

CONTACT

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All roads lead to convergence

8-14



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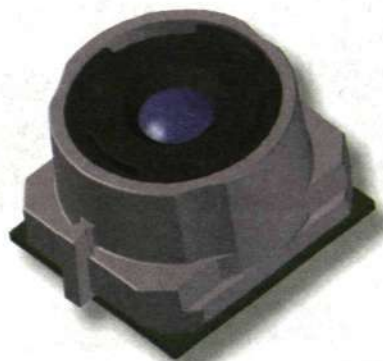
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column

Henry Sténson
head of group
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Contact

The disaster on our minds

The Christmas and New Year holiday was not the calm and restful break that we had hoped for. Instead, we have witnessed with anxiety one of the greatest and most widespread disasters of modern times. For most of us, the media has brought pictures right into our living rooms – pictures we wish we did not have to see.

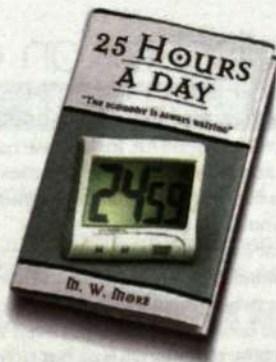
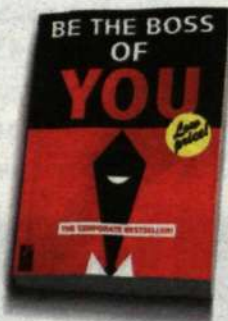
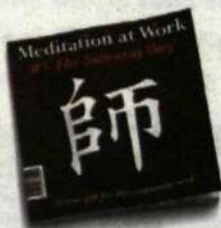
It is almost impossible to grasp and comprehend. Perhaps it is a good thing the human brain creates barriers that filter and restrict. How would we manage otherwise? There are more questions than answers. I quickly started to wonder how I could help. But even when contributing money, it still feels insufficient. Our thoughts go out to those who have suffered and how we might be able to support them.

As an Ericsson employee, I have been able to slightly recover my spirits. We succeeded at an early stage to confirm that our own employees in the disaster area were well and could help to maintain the telecommunication systems in nearly the entire region as support for the rescue workers.

Ericsson Response was ready to fly out Mini-GSM systems almost immediately after receiving news of the disaster. It took a few days before we were informed that it was Indonesia, or more exactly Aceh, that was the destination. Advisors were also sent to Sri Lanka. We also donated a CDMA2000 system directly to the Indonesian government. Volvo and Ericsson quickly offered the Swedish Ministry for Foreign Affairs our joint aircraft for the repatriation of those seriously wounded. They made four flights with 20 wounded people who needed to travel on a stretcher and receive medical attention during the flight.

Ericsson employees around the world have also collected considerable amounts of money as support for the rescue work. We must now support those who suffered personally. We have confirmed reports regarding some of them, but uncertainty still prevails regarding others. Let us ensure that we be available for those colleagues who will need support – when they need it.

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in the news: the tsunami disaster

text: johan kvickström

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The natural disaster in Asia is one of the worst in living memory, reaching unimaginable proportions.

The difficult rebuilding process begins

More than 160,000 people have been killed in the Southeast Asia tsunami disaster. So far, no Ericsson employees have been confirmed dead or missing, but many have lost relatives and friends. The recovery and rebuilding process, which has now started, will take a very long time.

The natural disaster, one of the worst in living memory, is of a magnitude which is difficult to comprehend. Nobody knows what the final number of victims will be. Latest figures indicate at least 160,000 people have been killed and a great number more have lost their family, homes and means of support. Rebuilding work has started, but there are many people who will need time to recover their way of life. Many may never completely succeed.

Since the disaster occurred, managers at Ericsson have worked continuously to search for employees who were in the area when the tsunami hit. So far, no Ericsson employees have been reported missing or dead, although many have been affected in different ways. Several have lost close relatives or family members or have been injured. It is important that these people receive support and help.

Ericsson President and CEO Carl-Henric Svanberg says: "We have activated our crisis organization to take care of employees and to provide help in the affected areas. At the same time, we have worked hard to create the best possible support for employees and their families."

One of several initiatives in the tourist-mecca of Thailand was a free phone service for survivors and relatives of those killed, arranged by the country's leading mobile operator, AIS, and Ericsson, allowing many people to contact worried family members.

Countries located in the disaster area now face the very difficult task of rebuilding, and it will require significant time. The material rebuilding will demand incredible efforts and investment. Ericsson is participating in different ways by helping governments and aid organizations, such as the International Red Cross and Red Crescent.

Indonesia has been hit hardest. More than 90,000 people are feared dead on the island of Sumatra alone. Ericsson has sent a GSM system to the Aceh region in northern Sumatra, where both the human and material devastation is almost total.

Ericsson Response has also provided satellite telephones to aid organizations. Indonesia has also received a complete CDMA network and a technical team has been mobilised to provide assistance. Cooperation has also been established with opera-

tor Telkomsel, and the companies are working hard to achieve results – which will eventually enable at least a relative improvement in the communication situation.

Key account manager for Telkomsel Bengt Thornberg says: "The team is not only repairing damage to the operator's network, but also widening the coverage in northern Sumatra in general."

Ericsson is also participating in work in the other affected countries. In Sri Lanka, where the tsunami caused considerable damage, Ericsson is helping the government to re-establish the mobile network. The same is being done in India, where the local Ericsson company is reported to have acted swiftly. Intensive work is underway in Tamil Nadu and other areas as needed.

Ericsson staff have initiated many practical aid measures throughout the area. Telephones have been distributed to aid workers, a system for donations through SMS has brought in more than USD 1 million for the Red Cross, several collection programs for economic support have been set up, blankets have been gathered, school and hygiene items have been sent to Malaysia, and all Ericsson employees in Sri Lanka have donated five days' salary to the humanitarian program.

Read more about the work of Ericsson Response on pages 30-31, and see Inside for the latest news:

 internal.ericsson.com

A merging of worlds

The way we communicate over distances is changing fundamentally before our very eyes. Tough cost cutting measures, changes in behavioral patterns and technical development are helping to create convergence, which means, simply, **handling all information the same way.**



Convergence can be the merging of the core networks for fixed telephony, mobile telephony, data and cable TV.

As far back as 20 years ago, Ericsson predicted what we now call convergence. The following quotation is from the 1984 annual report: "The formerly parallel communication systems for transmission of speech and data within companies, public agencies and institutions will gradually be integrated themselves and with other office equipment."

The idea is not new, but what makes it a hot topic today is that several conditions have changed, opening a new world of possibilities.

Convergence can mean different things. One type of convergence is on the usability side, where behaviors dictate. What we consider different forms of communication today, sending email, SMS, MMS, talking and sharing photos for example, is merging into a more general form of communication where distance is the only distinguishing characteristic. Video messaging between a phone and a PC is an example of a converged service.

You can also discuss convergence in terms of a

handset, hence the imagery of the Swiss army knife, where handsets are developed to house many functions – camera, music player or radio, to name a few.

Convergence can also take place between different types of networks (fixed, mobile, TV). If the transported traffic becomes more similar, more of the equipment can be shared. This kind of convergence is spoken about the most, and the hot issue right now is the convergence of fixed and mobile telephony.

Major differences today

But is it realistic to talk about convergence as a topic to create industry-wide projects and organizations when Ericsson alone has three definitions of the term? Or is it just a trendy word that basically means the telecom industry is moving forward? Some people might find this the case, but there are conclusive, concrete differences today, compared to 20 years ago, that rationalize the need for discussion and a

common understanding of the term. Several important things have taken place on the technical side: the processor capacity in handsets has increased dramatically, bandwidth – the ability to transfer data in the radio network – has gone through the same development, and the idea of all-IP communication is widely accepted. The market side has also experienced a boost now that operators have returned to profitability.

The next demand from corporate boardrooms will be to show growth, to widen the turnover base. New players are emerging from areas such as the internet and cable TV. The trend is clear: all suppliers of communication services are starting to look for new business areas. And users can not be forgotten either; they are used to being connected and available more than ever before. Consumers put much higher demands on services, not just in terms of availability, but also price, reliability and adaptability.

The goal, convergence's nirvana if you will, is the

all-IP vision. One way to explain this uses the information structure of a restaurant. Chicken breast is the only thing on the menu at the all-IP restaurant. No meatballs, no ice cream, not even an orange is available. It sounds boring, but in reality the chefs have perfected what we already know about chicken – you can get it to taste like anything. The point is that working with the ingredients is easier and more secure, lots of cooking equipment is no longer necessary and so on. The chicken breast is the information carrier, the IP packet. Just as chicken can take on the taste of anything, the IP packet can be filled with anything: pieces of a picture, parts of a call – all kinds of digital information.

There are many benefits to an information structure based on IP: A multitude of functions, and therefore costs in the form of planning, purchasing and operation, are common for fixed and mobile networks, for example. The potential savings for operators are huge – and probably one of the most important



Mikael Goldberg

with convergence strategies at Ericsson, says: "Convergence on the core network side actually means divergence on the access side."

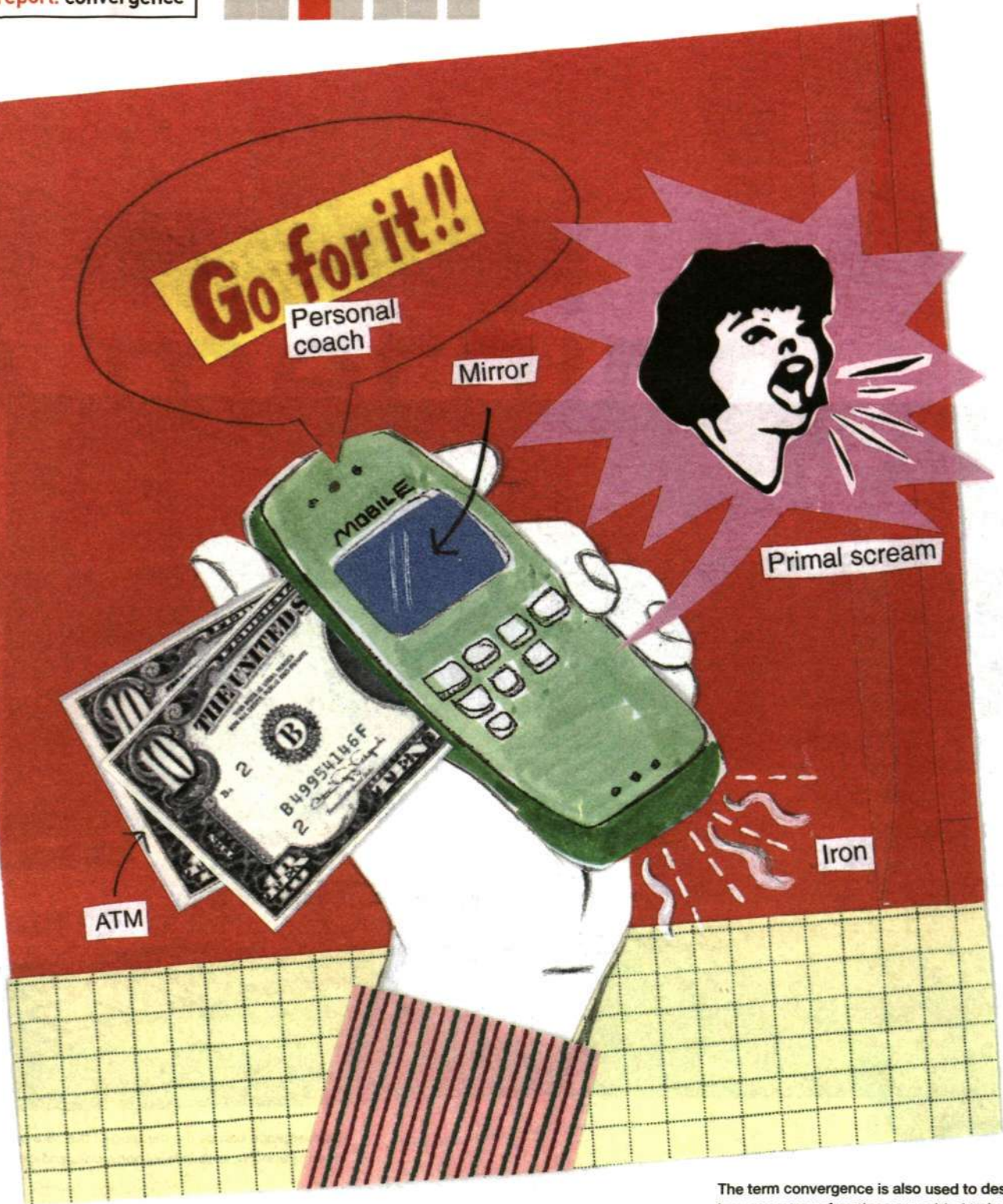
Many different access technologies

As long as the information packets sent via a network look the same, there is the opportunity for greater experimentation with different radio technologies and handsets. The vision is to be "always best connected", meaning that a handset recognizes the different access alternatives that are available at any given point

and chooses the most appropriate. Access doesn't just refer to the licensed radio technologies offered today – WCDMA, CDMA2000 and others – but everything that comes under the heading of Unlicensed Mobile Access (UMA). Here you will find, for example, solutions for wireless local networks (WLAN, Bluetooth and others). In the future IP telephony will make it possible to send calls from a telephone through a wireless network and then on to a data network.

