



History of the KWH Group

Birth and history of the KWH Group

As a business, the KWH Group goes right back to the 1920s and 30s. The Group proper was formed in 1984, when Oy Keppo Ab bought up the half of Oy Wiik & Höglund Ab's shares held by the Wiik family. This was a logical step, as Oy Keppo Ab had already bought 50% of the company from the Höglund family in 1981. Emil Höglund had been involved in the foundation of both companies, so their managements felt a strong sense of solidarity despite their different operating areas.

To get a clear picture of the KWH Group's past, one must examine the histories of Keppo and Wiik & Höglund separately. Wiik & Höglund is the older company of the two, so let us start there.

WIIK & HÖGLUND 1929–1953

One August night in 1929 Emil Höglund and Edvin Wiik were sitting at the Finnström inn in Maxmo discussing their future. They were both in the timber business, Emil Höglund as a clerk at Hellnäs Sawmill and Edvin Wiik as an independent buyer and major supplier for sawmills. Hellnäs Sawmill had fallen on hard times and defaulted on its payments. Both men were now facing the prospect of looking for new work.

Their discussions that night led to the establishment of the Wiik & Höglund timber company on August 28, 1929. Edvin Wiik, born in 1897 to a farmer in Teerijärvi, and Emil Höglund, born in 1901 to a tailor in Pedersöre rural district, became partners who were to work side by side for the rest of their lives.

They started up with modest capital. Emil Höglund managed to secure a private loan, while Edvin Wiik invested his and his father's savings as start capital. Right from the start the division of labour was clear: The company was to engage in trade in round timber, pit props and pulpwood. Wiik was to see to the buying, while Höglund, who had studied at a commercial college and spent some time in England in 1928, looked after sales and bookkeeping.

Thanks to the partners' familiarity with the sector and their contact network, the new company got off to a good start. The company signed its first contract in 1929 with a timber-exporting company, and later that same autumn concluded deals directly with a French buyer. They did well in their first year, and by September 1930 Emil Höglund was able to repay his loan.



Edvin Wiik (left) and Emil Höglund at the 30th anniversary party of Oy Wiik & Höglund Ab on August 28, 1959.



Bundling and loading pulpwood at Tottesund in Maksamaa at the end of 1950s.

The global depression, which started with the crash of the New York stock exchange in 1929, had a major impact on the company's business opportunities over the next few years. During this time, Finland had exported large quantities of round timber, mainly to Britain, France, Germany and Holland. Exports of pulpwood fell by as much as 70%, however, between 1930 and 1931. It was not until 1933 that exports to the Continent were restored to normal levels, and 1934 was a good year, in which exports doubled to 1,333,000 cubic metres.

Though fortune smiled on Wiik & Höglund in its first year, the next two years were very hard. Any plans for expansion had to be shelved. The purchasing organisation that had been set up, with local representatives in various parts of Finland, was practically idle. In 1931 sales were only half the sum contracted during the company's first year. On top of everything, the summer of 1932 was so dry that the company could not start floating its timber until the late autumn.

In the summer of 1933 there was a major forest fire in Peräseinäjoki, and over 1,000 hectares of timber were destroyed. Edvin Wiik moved in quickly and offered what later turned out to be a rock-bottom price for the felling rights. It was a risk, but one that turned out well, and as a result the company's financial situation was solid when it started to expand.

In the late 1930s Wiik & Höglund expanded quickly, becoming one of the major round timber exporters in Finland. Before the Second World War, its buyers covered the whole area from Rovaniemi in the far north right across to Vyborg

in the southeast. Emil Höglund's sales trips took him to Germany, Holland, Belgium, France and Britain. Offices were not only established in Vaasa, but also in Rovaniemi, Kokkola, Laihia, Kristiinankaupunki and Pori. By 1939 Wiik & Höglund was the biggest timber exporter in Finland, accounting for 26% of the country's total lumber exports and some 20% of its pulpwood exports. That year the company exported a total of 612,000 cubic metres of round timber, a figure that was not topped until 1952, during the boom caused by the Korean War.

