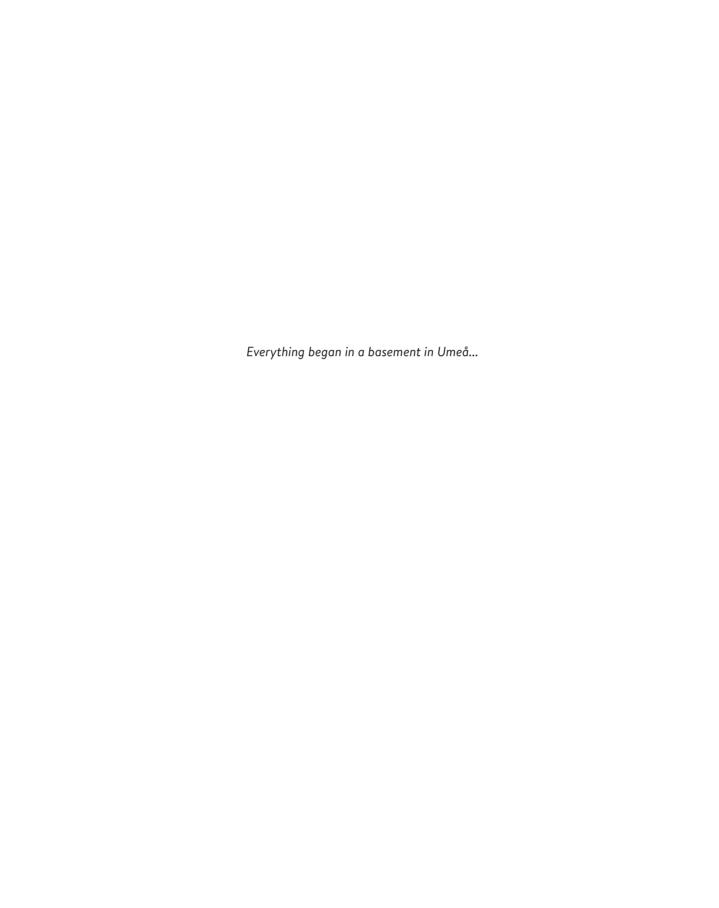


THIRTY YEARS WITH KONFTEL | 1988 - 2018





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Foreword



At Konftel we are constantly looking to the future. Research and development are high priorities and we're always looking 'around the corner' to ensure we bring user-friendly products to market in step with the development of communication and collaboration in all their forms. And as you know, this is a hectic industry.

In the autumn of 2018 we celebrate our 30th year in business and for once we take a look backwards. We want to tell the story of how our conference telephones found their way out of a basement in Umeå and into the global marketplace. This anniversary book is our way of sharing that story.

It's been an amazing journey. Not always straight to the right destination (in fact we've made a few detours en route, as you'll notice when you read this book) but we've always had a lot of fun along the way. And if you're a Konftel employee, customer or partner then you're a major reason why our working days are for the most part fun, stimulating and rewarding.

So sit back and take an abridged look back at our first 30 years. I hope you enjoy the journey!

Peter Renkel, CEO Konftel

Umeå, Sweden - September 2018

Part One

"Perhaps it was lucky that we were young and naive"



Two technicians

AND A BANK MANAGER

It all started with a technically-minded bank manager, a sound problem and two hi-fi guys from Lapland in northern Sweden. Pretty soon a modestly interested businessman became involved in the search for a solution to the sound problem.

This search led to what is today an international organisation with a product and a unique sound solution that can quickly and easily connect people across great distances.

The year was 1987, years before anyone had ever heard of smartphones, laptops or tablets. Your phone was wired up to a socket on the wall. The Sparbanken bank (as it was then called) in Umeå was building a new regional office in a part of the city known as Ersboda. Only the best solutions, the latest technology at that time and the highest quality were accepted by the bank – both in the construction of the building and the interior design. The bank's manager Erland Nygren was not one to compromise and money was no object.

This was of course a dream assignment for a young and relatively inexperienced electrical engineer called Peter Renkel. He was employed by the electrical consultancy company EKAB and designed the telephone system for the building. Erland Nygren's technical interests opened the doors for all manner of equipment needed for a large regional office with sister companies throughout the country.

Sparbanken was in those days a collection of independent local banks but as a group they were a powerful force and had top-level meetings on what direction they should take both at local and national levels.

The Sparbanken bank at Ersboda in Umeå needed a conference telephone in 1987. The phones on the market at the time weren't good enough. An idea started to form in Peter Renkel's head.



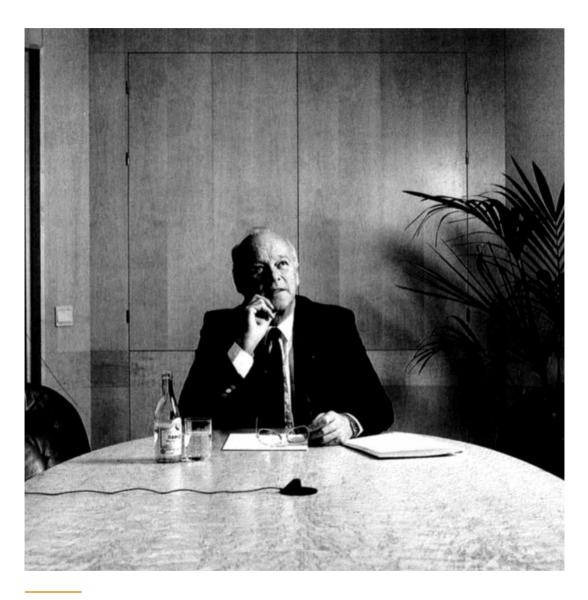
A new era was on the way in and a major merger was just around the corner. In 1992 Sparbanken Sweden merged with another major Swedish bank to form the somewhat difficult to pronounce FöreningsSparbanken. This new company formed the core of what is today known as Swedbank which operates in both the domestic and international markets.

There was hardly anyone who could have predicted this development back in 1987, but the new Sparbank building in Umeå was due for an update to fit in with the new times ahead. Bank Manager Nygren was driving the project and was very receptive to the possibilities of modern technology.

"I kept drawing plans and coming up with new solutions which Erland agreed to. It was actually just a case of adding on things – it was an incredibly fun job," Peter Renkel says.

Beyond the MD's room was the manager's personal conference room.

Umeå has around 125,000 residents and is located 650 kilometres north of Stockholm.



Bank Manager Erland Nygren needed a conference telephone.

Renkel was asked to check if there were any good loud-speaker telephone solutions on the market that could be useful for when Erland Nygren and his management group had meetings and needed to talk to major clients or other Sparbank offices in Sweden.

"Televerket (the public utility company responsible for telecommunications in Sweden) had a device that Erland tried but he was not impressed. I seem to remember that it was a big hexagonal box that would sit in the middle of the table – an elegant piece made from masur birch. There was only one problem. It didn't work very well, the sound was awful and it was very expensive," Renkel recalls.

The main problem was the fact that the sound was 'cut'. It was a bit like using a walkie-talkie where you had to wait for each other and if you happened to speak at the same time the technology had problems keeping up. In short it was extremely irritating.

Peter Renkel tried finding a better product but at the same time his inquisitive technical side started to fire up.

Moreover, he knew someone with an even greater interest in solving audio problems – John-Erik Eriksson.

The two guys used to hang out together during their teenage years in Lycksele (a small town in northern Sweden) and had worked with all sorts of audio solutions. Together they ran Thunder AV-teknik – a small company that built hi-fi systems in assembly halls, churches and radio studios. Local radio stations run by various non-profit organisations were growing and subsequently there was a great deal of work for the pair in the middle of the 80s.

"John-Erik is a few years older than me and as a 16-year-old it was really me who was learning from him. He was excellent at finding solutions in difficult acoustic environments where there was a lot of echo and in general where it was badly planned from a sound point of view."

A few years later the two young men had both moved to Umeå – an expanding university city which is today the largest in northern Sweden. John-Erik was working as a technical support person at Strömbäck's Folkhögskola (a local high school) that taught both radio and music studies. Peter was a qualified electrical engineer and worked as an electrical consultant. They had kept their small company as something of



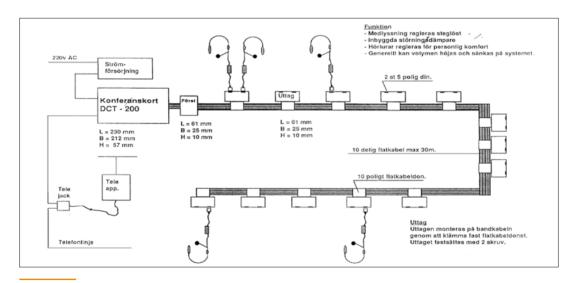
John-Erik Eriksson and Peter Renkel's little company worked with projects such as adapting sound equipment for difficult acoustic environments like, for example, churches and assembly halls.

a hobby, carrying out hi-fi installations and conducting training in how to build ideal studio environments. But let's turn our attention back to the late 80s, the Sparbank building and Bank Manager Erland's continuing search for a reliable conference phone.

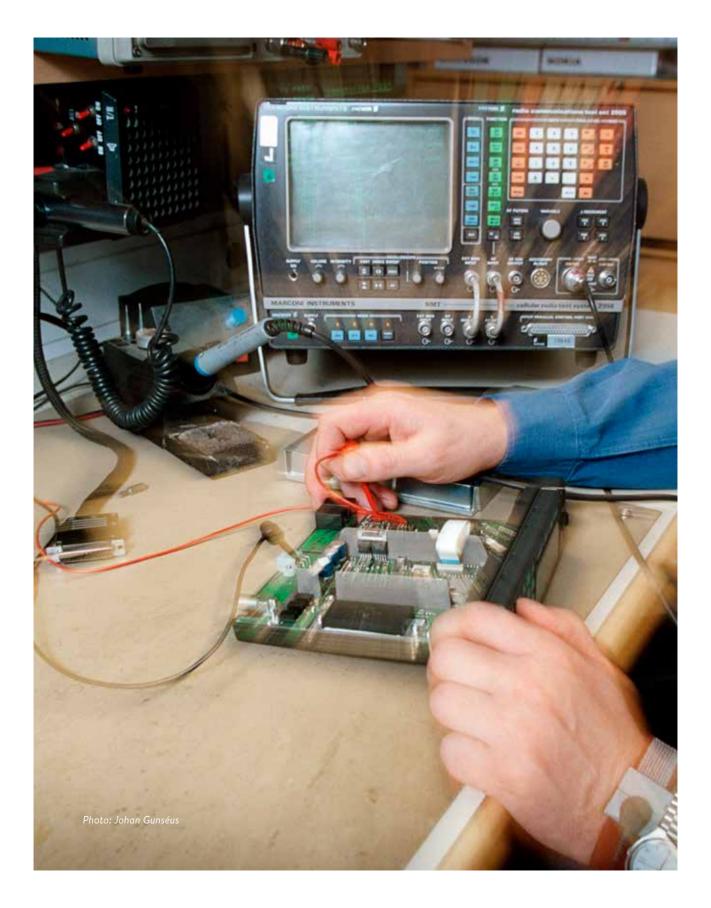
"Perhaps it was lucky that we were young and naive. I started thinking that myself, John-Erik and a few other sound 'acquaintances' should be able to sort out the Bank Manager's problem. He was easy to talk to and we should be able to solve the technical issues."

To cut a long story short Renkel asked Erland Nygren if it was OK with him if they built their own solution to the conference telephone dilemma. As there wasn't much to work with it was just a question of getting started.

"We didn't realise how complicated it would be with the technology available at the time. But we happily set out to create a solution."



Konftel's first conference telephone was a complex construction that was installed and integrated into a conference room. There was a long way to go until the smaller, smarter model arrived on the table.



A promising start

At the same time as construction of the Sparbank building continued, work carried on at Peter Renkel and John-Erik Eriksson's small sound company. During the evenings and weekends, they worked on the construction of a conference telephone that didn't cut the sound off and could be adjusted to Bank Manager Nygren's difficult sound environment.

John-Erik Eriksson recalls: "Peter asked me what I thought. Would it be possible to get rid of the problem with echo and feedback if you let the sound and microphone remain 'open' in order to avoid the cut-offs?

"A technical problem like this was a big challenge and exactly to my taste. I had had some experience from local radio where we often connected the telephone to the hi-fi system via a so-called telephone hybrid."

After several builds, tests and re-builds, new tests and new modifications of the system the Sparbank building was nearly finished. It was time to deliver the goods!

Peter Renkel remembers: "A technician is very rarely satisfied and keeps wanting to make further adjustments but eventually we felt that we were done. This isn't too bad, we thought – let's put the gear in Erland's conference room and make a live test."

In 1987 a conference phone wasn't a small device placed in the middle of the table. Rather it was the complete opposite – an entire system with separate speakers that were positioned in the ceiling and microphones that had to be adjusted and tuned into the room.



At the end of the 80s the old Swedish Televerket, a government authority, was undergoing radical changes. The state-owned organisation was reformed into the company Telia AB. It was a time for new ideas and products. Konftel's conference telephone was the right product at the right time.

Photo: Scanpix, Jan Håkan Dahlström

In addition to this there was also a control panel. The unique thing with the system was the fact that the guys had managed to eliminate the irritating cut-offs and you could now talk to several people at the same time. It worked brilliantly.

And Erland Nygren was very proud. He had a unique system that he willingly showed people when the building was opened and continued showing to his visitors. It was a great success – mission accomplished!

After that Peter Renkel and John-Erik Eriksson didn't think much more about the project because they felt it wasn't an obvious ready-made product.

The system was relatively complicated to install and adjust and the market for large conference rooms was limited, at least in Umeå.

But the rumours started spreading. Bank Manager Nygren was using his equipment all the time and constantly showed it off to his visitors.

The control panel was built into the wall in a special box that he could pull out and then explain what excellent sound his conference telephone could deliver. It was an impressive construction for its time.

The staff from Televerket became interested and Peter Renkel started getting asked questions.

"I was beginning to realise that what we had done was bigger than we really appreciated ourselves. But how were we going to take this further? "We started getting asked to build more systems but we didn't have any resources, not even any employees. So far everything had been done purely on a hobby basis."

At this time most telecommunication companies in Europe were still state owned, or as in Sweden's case by a state authority – Televerket.

A product that was approved and then distributed by Televerket would soon gain access to the entire national market. It was a dream situation for those who found a solution that suited the telecommunications market

There were, however, many bureaucratic obstacles to overcome first. But within this sector – as well as in the banking world – a new era was dawning in terms of organisational structures and ownership, and both required new technical solutions. It was a good time for a rethink.

The small company that had constructed the conference telephone was reformed as a limited company and named Creative Communications, popularly abbreviated to Crecom. Apart from Peter Renkel and John-Erik Eriksson, Peter's friend Lars Pettersson was also taken onboard. Each of them owned a third of the company. Lars Pettersson was at the time a young IT-skilled business administrator and brought a financial perspective to the business.

The company was still run without any employees but there were plans to create a financial 'buffer' in order to be able to employ John-Erik on a full-time basis.

"I knew Peter as a fun guy with great ideas so I really wanted to be part of it. My tasks were mainly finance and legal issues as well as contacts with banks and other possible finance sources." Lars Pettersson recounts.

At the same time the local staff at Televerket in Umeå had become seriously interested in the bank's remarkable conference telephone.

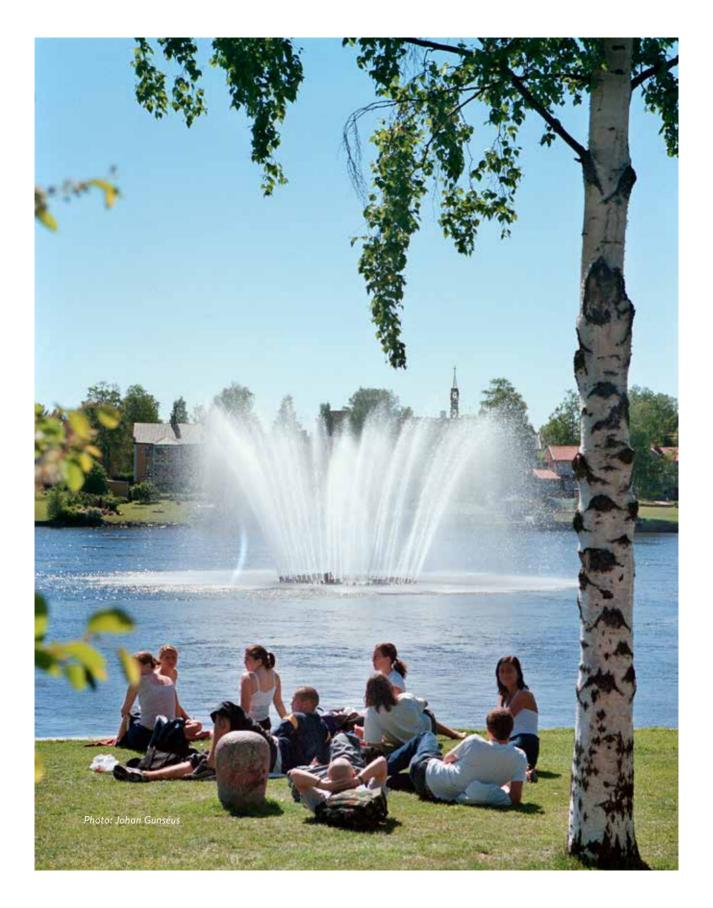
Those familiar with the market needs on a national level knew that there was a demand for such a solution.

But despite bank loans and a small start-up budget Creative Communications AB couldn't take on such an immense challenge.

They needed a financer - a brave venture capitalist.



Lars Pettersson. In 1998 he was the financial manager in John-Erik Eriksson and Peter Renkel's small 'hobby company'. Now Lars has more than 25 years of experience as CEO of major corporations in the IT sector, such as ATEA, Bisnode and Nexus Group.



Gunnar and Hasse

MAKE AN ENTRANCE

Brothers Hans and Gunnar Ekström took their first steps in Botsmark, a village 70 kilometres outside Umeå. In 1958 the family moved into the city and settled in Teg – a 'proud' part of the city located on the southern side of the Ume river. Native Teg inhabitants don't say they live in Umeå but that they live in Teg. This however started to change with the construction of the Teg bridge in 1949, a bridge that made a fine addition to the one existing wooden bridge from 1865 (that was later rebuilt in 1895).

The new bridge and new major road cut the Teg region in two, although Teg today is a recognised 'community' – even if just as a part of Umeå.

The Ekström brothers were entrepreneurial and interested in doing business. They began working separately – Hasse as a painter and decorator and Gunnar as a sales person – but when Gunnar (who was 10 years younger than his brother) was around 25 they started their first company together. They bought some land and a few properties mainly in Teg at Domarevägen and Kråkbärsvägen. They also bought land in the mountains on which they built houses which they sold or let. They were also involved in other types of business. "Bits and pieces," as Gunnar describes it today.

With hindsight it proved to be a genial move to buy land and property in Umeå in the 70s. By 1965 Umeå had 47 000 inhabitants; by 1975 (the same year in which a third bridge was built across the river) the figure had risen to 74 000. In 1985 there were 85 000 residents, by 1995 the 100 000 figure had been passed and in 2018 the number had reached 125 000.



Umeå Airport is one of the busiest in the country, welcoming more than a million passengers every year.

Photo: Peter Phillips

The city's politicians are aiming for 200 000 within the foreseeable future.

In 1965 Umeå was considered a bit of a small town. Today it is one of Sweden's fastest growing cities. The population is young (with an average age of 38.9 years) and there are around 14 000 companies located in the area. Stockholm, capital of Sweden, is just 55 minutes away by air, and Umeå Airport is one of the busiest in the country, welcoming more than a million passengers every year.

There's a lot to thank the city's university for. It was opened on a small scale in 1965 and is today the country's 5th largest university with around 30 000 students and 4 500 employees. Here you can also find Norrland's University Hospital (NUS) that serves around 500 000 people in northern Sweden as well as Finland.

Volvo Trucks has a factory in Umeå with close to 2 000 employees. Other large private employers are SCA Packaging, Ålö, Komatsu Forest and Norra Skogsägarna (the northern forest owners' association). There are a number of specialist companies that evolved from university research within the fields of biotechnology, genetics, medical technology and IT.

The closure of the large I20 military regiment in 1998 went by largely unnoticed compared to other towns and cities affected by military cut-backs – something of a frequent occurrence in Sweden in the 1990s.

Gunnar and Hasse Ekström therefore had Umeå as their base of operations with a few local businesses on the side of their other work. Gunnar worked six years as a sales representative for the then Swedish finance company Intrum Justicia and with the experience he gained there he resigned in 1976 and together with Hans started the local billing service company UMAF. Their first large client was the caravan manufacturer Polar in Dorotea. Business went well and after a while UMAF divided into two companies; UMAF Accounting and UMAF Invoice Services. The former was later sold to Sparev, the accounting arm of Sparbanken. In 1980 a 30 percent share of UMAF Invoice Services was sold to the Intrum concern.

At the same time Gunnar had found yet another profitable niche. The company bought small 'debts' from bankrupt companies that had been written off and subsequently managed to capitalise on the invoices.





The company became interesting to the 'big boys' in the market and in 1984 and 1987 Intrum Justicia bought the remaining parts of the company. Gunnar was Assistant Managing Director for Intrum Norden until 1987 and part-owner of Intrum until 1993.

In 1988 – 93 Gunnar was also running CCM Consultancy (Credit and Cash Management), with eleven employees that worked with rationalising and streamlining the resources of larger companies. This company also got noticed by larger companies in Sweden and in 1993 CCM Consultancy was sold to Ratos. While Gunnar became preoccupied with a number of larger nationwide companies Hasse was running the day-to-day operations at the brothers' other local companies. They had their offices on the sixth floor in then Umeå's only skyscraper, the so-called Thule house that is ideally situated at the northern point of the Teg bridge.

"At the end of the 80s we had a great deal to do. Every now and then people would come in and present fantastic ideas – some of them more fantastic than realistic, some quite realistic and clever," Gunnar recalls.

Nowadays the office is located 500 metres further east of Thulehuset in a beautiful wooden building, Aschanska Villan, which was built in 1906. Gunnar and his daughter Sofia Ekström have been running Ekström Invest for some years now and continue to do so. The company invests exclusively in growth companies offering high potential returns. One of their greatest "education" and success stories is of course Konftel, which after many years was sold to a global company with muscle of a different kind that was better suited to broader global expansion.

But you can find out all about that later on in this book. Back to the 1980s.

"At that time, me and my brother were very careful about getting involved in new business ideas. Firstly, we were already fully occupied with our own companies and secondly, we didn't really have the right skills. We needed to feel enthusiastic and have some knowledge of anything we ventured in to and products weren't our thing at the time. We said no to practically everything."

The ones who turned up always got a chance to present their ideas even though the response would probably be no.