Convergence will also increase the possibility for diversifying the service offering. While users consider communication over distance as one service with many faces, it is up to service providers to supply this. Flexibility increases when the groundwork that services are built on is more similar. Possibilities present themselves to cost effectively and quickly introduce new services or connect existing services.

At the far reaches of this discussion is someone's wallet. Who will pay for the development? Who will



The term convergence is also used to describe how even more functions are added to handsets – a digital version of a Swiss army knife.

>> make money? If fixed network operators, mobile operators, internet service providers, cable TV companies and others can offer similar services, who will entice customers? Are consumers going to jump from provider to provider, just like some people do today with their electricity supplier or banking services? Or will people choose a “safe player”, where they can buy all of their services from one provider?

It is important for Ericsson to keep up with the industry trends. Of course Ericsson must maintain good relationships with all of its customers, existing and potential, but as Ericsson's services sales increase the need for tight relationships with key customers will also increase.

Handsets are an interesting area. Will the increases in the potential of core and access networks reach the hands of users?

Stefan Svedberg, director of the IMS program at Ericsson Mobile Platforms (EMP), sees some areas as particularly important on the handset side.

“Handsets that can do several things increase the importance of an end-to-end perspective. IMS is probably the clearest example of the line between handset and system beginning to blur,” Svedberg says.

A handset that supports the “always best connected” vision must be smarter than handsets today. We can already see a version of convergence where WLAN is being added to handsets. Access technologies such as HSDPA that deliver up to 14Mbps will allow a flow of data into handsets, data that must be managed. But smarter, multifunctional handsets with larger hard disks cost money. Large volumes will keep prices down, not only for the components that are core to the telephone. One example is the world's largest purchaser of camera chips, Nokia.



Stefan Svedberg

Mikael Timsäter is manager of Ericsson's convergence project. His job is to work with a strategy for convergence, develop convergence-related customer demonstrations, organize the product portfolio and carry out marketing activities.



Mikael Timsäter

“The convergence project is forcing Ericsson to work as one,” Timsäter says. “Few things at Ericsson so obviously involve different units as this does, but with joined forces we are working in a different way than what we are used to.”

Fixed network first up

Many activities at Ericsson can fall under the category of convergence. It is clear that the fixed network is the first to go through the development. There are a number of technical and market-based hurdles to



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There are infinite possibilities, it's just a matter of finding them together with the operator.

Mikael Goldberg

overcome on the mobile side, questions of stability and handsets. (One example is hand-over, where a user is moved from one coverage area to another that does not work the same way for voice calls and IP packets.)

Karl Thedéen heads up Ericsson's fixed network unit, which recently got a lift from the important role it will play in convergence. "Convergence is being spurred on by fixed network operators, such as BT and several players in the US," Thedéen says.

Ericsson has several fixed network solutions that support convergence, such as Mobile@home for personal use and Mobile Extension for businesses. Internet providers and cable TV companies are making a move on operators that do not have mobile activities and forcing them to develop their businesses. And of course some mobile operators get worried when fixed network operators start to take off. Here you will find Ericsson's strength, to be able to cover a larger spectrum. The fixed network business at Ericsson could be the best ambassador to the mobile side.



Karl Thedéen

"Some mobile operators see the venture of the fixed network operators as a threat," Thedéen says. "With our competence we can help them understand the challenge and perhaps find solutions and partnerships."

Ericsson's strong position

Helena Nordman-Knutson, telecom analyst at Swedish firm Öhmans Fondkommission, believes Ericsson will face tough competition in certain areas, but that it is in a good position for others.

"Everyone is equal when facing a paradigm shift, but I think Ericsson is on the right track," Nordman-Knutson says. "Ericsson's role is to know telephony, then there are others, specialized data companies, that know transport."

She mentions the importance of being aware of the threat from the data world, but to also remember the strengths of the telecom industry. "The data world is not as open with standards and cooperation," she says.

Confirming Thedéen's comments, she believes that Ericsson is doing the right thing by combining its fixed and mobile systems activities.

Summarizing Ericsson's position in the area of

convergence is not simple, and the subject has many facets. But once again Ericsson's long-term strategy to be an end-to-end supplier holds true. There is no script for the convergence play, but Ericsson is on the right track with its ambition to quickly pick up on signals in the market and to get all parts of the company working together. One of the keys will be partnership, working together with customers. Or as Mikael Goldberg puts it: "There are infinite possibilities, it's just a matter of finding them together with the operator."

facts: more about convergence

More information on Ericsson's convergence program (responsible: Mikael Thunsäter) can be found at:

http://internal.ericsson.se/page/hub_systems/sales/marcom/programs/index.html

Do you want to know more about Ericsson's marketing activities on convergence? (responsible: Hans Höglund) If so, visit:

http://internal.ericsson.se/page/hub_inside/products/convergence/index.html



Everything you want to know about IMS but were afraid to ask

IMS has been high on the barometer for abbreviations throughout 2004. Most people talk about it, but does everyone at Ericsson know **what IMS is and its connection with convergence**? Is it a box, a song or maybe a new airline? Contact decided to get to the bottom of this – once and for all.

When you mention IMS to someone at Ericsson their eyes glaze over. Either they do not know what IMS means, other than that it is difficult and important, or they work with IMS and have to rush off. IMS is extremely important to Ericsson. Even if there are several possible paths – which is important to remember – IMS is the main path to convergence for Ericsson.

Magnus Furustam, manager of Ericsson's IMS program, says: "Ericsson has to succeed with IMS to ensure future growth."

To put it in layman's terms IMS is like the grease in the transition to a converged network. To be clear, IMS is IP Multimedia Subsystem, a further dimension in the core-network architecture and service layer. It is a system that is responsible for keeping track of IP traffic and supporting the creation of new services. The system is made up of hardware and software that work according to industry standards, both together and with other parts of the network. So IMS is three things: a standard, a solution that Ericsson sells and an architecture.

When you want to make a new service available today you have to secure a bunch of functions for that service, such as subscription management payment and others. Schematically you are talking about a vertical structure. An IMS system, which has

a horizontal structure, has many functions, or service enablers, such as security, presence and address book management, that are common for different services.

Users won't be happy just to know that calls are transmitted as IP packets. So what can you do with IMS? The main function is call control. When two or more parties in an IMS-based system contact each other a session is started. This is often a voice call, but during a session it is possible to switch to or add different functions, such as pictures, video and data. When you call your mother-in-law to cancel dinner because of a serious sprained ankle you can also videotape the swelling, take a picture of the x-rays and send over digital files from the doctor's office. (If you are unlucky and the bluff doesn't work your mother-in-law might offer to come over and help with the kids.) How the services work together, packaging and pricing are up to the operator, but IMS makes it possible to quickly and easily try different things.

Another function of IMS is a totally new type of address book. Every handset, fixed or mobile, has an IP address. The user puts their contacts into groups according to name and handset (such as job phone, home phone, mobile, computer and others). Caller can then easily see which handset is active and how

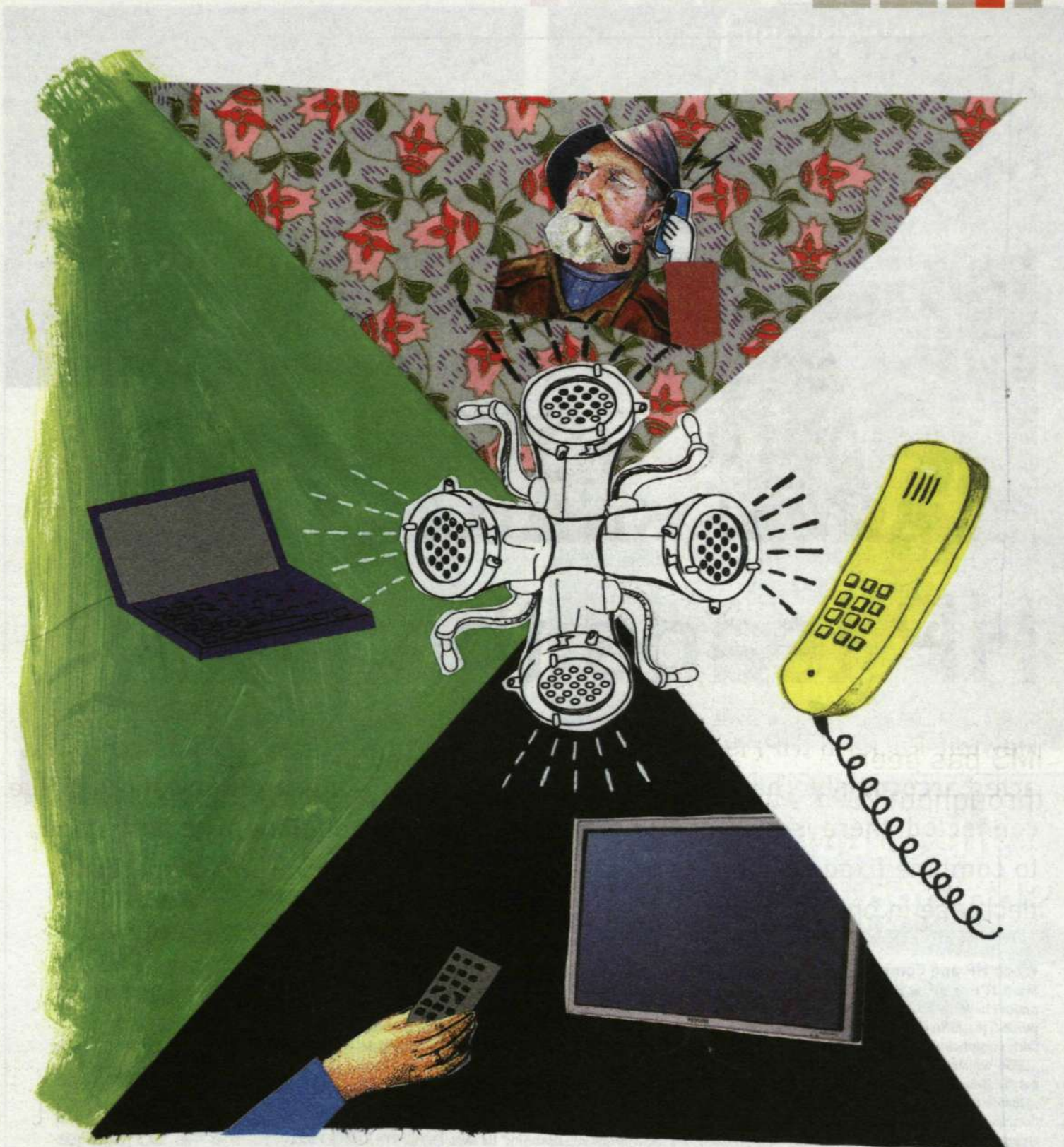
the receiver wants to be contacted. Today we gamble when we make a phone call; no one knows if the person being called will answer. The positioning that IMS enables is called "presence".

Ericsson has three commercially available IMS solutions today: Instant Talk, WeShare and ENGINE Multimedia. Instant Talk, or push-to-talk, is a walkie-talkie feature in a mobile, while WeShare lets users share pictures, for example, during a call. ENGINE Multimedia gives fixed network customers Voice over IP (VoIP), video and messaging, to name a few functions.