The profits earned in the late 1930s were invested in fixed assets. The Petsmo sawmill was bought in 1936, and after the war sawmill operations were expanded rapidly, giving the company five sawmills of its own by 1950. Timber was carried on company ships, for in 1939 Wiik & Höglund had become a shareholder in the Vasa Rederi Ab shipping company, and later bought up the entire stock. There were also plans for a new sulphate pulp mill in Jakobstad, in association with certain other exporters. However, these plans were shelved, because in 1937 Wiik & Höglund were urged by their bank to buy a share in the Jakobstads Cellulosa pulp company, and Emil Höglund became a member of the Board. This holding was later increased, and in the 1960s Wiik & Höglund and Keppo jointly held 15% of the major wood-processing company Oy Wilh. Schauman Ab, making them the largest private shareholder.

During the war years, Wiik & Höglund's export operations almost came to a complete halt, and it became necessary to acquire other products in order to compensate exports. Firewood and woodchips now became the primary products. Woodchips were a typical wartime product, and birch chips were used to fuel gas generators in cars and boats. Edvin Wiik was the motivating force behind the woodchip production, and at one stage three of the company's mills produced woodchips. The company sold their product to the Germans as well as to the Finnish Army and state authorities.

The post-war period was characterised by a gradual return to normal operations. Exports of round timber started up again, and the company's old customers in West Germany, France and Holland once again became the biggest trading partners. Profitability was good and profits were ploughed back into fixed assets, mainly forest tracts. The biggest single purchase was Skinnarvik Manor and Lennäs estate on the island of Kimito in 1949; with them came 1,300 hectares of excellent woodland. A few years later the company bought 2,200 hectares of forest in Kestilä and Siikajoki. Altogether 7,400 hectares of timber were acquired, representing a valuable asset.

The most important and, in terms of the future, the most crucial investment came in the autumn of 1951, when Wiik & Höglund moved into plastics. Actually, it all happened by chance. For a few years Wiik & Höglund had been

supplying timber to Holmsunds AB near Umeå in Sweden. Holmsunds AB had been doing good business in plastic floor tiles for some time, and offered Wiik & Höglund sole manufacturing rights in Finland. Edvin Wiik was full of enthusiasm for this project, while Emil Höglund was more cautious and wanted to find out more about the profitability of such operations first. After all, plastic was a fairly unfamiliar material in Finland in the 1950s. However, plastics manufacturing was not entirely alien to the two business partners. The real pioneer in Finnish plastics manufacturing was the Nars family, who had originally made their fortune in timber. In 1948, the Nars family were first in Finland to manufacture calendered PVC foils, and they soon expanded their product range to include plastic hose, profiles and floor coverings at their rapidly expanding manufacturing facilities in Jakobstad.

The licence agreement with Holmsunds AB was signed on September 22, 1951. Thus, the seed of the transformation from trading company to industrial enterprise was sown.

There was still a long way to go, however, before Wiik & Höglund became a pure industrial enterprise. The first machines were installed in the cramped basement of an apartment house owned by the company at Hovioikeudenpuistikko 20 in Vaasa. Tor Wiik, Edvin Wiik's son, was put in charge and engineer Walter Flander was appointed technical manager.

Soon, however, the enterprise needed more space and in 1952 the company obtained from Finska Forcit – Dynamit Ab