One of the people who visited at the Thule house was Åke

Brothers and business partners Gunnar and Hans Ekström had their offices in Umeå's first sky-scraper, the Thule House. After a lot of persuasion and just one demonstration they became interested in a conference telephone invented in Umeå.

Photo: Johan Gunséus



Johansson, a sales person at Televerket in Umeå. It was some time in the beginning of 1988.

"Åke was an old school friend of mine and he was to say the least enthusiastic over a fantastic conference telephone that a couple of guys from the town had installed in the new Sparbank building.

"He said 'as you're dealing with this and that shouldn't you invest in this invention? It's an excellent product that we could sell a lot of, but the guys need some capital in order to develop it."

"I said no, we've got too much to do. It's not possible." Gunnar was at best only remotely interested.

"To be honest I didn't really understand what he was talking about. Conference telephones weren't such a hot subject at the time," Gunnar says today.

"But couldn't you at least come and listen to it?" Åke had insisted.

"Not now, maybe later ..."

At least three months went by, Gunnar recalls, but Åke Johansson was totally hooked on Mr Nygren's conference telephone and persevered.

"One day he turned up again and said that he had booked a lunch with Erland Nygren and that I was joining them. After that we would listen to the conference telephone. I couldn't say no, so it was decided that lunch and a demonstration would take place a couple of days later."

It was to be a successful meeting.

"When we came in to Erland's room he proudly pulled out the control panel from a box in the wall. He dialled a number and conducted a 'demo' conversation. It sounded really good and there and then I started thinking that there might be something in this after all. My class mate Åke was totally convinced Televerket would be able to sell lots of units."

Gunnar Ekström went straight back to his brother to tell him what he had just experienced. They decided to put some feelers out and talk to a few people in the field before making any decisions. Gunnar contacted several people at Televerket and the overall response was positive. There was certainly a market but there wasn't a good product out there to meet the needs of users. The person who launched one could be reasonably confident of gaining approval and orders from Televerket –

the only player in the Swedish telecom market at this time. It was both a government authority and a business-driven operation. This role didn't change until 1993 when the Post and Telecommunication board, PTS, was given governmental responsibility in 1992 and the following year Televerket was reformed into the state company Telia AB.

"Fairly quickly Hasse and I decided to meet the inventors to discuss how to take things from there. It was clearly a very interesting prospect."

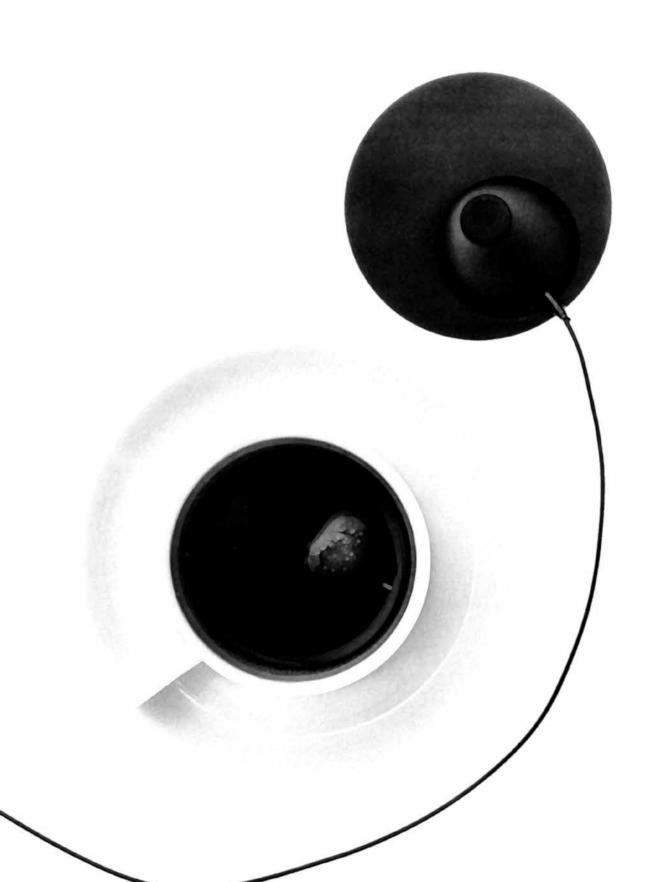
Peter Renkel, John-Erik Eriksson and Lars Pettersson from Crecom were soon in negotiations with the businessmen Gunnar and Hans Ekström.

"It wasn't that complicated. They were nice guys and we offered to buy the product they would produce. Our demand was that we got the worldwide sales rights."

Fairly soon they all reached an agreement and so in October 1998 the limited company Konftel was registered with Hans and Gunnar Ekström, with each brother holding 50 percent of the shares.

"I was tied up with so many other things in those days so it was mainly Hasse who got involved in the daily running of Konftel," Gunnar says.

Little did anyone know that 30 years later, the company's products would dominate the market in Scandinavia and be huge in Europe, and that Konftel would be the world's second largest manufacturer of conference telephones and renowned for its OmniSound® unique audio technology.



Climbing up

FROM THE BASEMENT

The idea was that Crecom AB would manufacture and install the conference telephones that Konftel AB then sold. The results were mixed.

"It went pretty well I think. After all it was a new product," Gunnar Ekström says.

"Our goal was to sell 100 units in the first year and we managed to do just that, so myself and Hasse were relatively pleased. The market was there, however at that time it was a pretty awkward product to sell. Each unit was a unique build for every end customer which was then installed and fine-tuned. I remember that a set-up cost around 25,000 SEK with installation, which meant it was not exactly a volume product."

It was named DCT200 (Duplex Conference Telephone 200) as the main feature was that you could speak in both directions simultaneously, known in the trade as full duplex. The DCT200 was manufactured to order from Konftel by Crecom AB in a basement off of Skolgatan 124 in Umeå.

Things were looking more positive for the three businessmen Peter Renkel, John-Erik Eriksson and Lars Pettersson. The biggest adjustment was made by John-Erik, who agreed to the suggestion to become Crecom's first and only member of staff, while Lars and Peter stayed put in their current jobs. John-Erik was a true all-rounder – a technician responsible for logistics, product development and installations.

"It was great fun but tough work, especially when you consider I started studying at the University at the same time. It was all too much so I gave up my studies after six months due to the amount of work at Crecom – a decision I have

Small microphone from a DCT200.

Svensk uppfinning sätter fart på telefonkonferensmarknaden!



Telefonkonferensen kan äntligen bli det alternativ det förutspåddes redan för tio år sedan. Nu är de avhuggna meningarnas epok ett minne blott, tack vare Peter Renkel, Umeå och hans nya telefonuppfinning.

Med den hålls telefonlinjerna öppna åt båda håll. Mikrofon och högtalarsystem har också utvecklats.

Av Tomas T Dalström

Förändrar konferensindustrin

Telefonkonferensanläggningen består av en låda som kopplas till telefonen, en mikrofon och två högtav Den

Intresset är stort

Idag har man ett rikstäckande servicenät med bland andra montörer. Varje anläggning trimmas in individuellt. Både med hänsyn till ber trustni

Swedish invention takes off. The telephone produced in a basement on Skolgatan 124 in Umeå amazed the market when it was launched. It soon became clear the company's limited production capacity just couldn't handle increasing demands. Production was handed over to external manufacturers.

Source: KonferensVärlden 1989 + private photograph



never regretted. Even if it was sometimes difficult there was constant development, both as a business and in terms of technology. And from the very start I have always believed in the product. We have been on an incredible journey and it's great to have been there from the very beginning," says John-Erik, who still works as an acoustics designer after many years of working for Konftel.

Lars Pettersson, who was responsible for Crecom's finances, recalls the times spent in the basement as fun and challenging – if occasionally a little hair-raising.

"In the evenings after work I'd pop in and check the fax to see if 'the big order' had arrived. Of course, most of the time the fax was empty, which was probably just as well when you consider our capacity at the time. 'Oh well, something will turn up tomorrow' I used to think to myself. However, we did manage to get a lot of installation jobs which meant we could keep our heads above water and pay John-Erik's salary."

Alarm bells started ringing when Konftel's orders came in very sporadically. Peter and John-Erik sometimes had to get together students and friends in order to finish building and delivering units. It was without a doubt a harsh lesson in how to run a business.

The DCT200 cannot be compared to today's conference telephones. The components in the DCT were mounted in a small box which was carefully hidden away in the conference room.



A Magic Box ...

The invention from Norrland was big news in the press at the end of the 80s. In this article from Västerbottens Folkblad Peter Rankel is flanked by Konftel's owners, brothers Hans (left) and Gunnar Ekström.

Source: Västerbottens Folkblad October 1988

"We lived mostly on high ambition and youthful enthusiasm"

Nu ska det vara en konferenstelefon

Dåliga tider ökar försäljningen

De är få men de finns – företagen som hälsar lågkonjukturen med glådje. Konftel i Umrå är ett sådant. När andra företag tvingas vända på varje krona, går Konftel båttre än någonsin. Produkten i tiden heter konferentelefoner.

An silia konferenstelefoner i ligkonjunktur är som att sälja paraphjer när det regnar. Des har det lilla Umelföretaget Konfiel fått erfara det senaste halvåret. Ett av de första områden före-

Ett av de första områden företag drar in på under dåliga tider är resandet. Det har inte minst SAS, Linjeflyg, hotell och konferensgårdar fått känna av. Samnidigt måne verksamhesen Det hela började med att två uppfinnare kom upp till oss med en värdssuphet, som dom sa själlva. Det skulle vara en konferenstelefon med fill duplex. Det vill siga att ludet skulle kunna gå i båda riktningarna samtidigt, utan

siges att finder skulle kunns gå i bleår rikningarna samtidigt, utan att någon rundgång skulle uppstå. Lådan med uppfinningen fick stå ouppackad i korrisforen i årskilliga veckor, innan Haus Ekseröm packade upp den – för att konstattera att John-Erik Erikasons och Peter Renkels uppfinning faksitat höll vad den kvade. Alla som konfererat med traditionell sakvänine ver vad det inne-

ning taktiskt höld vad den kovade.
Alla som konfererat med traditionell talvfakling vet vad det innebär. Det krävs en disciplin som på de gamla kortvågssändarnas tid. Pratar man i mun på varandra



Bad times mean good sales John-Erik Eriksson became Konftel's first full-time member of staff.

Source: TeknikensVärld

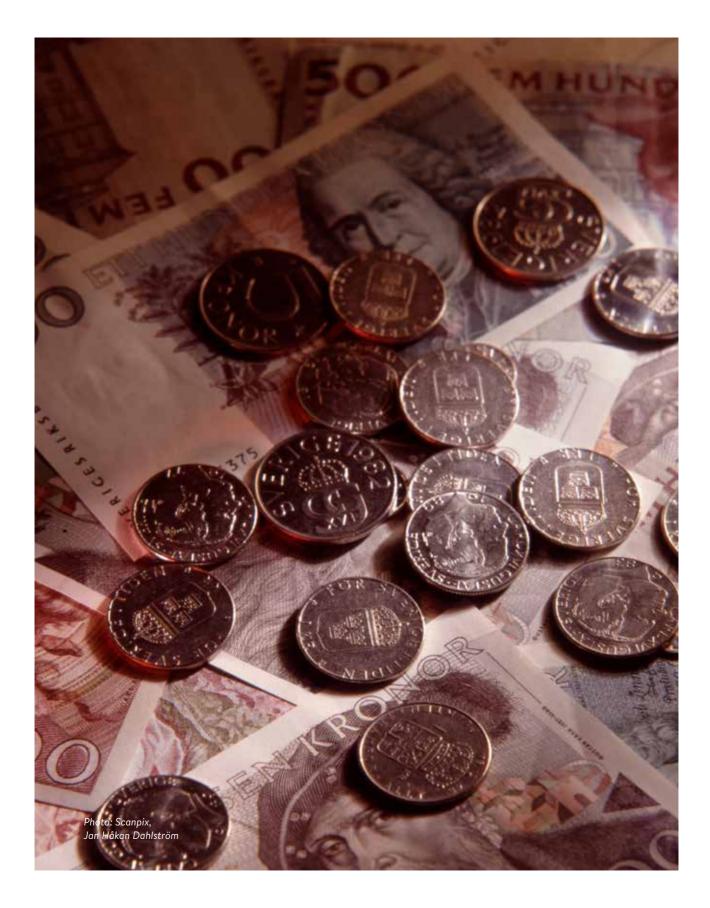
In addition, there were microphones and speakers – the amount depended on the size of the room – and after installation the equipment was fine-tuned so as to complement each room's unique acoustics and to work correctly with the telephone line. In other words, there was a considerable investment in working hours behind every single system.

"We had good fun in that basement," Peter Renkel remembers, "but we lived mostly on high ambition and youthful enthusiasm. We had no real idea about lead times and production planning – we had neither the finance nor the experience to map out the long-term planning that was really required.

"When an order came in we got started with our screwdrivers and if we were missing a part it was a question of ordering it and waiting for it to arrive. Components were pretty large and expensive in those days, especially for us. Production was very 'rock and roll', although at a speed more akin to a slow dance," Peter Renkel says with a smile.

In time the guys down in the basement began to realise they needed to develop both the products and the way they produced them if they were ever going to be successful in the longer term.

On the sixth floor of the Thule House tower block someone else was thinking along exactly the same lines.



Konftel takes over

THE SHOW

After about a year it became clear to all those involved that something needed to be done in order to increase sales volume and make production more efficient. Indications from the market were positive but sales mainly revolved around getting the DCT200 into conference rooms at the planning stage of new builds and re-builds of office buildings. It was all about dealing with big companies and organisations.

The largest system could be found at the head offices of Nordbanken in Stockholm in a conference hall that could accommodate 100 people. Sales were mainly conducted through Televerket, but Konftel – that is Hasse and Gunnar – were also selling systems directly to end customers. In order to make production more efficient a short but intense cooperation was started with an electronics company in Sorsele (a small town in northern Sweden).

Gunnar Ekström says: "We had some contact with the sales department at Televerket in Stockholm. In the end it was agreed that we would meet in the autumn to discuss how to take things further. Hasse and I went down to their head office some time during the autumn of 1989.

"The feedback was: 'It's a really good product functionality-wise. The people who buy it are pleased but it's too complicated for us to sell. 'We have to demonstrate the system in situation to potential customers for them to understand how it works. It takes too long before we reach a sales agreement.

'Then the installation takes time. We would like you to develop this technology but bring the format down and find a

way to tune it automatically into the telephone line. It would be good if it looked like an ordinary telephone. Then we could sell the products across the counter and achieve a much greater volume because we really believe in the concept'.

"That was the message Televerket gave us," Gunnar says. "We obviously envisaged significant costs so our counter question was: 'How many units can you sell?' and their reply was that they were prepared to put an order in for 1000 conference telephones."

The possibility to immediately increase sales volumes tenfold was obviously very interesting. The fact that Televerket's sales staff believed so strongly in the product was also a strong signal that the Crecom/Konftel partners were on the right track. Hasse and Gunnar Ekström went back to Umeå and set up a meeting with the production guys John-Erik, Peter and Lars.

"We told them about the meeting and what requests, or rather demands, Televerket had made. The guys looked quite concerned and explained that such an increase in volumes would obviously cost both money and energy. The latter they had loads of but capital was a problem. I think they mentioned a development cost of $300\,000-400\,000$ SEK which would clearly be difficult for them."

"Of course it was necessary to develop the product," Peter Renkel says, "but we didn't have any financial muscles. At the time we had also been in touch with the larger manufacturers (among them Ericsson) to look into the possibilities of cooperation but they were not interested. 'We've tried that and it's too complicated, we don't want to deal with conference telephones' was the reply we got. It was a difficult situation for our small company."

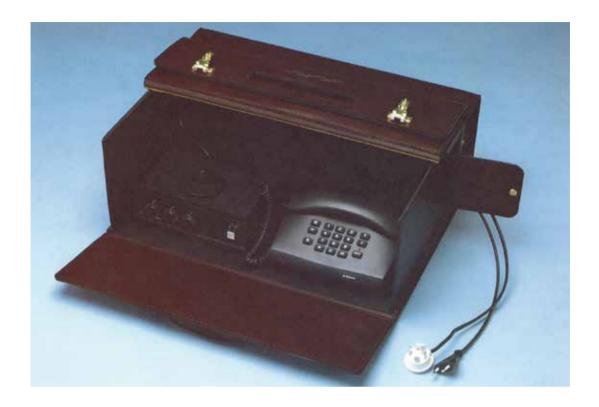
The year was 1989, when three Ws were being introduced without any great fanfare to the general public and the year when mobile phones started to become 'portable' (they weighed less than one kilo, cost a mere 30 000 SEK and no longer had to be installed in a car).

Today the World Wide Web (www) needs no introduction but in 1989 it wasn't easy to explain the point of it. Ericsson and many other large technology companies obviously understood its potential and development was focused on the mobile



The first 'portable' Hotline Ericsson weighed 3.5 kg and cost around 30 000 SEK in the end of the 1980s.

Photo: Jan Johansson



The Portable conference telephone DCT200 in the early 90s.

side and on the possibilities of computers (microprocessors). The seeds of the IT boom were growing quickly.

A sector as niche as conference telephony was uninteresting to the large players. In hindsight it's easy to see that this would prove a blessing for Konftel. The field was more or less left wide open to a few manufacturers who were given the luxury of time to develop their products relatively undisturbed. This also meant that Konftel eventually only got dragged into the periphery of the emerging IT bubble. But more about that later on.

The Ekström brothers pushed on and wanted a decision from John-Erik, Peter and Lars who had been in touch with the Essex factory in Sundsvall to enquire about the development costs of their conference telephone.

Essex was owned by Televerket and had many years of experience in developing and producing telephones. As the state telephone monopoly was dissolving Essex was interested



in tying new partners to their company and the feedback they gave was positive.

"But the investments required remained a problem for Crecom," Gunnar says, "so I also contacted Essex to hear what sort of money we were talking about.

"I think Hasse and I were probably more hooked on the idea than the guys so fairly quickly we suggested that Konftel would finance the development and step by step take over the rights of the new product and at the same time move all the responsibility over to Konftel."

"The deal was that for every 1 000 units sold we would pay a certain sum to Crecom and when we had passed 3 000 we owned the whole production. I seem to recall the development costs were around 750 000 SEK – a giddy amount of money for our little operation at the time."

At the end of 1989 the deal was signed and Crecom said goodbye to its basement location. Now development, production and sales were all the responsibility of Konftel. John-Erik Eriksson became the first employee of Konftel. Hans Ekström was the Operational Manager and Gunnar Ekström got involved when he was able to and always when the big decisions were made. Development of the new product started but it would take over a year before it was launched. During this time Konftel and Televerket continued selling the DCT200.

Improving
telephone meetings
Both the Swedish and
Norwegian telecommunication authorities were interested in Konftel's products.
Here is an article from
a Norwegian business
publication.

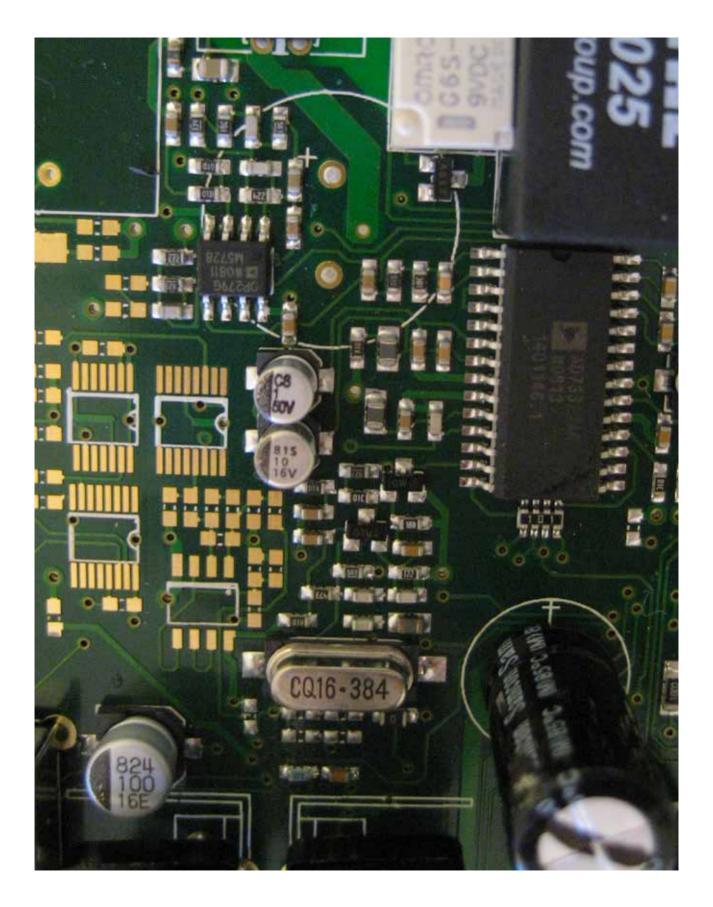
Source: Børsen-Herning Messen, September 1991. Peter Renkel and Lars Pettersson left the concern and went on to other business ventures. There simply wasn't room for any more employees in the small company.

"I have always lived by the motto that if you are going to do something then do it properly otherwise you might as well not do it at all. Peter and I were only doing it in our spare time and it wasn't working so it was best to hand over to those who had time and resources." Lars Pettersson recalls.

The motto has worked incredibly well for Lars. In 1991 he started a small computer company, QD (Quality Data) that grew in time to become well-known within the industry in Sweden. A few years later QD was bought by the then computer giant Martinsson and after just one year Lars Pettersson was appointed Managing Director of that company. When the even larger ATEA bought Martinsson Lars followed, and now he has more than 25 years of experience as CEO of large companies in the IT sector, such as ATEA, Bisnode and Nexus Group, and is now a well-known senior executive in the Swedish IT sector.

"I have worked hard and things have turned out well. I'm not complaining. But remember that I have always surrounded myself with good co-workers. That's the key to success. It's good to see that Konftel is doing well. Gunnar was a brave owner for more than 20 years and has dared to interact with the main players. It has been important to the company's development. I hope they will do as well in the future, where there are both possibilities and threats. In our offices you'll find Konftel systems in all the conference rooms of the concern, so I'm reminded every day of this journey."

Peter Renkel also ventured into the computer world 1989, eventually becoming co-owner and Managing Director of a couple of local businesses in Umeå, among others IT-Center (later bought by Bredbandsbolaget) and the established local printers NRA. Peter Renkel is now Chief Executive Officer of Konftel after returning to the company in 1997.



Lots of development

BUT LITTLE INCOME

John-Erik Eriksson's first task at Konftel in the winter of 1989/90 was to start the cooperation with Essex's technicians in Sundsvall. The goal was to follow the advice from Televerket's sales staff to build a conference telephone that looked like a normal phone complete with external speakers and microphones.