These solutions are examples of IMS services. They are in demand and first out, but it is questionable if they alone can justify an IMS investment. They are also part of the groundwork of IMS – once you install the system it is cheaper and easier to add new services. The market needs to understand this so that it forms realistic expectations of the first IMS services.

Handsets are a key element for IMS. There is a catch 22 however as operators want to be able to carry out extensive tests before investing in the network equipment, but handset manufacturers do not want to build small numbers of these handsets as they will probably never make it to the commercial market.

Ericsson Mobile Platforms (EMP) is an integrated part of Ericsson's IMS program, but as Stefan Sved-



IMS is the dimension in the core network that keeps track of IP traffic and enables all the services that will be possible with convergence.

berg, manager for the program, says: "No one wants to bear the cost for developing the first handsets."

If Ericsson had maintained handset development within the group it would be a different situation. But the separation of the two sides of the business is still considered a benefit for Ericsson as EMP can sell IMS platforms to a wide customer base.

Magnus Furustam, manager of Ericsson's IMS program, identifies three strengths. "IMS has amazing potential," Furustam says. "Ericsson has three clear benefits compared to the competition: the company deals with all access technologies, it can offer handsets that are tailor made to and designed for customer's needs through Ericsson Mobile Platforms, and Ericsson's commitment to telecom-grade guarantees the highest quality."

The main criticism of the IP network is that it is not robust enough. IMS will handle the existing IPv4 protocol and, most importantly, the next protocol, IPv6. IPv6 basically enables an infinite number of IP addresses and is much more stable.

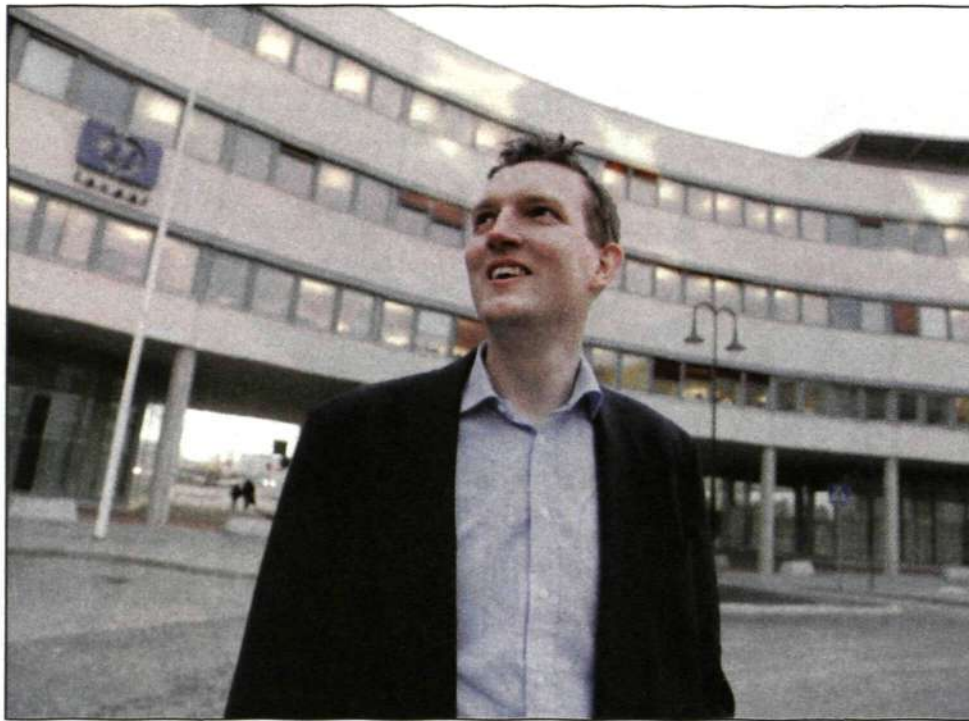
In order for IMS to be widely accepted it is extremely important for industry players to agree to a standard. The whole point with convergence is missed if the different networks and handsets all speak IP, but still can not work together. Because of this many different standardization groups are involved: 3GPP and 3GPP2 for architecture and protocol issues that involve GSM/WCDMA and CDMA2000, TISPAN for fixed network and OMA for services issues.

It is also important to point out that a standardized

IMS solution will not require anyone to change their network. IMS is an add-on, but standard compliant solutions work with existing and future equipment.

The IMS market is fairly diverse today. Ericsson has 25 contracts to conduct different types of tests with customers. It is a roughly similar situation for the competition, especially Nokia and Siemens. Right now it is a competition in brand building or selling the idea that your company is leading the market. There is a lot of intrigue, but Niclas Medman, manager of IMS marketing, believes in Ericsson's classic approach of being open and working with standardization bodies.

"To be seen as the honest player will pay off in the end," he says.



When Fredrik Svärd was IT manager at HP, the company combined its fixed and mobile telephony, reducing operating costs by 38 percent.

photo: hanna telemann

HP leads the pack

Hewlett-Packard (HP) is a company that takes convergence seriously and has acted accordingly. The vision for the future is clear – **all communication will be connected**; there is no longer a place for individual solutions. The first stage, to combine fixed and mobile telephony, has already delivered a 38 percent decrease in operating costs.

When HP and Compaq merged in 2002 Fredrik Svärd, IT manager at HP Sweden at the time, faced a major challenge. The task was to combine the companies' platforms for communication, which were fairly complicated.

"We realized it was useless to try to repair and patch," Svärd says.

Instead, they decided to review the entire situation. In the first round of negotiations, 19 suppliers were asked an open question.

"We asked the suppliers to tell us what we should do and said they could make up a scenario," Svärd says.

He was surprised by the wide range of answers. Apparently the future looks very different, depending on who you ask.

HP decided to tackle its telephony situation first, and to wait with the data traffic.

"We knew we couldn't take on the whole spectrum then, but decided that any measures we did to the telephony side should be able to be combined with solutions for data traffic in the future. We want to manage all communication the same way, regardless of if it's fixed or mobile telephony, WLAN or the fixed data network," he says.

It was decided that every employee would have one telephone, no more. Employees could choose fixed or mobile phones. What was important was that the 2400 employees in all 20 offices would be able to do the same things. At the heart of this was

Ericsson's exchange solution MD110 with Mobile Extension, which directs traffic to minimize the cost of calls and maximize functionality.

Convergence is not much more than an umbrella term for an IT manager. Svärd sees it as a natural development in a communication society and a basis for the two major purchasing concerns: economy and function.

"Our motivation for change is based on two simple factors: money and usability," he says.

It is about realizing real savings and this can not mean a loss of possibilities. And all solutions must also be future-proof. No one wants to rely on a supplier you can't be sure will be in the market or segment in five years.

"Ericsson's concept isn't just good for today, but looks towards what is coming," Svärd says.

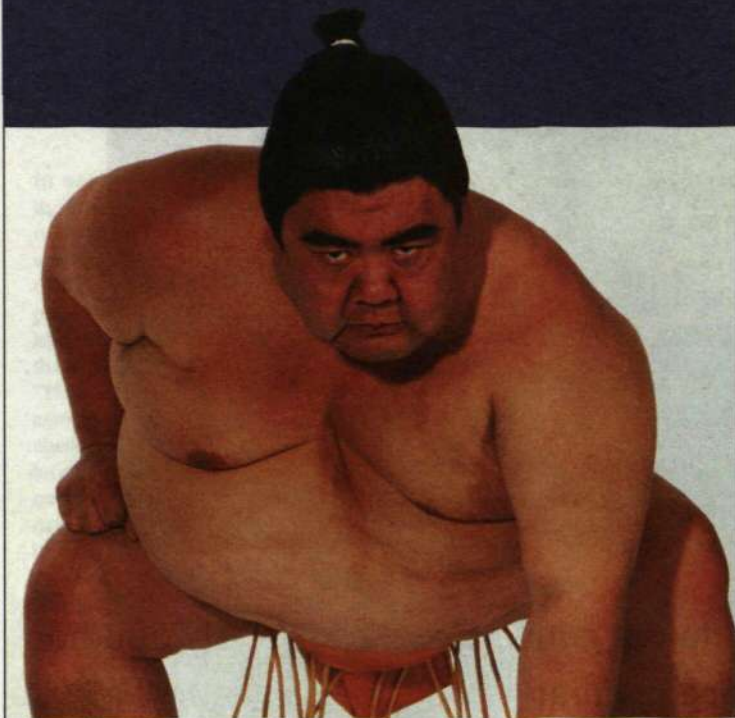
The deal is evidence that the perception of Ericsson is positive in the market. Svärd believes there is work to be done on the technical side of usability and that Ericsson can be better when it comes to a partnership way of thinking. This deal included four suppliers: Ericsson, Telia, Vodafone and system integrator Dotcom.

"Convergence solutions often include several suppliers," Svärd says. "One obvious limitation is if they can't work together. Play with an open hand and say 'here are my strengths and weaknesses.' This isn't like a traditional client-supplier relationship, it's more of a partnership."

Ericsson's concept isn't just good for today, but looks towards what is coming.

Fredrik Svärd

He will be sent to
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in the spotlight

text: jenz nilsson photo: gunnar ask



Karl Thedéen

The fixed network is back in the spotlight after several years in the shadows. The reason is convergence between fixed, mobile and datacom networks. But, in order to succeed in this area, Ericsson needs to breathe new life into its fixed-network operations. Karl Thedéen has been given the weighty task of building up the fixed-network business again.

In early 2004, Ericsson spread the message that the fixed network would once again have a central role in the company's product portfolio. Fixed-network operations were getting a new start. At the GMC at the end of June he explained the unit's plans for rebuilding fixed-network business. Now, after several months, has he been forced to change the plan?

"The goal and product content are just what we agreed on at the GMC. I am convinced that we are ahead with our products, but I have realized that a lot depends on marketing, and on us being as focused and hungry as we need to be in such a tough market. It has therefore become even clearer how important it is for all relevant units within Ericsson to support this commitment, and that Ericsson's overall message can stimulate business with fixed-network customers," Thedéen says.

For several years, the fixed network was hardly mentioned at all and then suddenly it was at the top of the agenda again. Was Ericsson surprised by this comeback?

"No, that is incorrect. Management's ambition has always been to maintain our fixed-network operations because there has long been a clear connection between fixed and mobile networks. On top of that, there are large and attainable business volumes within fixed telephony. The decision to build the next-generation multimedia platform (telephony platform) on IMS (IP Multimedia Subsystem) was a smart move by my predecessors. That means that we can now talk clearly to our customers about a core-network offering and show that a contract that includes IMS opens the door for applications that support both fixed and mobile access. We are unique in this area today."

Björn Olsson, head of Business Unit Systems, said during the GMC that Ericsson should be seen as the market leader in IMS-based multimedia services during 2005. What does this mean for your organization?

"Apart from Vodafone, just about all the major operators have fixed-network operations as big as their mobile operations. When these operators start thinking about how they can develop business in their fixed networks, in areas such as broadband access and new services, we have to be there promoting our IMS offering. The next-generation 'local stations' for fixed telephony will be based on IMS, and we are working hard here to position ourselves so that we can capture a large share of this modernization market. If we succeed in winning a large proportion of these deals, it will be much easier to deliver IMS networks on the mobile side to our customers, and that gives us a good chance of being the market leader within IMS. Of course our

installed base of 150 million AXE lines is our greatest competitive advantage."

What arguments do you have for these customers to choose Ericsson ahead of its competitors?

"In the segment driving IMS we have two main applications on the fixed-network side: IP Centrex and VoIP Centrex is an operator-run enterprise solution that allows a company to control both its fixed and mobile connections using the same service network. We are better than our competitors in this area because of our competence in fixed, mobile and enterprise solutions, combined with our big installed base on the mobile side. That is a huge advantage if a customer chooses to integrate this solution with its existing mobile network. Voice over IP (VoIP) using IMS is our solution for upgrading existing networks and allowing ordinary telephony in combination with new services such as video telephony. And we have a clear advantage here thanks to our knowledge from our installed base of AXE lines."

But in the US, Ericsson is hardly represented at all in the fixed network. How can you win market share there?