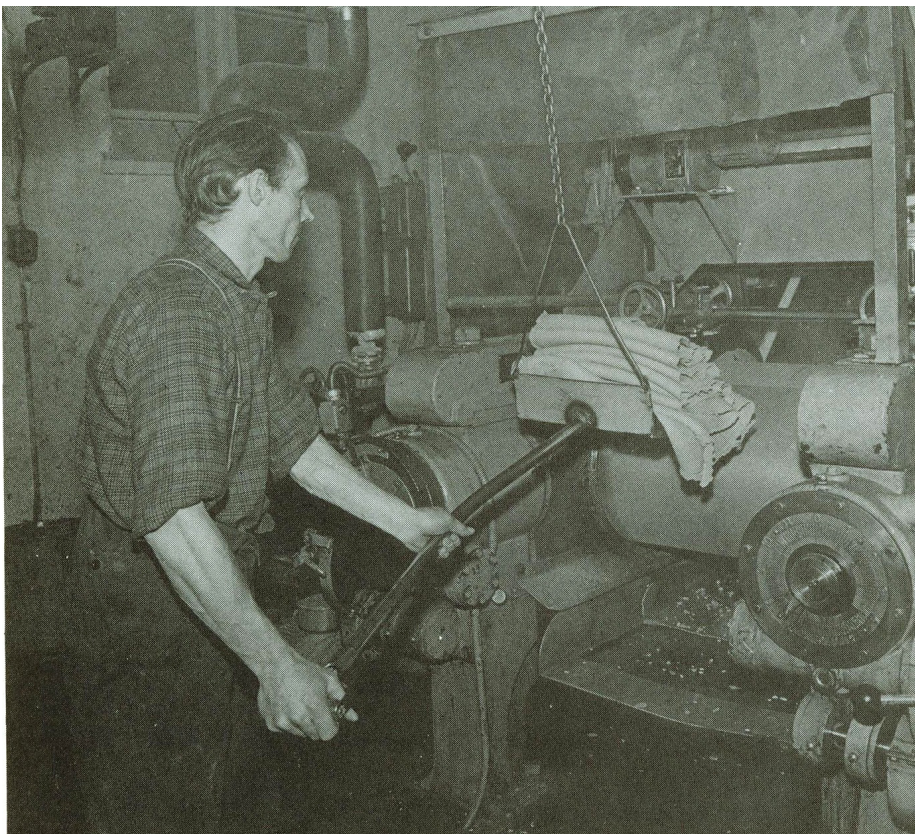
the right to lease the land on which the KWH Group's plastic pipe plant still stands today. The old brick building on the site was renovated and in 1953 production was well under way.

KEPPO 1937–1954

The rapid expansion of the timber business in the late 1930s did not prevent Emil Höglund from also turning his attention to other areas. In the winter of 1937 poultry breeder Karl Johan Stuns of Vörå contacted Emil to ask whether he was interested in setting up a mink farm with him. They knew each other from when they both worked at Hellnäs Sawmill, where Stuns was a foreman.

The idea became a reality and on September 29, 1937 seventeen mink from Sweden arrived at the Holmäkers mink farm in the village of Rökiö in Vörå. Neither of the business partners had any experience whatsoever in mink farming. At this time, there were only ten or so small mink farms in all of Finland, the first having been set up in 1931. The first few years were spent in learning all about mink farming.

The history of the Holmäkers mink farm was to be brief, however. Kalle Stuns fell ill, and was bought out of the mink farm by his partner before he died in December 1944. Instead, the other great pioneer in the history of Keppo, Karl Johan (Jukka) Tidström, manager of the Petsmo sawmill, and



License manufacture of Hovi brand floor tiles in Vaasa in the 1950s.



Elis Wikström, Jukka Tidström and Emil Höglund receiving an award, from Ahti Karjalainen, Minister of Trade and Industry, at the 1961 fur exhibition in Helsinki.

Emil Höglund jointly set up a mink farm with 60 breeding animals close to the sawmill in 1943. Emil also owned the Skata mink farm in Särkimo, with 100 breeding females.

It is clear that Emil realized by this point that mink breeding had excellent prospects and that he was also willing to take some risks. During his entire life, however, he viewed mink farming as a hobby and special interest, though it came to make the core of a considerable business enterprise with time.

In 1945 all the animals were transferred to the Petsmo fur farm, making it a large enterprise by the standards of the day, with 550 breeding animals. In 1944 the average size of Finnish mink farms was only 11 breeding animals.