This suited Essex perfectly as the company had started to notice the competition from foreign telephone manufacturers. Thanks to a number of deregulations in the Swedish telephone market new brands flooded into the country and the production of Swedish telephones shrank. Essex already had the machinery to cope with the production of a product that looked like a normal telephone.

Just about one year after this cooperation began the first model was launched under the name Konftel Business. There were three models – Business Conference, Business Handsfree and Business PC. The latter was clearly ahead of its time with software that made it possible to use a list of phone numbers stored on the computer and dial directly from the keyboard. It was also compatible with both PC and Mac!

It was the spring of 1991.

"The collaboration with Essex was working well and I built a strong working relationship with their technician Ronald Sjöström. However, the components were pretty big in those days and it was difficult to get everything needed into the telephone. We just kept working on it until we solved the problems," John-Erik says.





Hans Ekström wishes John-Erik Eriksson good luck before his trip to Oman. The country's Telecommunications Minister had ordered a conference telephone system from Konftel and John-Erik travelled there to install it. The year was 1992.

A fax from Oman confirms one of the first deals made outside of Scandinavia.

In the beginning of the 1990s the country was in the grip of a recession. From a historical and economic perspective one talks about the 90s crisis when the economy fluctuated wildly and companies battled with down-scaling and cost-cutting at the same time as the Bank of Sweden was forced to surrender the fixed exchange rate following the collapse of the Swedish crown. Interest rates soared sky high.

However the crisis actually had a positive effect on attitudes towards Konftel's products, as people realised they could make significant savings by reducing travel costs. There were lots of upbeat articles to this effect in the press and interest in Konftel and its products started to grow. The term 'full duplex' became synonymous with Konftel's conference telephones.

Production-wise the Business model was a considerable improvement on the old DCT200. The number of components shrank radically and in Essex Konftel had an experienced partner who knew just what was required. In addition a number of personal contacts were made with some skilled technicians that would prove valuable in the future.

Sales were improving but the real breakthrough had still yet to be made, even though there had been a significant rise in sales compared to the DCT200 model.

An amusing story from 1992 was when an order was made for a DCT200 system from the sultanate of Oman at the Arabian Peninsula. The country's Communications Minister wanted to have a system in his conference room as well as some other additions. John-Erik Eriksson travelled to the sultanate to install the equipment. It wasn't the most profitable job but it was a 'prestige order' that generated a lot of good PR.

"It was really difficult financially some months. Sometimes it went down to the wire whether we would scramble together enough for the salaries. However when things got really bad it was always Gunnar that came in and sorted things out. He made sure I had some accountancy work in several of his other companies," recounts Åsa Sjöström, who has worked with finances and accounting at Konftel since 1991. She became the company's second employee.

"I worked at Umeå Energi, one of the larger communal companies and had a good deal there. However I wanted a bigger challenge and so I resigned. After a substitute position at a computer company I saw a small advert asking for



Åsa Sjöström, Konftel's second ever employee.



Konftel Business was the result of a cooperation with Essex in Sundsvall. It's clear to see that Essex was a telephone manufacturer. The Business model was adaptable and didn't need to be installed. It was also designed for both PCs and Macs, which was way ahead of its time in 1991. The design however was a problem, as it too closely resembled an ordinary phone.





Computer compatible conference telephony á la 1991.

a Financial Manager. I applied and went for an interview with Hasse and Gunnar and got the job. Without a doubt I have had my share of challenges here at Konftel," Åsa says laughing. She is now the company's Chief Financial Officer.

"But it really has been such fun. Even though at times it has been a bit bleak, the company has continually grown and we have taken steps in the right direction all the time – although sometimes two steps forward and three steps back before we moved forwards again. Over time myself and John-Erik, not to mention Hasse and Gunnar became so taken by these products and their potential that we had no choice but to continue fighting for them.

"Gunnar's stubbornness – and of course his economic risk-taking – is the real reason why we are where we are today. In addition, and this is just as important, we've always had a fantastic atmosphere here at Konftel. We have laughed together and sometimes argued and slammed a few doors but we've always stayed friends and respected each other even though many of us are completely different as individuals.

"The Konftel spirit has become even stronger since Peter

Renkel became CEO 1997. His leadership style has created a good atmosphere and a sense of openness which benefits both the company and us as people. At this company you don't have to be afraid to say what you think. I also think our customers get the impression we are comfortable and open with each other at Konftel. We are extremely non-bureaucratic and customers like that

"Of course we faced a lot of new challenges when Gunnar sold the company to Avaya in 2011, not least with regard to administrative issues, but I think we've managed to keep our true Konftel spirit intact. Peter Renkel's leadership style is the key to this," says Åsa Sjöström.

If we return to the beginning of the 1990s Konftel was basically treading water. The companies buying the Business models were satisfied but sales failed to really take off. Perhaps the problem was that the Business models were too much like ordinary telephones. Who wanted to pay around 12 000 SEK for an ordinary desk phone?

"Yes but this is no ordinary telephone. It's got loads of fantastic functions!"

A product that must be explained seldom sits at the top of the sales charts – especially not if it looks like a considerably simpler and cheaper product.

The Business model did not convey high-tech and quality. It was difficult to defend the price with a function like full duplex alone. Konftel's popularity among many of the larger companies also exposed an unexpected side-effect of the Business model. Larger users started to connect from several regions and different telephones for the same telephone conference, which meant that all the lines together created an irritating echo. With smaller meetings this wasn't an issue but there was a risk of getting echo with larger conferences.

John-Erik Eriksson points out: "It's always been users who have driven development and with their higher demands for performance we were naturally compelled to solve the echo problem.

"The lines at that time were eternal factors that were difficult to deal with, but in the next models we developed echo-cancelling that solved the problem."

However despite unique technology there was still something else needed to make the big sales breakthrough.

Design had until now been fairly unchartered territory for the conference telephone enthusiasts in Umeå, but Gunnar and Hasse weren't afraid to try new things and so began sounding out their contacts for tips on a good design company.

At the same time Gunnar tried to find some investment help as the next model would of course need to incorporate the microprocessor – the latest computer device which meant, among other things, that it would be possible to provide echocancelling. Many of the old components would be left out and the IC-circuits would take over

"We had a number of meetings with the technical gang," Gunnar Ekström remembers.

"It was John-Erik plus Roland Sjöström and a computer guy named Stig Stuns in Sundsvall. They explained that we had to switch to the new DSP technology if we wanted to reduce the number of components while improving functionality. Myself and Hasse didn't even know what DSP was but the technicians' explanations made sense to us. It meant that in principle we would build a small computer into the products and we knew instinctively that this was the right way to go."

DSP technology (Digital Signal Processor) revolutionised the way electronic products were made. They became smaller, smarter and cheaper and progress was made at an incredible pace. The term 'a quantum leap' in technology really applied to this period in time.

In other words the intensive investment phase of development continued at Konftel. In 1991 the company invested 4 million SEK. By 1992 that figure was 7 million and in both years the profit was plus/minus zero.

Gunnar and Hasse Ekström weren't the type of guys to give up easily.

The indications from the markets were very positive and so they increased their efforts. Now the goal was to ensure the company's conference telephones didn't look like ordinary telephones. Visually they should be able to justify their place on the conference table. They needed to look high quality on the outside while crammed full of the latest technology on the inside.



An important Norwegian

FROM SAN FRANCISCO

If the young guys at Crecom had needed investment from a strong local player – which turned out to be Gunnar and Hans Ekström's company – now it was the brother Ekström's turn to look for financial help.

There was a real need for investment capital to produce the breakthrough product that could establish itself in the Nordic markets, as it was not just Sweden that Gunnar and Hasse were aiming to conquer. The market could be even bigger since sales of the Business model were strong and demonstrated that interest in telephone conferences was on the rise. Demand was clearly there.

In an interview in 1992 that appeared in the national Swedish newspaper "Svenska Dagbladet" entitled 'Skanska reduces travel costs by 20 million', a representative for the company said: "We have created a particular room for telephone conferences for 16 – 20 people and bought a special telephone system in order to benefit from Televerket's telephone conference service."

"The Business model had a particular calibration function that worked in such a way so that users would ring a special number to us where an automatic calibration of the line would take place. Every call was documented. After several years of sales I checked and around 10,000 calibration calls had been logged, so it was being used all the time," John-Erik Eriksson says.

Interest and expectations were maintained with a new, smarter and more attractively designed model.

This was to be achieved in a three-pronged approach:

1/DSP technology 2/Design 3/Production solutions

"The task of producing the first software-based conference telephone was a huge development project for our small company. It was 1993 and we needed more capital. I had a little luck when I heard that Göran Olsson from Industrifonden (the 'Industry Fund') would be lecturing at Umeå University. The talk was to be about the work of the fund and how it invested in different sorts of projects," Gunnar Ekström recollects.

He ensured he was in the audience during the lecture and afterwards approached Göran Olsson and told him about Konftel and the company's plans. The timing was perfect. Olsson knew a person who had just moved home to Oslo after many years working in the USA telecommunications sector. It turned out that there was a similar fund, the Swedish/Norwegian Industrifond, which was an organisation that had been formed at the end of the 1970s by the Swedish and Norwegian governments as a form of compensation following a series of failed business ventures between the two countries' leading industrialists.

This joint Swedish/Norwegian Industrifond was intended to last for around 20 years (the fund was actually dismantled in 2004).

Göran Olsson wanted to introduce the American-Norwegian telecoms expert to Gunnar Ekström.

"It sounded too good to be true, but after a couple of days a certain Gunnar Dalby from Oslo rang and asked me to tell him about our plans. I described our product and what needed to be done."

They got on well and spoke for some time. In the end Dalby said:

"You know what, we have to meet. I'm coming to see you on Friday."

"It was incredible and a bolt out of the blue that he came the same week. He wanted to know how much money we needed but so soon into the project it was difficult for us to really know. We didn't have the experience of how you develop a totally new product. It wasn't just about technology and Konftel's offices on Döbelnsgatan in Umeå.

Photo: Johan Gunséus



design – we had also decided to look for a local factory that could work with us and handle production."

"The concept involved, for example, machine tools and solutions to other important functions such as storage, logistics and service. There were a lot of new things to consider all at once."

Gunnar Dalby from the Swedish/Norwegian Industrifond was very positive. Konftel was a small, creative business that needed support for a promising product that was ready to be launched – the ideal candidate for the fund's help. With his background Dalby was the right man to see the potential of Konftel's products – he was a Norwegian electronics engineer who had worked for four years in New York for his Norwegian employers before starting his own company together with a colleague in San Francisco working with internal communications solutions. In the mid 70s Dalby sold up and moved home to Norway. He worked for many years for the Elektrisk Bureau, which had among others the Swedish LM Ericsson as part owners. Dalby was used to working in a

y miljonorder Il Umeåföretag

KonfTel gör entré på finländsk mark

UMEÅ (VF)

Umeåföretaget KonfTel har i dagarna tagit hem en tredje stororder under 1993. Svenska Telias dotterbolag i Finland har i en första order beställt konferenstelefoner för en miljon kronor.



Orders worth millions

In the beginning of the 1990s Konftel took another big step into the Scandinavian market.

Source: Västerbottens Folkblad, 1993

Skanska sänkte resebudgeten 20 miljoner

Lowering travel costs

Saving money by travelling less was an interesting proposition in the start of the 90s. Skanska was one of several large companies that invested in Konftel's conference telephones.

Source: Svenska Dagbladet, 1992

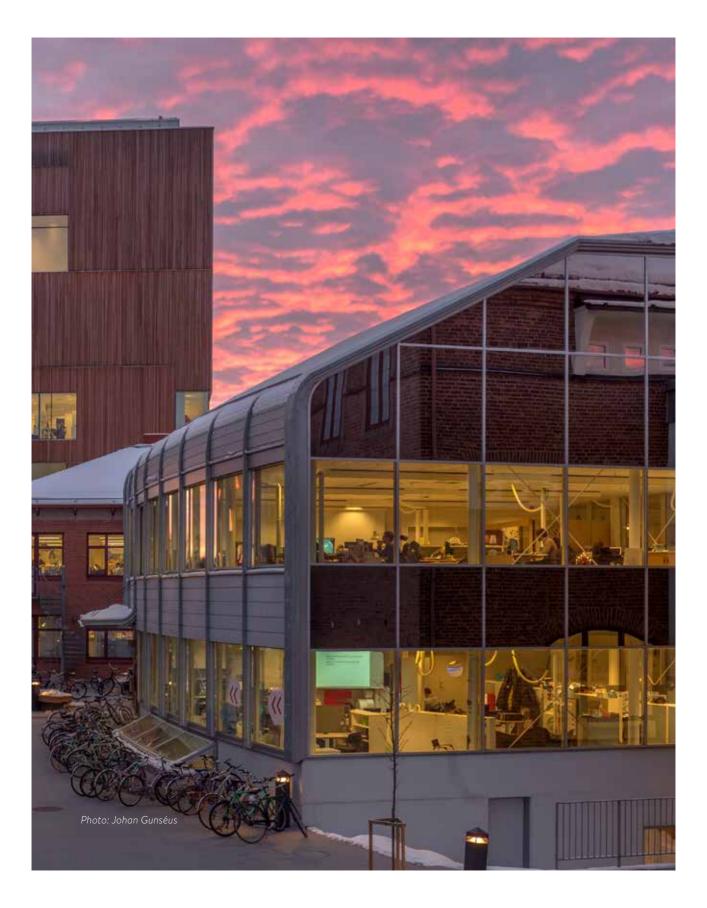
global market and had established local offices around the world

In January of 1993 he changed employers and started at the Swedish/Norwegian Industrifond. The tie-in with Konftel was one of his first major projects. The fund's decision was to build a consortium which included both Norway's Telenor and Sweden's Telia. The decision was also made to commit a first investment sum of 3 million SEK in the very same year.

"The contact with Gunnar Dalby was vital for us. We also received helpful investments in 1994 and 1995 that were critical for us. In addition we got support from some local Swedish funds and this allowed us to battle our way through the difficult and costly developmental stages until we were eventually able to stand on our own two feet and pay off the loans," Gunnar Ekström says.

During the spring of 1993 Konftel could begin its first really serious research work before construction of the digital conference telephone got underway. The market's interest was reassuring – among the deals already in place was an agreement with Telia worth around 10 million SEK and one with Norway's Televerket worth 1 million SEK. The latter order also contained an 'intention' clause which was estimated to be worth a potential 20 million SEK over a five year period. Konftel had also hired two salespeople and now had five members of staff on the payroll.

During this period Konftel moved to Döbelnsgatan 19 – an address that the company occupies to this day, although they've grown into an entire floor of the building.



Investing in design

In the spring of 1993 the first class graduated from the Umeå Institute of Design, a four-year education focusing on industrial design. Soon after leaving the university Johan Gustavsson, Tord Berggren and Stina Sjöström had been given a few small jobs and so the three of them decided to set up a company together.

Struktur Design AB was a fresh, new company with young people that were very enthusiastic about their line of business – industrial design in northern Sweden. In fact the level of passion and enthusiasm was similar to another Umeå company with great plans. Soon their paths were to cross.

"I think it was via an illustrator at an advertising agency that I learnt that Konftel was looking for some design help," Tord says.

"I went to the Thule house and met with Hasse and Gunnar who were actually very interested to learn what industrial design could mean for their product."

As it was Konftel's first large development project the aim was to keep everything geographically close in order to more easily coordinate operations. The technological development was conducted in Umeå and Sundsvall; the tool maker was in Bjurholm (Roland Eriksson, Rekab) as well as Bjurholm's Industriplast; assembly and electronics were handled in Lövånger (Leab) and the design agency was in Umeå where Struktur Design got the contract.

"It was Tord and I who were working with the Konftel project. It became an increasingly important task for us," Johan Gustavsson recalls.

The Institute of Design in Umeå.

Their company is now well-known in Scandinavian industry. They now have considerably larger facilities and more staff, and they have extensive expertise and experience of complex industrial design assignments. The cooperation with Konftel is still ongoing, and Struktur Design staff are popular guest lecturers at the school they once graduated from.

Some of the key demands from Konftel at the start were that the apparatus would need to look right on an office desk as well as a conference table, be attractively designed and overall a positive addition to the room.

The fact that Johan and Tord had been working as interior designers for the architect Ted Preutz proved a definite advantage when they were trying to come up with a modern design. They were used to thinking offices, desks and flexibility.

"In the beginning we weren't really sure of how much room was needed inside the device as the technical development was going on at the same at Konftel. Small footprint, three speakers and a microphone – that was basically the demand specifications," Johan remembers. The design solution took form one weekend when he had brought some work home with him.

"I took some dental wax that I heated up and poured into one of those metal containers used for water colours. The result looked like a small puck. I cut off three sides and started to cut ruts into the piece that was left in order to get



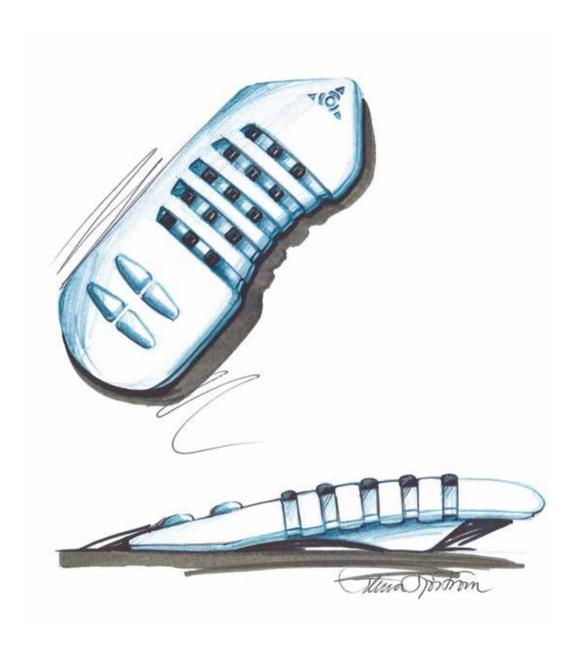
The men behind Konftel's classic design: Tord Berggren and Johan Gustavsson.

Photo: Johan Gunséus



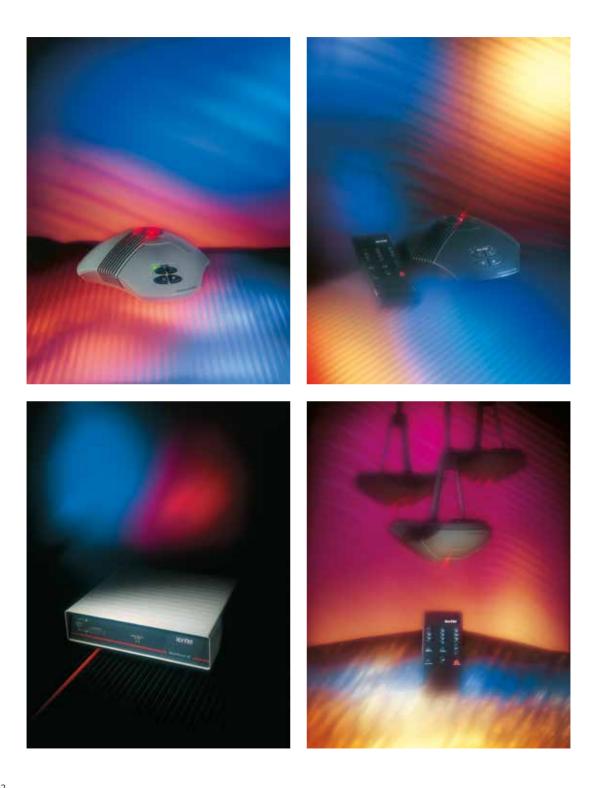
A model that is starting to take the appearance of the Konftel 100.

Photo: Martin Gunséus



Many ideas never left the drawing board or the model stage. Here is a remote control for a conference telephone.

Sketch: Stina Sjöström, Struktur Design





The new model started getting attention from international markets. Here is an advert from Saudi Arabia in 1995.

a softer form. It took some time before I achieved what I was after but on the Monday I brought with me a small piece of wax two centimetres in diameter and asked Tord what he thought."

"It looked good, so we went to the Institute of Design and asked if we could rent their workshop. There was a lathe that was adjustable on one side so we could get the angle that we needed in order to produce a larger wooden model that looked realistic," Tord says.

Simultaneously the development of the software technology was taking place, mainly by Stig Stuns in Sundsvall. They were working along separate paths so when the group at Struktur Design in Umeå eventually got to see a dummy of the circuit board the technicians were working on they had a minor shock.

"It was impossible to get it in. A big square piece of plastic inside our round model ... but in the end someone came up with the idea to divide the circuit board, build it on two levels and cut off the corners. Together with the technicians at Konftel we came up with a compromise size-wise and made it higher.

"For Konftel to choose this solution was a very brave decision, as such complicated circuit boards are obviously a lot more expensive to produce. But they prioritised the look and usability. They took onboard the extra cost which was very forward thinking," Johan says.

Gunnar Ekström remembers these times with a smile on his face. The ideas and creativity were flowing. At the same time Hasse and Gunnar had got involved in a more active way.

"It was exciting and interesting but we were also under considerable pressure. We were collaborating with Sweden and Norway's telephone giants and had support from large investment funds. We were working hard to live up to expectations. They obviously wanted value for money and we were really doing our best to create something good," Gunnar says.

Sometime in the beginning of 1994 he wanted to do a 'review' with Telia's sales team. That's where the requests for a smaller model had come from and the Ekström brothers needed input from the people who were in contact with the end customers. There was, however, a minor pedagogical problem.

"John-Erik, Stig Stuns and the technician group were working in one place and had temporarily screwed their bits

"We'll just squeeze it together a bit"

into a fairly large box with external speakers. Things were happening quickly and time was limited. Johan and Tord had been working in their place building a scale model of their design that we at Konftel all liked very much, but we still hadn't managed to reach a joint solution for how to fit the technology into the design's small shell."

Hans, Gunnar and John-Erik took the equipment and went down to Stockholm. The feedback was very good from Telia but there was one practical issue.

"We were sitting there, a group of men in suits plus our chief technician John-Erik dressed in more relaxed attire, when one of the Telia managers put his hand up and pointed at the technical parts sitting next to the little creation from Struktur Design and said: 'but how will you fit all that into this little thing?'

"John-Erik was the only technician in the room so he probably didn't feel there was any point going into any detailed explanations. So calmly and slowly he just said: 'We'll just squeeze it together a bit'!"

Gunnar laughs at the memory and compares it to when the downhill skiing legend Ingemar Stenmark – a person of few words – was asked back in the 70s to explain what he did in order to ski so much quicker than anyone else in the world: "There's no point in explaining to someone who doesn't understand," was his laconic response.

After the positive meeting in Stockholm they got the go-ahead to carry on with the design.