"The most important thing is that we have a well thought-through sales strategy and key account managers who are prepared to chase every business opportunity there is for fixed networks. We have to take each deal as it comes and carry it out really well, so that people start to talk and write about us as a fixed-line vendor. There is a big push in the US for convergence, and our North American head Angel Ruiz and his colleagues are working hard to break into the fixed-network market. Among other progress, they have appointed several driven people to important customer accounts. I am optimistic about the US."

Ericsson's fixed-network cooperation with Cisco in the US got a big launch last year, but it has been quiet there since then. What is happening on that front?

"It takes time to get two companies of this size to coordinate their plans. But now we have the basis we need. The common products are defined, the marketing material is ready and local customer contacts have been made. Obviously we would like to have presented a couple of new contracts by this stage but we will really get going this year. We also have a similar agreement with Juniper Networks that recently helped us win a major contract with China Telecom."

How do you think the cooperation with other business units within Ericsson is working?

"My organization knows that our big chance to get

facts: karl thedéen

Age: 41
Years at Ericsson: 16
Birthplace: Stockholm
Home: Stockholm
Education: Engineering degree from the Royal Institute of Technology (KTH) in Stockholm. Also trained as a lieutenant in the Swedish navy.
Family: Wife, son aged 6 and daughter aged 4
Leisure activity: Sailing
Favorite performer: Comedian Robert Gustavsson
Did last Saturday: Housework

into the market is to leverage Ericsson's enormous strength on the mobile side. Now the relationship doesn't quite work the same the other way around, but I want the mobile side to be even clearer about our strengths in fixed telephony when they meet their customers. I think this will be tremendously important because many of the investment decisions will be taken together by the customer's fixed and mobile sides, which increasingly belong to common units. I know my colleagues have good ambitions, but it can be easy to forget the competitive advantages that our fixed-network operations have when we have focused for so long on mobile telephony."

Many people are waiting for volume sales of broadband equipment to take off. When will that happen?

"Volume sales are already looking good. Our IP-DSLAM (an IP/Ethernet-based DSL solution) has generated very large volumes in the past six months, mostly in Latin America, India and Europe. I estimate that we are now among the top three or four in IP-DSLAM."

But now even Alcatel, which has traditionally been very strong in fixed telephony, is offering IP-DSLAM to its customers. Does that worry you?

"While Alcatel is a dangerous competitor, this is an important confirmation that we made the right choice when we offered IP-DSLAM to operators early on. Alcatel and other suppliers are now indicating they want to deliver only IP/Ethernet-based solutions for networks, which benefits us because we have been doing that for two-and-a-half years. But it also, of course, puts pressure on us to deliver even better products."

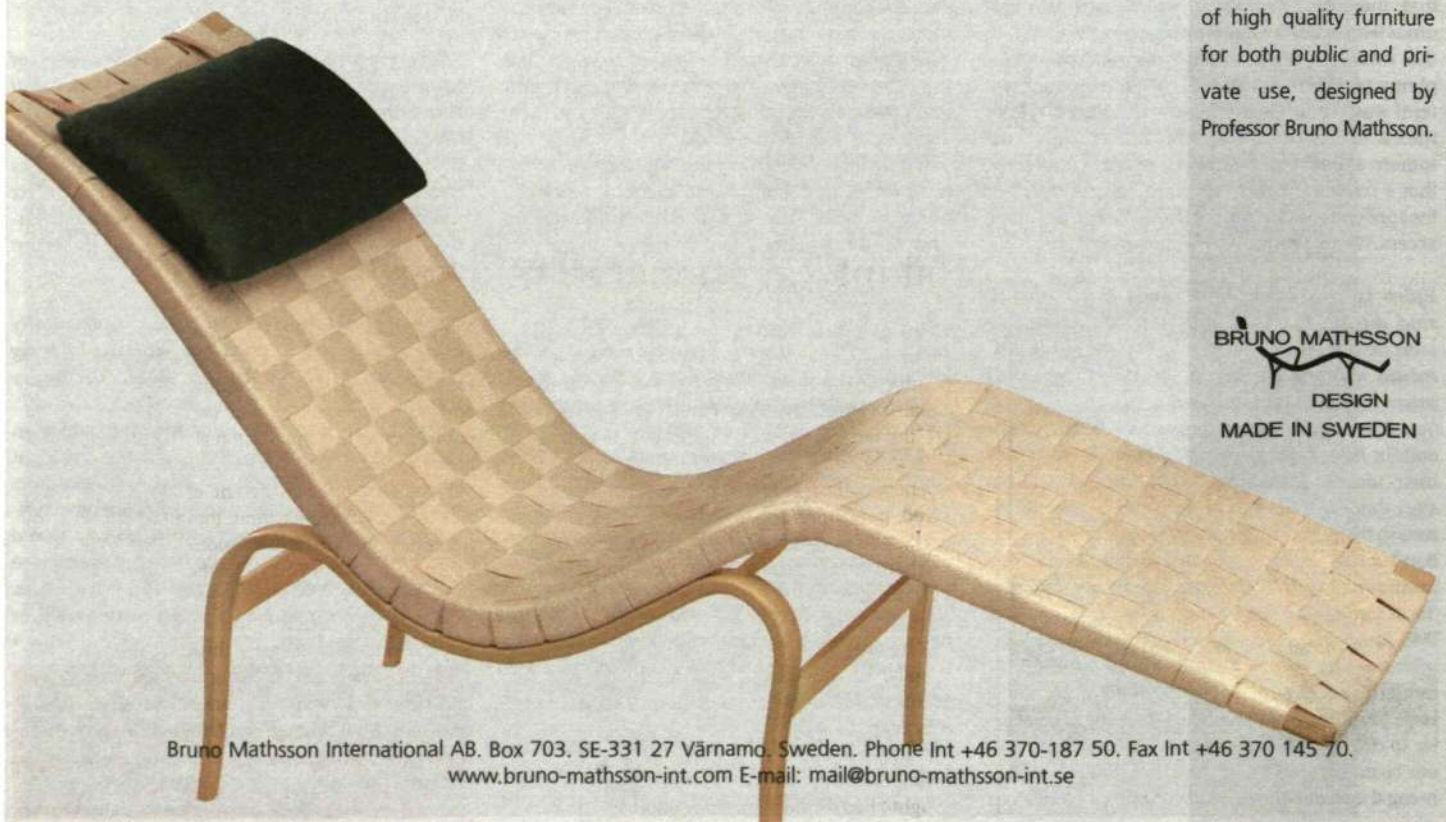
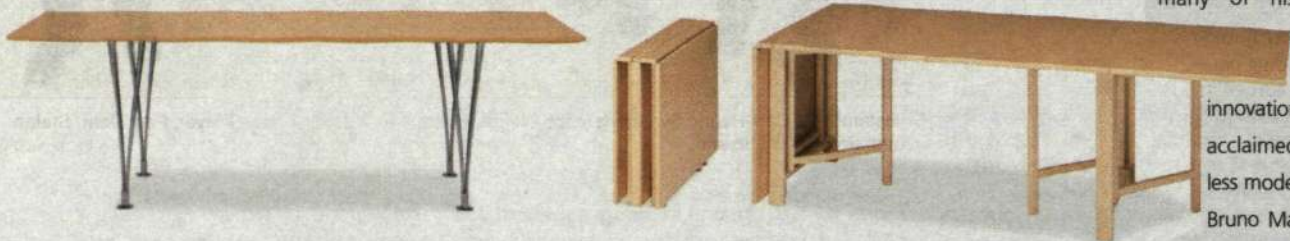
Do you have questions for Karl Thedéen?

Send them to spotlight@ericsson.com by February 3. He will answer some of them in a video interview to be published on Inside.

CLASSICS



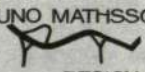
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around ericsson

editor: gunilla tamm

Winners keep Ericsson in the lead

Ericsson has announced the winners of its 10th Inventor of the Year Awards. All three winners – Stefan Bruhn, Peter Larsson and Michael Meyer – have done research in areas vital for Ericsson's technical leadership.

Each year the jury selects two or three researchers from within Ericsson as inventors of the year. Those chosen for the 2004 awards have themselves contributed with important patents and have supported others in making their ideas a reality. A previous winner, Paul Dent, was also recognized this year with a Global Inventor Award for his outstanding contribution to Ericsson's patent portfolio.

Stefan Bruhn, from Ericsson Research in Kista, is Ericsson's leading patent holder in speech coding. Bruhn, who earned his doctorate in Berlin and started at Ericsson in Nuremberg in 1995, has specialized in Adaptive MultiRate (AMR), which allows a mobile user to always choose the optimal coding for radio transmission quality or capacity. "AMR is very important for Ericsson from a licensing point of view," he says. He adds that the next step, AMR-WB (wideband) improves speech quality, while AMR-WB+ covers all forms of audio. "The major challenge for Ericsson will be to adapt to a world outside telecom," he says.

When it comes to the creative process, Bruhn says he works best under pressure. He always enjoys solving problems himself, even if it is mostly



Ericsson CEO Carl-Henric Svanberg (center) with winners (from left) Michael Meyer, Paul Dent, Stefan Bruhn and Peter Larsson.

photo: gunnar ask

done as a team effort. "I get my best ideas outside the office, when I am relaxing," he says.

Peter Larsson works at the cutting edge, with radio for advanced 3G and 4G (read more on the last page).

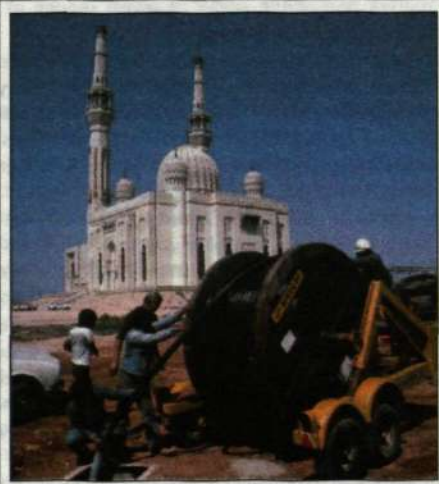
Michael Meyer, 38, from Ericsson Research in Aachen, Germany, has been responsible for important progress in packet-data transmission within GPRS and WCDMA radio networks for many years, giving Ericsson a leading position in these areas. He joined Ericsson after gaining his doctorate in 1996

and is one of the company's senior specialists.

Meyer emphasizes the importance of thinking strategically and finding interesting business opportunities. Invention is always a team effort, he says, and part of everyday work. Right now, he is working with the radio interface for 4G. "The challenge is that we are working with several different technological alternatives to build a system that is significantly better than today's."

LARS CEDERQUIST

from the archive:



A cable installation in Libya in 1982.

Patent king honored at awards

When Ericsson CEO and President Carl-Henric Svanberg handed out prizes at the 10th annual Inventor of the Year Awards, he also presented a Global Inventor Award to Paul Dent – Ericsson's, and the entire telecom industry's, outstanding leader in patents.

Dent says his real patent efforts started when he moved, in 1990, to Research Triangle Park (RTP) in the US. "It was a totally different, more driven situation there than in Europe, so we threw ourselves into it and, after just two years, we were responsible for half of all patent applications from within Ericsson," he says.

Today, he has about 280 approved telecom patents and he submits 20 or so new applications every year.

"I have spent my whole life inventing things that are helpful for mankind. As a new engineer, I often thought I had found something good, but on many

occasions it turned out it had already been discovered. You need thorough understanding and education before you can contribute with something really outstanding."

Dent continues to invent at top speed and, believing that new problems are the best motivation, he is obviously in the right industry. Mobile telephony today is the world's biggest area for consumer electronics, and there are lots of challenges ahead.

"Right now, I am focusing on how we can get European 3G into the US market. I am also keeping an eye on what is happening in satellite communication and how we can use that technology within Ericsson," he says.

LARS CEDERQUIST



Paul Dent

An underdog

gaining weight



Last year Tele2 purchased equipment from Ericsson worth hundreds of millions of Swedish kronor. Not bad considering that in many ways the companies are an ill-matched pair. In Tele2's world a supplier has just one task – to deliver the cheapest possible equipment with a minimum of services.

The Swedish telecom operator's business concept is refreshingly straightforward: it quite simply offers the cheapest and simplest telephony in Europe. Tele2's ambition is to be the leader in price for the services it provides and secure the price position in all markets in which it operates. Complicated technology does not impress the company's purchasing agents who only want solutions that can increase income or reduce costs.

