America. Of the country's 160 million inhabitants, about 10 percent have a fixed telephone, while about 3.2 percent own a mobile phone. Ericsson employs 2,700 people in Brazil and has its head office in São Paulo.

Five-fold volume increase. José Ricardo Franchito, manager of the mobile telephone plant in São José dos Campos, views 1998 as an important year for Ericsson's establishment in the Brazilian mobile telephony market. In São José dos Campos, Ericsson has manufacturing operations for all three business areas. Ericsson's first factory in the city was established as early as 1955.



Complete equipment. Steel containers with complete equipment for radio base stations are sent from the plant in São José dos Campos. The supervisor of mounting of containers, Nelson Lorena, displays equipment destined for the Amazon.



Mobile Systems' RCUR research department played a key role in the WCDMA standardization process. Six people were rewarded for their contributions. Here flanked by RCUR's manager, Erik Örnulf and Mobile Systems' Vice President of Technology Jan Uddenfeldt. From the back row: Magnus Persson, Fredrik Ovesjö, Johan Sköld and Mats Nilsson. Front row center: Mikael Gudmundson and Erik Dahlman. Photo: ANDERS ANJOU

The standardization mission

Mobile Systems' research department (RCUR) has played a key role in the WCDMA standardization process – both in the ETSI standardization body in Europe and in coordination with ARIB in Japan.

Six people who have been responsible for much of the work were recently awarded shares in Ericsson.

"As the result of a prodigious effort by all concerned, RCUR has fought on the front lines for the WCDMA technical solution. Today, we are rewarding people who have taken personal initiatives to push this project through to completion," Jan Uddenfeldt, Mobile Systems' technical director, explained at the award ceremony in early February.

The three stars of the show were Erik Dahlman, Johan Sköld and Mikael Gudmundson, who each received SEK 25,000 in Ericsson shares. Fredrik Ovesjö, who works at ETSI, and Magnus Persson, who set up a simulation environment for the new system at Kista, each received shares worth SEK 10,000. Mats Nilsson, who is responsible for technical strategies for systems of the future also received an award.

NILS SUNDRÖM

The long road to WCDMA

The research unit at Mobile Systems has been working with CDMA technology for the third-generation mobile system since 1989. It all started with the joint efforts of ten companies and organizations in an EU project called CODIT.

CODIT established that the new generation of mobile telephony technology would have 5 MHz of bandwidth (just like today's WCDMA system). Since the work in the project framework was not as fast as Ericsson had hoped, the company decided to build its own wideband testbed based on the CODIT project's findings.

In the autumn of 1996, the research unit presented a vehicle-mounted exhibition, demonstrating WCDMA as an access method. The test system, which is unique, has generated extensive international attention and has been used in about 150 demonstrations for important customers.

Joint research with other companies continued in the FRAMES project, with the purpose of developing a standardized ra-



Microsoft's CEO Bill Gates visited Kista in early February and received a demonstration of the vehicle-mounted test system from Jan Färjén. Photo: NILS SUNDRÖM

dio interface for the future mobile telephony system in Europe. Ericsson, Nokia and Siemens participated in FRAMES.

The discussions laid the foundation for today's complete solution in the UMTS standard. The fact that Siemens later supported another radio access method in ETSI is now history.

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	mm ²	31.0	8.3	8.3
HEIGHT (mm)	1.75	1.45	1.45	
R _{OUT} (Ω)	55	20	20	
f _{OSC} (kHz)	10	12	35	
SUPPLY CURRENT (μA)	110	60	150	
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contact

Ericsson, HF/LME/I, Room 811023, S-126 25 Stockholm

At the end of February, the Grammy Awards were presented to a number of American entertainers in the music industry. The awards ceremony was broadcast to 1.5 billion people in 190 countries. In addition, the winners were reported in real-time over the Internet with both sound and pictures, otherwise known as Webcasting. Ericsson in the U.S. was responsible for ensuring that this technology functioned.



Bob Dylan won no less than three Grammys at this year's awards ceremony: Album of the Year, Best Contemporary Folk Album and Best Male Rock Vocal Performance.

Photo: FLT-PICA

Ericsson at the Grammys

E

xcept from that Ericsson was responsible for the technology at the Grammy Awards, Ericsson also participated in the preparations for the gala by providing mobile telephones and cordless phones.

It was anticipated that the Web site would receive three million hits.

Internet users worldwide could get a behind-the-scenes look at Radio City Music Hall, where the gala was taking place. All of the nominees were on the Web site, complete with background information on both the artist and the Grammy Awards Ceremony.

Karl Dahlin at Ericsson in the U.S. viewed the Grammys as an excellent opportunity to show what Ericsson can offer in terms of Internet technology. Ericsson was a turnkey supplier of all of the ceremony's Internet services.

Ericsson's role in the Grammy Awards is a prime example of the convergence between the telecom, datacom and media industries.

There are a total of 92 different prize categories. Sean "Puff Daddy" Combs won the category for Best Rap Performance by a Duo or Group for "I'll Be Missing You." Puff Daddy also took home the award for Best Rap Album.

Album of the Year was awarded to old-timer Bob Dylan for "Time Out of Mind." The same album also won Best Contemporary Folk Album and Best Male Rock Vocal Performance.

Visit the Grammy Award Web site to find out who the winners were for all 92 categories. It also contains information about Ericsson's contribution to the ceremony and other interesting tidbits.

PATRIK LINDÉN

■ The Grammy Web site can be found at: www.grammy.com

end line

Ericsson everywhere

Ericsson is hard to miss these days. The company's logotype with the three "sausages" has probably never received as much exposure as it has lately. As this issue of Contact goes to print, the "Make yourself heard" campaign is in full swing. Financed by the mobile telephone gang's generous advertising budget, this campaign is – to the best of my knowledge – the largest campaign ever to make Ericsson's name better known throughout the world. Those of us who do not belong to the group of aces who develop, manufacture and sell our mobile phones have every reason to say a word of thanks to our colleagues at Ericsson Mobile Communications. The purpose of the "Make yourself heard" campaign is not specifically to sell telephones, but rather to act as an indirect sales tool for everyone behind the scenes.

After only eight years with the company, I have nonetheless had the opportunity to closely follow developments within Ericsson's marketing communications. This is a genuine case of "before" and "after." That is, before the success of mobile telephony and after. Or before the consumer marketing focus and after. The world in which Ericsson used to market its products has changed considerably, to one in which we are now fighting to win consumer purchasing decisions. Over the past five years, Ericsson has gone from dealing with a hundred customers (namely, state-owned monopolies) to several hundred million customers. It's no wonder that the company name is much more visible today – in James Bond films, on billboards, in newspapers, on TV, hot-air balloons and freestyle skiers' jackets, at the Grammy Awards and whatever else marketing people can think of.

Not only is more money needed for marketing in this new market than in the old one. New decision-makers have also entered the scene, creating a new and much more market-oriented culture than was prevalent in the Ericsson I joined in 1990. The change feels very refreshing.

Of course, there are negative aspects of this newfound fame, as well as the massive advertising. The other week, I tried to take a break from work by heading to the Swedish wilderness up north during my children's school vacation. But not even there could I avoid seeing the attractive billboards with smiling faces and the Ericsson logotype. Driving through Sweden these days is like a slalom race between billboards. Every five minutes, I heard my children exclaim from the back seat, "Look dad! There are the three sausages again!"

I headed for the mountains on my cross-country skis to get some peace of mind. But alas, every three kilometers I was reminded of civilization. It's hard to turn off your mobile phone once you've become accustomed to it...



LARS-GÖRAN HEDIN