"It really was a race," Johan at Struktur Design remembers. "I have some notes that we asked Stig Stuns about the size of the circuit board on November 8, 1993 and as soon as March 18, 1994 all the design solutions were ready. That's when the picture for the brochure was being taken so we had produced a life-sized dummy for the photographer to use. Once the picture was taken there was no going back."

Konftel's technician John-Erik Eriksson smiles at the memories from the time when he and his colleagues were fighting to squeeze all the technology necessary into the unexpectedly small space that Struktur Design had created.

"This was all relatively new to us so it took a bit of creative thinking to get it to work. But at the same time it was yet another challenge that brought us forward. Through the years this has become a strength of ours at Konftel, being able to cooperate across borders and use each other's knowledge and experience both internally and externally. There have never been any arguments that could have crashed a project – just a few disagreements along the way that we handled so they became constructive. Johan's and Tord's solutions have been important to us and the design has become something of a brand for Konftel," John-Erik says today.

Konftel has trialled other designers over the years, not least with a view to getting other input, but so far the company has always ended up returning to Struktur Design at their base in Umeå. These are also the people behind the new look of the Konftel 800-series, which is scheduled for launch in early 2019.



Working with the big guys



Konftel 100 for France Telecom.

The first classic Konftel look was finalised in the spring of 1994. Then the production process started as well as various tests. The new product was launched in two models: the small Konftel 100 as a "stand alone" to be used in a room up to $25\ m^2$ and Konftel Conference System 300 which was a complete installation solution for large conference rooms that could be operated with a remote control.

The cooperation with Telia and Telenor meant that Konftel had a solid base in both Sweden and Norway. During the early years Konftel doubled its turnover at more or less every end-of-year report. Things were looking very good and interest in conference telephone was growing constantly. The product was young and the market in Scandinavia might have been untapped but it wasn't very large. The focus turned more and more to export and larger markets, which is why all the revenue went back to the technical development of the product and another couple of new positions. Soon there would be more than ten employees working for the company.

"We sold the products to the distributors but soon we identified a problem. When they had stocked up on conference telephones they still didn't get to sell very large volumes. We were at the mercy of their performance – or the lack of it. A lot was down to interfaces between various types of phone switches and other small technical details that were obviously important to get right in order to make a sale," Gunnar Ekström says.

There were therefore two main areas to develop in order to keep the business growing: technology/product development





and market development. As these were two entirely different areas the company was re-formed into two different legal entities: Konftel Technology AB and Konftel AB.

A great deal of the technical development was concerned with adjusting the products to various telephone systems so that there would always be a suitable Konftel product regardless of what technical platform the end customer was using. That's why, for instance, Konftel 100R and 100D were added to the range. The initial green colour was replaced by the now classic black shell complete with a new set of keys.

Designer Johan Gustavsson says: "Luckily the new requirements coincided with the rapid development of digital technology. As the circuit boards got smarter they also got smaller and smaller, which meant we could fit more into the shells."

"In order to penetrate the market in a more efficient way we started sketching out various possible paths," Gunnar Ekström says. "One way would obviously be to build up our own retail network but we soon came to the conclusion that it would not be realistic nor would it be in line with our style. Partnership is our model.

"We decided to work even more closely together with those who knew the market such as distributors and retailers but we were still too small to handle the network directly in a professional way. That's why we got in touch with the large PBX manufacturers. They were already on the market and might be interested in our technology."

Ericsson, Tenovis, Avaya and Alcatel in Konftel 'colours'.

Photo: Martin Gunséus





That turned out to be a totally correct analysis. This was in the middle of the blossoming IT boom when new technology, new ideas and new constellations were in the ascendancy.

In order to get closer to the main players Konftel needed an internal person who could analyse the needs of the PBX manufacturers and then coordinate the technical possibilities of Konftel's products and ensure any adaptations were in line with these needs. The person in question was Clarence Jacobsson, then a young technical Project Manager at TeleLarm Care – a large Telia-owned company.

"I started in November 1995 as Project Manager for development and production. It wasn't obvious that I would say yes as I was already working for such a large and secure company. Conference telephones were at the time quite a small, relatively unexplored niche. But at the same time I liked the idea of a challenge," Clarence Jacobsson says.

"I got involved at an exciting stage and it was constantly many years with fun stages of development. The reason Konftel have been so successful is obviously down to the fact that the technology has been top class, but also the fact that there is such a great spirit of cooperation within Konftel and towards various partners. Having been a relatively small player has made it necessary for Konftel to listen to customers in order to solve their requirements."

After many years working for the company in a variety of positions, most recently as Assistant CEO, Clarence Jacobsson



Clarence Jacobsson.

was headhunted for a position as CEO of another hi-tech company in Umeå.

Konftel started sending feelers out to the Swedish telecom giant Ericsson as well as to large European manufacturers such as Bosch Telecom, Siemens and Alcatel. The feedback was positive and they started planning ODM (Original Design Manufacturer), i.e. Konftel would produce products that would then be sold under a different brand name. In conjunction with this they also continued with their own production and sales. This also meant more work for Struktur Design in Umeå.

"For a couple of years there was a lot of activity here with quick jobs and 'hush-hush projects' when we would use special paints and develop various types of conference telephones with different brandings. There was often a real rush to get jobs done," Johan Gustavsson at Struktur Design recalls.

The large manufacturers started to realise that 'little' Konftel had unique technical solutions that really measured up in tough sound environments and even if at the time they didn't represent a great increase in sales a lot of contacts were made that would prove important in the future.

Clarence Jacobsson says: "During this time the whole company learnt so much and at the same time important organisations got interested in Konftel's technology. It was rewarding in both directions and we felt there was a clear demand for our knowledge."

So far John-Erik Eriksson and the external data process expert Stig Stuns in Sundsvall had been key people in the technical development in collaboration with another couple of external consultants.

"For a few years there was a lot of work for only a few pairs of hands. We were working like crazy," Clarence Jacobsson recalls.

After a while Stig Stuns was asked to find a young, hungry engineer and computer programmer that Konftel could employ. The right person was closer than they expected – they found him at Mitthögskolan (a university) in Sundsvall. Torbjörn Karlsson had just got his Master's Degree in system technology focusing on telecoms and had completed his degree work at Telia Research. Throughout his entire education he had been working with the Analog Device's processing platform which was the same as Konftel was also working with. So it seemed



Konftel, together with world-leading telephone operator Genesys, developed the specially designed Conferencer 200 model in 2001. Via the operator's meeting services the user had access to among other things recording, security locking and a direct button link to 24 hour support from a hand-held controller.

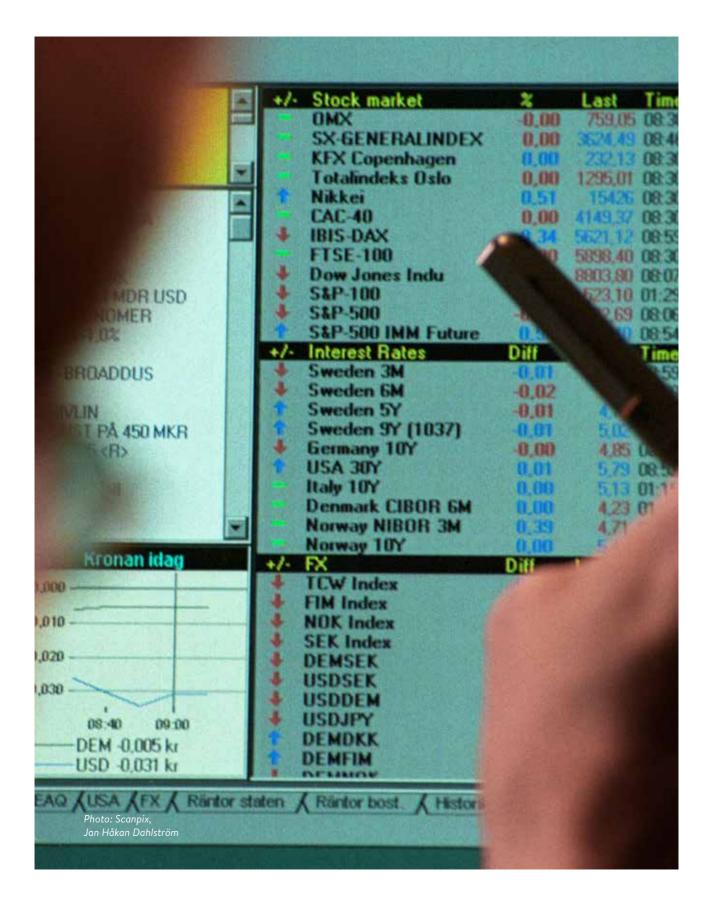
logical that Torbjörn was asked if he wanted to start working at the company.

Says Torbjörn: "I was also offered a job at Telia so it was a choice between working for a giant or, at the time, tiny Konftel. As a young signal operator Konftel felt like an exciting challenge and it has been a stimulating journey in a company that has always been open for new ways of collaborating with skilful partners."

Torbjörn Karlsson is today Product Manager and also technically responsible for the link to the new owners since 2011, Avaya, and the factory in China where Konftel has moved its production.

Part Two 1998 - 2007

"Yes it was all a little awkward but it was worth it"



Riding the stock exchange

DURING THE IT BUBBLE

During the middle of the 1990s a new catchphrase began creeping its way into Swedish society. Pretty soon "the new economy" was something everybody was talking about.

Information Technology (IT) would save the world after the recession of the early 1990s. Young entrepreneurs started to see the potential of the Internet even if the rate of connectivity was at that point very limited. However it was simple to build a website and easy to conduct elaborate calculations. Dot-com companies were considered a fantastic long term investment. 'Long term' turned out to be more than 15 – 20 years, which is of course a far too distant investment horizon for the enormous amounts of money that were poured into new-start companies with absolutely no sales revenues.

Many of these companies had good ideas. A lot of them were fantastic, actually – just presented too early. The wider public didn't have Internet access, and the people who did found that capacity and speed were very limited. The inventors were simply ahead of their time, and their ideas were too expensive to put into practice (it was often just a matter of spend, spend, spend). Some of these ideas are being implemented now, though – the best example being the rapid development of loT, the Internet of Things.

Looking back it's easy to joke about the hype that was created, although the fact is that many of those who embraced the IT concept and presented it well were rewarded with huge amounts of investment capital in the 90s. In principle everyone wanted to get in on the act, and it was a case of first come, first served.



Konftel goes international Ted Samuelsson was recruited from the Telia company TeleLarm Care and became CEO for the Konftel Group.

Source: Västerbottens Folkblad September 1997

Maybe a simple explanation was that a lot of older gentlemen sitting in boardrooms across the country with a bit of money to spare thought that something new was happening and that is was worth investing in, even if they didn't have a clue what this new thing actually was. It was probably best to 'get onboard' and give the responsibility to the younger generation who understood all that stuff about computers....

Within just a few years the IT-bubble had been inflated so much by so many that the crash of 2001 became inevitable as revenues failed to materialise and companies closed by the hour.

But has this got anything to do with Konftel?

The answer is both yes and no. Konftel had a tangible product and worked in a real market. It certainly wasn't an IT-company operating in cyberspace. However the mood and hype of this era touched Konftel both negatively and positively, as we shall see later on.

In the beginning of the IT era the hunt was on for money. The trend was that companies needed to grow fast and become massive quickly, not grow successively year on year fuelled by their own invested revenues. No-one wanted to be left behind and a natural step to realise capital became new share issues and stock market floatations.

These options also presented alternatives for Konftel, which was in strong need of development capital in order to grow and expand its markets. But the reasons weren't just business related.

NYHETER 15

Ericsson väljer Konftels ljudteknik

SURFBRÅDA Umeåföretaget Konftel hoppas nu på ett internationellt genombrott för sin egenutvecklade ljudteknik sedan Ericsson beslutat välja denna för sin nya Bluetoothbaserade surfbräda kallad Screenphone.

Ericsson lanserade tidigare i år ett prototypsystem för framtidens trådlösa hemterminal kallad Screenphone HS210 och den kommersiella produkten skall lanseras vid årsskiftet, enligt planerna.

Umeåföretaget har bidragit med ljudprogramvara till den nya produkten. Screenphone kommunicerar med Bluetoothteknik, den klarar både Inetrnetsurfning och telefoni. Ericsson råknar med ett brett genombrott för detta nya slag av pernjinaler och Konftel hoppas nu

Ericsson chooses Konftel

Source: Tidningarnas Telegrambyrå 2000

Konftel börsnoteras

UPEA Syrelsen för Konfiel Group AB har beslutat ansökn om notorfing av bolagsts aktier på Sockholmsbörnens O-lisia under första halviret 2001, enligt ett presstredelend Unsefferstaget Konfiel, som har 105 omtallida i Nocolen och

Konftel listed on Stock Exchange

Source: Tidningarnas Telegrambyrå 2000 "The mid-90s were a tough time on a personal level," Gunnar Ekström says.

"This was mostly because my brother became seriously ill. At the same time the companies needed to be managed and not just Konftel. I was, quite simply, worn out. With a stock market listing and more owners the company could grow and responsibility would be shared. With a larger ownership base I would be able to take a step back and not have to get so involved in the business."

In the middle of the 90s Hans Ekström had developed cancer and died in 1998. His brother Gunnar had worked in principle as CEO of Konftel in parallel with his work and involvement in other companies. In 1997 Gunnar Ekström founded the holding company EMI (Ekström Management and Investment AB) and brought in the remaining owners of Konftel and aimed the company's sights on a stock market floatation.

Ted Samuelsson from the Telia company TeleLarm Care was appointed CEO of the mother company Konftel AB, while the young inventor from chapter 1 made a comeback – Peter Renkel was made CEO of Konftel Technology. He had been on a nine year long 'training camp', including roles as part owner and Managing Director for a couple of local computer companies in Umeå.

And so a new era began that was unlike anything that the 'small' Konftel had ever experienced this far. The business was introduced onto the stock exchange, first on the IM-list and then the SBI-list. Gunnar Ekström was the Chairman of the Board and his company EMI the majority shareholder.

In total the business now had almost 3,000 shareholders, including several major investment funds. It's probably fair to say the new concern began in the end to live its own life while the 'old' Konftel lived on in Konftel Technology.

Within a few years turnover rose first to 50 million SEK and a few years later to around 400 million SEK. This was largely achieved through consolidations and buy-outs. The 'little' Konftel Technology now had 15 employees in Umeå, while the mother company had almost 185 employees and by 2000 a total of 450 staff in four countries.

One of the first acquisitions was the purchase of Svenska Trygghetstelefoner (STT), a natural step because Ted Samuelsson had experience from that branch (security telephones) and saw the synergistic possibilities both in terms of production and technology. He also understood that security telephones in the healthcare and elderly care sectors could benefit from Konftel's crystal clear sound. STT was owned by Experi, who sold STT to Konftel which led to the production of Konftel's conference telephones being moved from Leab in Lövånger in Västerbotten to Experi's factory in Lund in southern Sweden.

The biggest step taken by the concern occurred in the spring of 2000 through a merger with the Norwegian-dominated Lynafax Group in London, a company that was a force mainly in the AV/IT sectors (including video-conferencing) in the UK. This concern later took the name Impact Europe. The business got extra publicity because the Norwegian 1976 Olympic skiing gold medallist Ivar Formo was Managing Director of Lynafax's principle owner Industriinvest AS which was listed on the Oslo Stock Exchange.

In the beginning the concern was informally known as the Konftel/Lynafax group, but a short while after the merger the name was changed to the Konftel Group. Gunnar Ekström took another step back when Ivar Formo was appointed the Chairman and in the years 2001 – 2003 another well-known corporate leader took over as Chairman of the Board – Jan-Åke Kark, who had previously been Managing Director for Ericsson and later Telia. Gunnar Ekström remained on the board throughout this period. The board was now a mixture of people representing both Swedish and Norwegian interests.

The Konftel Group therefore consisted of three key businesses:

Konftel Technology	STT Care	Impact Europe
Conference telephones	Security telephones	Video conferencing
/ technology development		AV/IT

Konftel's time on the stock market (1997 – 2003) can be summarised as a significant learning curve for the company. The story of the company from Umeå and its inventions could very well have come to an end after the stock market crash of 2001 and the difficult years that followed it. But Gunnar Ekström didn't want the story to end there – more of that later.



Konftel buys competitor It was all about big business. Within a few years little Konftel grew from 15 employees to the Konftel Group with around 450 staff.

Source: Dagens Industri November 2000



Svenska Telia och norska Telenor misslyckades med att slå samman de två teleföretagen.

Men Umeåföretaget KonfTel och norskdominerade Lanyfax har fixat en svensk-norsk telecom-koalition.



Ivar Formo, OS-guldmedaljör i längdåkning på 50 kilometer 1976, besökte i slutet av mars Konf-Tels kontor i Umeå. Forr

Olympic champion joins Konftel... During the 'stock market years' Konftel was big news in the media.

Source: Västerbottens Folkblad, May 2000 Konftel Technology benefitted from the considerable amount of new contacts it had made during the concern's global trading days. New doors began to open. Konftel had protected its technical sound solution under the registered trade name OmniSound® – a move that gained respect within the industry. The technology surrounding it gained wider and wider circulation during this period. Agreements were signed with, among others, British Telecom, Nec, France Telecom and several other large players in the global telecom industry. The original Konftel became stronger and leveraged the concern's distributor and reseller connections to enter markets in new countries

Konftel Technology was hired as a sound consultant by large companies for a number of development projects for new and exciting products destined for the IT industry. A number of these ideas turned out to be nothing more than just nice ideas, but the gang from Umeå and Sundsvall fought on, delivered the goods and got paid for their software sound solutions.

Åsa Sjöström, a true believer in the original Konftel who worked in the finance department at the time remembers: "Looking back our exposure to the stock market didn't really affect us."

"My lasting memory is that we constantly had to produce reports, but otherwise we worked on as normal."

In time the concern became more and more unfocused For a long time the newspapers had been impressed at the concern's large turnover and 'forgot' to mention that despite this no profits had materialised. During this time it was not unusual in the industry for profits to be tied into an uncertain future. Konftel Technology (15 staff), STT Care (around 40 staff) and Impact Europe (circa 400 staff) were unbalanced both operationally and in terms of the number of personnel. The first two companies worked with technology, development and products while Impact was more involved with supplying services (they were individual entrepreneurs who supplied equipment for video-conferencing). All three were respectable businesses in their own rights but it wasn't easy getting them to work together in harmony. Several years into the new millennium the big 'machine' started to break down and the concern recorded losses totalling over 50 million SEK.

The 'little brother' of the family, Konftel Technology, could have easily gone under despite the fact it had books that balanced, but neither it nor the other two companies disappeared into the black hole that sucked in so many other companies in the wake of the stock market crash. In the end (2003) Gunnar Ekström wanted to save the name and business of the 'old' Konftel. The overriding feeling was: "back to basics."

"Throughout the years I'd taken both good and bad decisions. That's just the way business is. You have to take risks and make difficult decisions.

Now in hindsight the decision to try and extract Konftel Technology from the concern was one of the best decision I have ever made. I felt a responsibility towards Konftel. After all the efforts we had made I didn't want to see such a great company with such fantastic products just vanish. It wasn't easy to achieve but after talks with shareholders we managed to find an acceptable solution to pull Konftel out," Gunnar Ekström says.

His company EMI had previously gained the support of a strong partner when it sold 20 percent of its shares to the state-owned pension fund Sixth AP-Fond. Today Gunnar strongly believes the backing of the Sixth AP-Fond was a crucial factor in the successful buy-out of Konftel from the concern.

EMI owned approximately 40 percent of the Konftel Group concern. In essence the solution was as follows: EMI sold its share of the mother company Konftel Group. Following this Gunnar Ekström's EMI bought out STT Care and Konftel Technology from the concern. As Impact Europe was the only company remaining in the concern the decision was taken to change the name from the Konftel Group to the Impact Europe Group. Anyone who had previously bought shares in the Konftel Group was, in other words, now a shareholder in the new Impact Europe Group.

Complicated? Read the explanation one more time and perhaps it will begin to make more sense.

"Yes it was all a little awkward but it was worth it," says Gunnar Ekström

Others say the company's ride on the stock market was a complete waste of time, but this is not a view shared by Gunnar

"Of course things didn't turn out exactly the way we had planned them, and at times it was very difficult. But at the same time it was an incredible learning curve to work within a publically listed company. Both me and the company learned how to work in international markets and made contacts which turned out to be valuable in a longer perspective. But afterwards it was quite nice not to have to work with all the unwieldy businesses structures the concern had and the hype surrounding the stock exchange."



OmniSound® makes waves

THROUGHOUT THE WORLD

The rapid digital development, surface assembly technology and constantly shrinking IC-circuits created a boom of product ideas during the 90s that were suddenly possible to achieve.

Digital components got smaller and smaller, smarter and cheaper. It was a dream scenario for inventors around the world.

Around 1998 – 99 Konftel Technology became a strong sound partner involved in many exciting development projects. The company's technicians were engaged as consultants to many of the world-leading companies within telecom and electronics. OmniSound® had become well-known.

"It was fantastic fun to return to Konftel during these eventful times," Peter Renkel says.

As you can see one of the original inventors was asked to come back to work as Managing Director for the development company Konftel Technology. It was Peter Renkel who had once started the whole project by creating a conference telephone that met the demands of a certain Bank Manager (see chapter 1). He succeeded together with, among others, John-Erik Eriksson who had stayed on at Konftel working as a technician.

"Gunnar Ekström came and asked me what I thought about the idea of employing Peter Renkel as Managing Director. Great, I said, as Peter had always been a forward person, technically knowledgeable with a good sense for what customers wanted and, on top of this, he is also a very good communicator. And it has proved to be a great decision," John-Erik says today.

Ericsson Screenphone with sound technology from Konftel.



The Screenfridge with its in-built computer wasn't a big seller for F2Home

From his time at NRA in Umeå Peter Renkel brought business administrator Olle Backman with him to act as the new Finance Manager and Controller. Backman is now CEO of the Eitech Group, a company with head offices based in Umeå. This group employs around 1100 staff, and since 2018 it's been part of VINCI Energies, which operates on a global scale and employs 200,000 staff in over 100 countries. Eitech was another company "saved" from the stock market in the early 21st century, but that's another story.

"Olle meant a lot to the development of Konftel Technology and I learnt a great deal about finance from him," Peter Renkel says and adds with a smile: "finance is basically maths and that's a subject I've always liked."

The end of the 1990s became the 'Eldorado' of new ideas. The digital development enabled peoples' imagination to run wild – new innovations were planned all around the world. Some became reality but many stayed stuck at the prototype stage. Two of Sweden's international giants, Electrolux and Ericsson, wanted to jump on the bandwagon and created a joint company that would build smart products for the homes and offices of the future. The company was called E2Home.