Chief Operating Officer Johnny Svedberg is an excellent example of the Tele2 concept. Coming from a solid background as an engineer, including work with Ericsson and later as operations and network manager at Tele2, he could talk endlessly about HSDPA, ADSL2+ and CDMA 450. But Svedberg declines, preferring to leave great visions to the competitors.

Svedberg started with Tele2 in 1990, when the Kinnevik-owned company was still called Comviq. At that time there were few people who dared to dream that in just a few years time nearly everyone would own a mobile telephone, or that the telecom markets of the western world would be deregulated.

In 1992, Kinnevik's subsidiary Comviq GSM set up its own network. In 1993, Tele2 launched fixed telephony and in the mid-1990s the company was listed on both the Stockholm Stock Exchange and the US's

NASDAQ. International expansion started in 1998.

Svedberg describes the two directions Tele2 chose to take early on: "When the established operators invested in infrastructure, we chose instead to invest our money in marketing to increase our customer base and traffic flows. Furthermore, and unlike the others, we targeted private consumers and small businesses," says Svedberg, who, as well as being the COO, also manages the company's operations in the Baltic countries and Russia.

Things have gone extremely well so far. In just a few years Tele2 has developed from a small, emerging company in the domestic market to a serious challenger to the European telecom giants, without losing its individuality. For example, in the 2003 accounts, Lars-Johan Jarnheimer, President and CEO, described the company's values as follows:

"Tele2 endeavors to offer the market's best prices. This implies quite simply that we provide the customer with real value for money. We at Tele2 detest complicated technology. We strive to render services as simple as possible – which our customers appreciate."

Svedberg willingly confirms that Tele2 is a very cost-conscious company that is proud when other operators enviously admire the tight organization that has fantastic profitability and extremely low costs. "The

Swedish company Tele2, which has experienced meteoric growth, has been described as a real challenge for any salesperson. Not only is it known to hold onto its cash, it also waits as long as possible before investing in new technology. Tele2 would, in fact, prefer not to invest at all.

Nonetheless, in just a few years Ericsson has become a significant supplier.



Johnny Svedberg

secret is our way of working, our model, that generates large traffic flow in the shortest possible time," he continues.

"We do everything completely differently to the others. When we enter a new country, we start by building up the brand name and obtaining customers through advertisements and other marketing activities. Only then do we open offices, create an organization and invest in infrastructure. We invest as little as possible as late as possible, and absolutely not before we have customers and traffic. We perceive technology as being a necessary evil that costs money, and would prefer to invest money in the brand name and advertising."

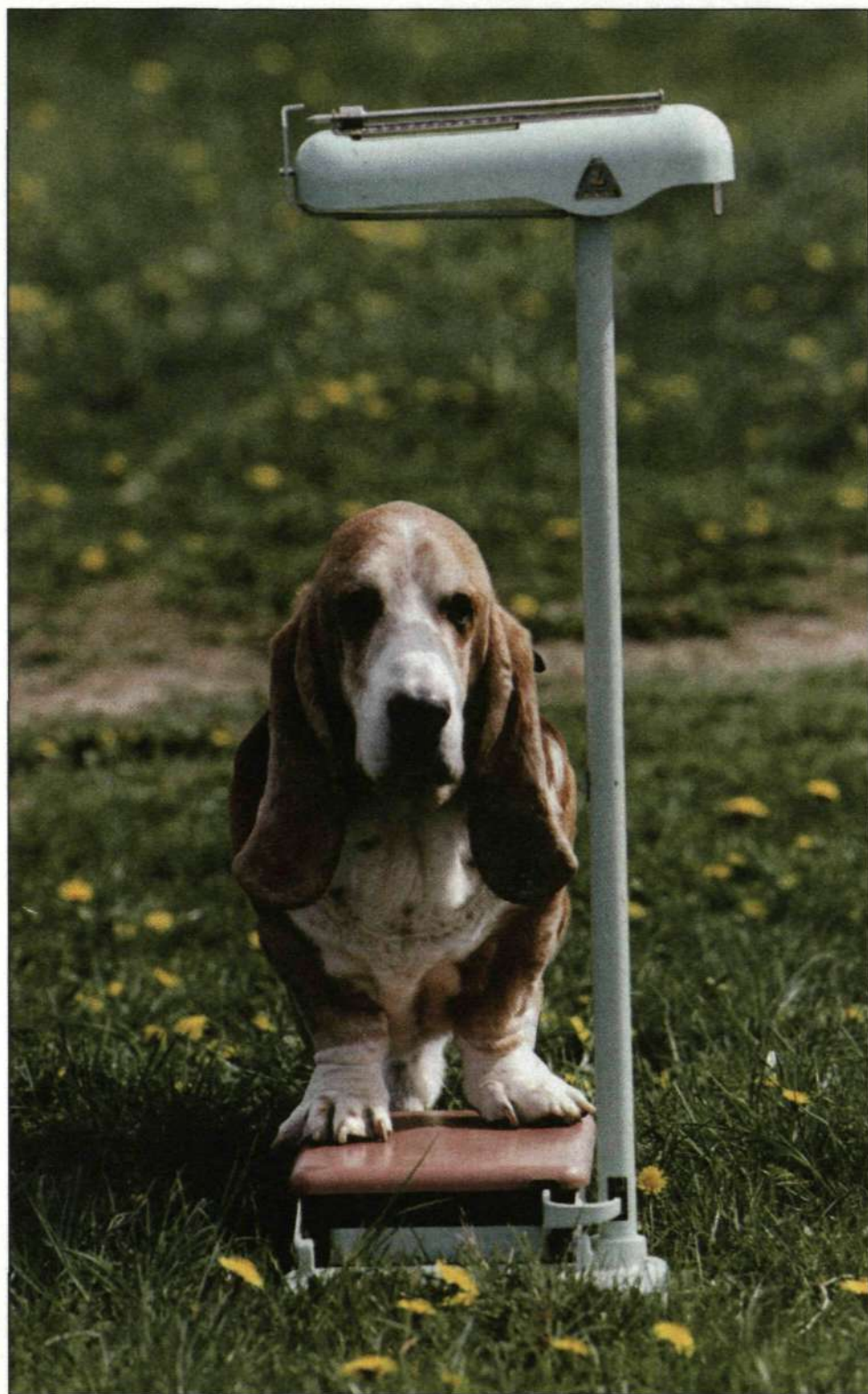
In the early 1990s, the relationship between Ericsson and Tele2 was cold. It wasn't until 1999, the year after the European telecom market was deregulated, that they struck their first agreement and Ericsson was asked to install an AXE exchange in Kista, a suburb of Stockholm in Sweden, for Tele2.

The first contract was quickly followed by the delivery of WDM equipment for fiber transmission. Since then, joint business has grown steadily, resulting in Ericsson becoming one of Tele2's main suppliers in an extremely competitive market. Among other items, Ericsson provides 3G on a large scale to Svenska UMTS Nät AB, which is jointly owned by Tele2 and TeliaSonera. Ericsson is also working with Tele2 as it sets out to conquer Europe, by supplying ENGINE in about a dozen countries.

But Tele2 normally prefers to keep suppliers at arm's length. The company, on principle, does not take part in trade fairs or conferences, and every pur-

text: michael masoliver

photo: pressens bild



chase with a value exceeding SEK 45,000 (EUR 5000) must be approved by the board of directors.

Svedberg continues: "We have succeeded in developing an extremely commercial attitude among our technicians. If they cannot convert an investment into savings or income, then they do not even need to think about the investment. We question all costs, irrespective of whether we are purchasing exchanges or erasers."

In line with this philosophy, Tele2 has also chosen to always utilize existing capacity to the absolute maximum. "We do not have a technology strategy, which is not particularly popular with our suppliers," Svedberg says. "They must be very flexible and provide excellent delivery precision. All purchases must be motivated by the customer and be businesslike. This

is very difficult for suppliers that wish to have long-term planning."

A supplier such as Ericsson could complain about Tele2's cynical financial policy. But Staffan Henriksson, Ericsson's customer manager for Tele2, chooses to speak diplomatically. "Tele2 is a challenge for any sales organization. The company's concept is very oriented towards marketing and sales. It constantly compares prices and often keeps a certain distance from suppliers. The company's investment in technology and networks is not an end unto itself, but merely a means to achieve its goals.

"It has been a real pleasure to work with Tele2 and



Staffan
Henriksson

facts: tele2

Tele2 offers products and services within fixed and mobile telephony, internet access, data networks, cable television and content services to 26 million customers in 24 European countries.

Tele2 was founded in 1993 by Jan Stenbeck and has been listed on Stockholm Stock Exchange since 1996. The share has also been listed on NASDAQ since 1997.

In 2003, the company had operating revenues of nearly SEK 37 billion (EUR 4 billion) and reported a profit of SEK 5.7 billion (EUR 0.6 billion).

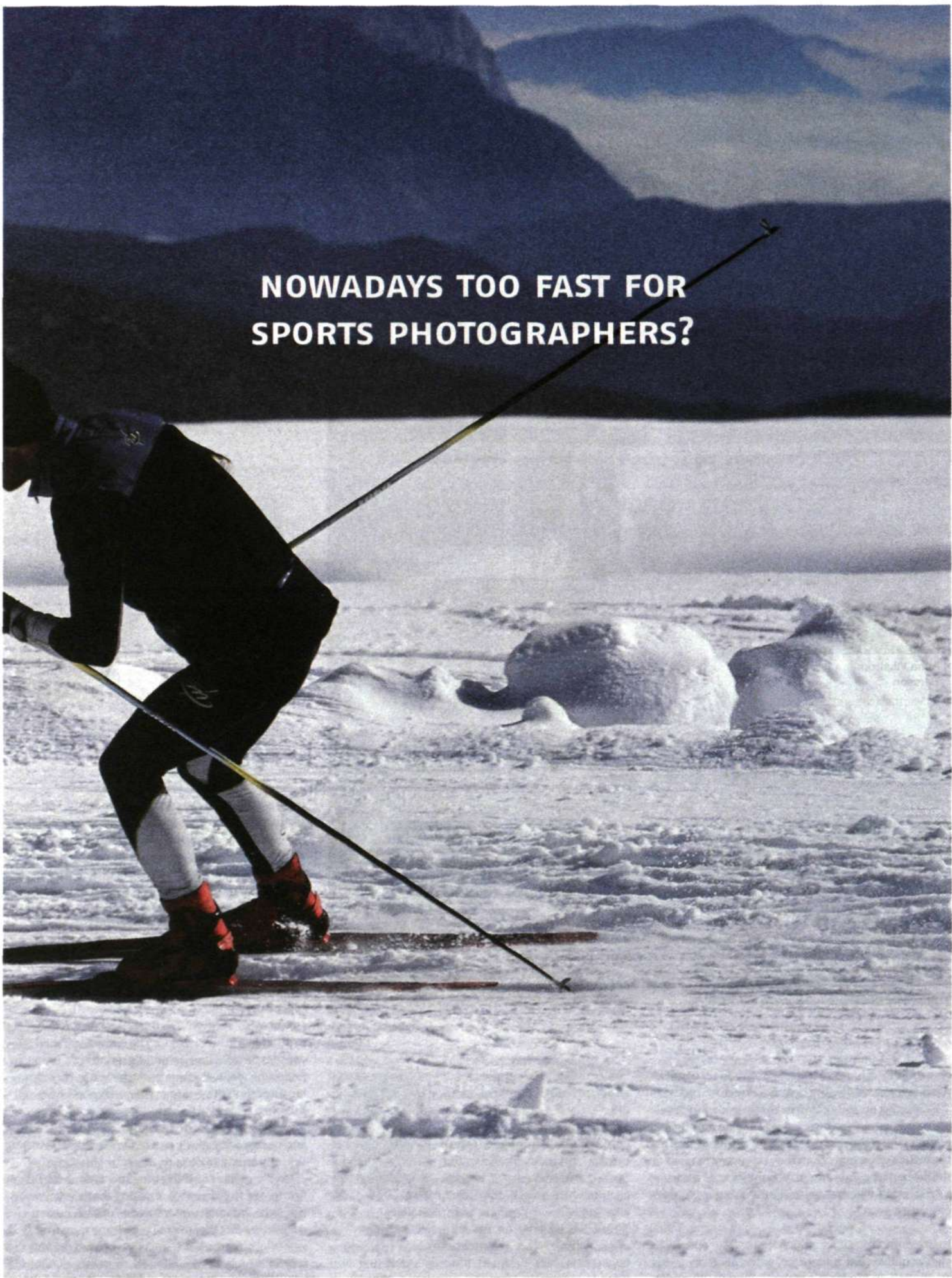


to follow its exceptional expansion. It is inspiring to see its significant cost focus and direct communication, which you do not encounter anywhere else. They are strongly driven by profit-oriented business operations, which is extremely instructive for us. Ericsson will benefit considerably from its experience with Tele2, because in the future we will meet an increasing number of this kind of customer."

Svedberg says that Ericsson's efforts to develop closer cooperation with operators are no doubt motivated by the current situation within the telecom sector. But this does not concern Tele2.

"For us, suppliers are a necessary evil, rather like technology," he says. "On the other hand, it feels safe to purchase from Ericsson. The company's solid telecom expertise and generally good products are Ericsson's greatest assets and where it is very strong. Furthermore, the company has an excellent market presence. It is everywhere. Ericsson could however improve its support organization. Far too much time and energy is currently needed to get Ericsson to sufficiently attend to our problems."

Svedberg has considerable expectations for Tele2's future. "In the end, it is amazing that we have succeeded in building up a base of 26 million customers, despite the fact that the old telephone monopoly still essentially controls the areas we operate in and the way in which we are allowed to compete. The full potential will not be realized before the market has been fully deregulated, which could take a few more years. I definitely believe that we have only scratched the surface regarding business in a deregulated market."



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New demands on managers

As Ericsson's organization is tightened up and ways of working renewed, the role for Human Resources (HR) is also changing. This transformation involves a new way of working, one that also places new demands on the company's line managers.

Managers in Sweden now have other ways of obtaining help. Instead of an HR officer, they now have a constantly updated intranet site and a service desk.

Anna Vikström-Persson, HR head for Ericsson Sweden, says the changes, under the title HR Transformation, started three years ago, but the focus has been on major reductions in staffing levels. "The number of people working within HR has also fallen by 50 percent during that time," she says.



Anna Vikström-Persson

Major change only really got going this year.

"It is a big shift for us in HR and for Ericsson managers. Now that the company is starting to do better, it can be easy to slip back into the old ways, but we have to promote efforts to reduce costs and improve quality all the time," she says.

Marita Hellberg, Ericsson's HR director, says changes in the HR function worldwide go hand in hand with the development of other corporate functions. "It means that we within HR have developed a way of working that allows us to improve quality while reducing costs, at the same time as roles and responsibilities are changing."

The old approach, with fully staffed HR units, was built on a decentralized organization in which policy and processes were adapted differently throughout Ericsson's operations. This made staff transfers complicated, as one example, and recruitment was carried out in different ways.

Vikström-Persson says: "The aim of our new approach is to support our colleagues and managers in the best way, while making HR work more cost effectively."

HR managers in the line organizations will get the opportunity to focus on fostering leadership, competence and resource development, individual performance assessments, work towards change and organizational development.

The changes to the HR organization mean that managers are now also in charge when it comes to HR issues.

"That might feel like a tough assignment, but managers have access to different types of support, which include a service desk that can answer all the HR issues they come across in their management roles," Vikström-Persson says.

There is also an intranet site that explains the most common HR procedures. Managers can also get help with more complicated issues from a group of specialists in different areas, through the HR Center.

"It will take time to bring in our new centralized way of working. We have now done the groundwork, and the journey towards better quality and cost efficiency in HR has begun. We are already seeing lower costs for HR," Vikström-Persson says.





For Ericsson Mobile Platforms (EMP), 2004 was a profitable year. In November, it announced that 30 percent of global WCDMA handset sales were based on EMP technology. **Not a bad achievement for an organization that started just three years ago.**

An ordinary brown building on the outskirts of Lund, Sweden, conceals a fanciful interior of glass and light, where red-shuttered corridors open and close on the comings and goings of EMP employees.

There is a noisy buzz in these passageways and a murmuring behind the doors where engineers are designing, tweaking and testing the Ericsson platforms. Their challenge is to offer more and more functionality to impatient telephone operators and vendors worldwide.

The EMP organization is 1000-strong and growing. In addition to its headquarters in Lund, EMP has operations in China, Japan, Korea, the US, the UK and Norway.

Strip off the shell of many of the phones sold by Sharp, LG Electronics, Amoi, Flextronics – and of course Sony Ericsson – and you will find an Ericsson platform. Fourteen customers, including six of the top mobile phone brands, have signed contracts with EMP for their platforms.

EMP President Sandeep Chennakeshu says his company has a distinct advantage over the competition. "Many of the platform suppliers struggle with the software needed for advanced phones and to keep up with the evolution of the standards. EMP is the only platform manufacturer today that has GSM/GPRS, EDGE and WCDMA products launched, based on its platforms. Our software is viewed as a differentiator because of its functionality and stability," he says.

Jörgen Lantto, vice president of strategic product management and operator marketing, says Ericsson has another competitive edge. "There are not that many players with a commercial 3G platform offering. We were very early with 3G and were able to get a good position in the market."

That is no understatement. EMP is leading the 3G race. Lantto says it is probably the first time in Ericsson's history that its market share in phones is equal to its market share in infrastructure.

Maths Andersson, head of sales, sourcing and supply, highlights further benefits with Ericsson platforms: "We have a good architecture in place, making it possible to meet customer requirements and develop platforms further and that also makes us strong."

The platform offering to the customer includes

reference designs, platform software, chipsets and development boards, development and test tools, core applications, industrialization solutions, interoperability and type-approval support, training and documentation.

The EMP strategic product management organization delivers requirements to the R&D organization from operators and customers and conducts its own analysis of trends. The R&D organization delivers the platform to the customer project organization, which customizes the platform for individual customers.

A typical platform contains a reference design, which is a blueprint for building a mobile phone, together with a chipset and software. This includes cellular protocol stacks, data communication protocols and connectivity software (Bluetooth, infrared, USB, etc).



Improvements devised by EMP engineers are behind many of the world's mobile phone advancements.



Maths Andersson Sandeep Chennakeshu Jörgen Lantto

A platform also contains application enablers, video streaming, polyphonic ringers, high quality audio, Java, security and more.

On average, EMP delivers one customized software release a day, including customizations needed to accommodate the customer's choice of camera, display or displays, batteries and memory, among other things.

EMP typically delivers two major platforms every year. "Customer requirements go up while platform size, cost and time-to-market comes down," Lantto says. "EMP is constantly aware of this and works with state-of-the-art technology to deliver to these requirements."

This year, EMP plans to release a chipset supporting WCDMA, GPRS and EDGE. EMP is also working on an HSDPA (evolved 3G)/WCDMA/EDGE/GPRS platform.

"EMP is the piece that completes Ericsson's end-to-end offering," Andersson says.

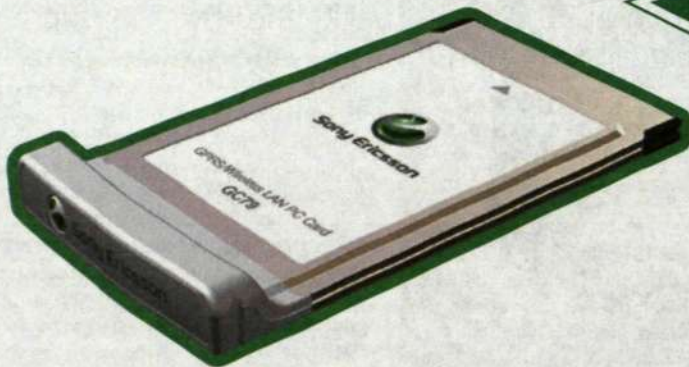
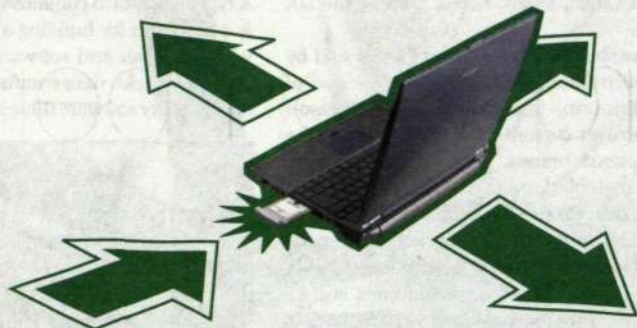
"It is important to demonstrate to operators that when they buy phones based on EMP platforms, their interoperability problems are lowered, time-to-market is improved and they can launch revenue-generating services more effectively. This is because EMP works closely with the rest of Ericsson to ensure that the end-to-end system is functional when launched."

Chennakeshu would also like to see Ericsson mobile platforms promoted more to operators through the key accounts. "That way, we truly build end-to-end solutions so that when the operator receives an entire system and a platform and a terminal and they turn it on, the whole application works. That means working in a more integrated way and in an application-driven manner."

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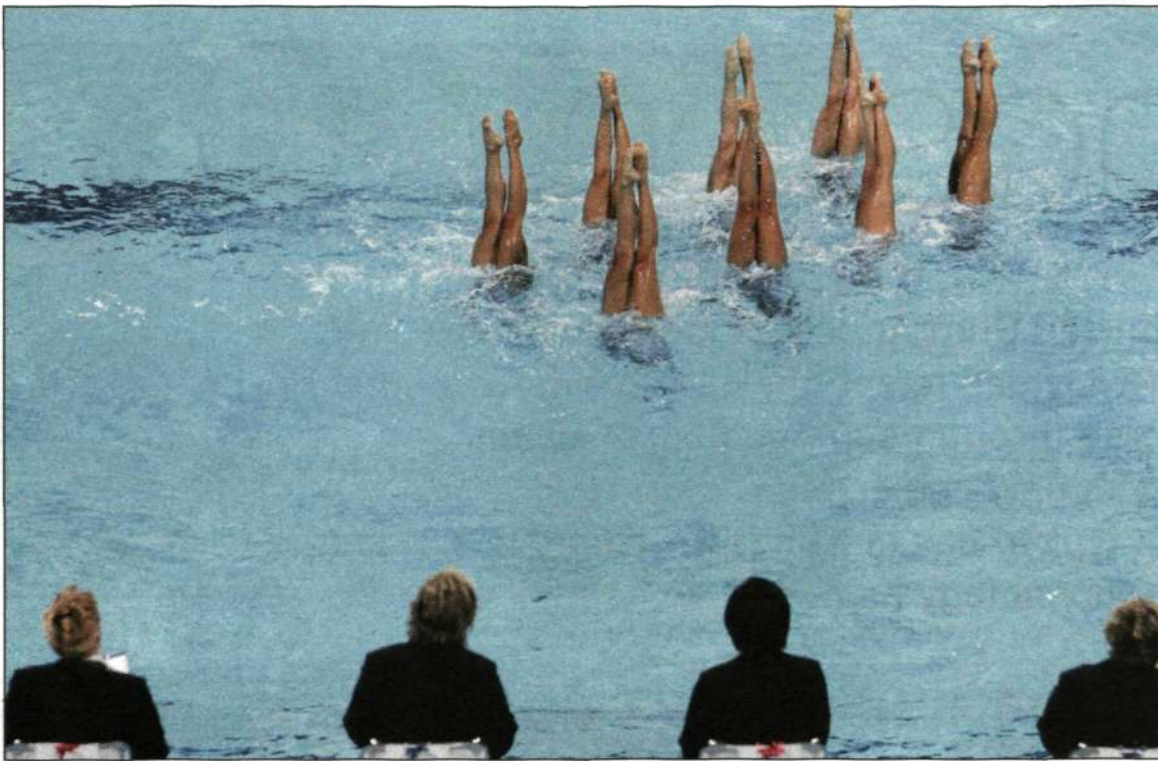
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Sony Ericsson

text: jesper mothander

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Customers give verdict on performance

Ericsson looks good in comparison to the competition, especially in areas such as cooperation and communication with customers. That was one result from the latest annual worldwide customer survey, commissioned by Johan Bergendahl, head of marketing within Group Function Sales & Marketing. "There are a couple of obvious areas for improvement, such as delivery precision, but there is also a demand for Ericsson's services," he says.