One exciting product it worked on was the Screenfridge complete with built-in computer. The idea was that it would become the heart of the house. Via the fridge you would be able to communicate with family members and the outside world through e-mail or videophone calls. You would also be able to surf the net from the fridge. There was television and radio and even the possibility to monitor video surveillance of your gardens and children's nursery. The idea was also that the contents of your fridge combined with a recipe library would form the basis for sending orders when supplies ran low to

Snart ringer vi från kylskåps dörren

UMEÅ (VF)

Det blir Umeåföretaget KonfTel som får vara med och utveckla en ljudprogramvara som ska göra det möjligt att ringa från kylskåpsdörren.

Utvecklingsbolaget E2 (samarbete mellan Elecrolux och Ericsson) har valt KonfTel som partner när det gäller utvecklingen av köksbaserade terminaler av vilka ett är det omtalade Screenfridge.

VanfTels ud Ted Samuele

Soon we'll be calling from the fridge ...

Source: Västerbottens Folkblad, February 2000



Teiefonkonferenzen lassen sich mit der Digitaltechnik viel besser durchführen.

Konferenz mit aller Welt

ine Konferenz mit Geschäftspartnern in China, Italien, Amerika oder
in anderen Ländern ist schwierig zu
planen und durchzuführen. Häufig ist dies
nur per Telefonkonferenz möglich. Konftel
bringt jetzt das erste digitale Konferenztelefon 200/NI auf den Markt. Es eignet sich
für digitale (ISDN) wie auch für analoge
Anschlüsse. Durch die Digitaltechnik wird
eine saubere und klare Tonqualität ermöglicht. Mehrere Teilnehmer können ohne
Überschneidungen am Gespräch teilneh-

Konftel's own products became increasingly recognisable in the international marketplace. Here is an article from a German business publication. the local supermarket that in turn would deliver goods to your house a couple of hours later.

Well, as we all know we're not really there yet, but we're getting closer as the Internet of Things, IoT, is developing rapidly. Now, almost 20 years later, such ideas are really being turned into reality. At the time it turned out to be no more than just another unrealistic idea. But luckily for Konftel, sound was involved – Konftel Technology was appointed as a consultant thanks to that fact. The same was true for Ericsson Screen Phone, an idea for a small wireless computer that would be able to handle just about anything.

Torbjörn Karlsson, who is today Product Manager at Konftel, was a DSP programmer during this period. "Now you joke about it but there were so many ideas that went a bit too far at the end of the 90s. But at the same time it was a fun period when everyone involved learnt a great deal. However, lots of money was spent on projects that never resulted in a finished product. For us at Konftel I think this was a defining time for the future. We didn't come up with all the product ideas but we were always able to deliver good sound solutions and develop our knowledge and our products to meet the tough demands of our clients.

"We also learnt how to work with large international projects. You have to keep the dreams about the stock market apart from the very real technical developments. The latter took giant leaps during this period that we all still find useful today but the stock market is a totally different story.

"I remember once we were down in Holland at a press conference when a new product idea was being launched. We had a small part in it as the sound supplier and showed our prototype on a simple wooden board. When we came home and read the newspapers the stock value of the concern had risen enormously," Torbjörn recollects.

A few years into the new millennium some of the development projects in the field started becoming more realistic and the applications ended up in products that succeeded in reaching the market. Among the many projects that Konftel's developers got involved with were sound solutions for the healthcare and elderly care sectors and an





Konftel delivers sound solutions to Ascom, one of the world's biggest systems integrators of technology in the healthcare sector. Above is a picture of Ascom Nurse Care.

American mobile telephone solution – two long lasting projects that became important products.

Konftel delivers sound solutions as a part of Ascom's systems for hospitals and homecare, where staff and patients can quickly get in touch with each other via a wireless communication tool. Ascom Group is one of the world's larger system integrators within industries where professional communication is time-critical and crucial to an organisation.

"It is fun and rewarding to work with such quality-conscious people as the team at Ascom. Their platforms are vital to many important community services," Torbjörn says.

Another project came to Konftel via Ericsson and Teligent. The programmers at Konftel had the challenge of building software that would handle the contact between ordinary analogue telephony and mobile telephony under very special circumstances. In the US many deaf people have an aid that is a type of text telephone that was originally developed to be connected to traditional telephones. When the digital mobile network started getting seriously established the American telecommunications authority demanded there was a conversion function in all base stations. This conversion function resolved the interface between traditional telephony and mobile telephony for this text service.

"We were asked to develop the software that carries out the conversion. It was obviously a prestigious task. When we had found a solution, we were also given the task to produce and sell the physical circuit board," Torbjörn Karlsson adds.

Photo: Scanpix, Maria Annas



A culture of cooperation



At the end of the 1990s Konftel's conference telephones were well established in the Scandinavian market. Conference telephony had become synonymous with Konftel. Clearly, they had succeeded in showing how smart and easy it was to carry out meetings from a distance.

Obviously, the high sound quality was pivotal but user-friendliness and good design were also important factors.

"We felt very confident about our products," Peter Renkel says, "but in order to be successful in new markets you need to consider many other aspects. Above all you need to understand the different conditions and cultures in other countries. You cannot just walk in and think you know it all just because you've done well in your own country."

As a relatively small player in the international market Konftel didn't have the resources to take matters entirely into their own hands. They had to find others to help show them the way.

"We have a culture of cooperating with other companies so we followed that line. An important step was to intensify the contacts with the PBX manufacturers and adjust our products so it would be easy to connect them to different systems. Step two was to enter new markets in an efficient as well as an unassuming way. Therefore, we tried to find companies in each country that had the right knowledge within our range of business and then tried to get close to them," Peter Renkel adds.

Peter, Clarence Jacobsson, Thomas Karlsson and salesman Peter Johansson were a few of those who did most of the foot

















Partner meeting in the northern Swedish mountains 2007 – a popular break away from everyday life.

work as they set out to conquer Germany, Great Britain and the rest of the EU at the end of the 1990s and the beginning of the new millennium.

"We couldn't boast about being the largest but we could strive to be responsive to customers' needs, quick and adaptable – to simply help distributors and retailers with those little everyday problems that always appear. It actually often proved to be an advantage that we were relatively small as we could make quick decisions and rapidly get to grips with separate issues that were important out in the markets," Peter Renkel says.

Salesman Peter Johansson brought his experiences from Scandinavia with him when he started working in the rest of Europe.

"One way is to look for distributors that work exclusively for you. Another model is to create contacts with those who are already working with your competitors. That was the path we chose. At first our products were just a supplement to their range, and then we worked our way up from there.

"I think that is a good model. The ones who are working with conference telephones know their own market but may have a few practical problems with large suppliers – issues that we were able to quickly take more seriously. We had to be better,

more alert to problem solving and give quicker responses to customers' questions. It was a great challenge that I think we've handled well. If it's a technical query you'll find a technician in the same corridor at Konftel who can take part in meetings and tell you what can be done," Peter Johansson continues. After nearly a decade at Konftel he moved on to a company operating in a related field.

The market, technology and opportunities are constantly evolving. It's so easy nowadays to set up a meeting with both audio and video feeds using computer technology. The technology is available, and users demand good audio with their visuals. That is why Konftel decided to supply both audio and video in the autumn of 2018. Superb sound with a great picture. This was quite a big step, but it was a natural one to take and entirely in line with Konftel's aim: to supply high-quality products that meet market needs. More about this later.

Being a relatively small company from northern Scandinavia might be considered to be something of an obstacle. On the other hand, this does make the company unusual and exclusive. Konftel has promoted with the latter approach since the early 2000s, embracing this fact and sharing it with close partners from all over the world. Konftel started having meetings with distributors and retailers in northern Sweden. This approach turned out to be very popular.

"It's easy to forget what's around you," Peter Renkel says, "and our sparsely populated area, our 'arctic' winters and our summer midnight sun are unique in the world. You can choose to feel like the poor relation or take your home region seriously. We have chosen the latter," he says and continues: "we have come to realise that our friends from continental Europe and other parts of the world appreciate coming here and spending some time immersed in our beautiful landscape. That's why the last few meetings we have organised have been held in the mountains of Lapland. It's nice to hear that our guests like our region and say they would love to come back."

Peter Renkel is deliberately working on maintaining open attitudes both externally and internally within Konftel.

"I believe it is very important in order to develop both as human beings and as a company. You mustn't be afraid of the boss. I want dialogue and opinions – if everyone agrees and thinks the same all the time I think you're on dangerous Distributors' conference, Saxnäs in Lapland, Sweden 2014.

Photo: Magnus Ström













ground. Sure, I'm the CEO and have to put my foot down when decisions have to be made but it's very important that all the different views are put forward.

"I remember a retailer meeting when a customer from the continent came up to me and asked: 'how can you let your employees talk so disrespectfully to you'? I was surprised because I didn't think it was disrespectful at all, just open and honest. We are always bouncing ideas off each other in a relaxed way at Konftel, because that's when the new, fresh concepts come up. 'I think you should study us more carefully', I said to the customer; 'the respect is there but not as a shield that doesn't let people say what they think'. I want to know what my employees think. They live with our products on a daily basis and above all with our customers. Maybe my employees will say something that will develop the company, which is often the case.

"The client actually came up to me after we had spent a few days together and said 'now I understand what you mean," he adds

There are a number of unexpected events, meetings and happy memories from these conferences in northern Sweden. Many probably remembers The Singing vice CEO! When Clarence Jacobsson still worked at Konftel he surprised all the guests when, at an after-work party in the Swedish skiing resort of Hemavan, he stood behind the microphone as a cover-band started playing. He didn't make a fool out of himself! Rather the complete opposite, as Clarence had sung in both choirs and bands and has a number of TV-performances behind of him!

Of course, experiencing the open winter landscape and driving a snowmobile is something many people will remember all their lives. But at the same time, a number of other incidents have happened that some people might find to be just a bit too exciting.

One conference was held at the time of the major air travel disruption resulting from the eruption of Eyjafjallajökull in Iceland in 2010, resulting in the largest air traffic shutdown since World War II. People were stuck in a variety of locations, but lots of effort from Konftel staff and many others (there's that cooperation again!), coaches from the south of Sweden were organised and all was well. This coach trip was definitely



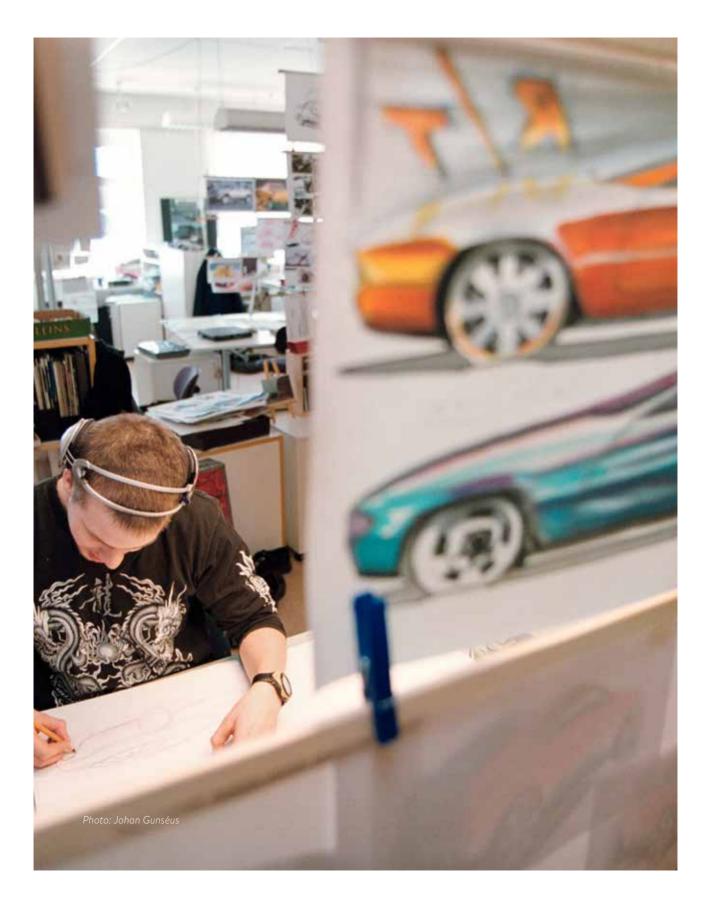
The singing Assistant CEO! Clarence Jacobsson surprised everyone with song and music at a partner meeting in Hemavan. Clarence has actually appeared on TV several times as a choir singer on a popular TV show.

very memorable thanks to lots of people. But there was a scary moment as well.

The coach company showed films on the long journey, and one of them had a rather creepy theme – the downfall of our planet. There were no people on screen, no cars, no buildings. Just trees and a deserted landscape.

"Hey, what's happening? Where are we going?" asked someone as they neared the end of the journey.

Lapland is a remote place, with few people, few buildings and a lot of trees ...



Keeping an open mind

During the late 1990s and early 2000s sales of Konftel's conference telephones increased steadily throughout Europe and in other parts of the world. The products met the growing need for quick meetings and fitted in perfectly with the general public's increasing environmental concerns (and the subsequent demands for less travel). Konftel had also succeeded in its aim of being a leading choice for many of the large PBX manufacturers' system solutions. By 2003 their products were available in over 30 countries around the world.

"You could say that we'd had a real breakthrough in Europe by this time. Konftel was a well-respected name in the industry and we were working hard to live up to high expectations," Clarence Jacobsson says, particularly remembering one exhibition in Germany.

"Our stand was right next to the world's leading supplier of conference telephones. The atmosphere was really good between both teams and one afternoon after the show had finished for the day we had a coffee together and chatted. They asked us how many people we employed. 'Have a guess,' I replied.

"I would say around 150 employees' one of them said.

"They looked pretty surprised when I told them to divide that by ten," Clarence says.

An amusing side note from that period is that conference telephones from Konftel made an appearance in three James Bond films. Since then the products have been involved in several other TV and film productions.

Konftel works with among others the Institute of Design in Umeå.

"It was all going well and everything was pointing in the right direction for the future," Peter Renkel says. "At the same time, I didn't want us to take our foot off the accelerator. I always think there are reasons to question your own methods, as it decreases the risk of becoming self-righteous and blind to defects in one's own work."

Renkel wanted to develop the spirit of cooperation that had always been characteristic of Konftel. This resulted in the company putting out feelers in the world of academia and research to see if there was interest in any joint ventures.

"Sound is a complicated speciality subject. You can't just pigeonhole it and decide on some set parameters that will apply to everything all the time. Instead it's a constant process with factors in the room and among people that create challenges for the technical devices, which have to meet expectations of speed, simplicity and high quality. We had managed to solve this undeniably difficult task well at the time with OmniSound®, but I wanted to have a peek around the corner and take yet another step forward," Renkel says.

An agreement between Konftel and Blekinge Institute of Technology (BTH) was signed in early 2000. BTH is located on the south-east coast of Sweden in Karlskrona and Ronneby.

"Even today, hand in hand with Avaya and with totally different resources than we had at the beginning of 2000, I think it's important to maintain our open attitude towards other partners, customers and researchers. Our ability to assimilate external views and ideas has been a key to success for Konftel and investing 9 - 10 percent of our turnover in research and development is totally in line with this. We don't want to sit back just because sales have shot up since the early days."

At the end of 2002 the cooperation agreement with BTH resulted in a jointly financed PhD post at the Department of Signal Processing. Fredric Lindström, an engineering graduate with a degree in Technical Physics, was chosen to take up the research post. Among other things he had one year's study in Paris and a year in San Francisco to his credit. His degree work had been conducted at Ericsson in Stockholm.

His results were presented in December of 2006 in a 196-page thesis titled 'Digital Signal Processing Methods and Algorithms for Audio Conferencing Systems'.



Pierce Brosnan as James Bond. Konftel telephones were shown in three Bond films.

Photo: Sjöberg bild

1989 -2000



2001-2004



2005-2011



2012-2015



2016-



Konftel's various logotypes and brand propositions through the years.

"The major technical problem for conference telephones is relatively simple to describe. The rest is difficult," Fredric Lindström said at the time.

"A description of the problem is as follows: the loudspeaker at one end transmits the sound from the person who is talking at the other end. The same sound is picked up by the microphone and in the worst case sent back to the sender – a classic case of feedback or echo. The principle technique is to remove the echo with signal processing algorithms."

The cooperation between Fredric Lindström and Konftel's engineers and technicians resulted in some concrete solutions that were built into the new model of that year, the Konftel 300.

This joint project run by Konftel and BTH is a good example of how applied research can result in method development and published articles in well-known scientific journals, as well as feeding into the actual manufacturing processes for a product.

It is also an example of how new solutions arise when different perspectives meet. In addition, it shows how things can turn out many years later, when new companies are created and there are different thoughts about how everything was performed during that process.

The short version: After some years Fredric Lindström formed his own company, Limes Audio, which kept on cooperating with Konftel for some time. Later on, Limes Audio developed solutions that were of interest to every company where sound is crucial for their products. It was a success story quite comparable with Konftel's. In 2017 Google found Limes Audio so interesting that they bought the company.

"There can always be a discussion about who learned from who and who benefited from who. My view is that both parties learned a lot," says Peter Renkel today.

"It was sound technology, or more correctly the users, that were the big winners, as they always are when cooperation and competition are around. I think it's very interesting that a small city like Umeå has created two audio companies that became experts, world leaders that have turned out to be worth a total of 300 million SEK. I can assure anyone that John-Erik Eriksson and I didn't have any thoughts in that direction when we delivered our first conference phone back in the 80s," Peter Renkel says with a big smile.



Fredric Lindström.

If the filter needs to be readapted the algorithm is switched back to state A. The state B processing is defined as

$$y_q(n) = Q_q[\mathbf{w}_q(n)^T \mathbf{x}_q(n) + 2^{-k} \mathbf{v}_q(n)^T \mathbf{x}_q(n)]$$
(6)

$$e_q(n) = d_q(n) - y_q(n) \tag{7}$$

$$\mathbf{v}_q(n+1) = \mathbf{v}_q(n) + Q_q[Q_q[2^k \beta_q e_q(n)] \mathbf{x}_q(n)] \text{ if } n \text{ odd}$$
(8)

$$\mathbf{w}_q(n+1) = \mathbf{w}_q(n) \tag{9}$$

where k is an positive integer, $\mathbf{v}_q(n) = [v_{q,0}(n), v_{q,1}(n), \dots, v_{q,N-1}(n)]^T$ is a column vector containing the filter coefficients of the secondary filter. Thus the filter coefficients of $\mathbf{v}_q(n)$ is updated at every other second sample.

To clarify the result of the state B processing an equivalent description of equation (9) is derived. First before $\mathbf{h}_{a+k}(n) = \mathbf{w}$ (n), and

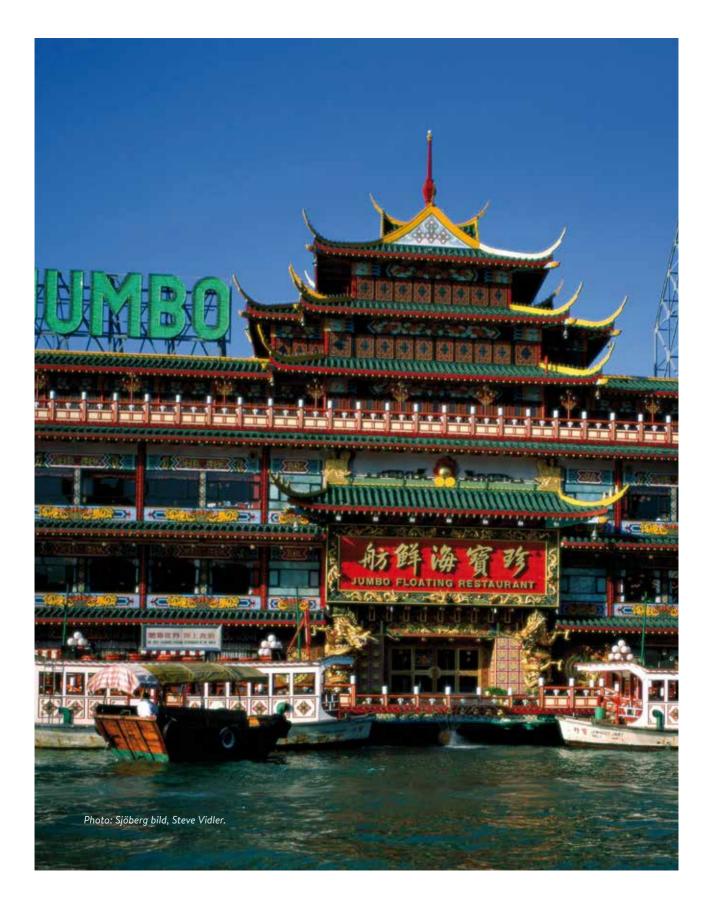
Extract from Fredric Lindström's thesis Digital Signal Processing Methods and Algorithms for Audio Conferencing Systems. He is referring to the fact that in 2011 Avaya paid 100 million SEK to Gunnar Ekström's company for Konftel and that the price for Limes Audio in 2017 was reported to be 200 million SEK when Google purchased that company.

From being an issue for a bank manager in his conference room back in 1988, audio technology for distance meetings has become big business today.

Peter Renkel points out the cooperation between different colleges and universities as important components in Konftel's growth.

"Developing products is always a creative process that involves things other than technology. Our cooperation with Umeå Institute of Design is an example of that. We work with young designers in order to gain an insight into how future generations view teamwork and conferencing from a distance. Even if it's information that's not immediately applicable to current product development, I think it is important to keep an open mind and collect impressions from many areas. Today's young students are the users of tomorrow.

"Cooperation has been, and will always be, an important part of our strategy," Peter Renkel asserts.



Taking the first step

TO CHINA

After Konftel left the stock market in 2003, and became even more focused on their mission to be expert producers of conference telephones and nothing else, turnover increased and profits emerged. In 2004 the company achieved a turnover of around 30 million SEK. In 2006 it was 45 million SEK and in 2007 54 million SEK.

In each of these years the company recorded positive results.

For a business with only around 15 employees these figures are very good, especially considering some of the costs were investments for the future, such as research and development and various projects designed to establish Konftel in new markets.

The most interesting part of the annual reports from this time is Konftel's rapid volume growth. In 2003 it was +27%, 2004 +33% (growth in the conference telephone market worldwide was 9%), 2005 +30% (again the worldwide trend was +9%) and in 2006 +20% (worldwide trend of +17%).

So the market for conference telephones was growing at that time and interest in Konftel's products increased considerably. The majority of enquiries were from export markets.

The year before the production of this book, 2017, turnover was around 143 million SEK(approx. 16.4 million USD) and together with OEM products under the Avaya brand total turnover had risen to over 300 million SEK (approx. 34.1 million USD).

But, back to early 2001 and decisive decisions for Konftel's future.

"In the beginning of the new millennium we took the decision just to focus on our own products and stop our consultancy business. It turned out to be a crucial crossroad. We could have chosen to purely be a technology and development company, but with such great products I think that would have been wrong – and certainly not as much fun! Working with consulting and external development at the same time as trying to sell your own products doesn't work in the long run. Things become too vague and the difference is too great in terms of both delivery and business logistics," Peter Renkel says.

After 12-13 years in the market, people working at Konftel were confident their products met the demands of their users. They constantly received positive feedback.

"The end customers liked our conference telephones and our partners in both distribution and sales had a real belief in us. Our way of working was successful and we felt we had the potential to go much further. We had passed a lot of 'tests' along the way, made our fair share of mistakes but took many more good decisions that worked out well. Things were going our way and we felt Konftel had more to offer the market," Peter Renkel says.

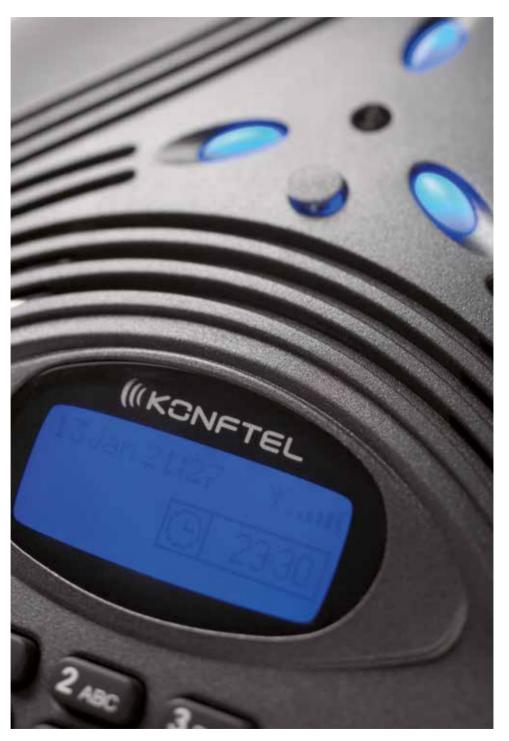
The main goal was of course to grow. Since Konftel was already so large in the Swedish market (75 – 80 percent market share) the target became Europe and eventually the USA and the rest of the world.

"The focus was on production, both in terms of costs and capacity. Growing one percent globally is completely different from growing five percent in Scandinavia. It requires delivering a product at the right time, in the right place, with the right quality and at a competitive price. Once again, we benefitted from our wide network of contacts and our cooperation with the big players in the telecommunications market. Most had their production in China so we began to explore the possibilities of having our production there.

"And we decided not to make a mess of it," Peter Renkel says. Moving production to China was of course a big step, but necessary. Konftel began by looking at their Swedish colleagues Ericsson and their partner at the time Integrated Display Technology (IDT), a Hong Kong-based company with a factory in Shenzhen in mainland China, around 30 kilometres from the island territory.









"It was a success from the very start. Upon closer inspection IDT lived up to their good reputation and a former Ericsson employee who worked at IDT helped us make the breakthrough contacts," Peter Renkel recalls. He was responsible for negotiations at the time.

One problem was that IDT was very large in comparison to Konftel.

"However, I got to know the owner well and was determined to show we were seriously interested, although of course it was a little strange that we got the sort of service we did from IDT considering our size. Our production output was a trickle compared to their total business. Maybe the owners thought it was fun to help a small Swedish company with lots of technical competence, a good product and a Managing Director who really believed in his business. I actually don't know why, but we were treated really well by them and I had frequent meetings with the owners to check progress both for our products and the general status of the factory. Maybe he used me to 'take the temperature' of his own organisation, because as always I had very strong opinions about things."



Since production was moved to China product guarantees have been lengthened from one to two years.

IDT produces enormous volumes of other products for large electronic chains and shopping centres, primarily under its own brand Oregon Scientific.

The final decision to move production to China was taken in November 2001. In the beginning both a production agreement and a licensing agreement were signed for the production of conference telephones under IDT's own brand.

"However, there wasn't any call for those products. IDT's strength lay in manufacturing large volumes of products at a lower price point that weren't aimed at specialist users, who demanded a little more attention. Conference telephones were aimed at another category of customer than theirs, so in the end they only made our products for us," Peter Renkel says.

The downside of having production in China is that it places greater demands on long-term planning and requires a larger amount of stock. This was something new for Konftel at the time. Rapidly, they learned that being a global player is very different from acting in a more local market.

"From an overall perspective the move to China was the crucial step towards our positive development. Compared to Sweden the gross margin per unit sold rose sharply," Renkel says.

At this time, there were still many who doubted Chinese manufacturing quality. Konftel's experience was immediately something quite the opposite. The quality improved.

After the move to China, Konftel was able to extend the guarantee period of its products from one to two years – a fact that's inconsistent with some people's belief at the time that China was where inferior products were made.

"That was definitely a myth, which I guess time has proven," Product Manager Torbjörn Karlsson says today. 17 years ago, he was an advanced project leader and spent a great deal of time at the factory in Shenzhen, cooperating with the IDT personnel.

"The Chinese are very proud and take great pride in doing a good job. I can only talk from my own experience and tell you how it works with the partners we have collaborated with over the years. Our Swedish producers back in 2001 weren't at all bad for the time, but they were not even close to achieving the quality workmanship that was immediately provided by IDT. We found out that they had engineers whose sole task was to 'torture' the products in every possible – and sometimes

impossible – way. They took the product a few weeks before it went onto the production line, and dropped it from great heights, subjected it to heat and cold, liquids and so on and conducted all kinds of handling tests. This was really new for us at the time."

Peter Renkel points out that the move to China was a lucky one for Konftel. It meant increased income and laid the path for expansion across the world.

"I think there was a lot of prejudice surrounding China, concerning both their people and their companies. Of course, there are bad examples, less serious companies and probably some bandits, but you also find these in the western world. The Chinese had started from a completely different level to us and all I can say is that the quality of the production meant we were immediately able to extend our guarantee period by one year. We could now offer a two-year warranty for a product that had become more cost-efficient and better quality!

"Then there are the cultural differences, which have mostly been comical to us."

Renkel explains about the Asian aversion to saying 'no' or losing face – something that can result in some alarming culture clashes

"It took a while before the penny dropped. If you are at a technician level then you never talk about problems. They never say no and do exactly as the boss and the customer says. That was something we learned along the road and the biggest difference compared to when the production was carried out by Leab in Lövånger. A Swedish technician would ring up directly 'from the floor' and tell you if something was wrong and I liked that, as that's the way I think you can make good progress.

"We moved to China in 2001 and did a test run of 1,000 units. During their quality control stage, we found a minor common fault that should have come to their attention earlier. Our technicians took the units and went to the production department and asked; 'didn't you know about this problem?'

"'Yes, but we've done everything according to your specifications. We have done exactly what you told us to do."

According to Peter Renkel this is a telling example of a cultural clash between Asia and Sweden.

"In the beginning we worked hard to try and get them to

Partner events in Shanghai, Beijing and Taipei 2017.















"Without that link, we would never have got a look-in at this factory."

relax their attitudes towards us, tried to make them understand that we were happy for them to call us up if something was wrong," he says.

""Yes' is the reply, because they never say 'no'. Although as far as I know no-one called us, so if we suspected there was a problem with something we rang or e-mailed to ask. The answer often looked like this: 'we will get back to you as soon as we have good news'."

When production first started in China, Torbjörn Karlsson from Konftel spent six months out in Shenzhen.

"It takes time to build relationships with the Chinese. In Sweden we're used to getting to know one another pretty quickly when we work together. However, it doesn't work like that in China and you have to respect that. I have spent a lot of time with them and it takes time to build personal relationships in China. They are very kind and they never want to be bearers of bad news. They never raise their voices.

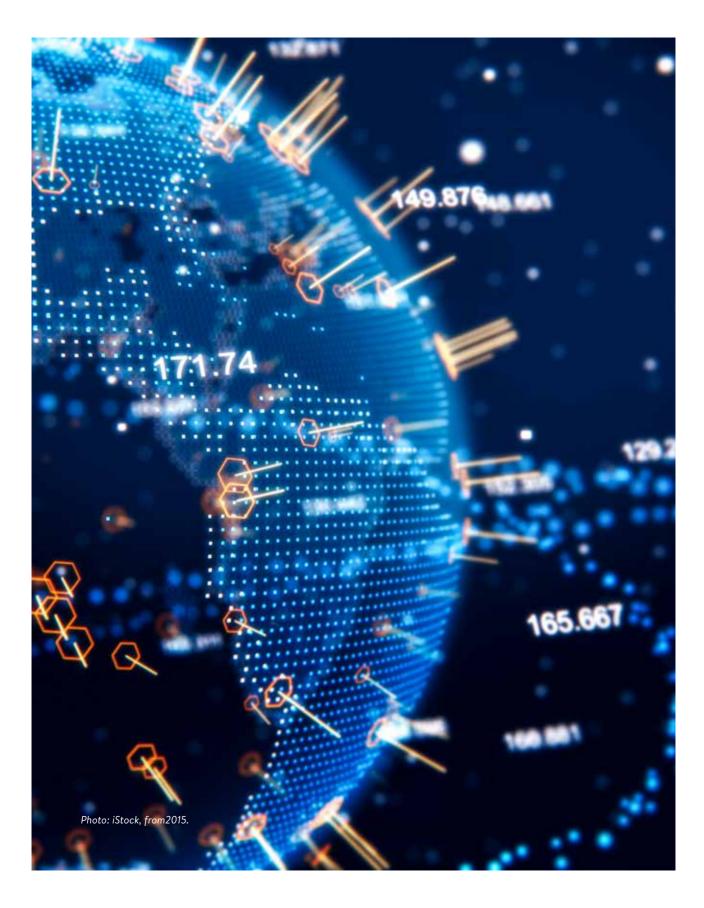
"I explained to them that they are welcome to demand things from us, but I have learnt that you must understand their way of expressing themselves. If something is mentioned over and over again you should start thinking that perhaps there could be a problem," says Torbjörn Karlsson.

He first experienced China in 2001 and over the years he and Tommy Edlund (today's Director of Global Sales) have spent many months in Asia, both at the IDT plant and since 2011 at another huge plant, the same one that Avaya works with. It is a big Taiwanese company and one of the world's three largest ODM manufacturers.

"I rarely go to China now. I was there recently, but before that the last time was in 2014. There's just no need for us to be there as much these days. We have our own staff on-site, through Avaya, and I can contact them directly whenever I need to. It's one of the benefits of being part of a global giant. We're treated very differently now and quality levels have been given an extra boost thanks to our ties with Avaya. Without that link, we would never have got a look-in at this factory. They only work with the very biggest and best names," says Torbjörn, who is currently Product Manager both for Konftel and for conference phones at Avaya.

Part Three

"Naturally there were a number of culture clashes."



A need for increased resources

Moving production to China in 2001 was a success, enabling Konftel to step out into the huge global market with confidence. The growth in volumes was astounding, with annual figures of between 20 and 30 percent (33 percent in 2004, in fact) and profits posted in every annual report.

The network of good international collaborations with more distributors, dealers and other partners also gradually expanded – not least with regard to OEM manufacturing of conference telephones for the world's leading phone companies and producers. Some of the people at Konftel were darting around the world like crazy.

"It was such an enjoyable time," says Peter Renkel today.

"We managed to create a buzz around our business that our new customers really bought into. We very much weren't the biggest and we didn't have the broadest product range, but we had a good product, we knew the technology inside out and we were focused on listening to what our partners needed. Because we had such short decision-paths, we were able to quickly deliver results and solve many of the customers' little everyday problems as they cropped up, which they always do."

Alongside Konftel's successful entry into the larger global market, technical advances were also being made at a dizzying pace in the early 2000s. Microprocessors were getting smaller and smaller, while capacity was going through the roof. At that time, it really was worth upgrading your computer practically every year.

There are many ways to calculate the capacity of a microprocessor, one of which is MIPS (million instructions

per second). In 1999, a reasonably good computer would handle 80 MIPS at 50 MHz. Six years later, in 2005, the figure was 8,400 MIPS at 2.8 GHz – an increase of 105,000 percent. Everything was getting smaller, faster and smarter, which began to unlock exciting new potential. In around 2008, smartphones were neither particularly smart compared with today's nor particularly common, but by 2013 – 2014 they had become much more user-friendly and their popularity had skyrocketed, with over 50 percent of the population in the Western world owning a smartphone.

The overheated expectations for what IT could achieve, which had created the dotcom crash of the late 1990s, were now starting to look perfectly realistic – something that many of the crash survivors took on board. Smart new small-scale IT solutions began popping up, suggesting that the ground could rapidly be shifting under the feet of traditional large-scale industries that had been around for a long time, not least telephony and communications.

Konftel's intense globetrotting in the mid-2000s paid off. It was profitable, fun and eye-opening – but also hard work. Was it really realistic for a company with just 15 or so employees to maintain this tempo and this success over the longer term, and still keep up with the pace of technical advances?

It began to dawn on owner Gunnar Ekström and others that they would need a whole different scale of resources if they were going to continue developing and growing as a company in the global market. As mentioned, it was Gunnar and his brother Hans who founded Konftel in 1988, based on Peter Renkel and John-Erik Eriksson's first conference phone system in Umeå. It was also Gunnar who 'saved' the company from the huge runs on the stock market that followed the dotcom crash, when he bought out Konftel from its parent company, which was listed on the stock exchange from 1997 to 2003.

"I'd been there from the start and owned Konftel for almost 20 years. Of course I had strong feelings for the company. I still do, because we've been on such an incredible journey together, from a basement in Umeå in the far north of Sweden to a presence in almost every corner of the globe," comments Gunnar Ekström today.



Smartphones really took off in around 2010, with 50 percent of the Western world's population owning one by 2013/14. Pictured is an iPhone 4S from 2011.

Photo: iStock, Mutlu Kurtbas



Product portfolio 2007: Konftel 50, Konftel 60W, Konftel 100, Konftel 200, Konftel 200AUX, Konftel 200W and Konftel 200NI. "But I began to see the limitations we faced when we exposed the company to all the demands of a global market. We were going to need a bigger organisation and considerably more financial muscle behind us if we were going to keep up with developments. I was about to turn 60 in 2008 and I wasn't sure I was the right person to shift things up another gear and steer the ship in a new direction. In fact, the idea of selling began to grow in my mind from around 2006."

At that time there were a total of seven models in the company's product portfolio: the Konftel 50, Konftel 60W, Konftel 100, Konftel 200, Konftel 200AUX, Konftel 200W and Konftel 200NI, and the development department was working flat out to prepare the new Konftel 300 for launch in late 2007/early 2008. In addition, there were a number of



OEM products that were produced under different brands for various partners and customers.

Konftel has received multiple international recognition for its products and business practices over the years. One of the first awards came from the US market research and analysis firm Frost & Sullivan, which recognised Konftel for 'Product Differentiation Innovation'.

"When we were new to the global market in the early 2000s, this type of recognition naturally boosted our brand and improved our competitiveness, since Frost & Sullivan's awards are held in high esteem industry-wide. The awards are based on extensive surveys of both users and industry figures, so this was fantastic proof that we were doing the right thing by investing major resources in developing our offer," Peter Renkel says.

At the time of writing, another accolade is also on the way, since Frost & Sullivan has announced Konftel as the winner

One of many awards that Konftel has received over the years. Jeff May and Clarence Jacobsson accept the World Audioconferencing Tabletop Growth Leadership 2009 Award.



The latest award testifies to Konftel's strengths in creating customer value.

of The 2018 Global Tabletop Audio Conferencing Endpoints Customer Value Leadership Award.

Those first awards established respect for Konftel's expertise and development potential across the industry. The company was therefore bound to attract interest if a sale was announced. Gunnar Ekström's thoughts about selling grew stronger and by 2007 he and the board had made their decision. They would try to find a buyer that was capable of taking Konftel to even greater heights.

"But I wanted to do the right thing for the company. What I didn't want was for it to just be swallowed up by a giant corporation that wouldn't appreciate and develop what we had built up over the years," says Gunnar.

"I understood Gunnar's reasoning as the owner," says CEO Peter Renkel. "He talked to us in the senior management team and listened to what we had to say from an operational point of view. It was clear that we needed more muscle if we were to continue developing – he was completely right about that – so we realised that selling was a must for the long-term future. At the same time, there was naturally a sense of nervous excitement, because when processes like this are set in motion, with so many powerful interests involved, you never really know where you'll end up."

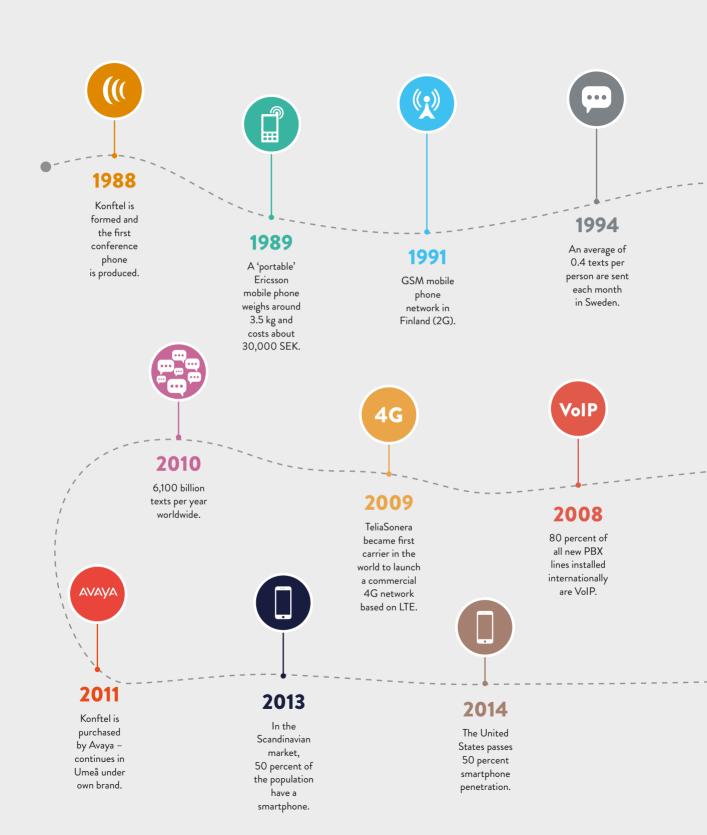
And what followed certainly was exciting.

The company was about to embark on quite a long and bumpy journey: years of negotiations, hurdles and administrative complexities, illness, product delays and a battle to find a role as a small company in a huge global organisation.

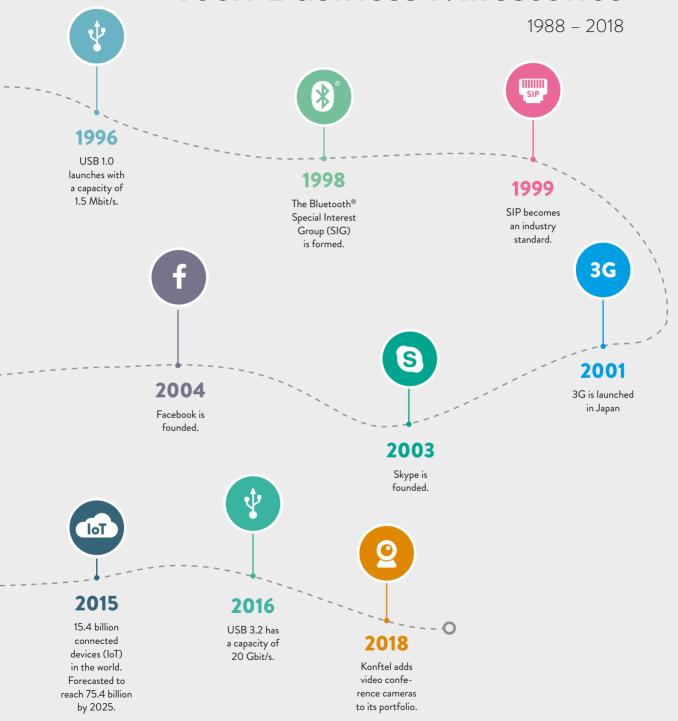
That might sound a touch negative, but don't worry – it all came good in the end.

The Konftel brand has remained strong all along. Most of the people who built up Konftel and 'The Konftel spirit' over the years are still here, along with a host of new employees and external partners who are helping to take the company forward.

And Konftel continues to be a solid earner for its new owners.



Tech Business Milestones





Finding the right owner

FOR THE FUTURE

It was back in 1974 that Gunnar Ekström made his first business deal in Umeå. Together with his brother Hans, he bought a property for a few hundred thousand kronor, marking the start of a long career as an entrepreneur.

Konftel was founded in 1988 and 23 years later Gunnar made the biggest deal of his life when, in 2011, he sold the company for 100 million SEK.

In the intervening years, Gunnar Ekström owned and ran a number of other businesses large and small (and he still does). (His brother Hans died of cancer in 1998.) However, Konftel is the member of the Ekström stable that had the greatest focus on the international market early on. Gunnar never meddled in the day-to-day operations of the business, but he was a very keen and active owner. Nevertheless, he and the board took the decision to sell off his baby, Konftel.

"Decisions always have to be guided by the best interests of the company. Nothing else. It's something I've learned over the years as a company owner and it's something I keep banging on about today, as an adviser, financier and board member of numerous young, up-and-coming businesses. There is always a risk, as a founder and owner, that you become blind and keep going too long with something that was once really successful but is now being outpaced by progress. You have to be open and realistic. That's what I had to tell myself, when the decision to sell Konftel was taken in 2007," explains Gunnar.

But he was in no hurry. It would take several years of preparations and then some tough negotiations before everything fell into place.

Gunnar Ekström.

"As an owner and entrepreneur, you need to be well prepared and have good advisors around you, particularly when you're taking monumental steps. Our first act was to conduct a thorough analysis of what Konftel should be taking on to the next level and what, in that case, might be of interest to an owner. What needs could we meet for a potential buyer? Were there any gaps that we could fill? These were the first questions we asked," recalls Gunnar.

The analysis suggested possible interest from a number of big names in telephony and communications that – at least to some extent – lacked a conference telephony offering of Konftel's quality.

"Next we tried to work out what the company could be worth, and that gave us a rough price level. A number of measures were then needed to make the company fit for presentation to prospective purchasers who, at that time, were playing in a whole different league to Konftel," says Gunnar.

Sights were set on a sale in around 2010. That meant three years of preparatory work aimed at achieving continued international growth (which was already good), solid results in the annual reports (also good), and clear documentation of finances, technology, production, licences and so on (needed work), plus the sales force had to be more strategically deployed around the world (also an area in need of improvement).

"We immediately got started with strengthening our sales force internationally. We invested capital and employed people in territories such as the UK, France and the USA to put us closer to our distributors and dealers"

This drive was needed to close the gaps that had arisen during the company's rapid and successful growth in the early 2000s.