Once every year, Ericsson asks its customers what they think of the company. It is a major undertaking, but it is worth it. The cost of leading a new customer to an investment decision is estimated to be five to 10 times that for an existing customer.

Alexander Fritsch from CFI Group, the company that helped Ericsson with the survey, says: "Customer satisfaction is the single most important parameter for a customer to buy from Ericsson again."

Ericsson has used different methods in previous years to assist with its Global Customer Survey. It started using a new, more systematic approach this year, a method that measures Ericsson against a customer satisfaction (CS) index. This allows comparisons with other companies, but also lets Ericsson see how its performance compares with earlier years.

Measuring customer satisfaction gives a glimpse into the future: if a company improves in area X at cost of Y dollars, then turnover can be increased by Z dollars. The actual process began with requests sent to 7500 people at 350 customer companies in September. Of those, 3200 answered a web-based questionnaire comprising about 50 questions. All customer surveys carried out by CFI Group include three questions: "How satisfied or dissatisfied are you with the company?" "To what extent does the company meet your expectations?" and "How close is the com-

pany to your vision of a perfect supplier?". These three questions are weighted to produce the CS index, depending on how the other questions in the survey affect customer satisfaction.

The most crucial difference between different methods is the weighting given to the various factors in terms of their effects on the CS index. The underlying mathematics deals partly with how the answers are taken into account as CS-index-determining factors, and partly with finding a statistical trend that shows how much improvement in a certain area affects the final result.

The survey shows that customers are satisfied with Ericsson's products and technical expertise in comparison with competitors'. They are also satisfied with Ericsson's ability to communicate and cooperate. And they rank the Ericsson brand highly. Low marks went primarily to delivery times, notification of delays and Ericsson's ability to meet the need for services.



Johan Bergendahl

Johan Bergendahl sees this last point as something positive. "It is an opportunity. We have a major services operation, but they want us to do even more," he says.

Bergendahl is obviously pleased

with the results. "This turned out so well that we will carry out at least the 2005 survey using the same method."

Ericsson is now in negotiation with CFI Group about the next step. There is no doubt that the research company practises what it preaches. In the US, it runs a hedge fund that speculates in rising share prices for companies with high and rising customer satisfaction, wagering on companies with low CS indices to drop in value. The fund's value has increased by more than 50 percent in four years compared with the market index.

facts: result

Ericsson gets its best marks for:

Product quality
Accessibility
Communication, cooperation and brand

Ericsson gets its worst marks for:

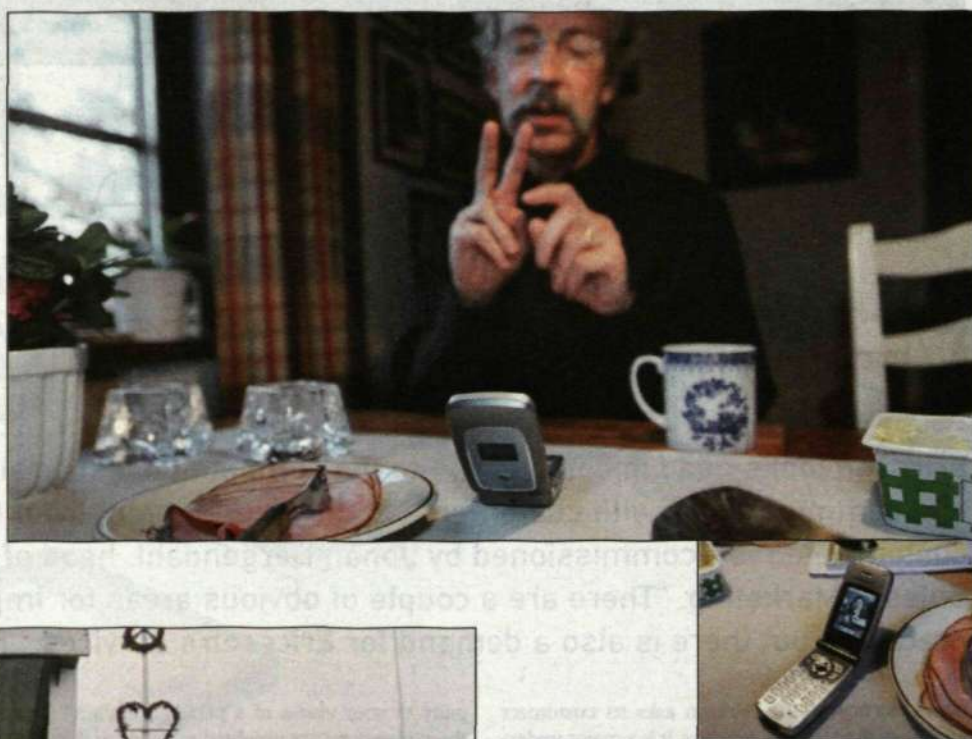
Advance notification of delays
Speed of hardware repairs
Speed of general problemsolving

Hands on 3G

3G has revolutionized Gum Anders Andersson's life. Deaf since the age of 10, video telephony gives Andersson the chance to converse through sign language, making communication not only easier but mobile.

We captured a typical day in Andersson's life to see just what impact the technology has had.

8.30 am Gum Anders Andersson starts the day with breakfast and a call to his daughter Yessica, who is also deaf. Being able to use video phones to communicate through sign language has enabled the pair to contact each other several times a day. Previously, they relied on text messages. Andersson says that video telephony is much better as it eliminates confusion and also avoids difficulties faced by many deaf people who also have dyslexia, and therefore problems conversing in text. Consequently both Andersson and his daughter's friends have 3G phones.



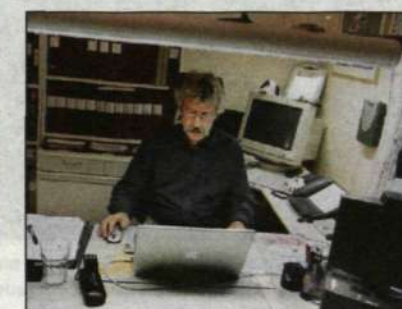
9 am On his morning walk with dog Doris, Andersson remembers to call his wife Liv, a teacher at the nearby school for deaf students and interpreters, to ask whether he can meet her for lunch. If possible, Andersson places his 3G phone on a stable surface so he can use both hands to talk, but when that is not possible he is very good at getting the message across single-handedly, making him truly mobile.



10.30 am Andersson uses his fixed-line ISDN service to make a "picture phonecall" to arrange an appointment with an interpreter service. He is thinking about canceling the subscription because it is quite expensive and limited to his home. Andersson prefers his 3G phone, especially when communicating with others who can use sign language. The video phone helps him to manage his work for the Swedish National Association of the Deaf and his consultancy business. But he would like the picture transfer to be faster and to be able to plug in a bigger screen. Also on his wish list is a voice mail service that includes sign language.



11 am Andersson is working from home making a film about the WISDOM project (Wireless Information Services for Deaf People on the Move), which uses 3G technologies to provide a mobile video telecommunication service platform for deaf people. The film highlights how important video telephony is, whether in an emergency situation or needing an interpreter to buy a car. The Swedish Government recently initiated a pilot for a new service called interpreter in your pocket, which gives deaf people access to interpreters through video phones. It follows Andersson's 2002 collaboration with operator 3 that resulted in the operator offering deaf and hearing impaired people free use of its 3G services.



2 pm Also interested in local affairs, Andersson has been devoted to politics at a municipal level for several years. After a meeting at the local government offices Andersson heads off to buy new spectacles. Using his 3G phone he contacts his wife who acts as an interpreter during the session at the optician. Not only does the transaction go smoothly, but the conversation allows her to offer advice on what glasses her husband should buy.

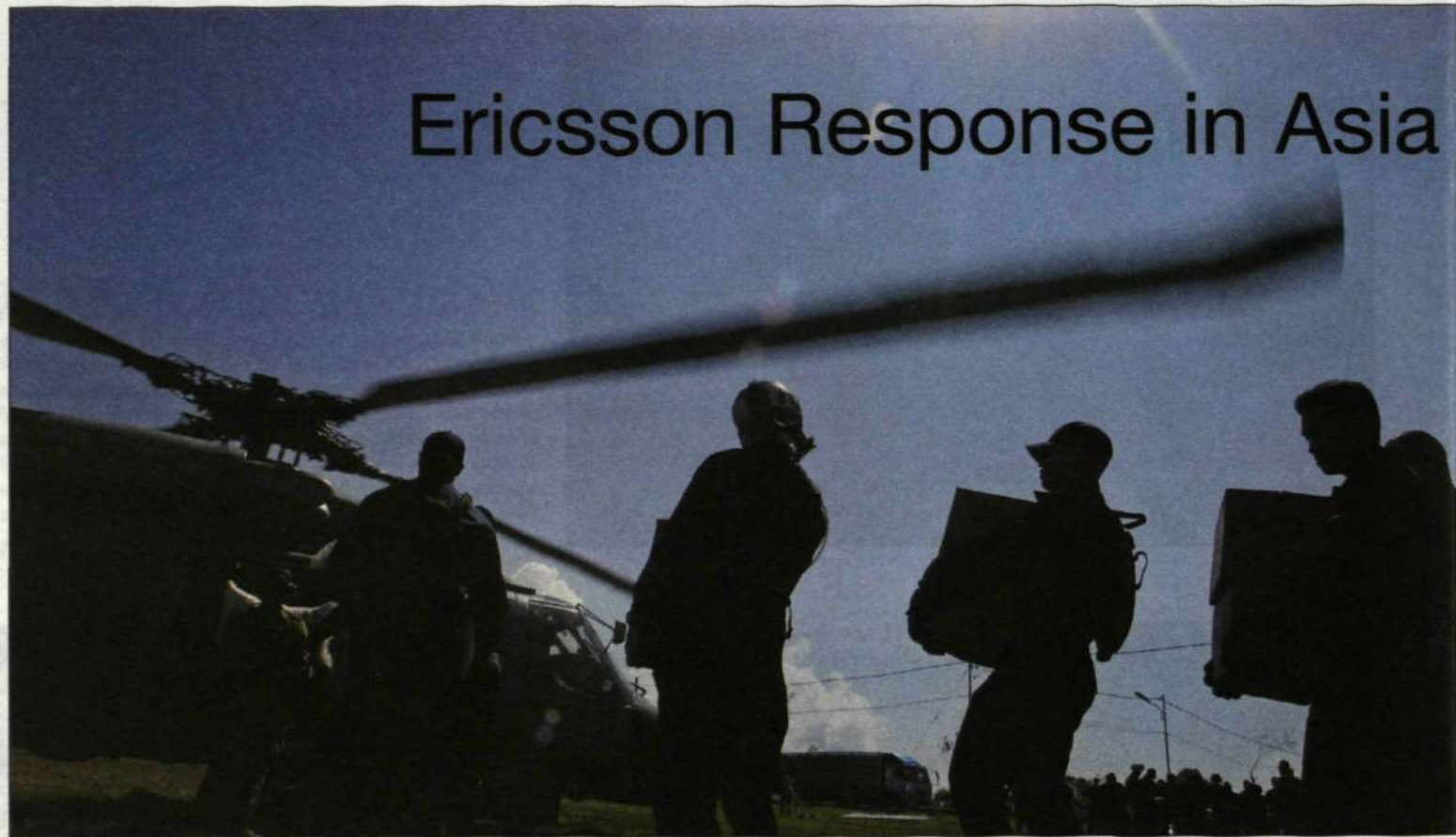


7 pm Andersson finishes the day the way he started, with a phonecall to his daughter. He rings before leaving Leksand (in central Sweden) station for the 2.5 hour journey to her home, to let her know he is on his way.

update

editor: jenz nilsson for the latest news: <http://internal.ericsson.com>

Ericsson Response in Asia to help rebuild communications



Ericsson Response and local Ericsson staff are helping operators and authorities in Indonesia and Sri Lanka to rebuild the communications system after the earthquake and tsunamis in the region. The picture shows American navy personnel load emergency supplies at Banda Aceh airport, Indonesia. photo: pressens bild/andy eames

The streets of Banda Aceh, the capital of the Indonesian province of Aceh, are clear again, but the same can not be said for communications into the region. Ericsson Response Director Dag Nielsen has been in Indonesia for a week, and will remain in the country until work to repair the communications system is complete, hopefully just a matter of days.