"You can't just stand up and say 'look at us, we're brilliant'. Everything has to be fully transparent and documented for serious buyers at this level to be interested."

Then came 2008, when global finance was shaken to its core.

'Lehman Brothers' says it all. Bankruptcies and the collapse of the financial markets created a downturn that is considered the worst financial crisis since the Great Depression of the 1930s. The main cause was an over-valued and over-indebted US housing market.







The international salesforce began to be expanded in around 2007, not least in the USA, the UK and France. From the top: Fredrik Hörnkvist, Sales Director North America, Jeff May, Regional Sales Director based in the UK and responsible for a number of English speaking markets, Jean-Luc Sigonney, Regional Sales Director South Europe & Benelux.

Photo: Samuel Pettersson

"We had just invested and employed more salespeople, but now wasn't exactly a good time for them to be securing new business. It was all a bit of a shock. What do we do now?"

The decision was taken to keep calm and carry on. The salesforce was tasked with continuing to build up contacts even if no major deals were done.

"In hindsight, this proved to have been a good move for us. Our competitors withdrew and went on the defensive, while we were out meeting distributors and dealers in 2008 – 2009. It was pure luck really, but it meant we gained a lot of attention during that period.

"Then things turned around quite quickly in late 2009. What we lost in the first half of the year, we clawed back in the next half, so in terms of profits, we were basically still on track," says Gunnar Ekström.

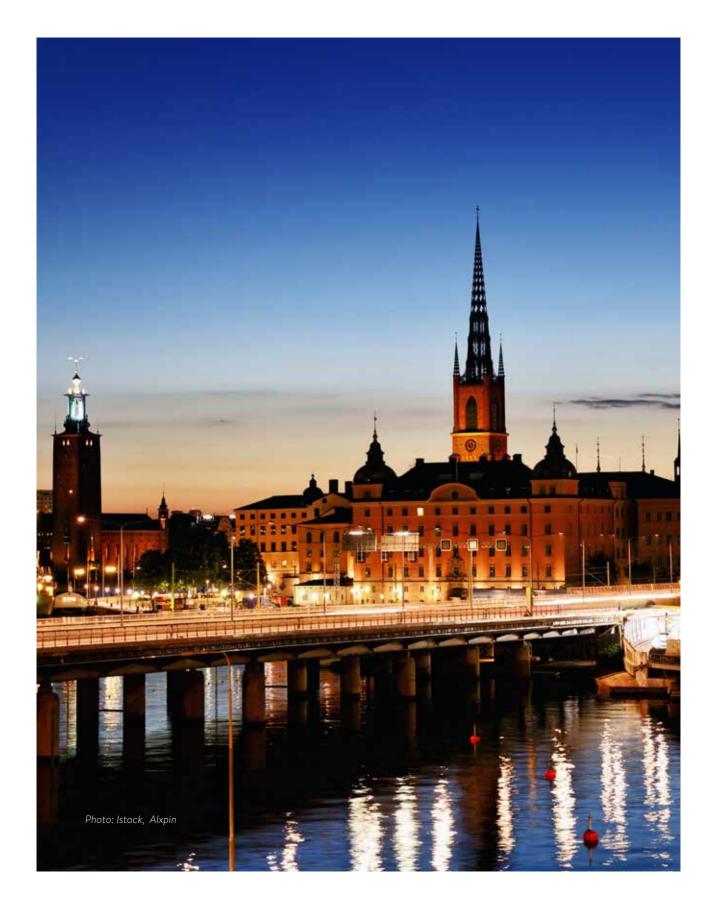
With things back on the up, preparations for the sale of the company were able to continue.

"At this point we brought in an international consultant with exclusive global contacts, basically just to open up the doors to the major players. Making our own approaches to the giants of the industry from Sweden and talking about a little company from Scandinavia ... That was never really going to work."

Konftel's consultancy firm had a team in London that specialised in telecoms, and they travelled to Sweden to talk to Konftel's board

"Then they issued what they called teasers to a number of big names that we all thought might make suitable buyers. This whole service, which didn't take very long, was by no means cheap, but it was both valuable and essential. It cost significantly more than the service we later bought here in Sweden, which saw a team work practically a whole year on the final details of the deal."

As it turned out, the world was definitely interested in an award-winning company with a top-class product in a niche category. By the end of 2009, a number of potential buyers had registered an interest in taking a closer look at Konftel. Understandably, they demanded a thorough examination of the company, known as due diligence (DD).



Sealing the deal

"We had already begun our internal due diligence and built up a database that interested parties could log into," relates Gunnar Ekström.

The analyses and discussions between Konftel's consultants in Stockholm and potential buyers took place early in 2010. Gradually over the spring, a global player from the USA emerged as the strongest contender. Its name: Avaya.

"But by early summer there was still no firm agreement, even though people from Avaya had been to visit us here in Umeå. As Sweden's holiday month of July approached, I felt it was all going far too slowly. Since it was possible that they didn't really believe our forecasts, I thought it might be better to see out the year, giving us another good set of accounts and even more data to show that our projections were up to scratch. I checked with Peter Renkel and we agreed."

The decision was to lie low and work on achieving good results for 2010. Gunnar Ekström called the consultants: 'We've decided to suspend this process for the time being. We're going to see out the year and get in all the figures, which will show that our forecasts are realistic. Now we're going take a nice, quiet holiday.'

"Our consultants thought I was a bit weird, but that was how things had to be. I do admit that it was also a bit of a tactical move ..."

It wasn't long before a response came from across the Atlantic.

"I was walking in the garden at my summer cottage when the chief negotiator at Avaya called: 'What's going on? What is it you actually want?'

Long days and nights of negotiations in Stockholm finally led to a deal. "I explained that we were happy to wait to prove that our projections were correct. We want 100 million SEK, it's a perfectly reasonable price and we can wait."

After this conversation, Gunnar Ekström was convinced it was all over.

"But after a few days Avaya rang back. 'We're prepared to go through with the purchase, but we want to do it now and our engineers will have to come over straight away to go through all the details.'

"'Fine,' I said. In that case I want the offer in writing, and confirmation that you accept the conditions we've set. Then we're prepared to proceed. 'That's okay. You'll have the papers soon.'

"We received signed papers and then I called Peter: 'On Monday it's all hands on deck, Avaya's engineers are on their way.'

Peter's response was:

'But we need three months to do a full and proper due diligence report.'

"Avaya's engineers appeared on the Monday," Gunnar says with a laugh. "But Peter was right. It was actually four months before the purchaser's due diligence was completed."

So July 2010 was when the process with Avaya began in earnest.

"And it soon became clear that we were dealing with a global giant. They had an expert for every possible niche, while Konftel's team each had much broader areas of responsibility. I've checked back and Avaya had a total of 72 people in the room where we had our database and folders, while there were perhaps 12 of us, including the consultants."

This might be interpreted as a show of strength to try and trip people up and reduce the price.

"Yes, you could see it like that, but we have to respect the fact that this was a big deal and the buyer naturally wanted to know exactly what they were getting for their money. But there's no doubt that this was far more challenging than the normal deals I do."

It was in fact so challenging, prolonged and heated that in the later stages Gunnar Ekström began to suffer heart palpitations and ended up in hospital. But more about that later.

After several months of DD work by Konftel's staff in



Avaya's headquarters in Santa Clara, California.

conjunction with Avaya's experts, by autumn/winter 2010 the time had come for the final negotiations.

It was to be a time of high drama.

"We found ourselves in Stockholm. Sometimes at our law firm Törngren and Magnell, sometimes at theirs. There were lots of evenings and late nights. We had five or six people representing Konftel and Avaya had a similar number."

Alongside these meetings, CEO Peter Renkel, CFO Åsa Sjöström and a number of other key personnel at Konftel were grilled by lawyers or Avaya's experts. All this had been going on for several months, but the last few nerve-shredding days of negotiations were particularly intense for Tommy Edlund, who is now Director of Global Sales at Konftel. In 2010 he was Product Manager, with responsibility for the technical aspects of the products.

"I remember that time with a combination of terror and fondness. The company was doing so well and had developed so quickly that we hadn't had time to sort out how to handle and document all the detailed questions. There were just too few of us.

"It's true that I was used to answering all sorts of detailed questions. When I was travelling the world meeting customers, it was normal for me to be sat on one side of the table, facing a quality manager, a service manager, a purchasing manager, a product manager and a marketing manager. I would have to field questions from all these people entirely on my own. I basically just switched hats, depending on who was asking the question. That's how things worked in the early days as Konftel grew."

But back to the toughest night of the final negotiations at the lawyers' offices in Stockholm.

"I was actually sat at home in Umeå, talking to lawyers in the USA by phone," says Tommy Edlund. "They tried to press us on details about an open-source licence, which we thought was all sorted, but there appeared to be some debate about the true situation. I have to admit that I wasn't on top of all the details, and neither was anyone else at Konftel. Obviously the lawyers used this to talk about the risk of lawsuits down the line, as a way to push down the price. Many millions were at play here," says Tommy Edlund.

"To hell with this. I'm going home."

Things were also hotting up in Stockholm.

"I felt like we were getting bogged down," says Gunnar Ekström. "Their lawyers starting arguing about licences and the risk of lawsuits. It was annoying, because I thought we'd passed that stage. There were some heated exchanges at times."

He began to lose patience, and also to feel something in his chest. He had suffered arrhythmia before, and it seemed to be making an unwelcome return.



Tommy Edlund recalls the 2010 negotiations with a combination of terror and fondness. It is now one of many exciting anecdotes from Konftel's history.

Photo: Samuel Pettersson

"I couldn't carry on, so I said: 'To hell with this. I'm going home.' I was worn out and I felt like I no longer cared by that point. I felt really unwell, but I did leave our lawyers with instructions to try and conclude the negotiations."

Gunnar Ekström flew home to Umeå that same morning and was immediately whisked off to hospital.

Tommy Edlund, who had only managed a few hours' sleep after his late-night cross-examination by the lawyers, was rather tired when he went into Konftel the next morning.

"I was a bit down and worried that I may have just lost Gunnar an awful lot of money. And then things got worse when one of my colleagues told me that Gunnar was in hospital with heart problems!"

There were a few tense hours of waiting in the Umeå office before Tommy and his colleagues were informed that the issue wasn't too serious.

"The doctors conducted a thorough examination and couldn't find anything wrong, so I was discharged in the afternoon," explains Gunnar.

Today, this is one of many exciting anecdotes from Konftel's 'former life' as a model of driven entrepreneurial spirit, nimble footwork and quick decision-making.

"This was a meeting of two very different cultures, so it's not surprising that getting to the finishing line was a bit of an endurance test. Looking back all these years later, I think it's fair to say it all worked out very well in the end for everyone involved," says Gunnar.

"As I said, you have to have good advisors and lawyers. Sten Hedbäck in particular had the knack of staying focused and guiding heated discussions from messy arguments to concrete solutions that worked for both parties."

The discussions about the licence were solved by putting some of the purchase price under lock and key until everything was resolved. It wasn't a big problem in the end. Gunnar got his 100 million SEK and in 2011 Avaya became the new owner of Konftel



The small entrepreneur

MEETS THE GLOBAL GIANT

After 23 years, local owner Gunnar Ekström handed over the baton to the multinational giant Avaya, following three years of preparations and almost a year of negotiations.

Konftel, which at the time had less than 20 employees, was now part of an organisation with almost 9,000 employees around the world. Avaya is a global leader in digital communications software, services and devices for businesses of all sizes

The year was 2011 and Konftel now faced the task of on the one hand continuing to develop as a separate company with its own brand, and on the other finding its role in a massive organisation that was run in a very different way from what Konftel's managers and employees were used to. The nimble entrepreneur met the carefully structured super-machine. Naturally there were a number of culture clashes.

"An important issue that I stressed during the sale was our wish for the company to stay in Umeå and get to retain its independent profile," says Gunnar Ekström. "There was nothing in writing about this and we weren't going to insist on it as a deal breaker, but in a gentlemen's agreement we established with the buyers that the company would remain in Umeå for at least three years. Then once the deal was done, I understand there were other interested parties who absolutely wanted to move the company to the USA and bring it fully under their wing. But these were different people and departments to the ones I'd been negotiating with."

Now, seven years down the line, Gunnar Ekström feels the outcome was good for both companies.



"Looking back, I'd say Avaya stuck to their end of the bargain. Of course they took over the rights and similar assets, but day-to-day operations, development and sales are still here, more or less as before. I'm no longer on top of all the details – I've left all that behind – but obviously I still have personal friends at Konftel and I have strong feelings for a company that I helped to create

"The fact that Konftel continues to operate out of Umeå is very much down to the management there. Things are going well financially, but in big organisations like this all sorts of other factors come into play when deciding where companies are located, not least politics. Peter Renkel and his management team at Konftel have done a great job of marketing themselves internally at Avaya and clearly explaining how this setup benefits all parties. They deserve every credit for that," says Gunnar Ekström in autumn 2018.

Everybody you talk to at Konftel today emphasises how working together as they do strengthens both Konftel and Avaya.

Tommy Edlund, Director of Global Sales, joined Konftel in 1999 as a development engineer and has since held a varied range of positions within the growing company.

"As I said, back then there were only a few of us and we all wore several different hats in our contact with customers and partners. Around 2010 we found ourselves at a watershed moment. Our rapid growth began to put a strain on our little organisation. You can grow to a certain degree as a small business and venture out into the global market, but then you reach a point where something has to give. You need to become a large company, with many more specialists in various areas," says Tommy.

"I appreciate the power of having such a big, strong organisation behind us, even though it can feel like heavy going sometimes, particularly for those of us who have been here a long time. But what happened was absolutely necessary."

The person who has been with the company the longest is, of course, the originator himself, John-Erik Eriksson, who together with Peter Renkel designed the world's first conference telephone in 1988 with full duplex and advanced echo cancellation (see chapter 1 onwards). John-Erik is still going strong and is part of Konftel's audio development team,

In 1987, Peter Renkel and John-Erik Eriksson hatched an idea in a basement in Umeå. Just over 30 years and a number of products later, the gentlemen are still going strong at Konftel – now with the world as their workplace.

Photo: Johan Gunséus

which is made up of engineers, sound engineers and sound designers.

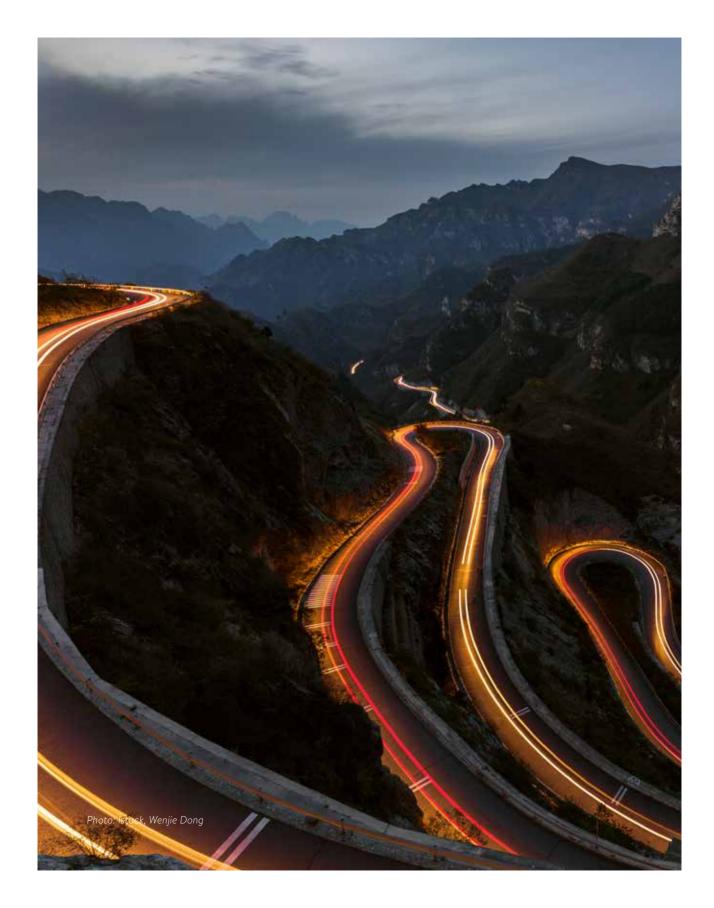
"I think the position we're now in is great," says John-Erik. "Yes, there is a lot more administration involved, but it's not really something that affects us on the technical side. I see nothing but upsides. We have measuring equipment of the very highest order, a unique anechoic chamber where we conduct our tests, we have more people working on technology and a whole different scale of resources to draw on by working with Avaya's talented tech people. The company's roots go back to AT&T and Lucent Technologies, giving them a hundred years of accumulated experience, which certainly broadens our narrow but crucial skills base in advanced audio processing.

"Essentially, the way it works is that we provide the audio expertise and they provide the production know-how. With a few years under our belt, I think it works well.

"Okay, one downside is that some things can take longer. Before, for example when we found a good supplier of a technical part, we just said 'Go!' and we were off. It's more complicated these days. The supplier has to be audited, quality assured and approved in a lengthy bureaucratic process. But that is exactly as it should be. There's a difference between manufacturing 500 units per month and 500 units per day! You have to be absolutely certain that the flow from further down the chain is reliable," says John-Erik, adding:

"I know that Peter [Renkel, CEO], Åsa [Sjöström, CFO] and others in more administrative positions can find themselves embroiled in processes that feel slow and complicated. We come from a whole other corporate culture. Of course working for Gunnar Ekström may have been more fun and more personal on many levels, but overall where we are now is a win-win situation for both Konftel and Avaya."

"There's a difference between manufacturing 500 units per month and 500 units per day!"



The process of learning

A NEW WAY OF MANOFUVRING

As Gunnar Ekström previously described, the promise and the plan was for Konftel to remain operating out of Umeå, where it would continue to expand and focus on sales of its own brand, while at the same time becoming a technical, developmental and OEM resource for Avaya.

"However pretty soon in 2011 we realised there were powerful forces, other than those we first collaborated with, who were intent on eliminating us as a brand and on moving everything to the USA," says CEO Peter Renkel, who remembers those first years within Avaya through a kind of gloomy mist.

"It felt like there were always new dark clouds appearing on the horizon that obscured our vision both of our day-to-day operations and our long-term planning. For me personally it took a while before I fully realised how different everything was compared to when Gunnar was the owner."

One colleague on the former board had hinted at what was to come. He had been CEO of a Norwegian telecom company which was sold to the American giant Cisco.

"I remember he told me 'I used to have one boss and afterwards I had twelve.' I didn't quite get it at first, but now I do," says Peter Renkel, with a wry smile.

"After a while some documents appeared where Konftel was removed and only the technical and development departments remained.

"At first, I just thought there had been some sort of mistake or misunderstanding, but when I called and checked with the US operation I was told that the plan was not to continue with

The meeting of the little entrepreneur from Sweden and the global giant was far from straightforward.

us as a sales channel. We had, to all intents and purposes, been eliminated"

This news catapulted Peter Renkel and his management team into action. They struggled to understand why anyone would want to throw away years of hard work developing sales channels and successful OEM partnerships, when even the new owners would profit from them.

"We created a presentation demonstrating to the new owners that they would earn more money and reach a wider market if we worked in parallel on two fronts with both the Konftel and Avaya brands, while engaging the OEM partners we were already cooperating with."

Peter Renkel flew to the United States and the Avaya HQ in Santa Clara, California, to present his plan. He argued that the organisation as a whole would sell more and earn more money because Konftel was already in key markets and had successful collaborations that Avaya had never had access to because their competitors would simply not let them in. Konftel would be able to build on its well-integrated channels and muchappreciated products.

"In the end I got the OK to keep the brand and continue to run Konftel as a separate business, but we only had 20 months to show results. At first, I was annoyed and argued that we needed more time, but during a break in the meeting I got some advice from one of Avaya's executives, who told me 'take it easy, accept this, do your job well and nobody will remember the details of this meeting a year from now.'

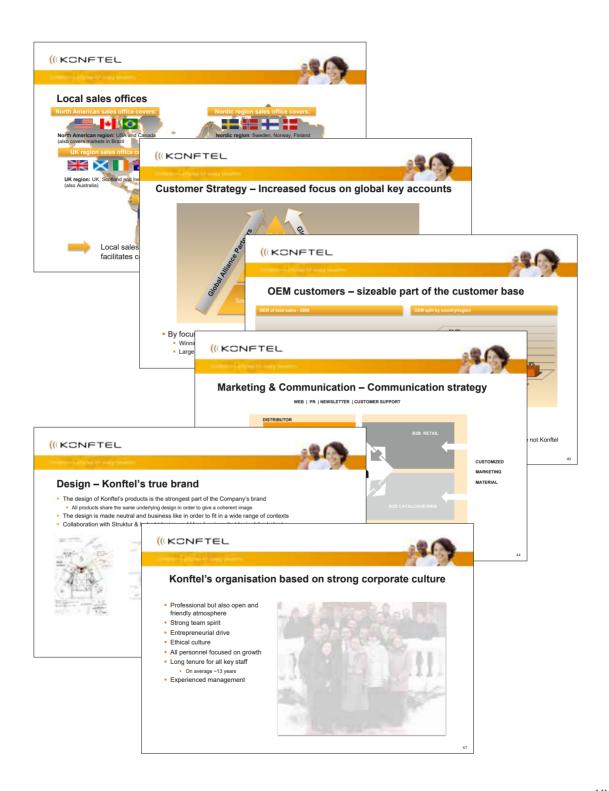
"The calm, insightful man who said that to me was Mark Monday, who later became my boss and our most important contact with the top management in the USA during those tough first years as a newcomer in such a big organisation. We had to learn how to find our way around and Mark was a big help for us," says Peter Renkel.

Mark Monday is very open and clear about how he viewed his mission regarding Konftel at the time:

"My roll at Avaya concerning all this was quite simple. It was really about protecting Konftel from Avaya," says Mark Monday today.

Situations like this, he says, are not unusual between a small company and a very large company that are supposed to cooperate under the same roof.

Peter Renkel worked hard to convince the new owner Avaya that Konftel should continue under its own brand, delivering multiple business opportunities for everyone involved!



"I've seen this happen in other big organizations. The biggest risk, I think, is that large companies have an ability to drown a new company when they acquire them. Sometimes the things that gave the smaller company value – and the reason why the bigger company bought them in the first place – can be destroyed."

But Mark Monday also says that there are no fixed rules for these cases.

"There are different ways to handle a smaller company that is acquired, depending on several factors in each specific case. There is no exact right or wrong and you can't treat each company or acquisition the same."

Mark Monday is still in the industry, today at Phonism as VP of Business Development. He previously spent 15 years with Cisco Systems, where he led multiple business units and product directions associated with networking and VoIP for enterprises and small businesses. After that, Mark spent six years with Avaya, where he was the Vice President and General Manager for the Collaboration products group.