Phone contact has been restored in the wake of the devastating December 26 earthquake and tsunamis, but not surprisingly the system is overloaded as thousands of aid workers from across the globe work to bring humanitarian relief to the survivors of the disaster.

Trying to contact Nielsen was an operation in itself. Lines drop out, are so scratchy words evaporate into space or calls simply fail to connect. Like life in the troubled province it is a case of perseverance prevailing.

When Contact finally spoke with Nielsen he described an area slowly moving into calm. "Everything is organized now. There has been a massive clean up so the health concerns of the early days are gone. The organizers of the humanitarian effort have done an amazing job."

So to have Ericsson staff and Ericsson Response personnel in the region. Within days of the disaster Ericsson employees in Indonesian were working to rebuild the communications system getting two

base stations up and running for the regional GSM operator Telkmosel. Satellite phone, heavy duty water proof phones and 500 mobiles were rushed to the region to get aid organizations connected in the immediate aftermath.

Since then, a container GSM system shipped from Sweden, has arrived and been installed. Nielsen says it has made a significant difference to communications in the region, but work is still needed to fully integrate the system.

"It is still difficult to get any phonecalls," Nielsen says from Banda Aceh. "The GSM container has been linked into the main GSM MINI-LINK system, but we need more base stations and we are waiting for a switch to be configured correctly."

"We have done everything we can trying to support the operator with the reconfiguration to get the best communications we can."

Aid efforts are now focusing on the west coast of the province, which have been largely cut-off since

massive waves hit the region. Nielsen says a major road over the mountains into the inland area, which is largely unaffected, has been cleared allowing aid and workers into the area.

Nielsen plans to return to Sweden on January 18, indicating that immediate communication work is completed, but will remain in Aceh if repairs do not go according to schedule.

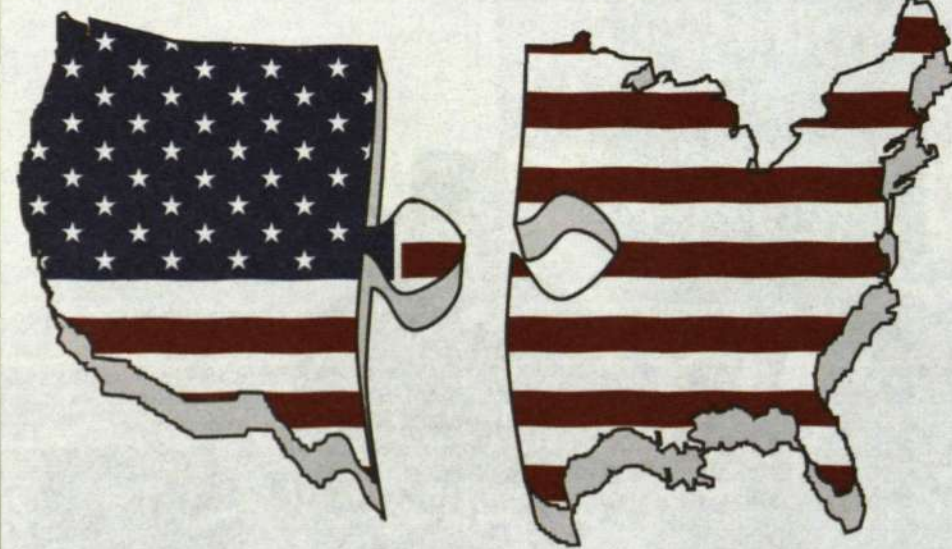
A Response team has also been working in Sri Lanka to restore full communications in the country. While the network was not unduly affected in the disaster, it, like those in India and Thailand, have been dramatically overloaded. Built for coverage rather than volume they have been unable to cope with the increased demand as tourists and locals alike come to terms with the disaster.

But Ericsson Response's work will not end there. The rebuilding process will take many years, Nielsen says, and Ericsson Response will be available to provide what support it can, whether in communications, IT, logistics or management activities.



Dag Nielsen

MICHELLE WALKDEN



Another US merger

US operator Alltel announced that it has acquired Western Wireless Corp in a deal valued at USD 6 billion. Alltel, with headquarters in Little Rock, Arkansas, has about 8.4 million subscribers compared to Western Wireless's 1.4 million. Last year the combined turnover of the two companies was USD 10 billion.

This deal is the latest in the recent rush of telecom mergers in the US. The North American market faces tighter margins and a future where economies of scale will play a more important role. A tele-

com market comprising a few very large companies and a series of small players will probably emerge as a result. Compared to other mergers the Alltel affair is a small one.

The three most dominant operators in US at the moment are: Cingular, which has merged with AT&T Wireless, Verizon, which is part-owned by Verizon in the US and Vodafone, and the newly formed company arising from the merger of Sprint and Nextel.

SOURCE: SVENSKA DAGBLADET

T-Mobile order new GSM network

T-Mobile Germany, the mobile branch of Deutsche Telekom in Germany and one of the largest mobile operators in the world, has chosen Ericsson to supply and integrate the replacement of 10,000 of T-Mobile's GSM radio base stations.

"This is a strategic, important breakthrough because we have not delivered radio access to T-Mobile in Germany before," Peter Olofsson, Director at Ericsson's press office, says.

Under the terms of the agreement, Ericsson will replace GSM radio-access network equipment by installing and integrating GSM/GPRS technology into T-Mobile's network. The challenge is not only the systems integration and related services, but also to undertake the operation without disturbing service quality for T-Mobile customers.

First 3G deal in Poland

Poland is the latest addition to the list of countries where Ericsson has 3G contracts. During the festive season Ericsson signed a deal with Polish operator Polkomtel that is not only a breakthrough for 3G in Poland but also renews the company's ties with Vodafone (Polkomtel is partly owned by Vodafone).

The contract is a four-year framework agreement. From the start of this year Ericsson will deliver and implement GSM, EDGE and WCDMA network elements for Polkomtel and also provide training and technical support for the supplied solutions. Ericsson has done business with Polkomtel before, providing MINI-LINK E services. The deal helps strengthen Ericsson's presence in Poland where it supplies equipment to two of the top three operators.



Magnus Gall

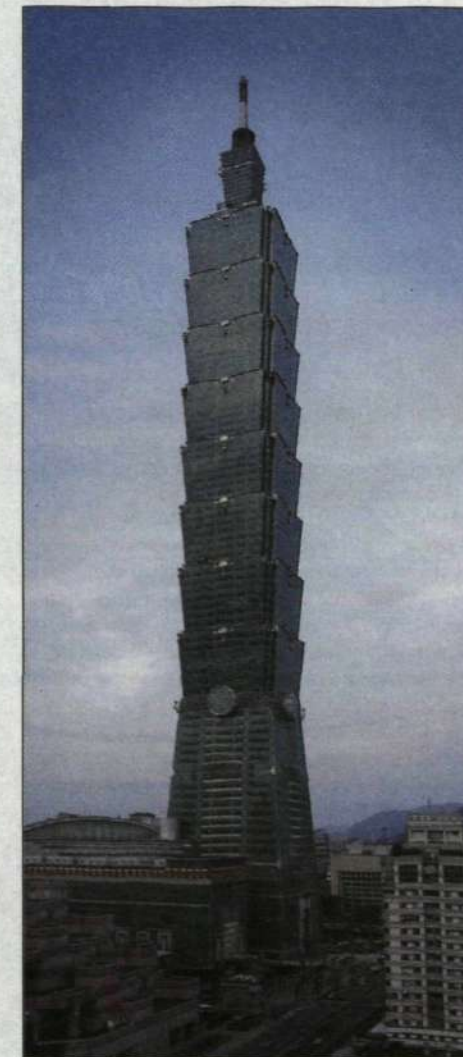
Stronger position in Central America

Telefónica Móviles has chosen Ericsson to migrate its Guatemalan network from CDMA to GSM.

The contract is a follow-up on the breakthrough deal with Telefónica in El Salvador in August last year, which also concerned migration from CDMA to GSM. These two contracts have definitely boosted Ericsson's strength in the fiercely competitive Central American market.

Magnus Gall, country manager for Guatemala and El Salvador and key account manager for Telefónica Móviles Central America, says Ericsson was not a CDMA supplier for Telefónica Móviles in either country, so both deals signify "major breakthroughs" for Ericsson in terms of market position.

Through the deals, Ericsson will reach a market share of 70 percent of the mobile system, becoming the GSM provider to five out of seven GSM operators in the two countries.



Contract reaches new heights

Ericsson will ensure that tenants of the world's largest building will get high-quality seamless coverage across 2G and 3G for GSM, WCDMA and CDMA.

Taiwanese operator Chunghwa Telecom has selected Ericsson to provide indoor coverage for the famous skyscraper, which has 106 floors and extends to a height of 508m. The building, called Taipei 101, is not just the record holder when it comes to height, it has also set the standard for communications quality in skyscrapers. It contains one of the world's most comprehensive in-building solution systems. It incorporates different network technologies on different frequency bands, including GSM900, GSM1800, CDMA800, CDMA2000 and WCDMA in a common antenna system. State-of-the-art technology is deployed to ensure seamless coverage in the world's fastest elevators, which travel at speeds up to 1km per minute. Ericsson's task will be to make all these parts work together with their own solutions.

President of Ericsson in Taiwan Mats Bosrup says: "We are thrilled to be a partner with Chunghwa Telecom and provide Ericsson's world-leading in-building solution for the prestigious Taipei 101 project."



Peter Larsson receives his Inventor of the Year 2004 award.

From jungle to judges' choice

One of the inventors of the year. Peter Larsson, made good use of his research last summer when stuck in the depths of the Amazon jungle. He applied the idea of multi-hopping (wireless routing) and sent an emergency call to the nearest village.

Peter Larsson, 38, is one of Ericsson's state-of-the-art researchers and has had radio in his blood since his early teens when he built his first transmitter. He came to Ericsson in 1995 after spending time at Televerket Radio, the Swedish Defence Radio Center and Philips, and obtaining a degree in technical physics from the Royal Institute of Technology in Stockholm.

Peter started in a trainee program and GSM system management before moving to Ericsson Research to develop a WLAN test bed in Singapore. He

later became manager for Ericsson's WLAN standardization of IEEE 802.11 and is now senior specialist within the Short Range High Performance Wireless Networks area.

"I had already started inventing things when I was at Philips, but soon realized that you need a sound knowledge-base for ideas to be really good," Larsson says. "One should also know about surrounding areas in order to obtain good cross-fertilization. To merge two functions that are not normally considered as being made for each other can produce extremely interesting solutions.

"Inquisitiveness is a very strong driving force, but it is also extremely stimulating to continuously challenge oneself and touch a concept that perhaps only a few people have considered. Sometimes one succeeds, and sometimes not. I am fortunate to be able to work with very innovative and skilled researchers, but one also needs peace and quiet to produce the right concept."

Larsson also says he has, on a few occasions, presented his ideas at a relatively early stage. "It can be a challenge to get people to listen, particularly if the idea is outside normal project frameworks. But it is extremely important that we succeed in obtaining really early patents within areas of the future, and I

wish that we tried more often to detect trends at a very early stage and to identify basic issues for future technology."

His latest research and patents have concerned future mobile systems where relay stations or mobiles forward signals within the network to provide better coverage and achieve higher data speeds. The technology is generally called multi-hop routing, two-hop and cooperative relaying. Other areas include Opportunistic Communication, MAC/ARQ, MIMO systems and WLAN.

But what about being saved from the Amazon?

"I enjoy going on long trips, and last summer I went to an Indian village in the Ecuadorian Amazon region, which was two weeks hike from the closest town. When we celebrated on the last evening, we used a shortwave transmitter and car battery to feed the music amplifier, which resulted in the battery being almost emptied. As a result, we couldn't call the airport with the shortwave transmitter - which we had to do to arrange our transport home. I then suddenly thought of using the multi-hop idea. Even if we couldn't reach the airport, we should, by reducing the power and not totally emptying the battery, be able to contact the closest village, which could then contact the airport. As you can see, it worked well!" •