"In this case back in 2011, I felt the right thing to do was to keep Konftel operating on its own, so to speak, as a sub-brand of the bigger company. There were several good arguments for this and it was simply an effective strategy to create more business opportunities for the owners."

Konftel was bringing something new to this global player, which was an important reason why the acquisition was made in the first place. Mark Monday points out three things in particular of great value to Avaya.

"Firstly, a technology Avaya didn't have. Secondly a great group of people with a strong passion for what they wanted to achieve, and thirdly it brought Avaya a new 'go to market channel' using the Konftel brand."

When good arguments, and the business opportunities they promised, were presented by Peter Renkel, Mark Monday and others, they made perfect sense and were accepted.

When Peter Renkel talks about the early days in the USA and the difficult process of Konftel finding its way in a new and unknown organisation he doesn't, in all honesty, look that happy. It wouldn't be an overstatement to say he had to present and sell Konftel twice.

"He did," exclaims Mark Monday.



Mark Monday opened doors at Avaya.

"Actually, I had to do this many times during my years at Avaya. In that kind of huge corporate environment there are lots of big and small things going on all the time, and not everybody can be an expert in every detail. There was always a month of the year when these things had to be addressed and re-explained, and often this had to do with new leadership in different positions.

"But this happens all the time in bigger companies, so I wouldn't say it is something unique to the Konftel-Avaya relationship."



Bigger resources for a future

THAT'S GETTING SMALLER

After a few years, the marriage between Konftel and Avaya began to really flourish. The exclusive and experienced expert in audio products for distance meetings had found its role within the global communications giant.

Today, Konftel has very different resources at its disposal to develop new products for a future market in which everything is tending to become smaller, faster and easier to use.

"It may have taken time to find the best forms of collaboration, but teamwork is now a routine part of our technical development work. I have just as many colleagues at Avaya around the world as I have Konftel colleagues in Umeå," says Product Manager Torbjörn Karlsson, who is now also Product Manager for conference telephones at Avaya.

Torbjörn Karlsson and Tommy Edlund, Director of Global Sales, started out as development engineers at Konftel at around the same time, in about 1999. They have seen the company's progress at close quarters and, along with Peter Renkel and a few others, have carried much of the workload internationally, from the time as a young startup to the current position as part of a huge organisation.

"All along, we've constantly had new things happening, creating interesting challenges. It's fun, and the reason I'm still here," says Torbjörn. "It has rarely been boring and when we've got bogged down occasionally, something has always occurred to get us moving forward again: a new product, new customers, being listed for a while, new partners, new production methods and not least new owners who have brought us undreamt-of resources, but also new challenges. We are highly international



and I have talented colleagues all over the world. There aren't many workplaces that offer the same incentives for personal development."

"In the simplest of terms, Konftel was like a teenager in its first 20 years," says Tommy Edlund. "Impatient and solution-driven, darting here, there and everywhere. Of course it was fun, but it was unsustainable in the long term, particularly with the scale of our success and growth. You can't act like pioneers of the Wild West forever, no matter how enjoyable that might be.

"However, I think we have managed to retain our family feel within the business and with customers. Being more organised doesn't have to mean giving up your roots and your personality.

"Konftel is now an adult," continues Tommy. "It's true that some of the youthful exuberance has gone. But to meet the demands of the global market over time, you have to have stability and consistently take the long view."

"Absolutely," says Torbjörn Karlsson. "If, for example,

Torbjörn Karlsson and Tommy Edlund.

Photo: Johan Gunséus

we take the decision-making process for a new development project, it might seem sluggish compared with the old days. But it is actually a healthy approach that benefits the end product. It has taken us a few years to learn the ins and outs of the bureaucratic process and how to clear the various administrative hurdles. Making decisions on the fly, based on a gut feeling, might sound fun, but it isn't necessarily good for stability and production reliability. Today, we're operating at a whole different level, and that's great!"

Having started out as development engineers, Torbjörn and Tommy themselves could be said to have been through 'product development' via a range of positions at Konftel over the years.

"The last time I was directly involved with a product was in 2007 – 2008," says Tommy. "So I no longer have the detailed knowledge that Konftel's audio team possesses. The career path to my current job began with me tagging along as a technical consultant to explain technical issues to partners or as part of the sales process. Torbjörn and I have stepped in over the years in all sorts of areas, because we just didn't have the personnel to do things any other way."

They found themselves helping out with every imaginable task, from sales, technical challenges and production issues to user feedback, support, design and licences – even down to labels and how to make a smart function easy to understand and use.

"What eventually became a restrictive disadvantage has turned into an advantage for us today," says Tommy Edlund. "Without realising it, we were learning by doing, and we came out with a broad understanding of the whole process, from technical development all the way to how customers use their conference phones day-to-day."

"Over time, we've gained a kind of helicopter perspective that benefits both Konftel and Avaya," says Torbjörn Karlsson. "I work with many very clever people who are real experts on the details, but I've noticed that very few of them have a handle on the bigger picture."

Both Torbjörn and Tommy point out that Konftel has a number of people on the technical side whose expertise extends beyond their specialist area.

"This means that we have an effective internal development



process, despite our relatively small team. However, having so few of us can, of course, be limiting in some situations. There are many things we could do if we had more developers."

The technical product partnership between Konftel and Avaya has thus been built up slowly but surely, with a couple of complications along the way.

One was that the parent company Avaya had a difficult few years at one point and eventually filed for protection under Chapter 11 of the United States Bankruptcy Code, which allowed it time to successfully restructure within a year. This had nothing to do with Konftel's business, but naturally rumours circulated, raising questions in the market.

"We had to put a lot of effort into informing our customers that this had nothing to do with Konftel as a company, and now it has all been resolved at Avaya so there's no problem," says Tommy Edlund.

Another dark moment that also has to be included in the history of Konftel is the illness that hit CEO Peter Renkel. He was diagnosed with a serious form of cancer back in 2009, which obviously hit him hard.

"Of course it was a heavy blow for me personally – nobody wants to get seriously ill. But I would like to say that without Konftel and the way the company and the team supported me, I never would've done as well as I have," says Peter.

"We have excellent healthcare and fantastic doctors in Sweden, but Konftel has also been one of my best medicines. I've been open about all this and I have superb colleagues who I enjoy working with. Also, paradoxically, what was bad news for me turned out to help move Konftel forward as a company."

Peter recalls the initial period of aggressive treatment and medication at the hospital, and the time when he got to return home and recover.

"All I could think about was Konftel and I wanted to remain involved. A camera was set up at the office so I could see what was going on and I took part in distance meetings. I suspect some people found it a bit irritating, but I just couldn't let go of my job."

So how was him being away good for Konftel?

"Well, because there were never very many of us considering the size of our business, I was involved in most things. People came to me about absolutely everything, we discussed things back and forth and I helped get the decisions made – even on certain details I didn't need to be consulted on. I've always been quite good at delegating and trusting in people where appropriate, but I'm also very driven and love being part of the team. So it just happened that a great deal passed through my office," explains Peter.

"When I was away for a long time due to my illness, everyone was forced to act more independently, which was a learning experience for the whole organisation. When I came back, I soon noticed a drop in how often people came to me with questions on minor details. It was actually quite a stark realisation at first that they could manage perfectly well without me. But on consideration, it was definitely a healthy place to be. A CEO shouldn't go about meddling in every little thing. I take care of the bigger picture, while the staff are experts on the details."

Maybe it boiled down to Peter Renkel having done a fine job as a leader.

Torbjörn Karlsson offers a slightly different perspective:

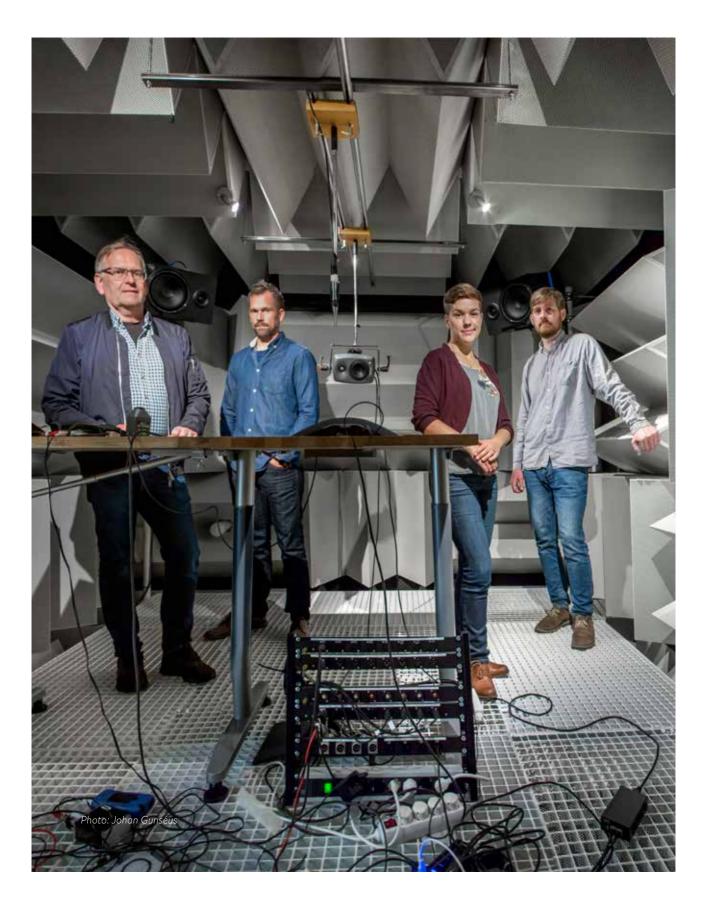
"Peter has always been good at delegating and putting his trust in people, as a good leader should. Over the years, we had built up a strong capacity to act independently on many issues. We just kept driving everything forward as usual while he was away. Maybe he had never given it much thought before, but when he returned after a long absence, it all became clear."



Articles about Peter and his fight against the cancer.
Above: regional daily Västerbottens-Kuriren.
Right: national business daily Dagens Industri.

Source: Västerbottens Kuriren, 2012, Dagens Industri, 2013





An echo-free chamber

TO GET THE PERFECT SOUND

One of many benefits to be derived from the new ownership is, of course, the considerably greater resources for technical development that Konftel has at its disposal. This was, after all, one of the main reasons for the sale.

The sound team in Umeå is now bigger than before and has the superb technical resources it needs to improve and adapt OmniSound® for various applications.

"The anechoic chamber that we bought from Germany is one of the most exciting recent acquisitions," says John-Erik Eriksson, a sound designer who, all those years ago, helped to develop the very first version of Konftel's patented OmniSound® audio technology.

He stresses that working on sound is always a challenge, since it is very much not an exact science.

"There are always new parameters that affect how each individual perceives sound, so building and calibrating the technology in the products to take account of every conceivable variable is always a challenge," John-Erik explains.

What the anechoic chamber allows the team to do is test and verify the sound curves in an environment that has exactly the same conditions every time. This provides consistent and accurate data for the purpose of comparison. The large chamber has been set up in a huge room in Umeå's disused military barracks. Part of the site is now a science park for many of the IT-related companies in Umeå, often with a spinoff connection to the university in the city.

Among the engineering graduates to have joined Konftel's sound team in recent years is Angelica Kjellson. One of her

The audio team in the anechoic chamber. L – R: John-Erik Eriksson, Niclas Sidekrans, Angelica Kjellson and Nils Östlund.



Avaya B189.

first tasks was to spend five months in Canada in 2015 with some of Avaya's North American sound team at their site in Belleville, around 150 km from Toronto by the Great Lakes.

"They have two smaller anechoic chambers that share the same principles as our large chamber in Umeå. One of the things we worked on was testing the Avaya B189 Conference Phone, which is based on Konftel's technology. It was a great way to start at a company I really love," says Angelica, who has a broad educational background that includes mathematics, statistics, programming and economics.

"You could say that Konftel is both big and small, global and local, which feels like a major plus point. The sheer scale of Avaya's resources provides the backing we need to keep driving forward, while at the same time there are relatively few people at the office here in Umeå. We get to know each other and are familiar with the whole chain on which a product so depends to deliver quality to customers. This means everyone has a good overview and understanding of just about everything that's going on.

"The sound team has the very niche job of developing applications and products, but sometimes Support, for



Konftel's support team, L - R: Daniel Anens (Product Specialist), Anders Lundqvist (Client Services Manager) and Per Woxberg (Product Support).

Photo: Johan Gunséus

example, will ask for help on the odd customer case. This gives us valuable contact with the users and provides huge insight into the way the end product has to function in practice, which is a great benefit to us as developers. Contact with the sales team is also important, as they meet the customers and know what they want. At a large company I feel there's a major risk that you'd work on your little detail, without really having any connection to the way the product is used in real life. I think it's essential for those of us who work in specialist areas to also understand the bigger picture. After all, it's the end user who decides whether we've done a good job on our product."

Angelica Kjellson enjoys the challenges that come with the job, and there are certainly plenty of those when you work with sound.

"When I went to university, I didn't exactly set my sights on a career in sound, but now I'm working in this field, I've realised how great it is. It's all about problem-solving on multiple levels, which makes the job both practical and theoretical.



Our work kind of breaks down into three parts:

- 1. Analysing different physical conditions, i.e. the acoustics in the room. Basically how the sound bounces around.
- 2. The digital part, the signal processing, which means crunching all the data into ones and zeros to build an optimum digital solution that can handle all the physical parameters.
- 3. The psychological parameters, also known as psychoacoustics.

"This throws up masses of challenges, the last of which is the most difficult and most exciting. Each individual differs in the way they receive and perceive sound, something that we have to incorporate into our devices. Different languages and voices also influence the way the sound is perceived.

"The really enjoyable part of the job is when you get to combine theoretical calculations with practical tests. This tells you, in no uncertain terms, how well different solutions work or don't work, so you can see progress being made. Angelica Kjellson, Signal Processing Engineer.

Photo: Johan Gunséus

One of the most difficult things is deciding when we're happy and it's time to step away, because with sound there are always more tiny adjustments you can make," says Angelica.

The sound team has recently been working on developing Konftel's new 800-series, which is scheduled for launch in early 2019. It is based on a brand new platform and the latest version of OmniSound®, which includes beamforming technology. Smart algorithms detect where the spoken sound is coming from and direct the audio pickup that way. This happens at lightning speed as several people speak in different places around the room.

"It has been both intense and fun, but the sound team is already getting started on the next projects and new products. As I said, when you work in sound and development, it feels like you're never really done. There are always new challenges."



Precision refined.
The Konftel 800 with the latest version of OmniSound uses beamforming audio pick-up. Ready to be launched in early 2019.

Photo: Struktur Design



OmniSound®

- A SEAL FOR QUALITY

Konftel's patented OmniSound® audio technology with full duplex guarantees powerful and crystal-clear sound in both directions. Hypersensitive microphones with 360° sound pickup and more recently intelligent beamforming technology, together with powerful speakers, provide superb sound distribution to all participants.

Hearing well and being heard can be the difference between a deal and no deal. OmniSound® delivers HD sound in calls over IP and the mobile phone network, with automatic echo cancellation and noise suppression. The OmniSound® seal certifies that Konftel's products provide the highest possible audio quality.



WHAT IS SOUND?

Sound refers to wave motion created by pressure variation in the air. This is perceived by the ear, which subsequently conveys the wave motion to the brain in the form of electrical impulses. What we hear is dependent on the number of times per second the air vibrates, which thereby determines the sound's frequency. When we are young, we can perceive sound from $20\ to\ 20,000\ Hz.$



WHAT ARE WE TALKING ABOUT?

Audio is an advanced field. When we talk about Equalization, we mean the ability to adjust the frequency curve in order to improve audibility. Noise suppression, however, refers to filtering out background noise in order to create the most crystal clear sound possible.



SO WHAT IS FULL DUPLEX?

Full duplex refers to the simultaneous transmission and receipt of sound, even in speakerphone mode. This means there is no sound clipping when more than one person is talking. Konftel was one of the first companies to harness this new technology.



IS THERE SUCH THING AS THE PERFECT SOUND?

Yes and no. What we perceive to be the perfect sound is highly individual, and depends on what we are listening to, the way we listen and what mood we're in. When it comes to audio technology, this often refers to the creation of sound without distortion.



The picture can be good enough

- THE SOUND MUST BE CRYSTAL CLEAR

The rapid technical advances of recent years have led many industries that were once poles apart to gradually converge – in fact in some areas they have even merged into one. A prime example is the telecoms and IT sector. The outcome is new solutions, increased competition and smarter products for the users.

"It's fascinating and exciting," says Product Manager Torbjörn Karlsson. "We're seeing the emergence of competitors who have excelled in other segments, but haven't focused much on sound before. Clearly, we need to remain open to new opportunities and develop new solutions for our customers. In many areas the technology is ripe for such development and it's not particularly expensive.

"That said," he continues, "I believe Konftel has a major advantage in that we're experts in sound and have been building audio solutions for 30 years. Take, for example, video conferencing. Nobody is going to react to a picture that isn't perfect, but poor sound gets extremely irritating. The picture can be good enough, but the sound must be crystal clear."

Over the years, much of Konftel's marketing and information has focused on the practicality of quick meetings and collaboration at a distance.

"We've been talking this up for a long time, but now it's really happening across a broad front in the corporate world and elsewhere in society," says Tommy Edlund, Director of Global Sales.

"And there's no doubt that having been in this once narrow niche for some time gives us a headstart. We have our ear



to the ground through our wide network of distributors and dealers, so we can form a clear picture of what our business-to-business customers want in terms of both function and quality."

Tommy Edlund also counts up the factors that have been presented as major threats to conferencing products over the vears:

"When I first joined Konftel 20 years ago, system phones were the big threat. They had a built-in speaker, so why buy a conference phone? But that threat was never realised.

"There has also been talk of mobile phones for a while now. You can place one on the table and put it on speaker mode. But actually the move has been the other way, as people discover how easy distance meetings are, but just wish the sound was up to scratch. They want better devices, and that drives demand for the quality that we're renowned for.

"We in turn are driven by the new requirements for a simple user interface. Plug and play. That's the big thing these days, and we're taking it on board as we adapt our products accordingly. Konftel is not tied to any particular system and so can slot into just about any situation."

The Konftel Unite app, one of many smart solutions that create easy-to-use products.



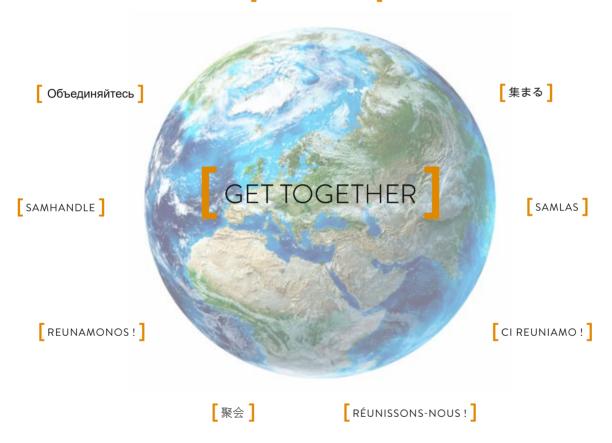
Huddle room – small meeting rooms for 3 – 6 people.

Photo: Samuel Pettersson

The third factor that Tommy Edlund highlights is open-plan offices. If that trend had been fully embraced, there wouldn't be any conference rooms by now. Everyone would be sitting and talking into a headset. But is that what happened?

"No, quite the reverse. Everyone has more contacts and collaborations, both within and outside the office, not least because it's so convenient. But that doesn't work very well in an open-plan office, so now we're seeing an explosion in the number of small, simple meeting rooms. All the talk is about huddle rooms for meetings of 3 – 6 people, and that is driving demand for endpoints with good sound that are easy to connect up – which is perfect for Konftel. Our products deliver the ideal combination of quality coupled with ease of use. I think this trend is a great fit for us."

ZUSAMMENKOMMEN



Get together

THAT'S WHAT IT'S ALL ABOUT

October 2018 marks 30 years since Konftel first registered as a company in Sweden. In 1988, two businessmen and two young inventors had a dream that their conference telephone would take the Nordic market by storm. As it turned out, that dream was far too modest and now the world is Konftel's oyster.

Over the years, a number of products have made it to market, all with the founding OmniSound® concept – crystal clear sound – as their key component.

"Our goal has always been to help our customers with collaboration endpoint solutions of the highest quality, that are easy to use and offer the best sound," says Peter Renkel. "Thanks to OmniSound® and our skills as experts in conference audio, we're now well placed to take things in new directions. Maybe we'll see Konftel delivering office phones with smart functions and optional headsets, or other products that simplify distance collaboration. There's also considerable demand for custom software solutions tailored to individual companies and organisations. That's an area we could help with. We're analysing the possibilities and conducting discussions with our customers and partners."

CEO Peter Renkel sees huge potential to continue developing Konftel and building further on the winning concept of crystal clear sound in easy-to-use solutions. The example he gives is Konftel's move into package solutions for video conferencing:

"Certainly, our video solution 2018 could have been released a few years earlier, but we firmly believe in doing things properly", says Peter Renkel.



Konftel Cam20 and Konftel Cam50. The conference cameras included in the first generation of Konftel Collaboration solutions.

Photo: Samuel Pettersson

"And that's the reason why we would not just start selling cameras as a complement to our phones; we always want to make functional and value-added solutions that are easy to choose and use."

When Stefan Eriksson became Marketing & Communications Manager a few years ago, there was a strong desire to update and clarify Konftel's identity and profile in the market, for the present and the future.

"It was quite obvious that Konftel is a success story that has grown through a combination of technical expertise and an ability to build partnerships and networks with a personal and familial feel," says Stefan Eriksson.

These values were already embedded in Konftel's brand, but they needed to be tied in with the benefit for the end customer.

"We decided that essentially Konftel's products make it easy for people to meet, work together and achieve things together. And so it seemed obvious that we should have GET TOGETHER as our brand promise and COLLABORATION as a key concept in our communications," states Stefan. "It also allows scope for the Konftel brand to expand into new product categories, beyond the classic conference phones."

And so this is where Konftel now stands, as an independent player in the market for communication and collaboration, its entrepreneurial spirit and curiosity still intact after 30 years. The drive is no longer to go out into the world and become a leading manufacturer of conference telephones. Instead the focus is on working with its owners and strong network of partners to continue listening to the market and meeting users' needs.

This is the final chapter in the book, but definitely not the final chapter in Konftel's story. Of that I am certain.

As an outside observer and writer, I have to say that I've rarely met such open, inquisitive and future-focused entrepreneurs. A broad collection of people with technical expertise, extensive experience and their sights set on delivering smart products that help us all to collaborate with many different people every day at work. I have a feeling there is plenty of exciting news to come.

Konftel's journey has only just begun.