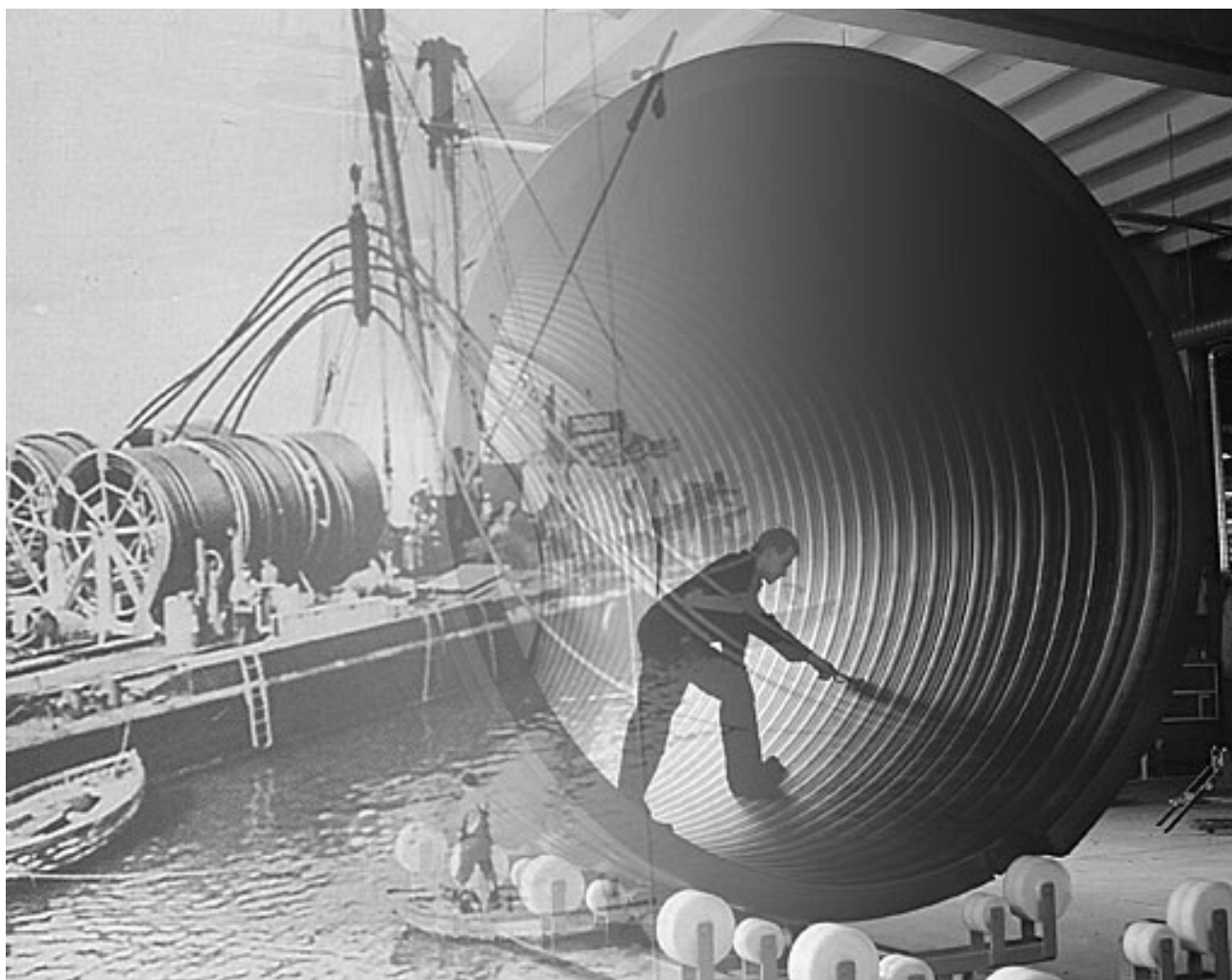
This expansion process was greatly furthered by the extremely high prices then paid for pelts. In 1945 prices reached their peak, at three times the 1943 level. This boom lasted only a short while, however, and in 1948 and 1949 prices dropped dramatically, causing 75% of the small farms in Ostrobothnia to close down.

But Emil and Jukka went on, and were rewarded in 1950 and 1951, when prices doubled. Gradually the farm was expanded, and in 1953 was the biggest in Finland. At the same time, systematic breeding programmes had resulted in a unique mutation, the Finlandia Topaz, which aroused

great international interest. Sale of breeding animals got under way, also contributing to turnover. Encouraged by this success, rapid expansion of mink production was planned. On August 1, 1954 Keppo manor passed into the hands of Emil Höglund and Karl Johan Tidström. The manor had over 400 hectares of woodland and 37 hectares of arable land. The new company was called Oy Keppo Ab after the manor. Karl Johan Tidström, who held 10% of the stock, was appointed Managing Director, and Emil Höglund, with the remaining 90%, Chairman of the Board. A mink farm was built close to the manor house which was to become the biggest in the world. The name of Keppo became a household word in international mink farming.

WIIK & HÖGLUND 1953–1984

It was not easy to make products calling for foreign raw materials in Finland in the 1950s. Because of post-war rationing and the shortage of foreign exchange, there was a constant battle for raw material import licences, and at times the plastics factory had to close down for lack of raw materials. There were probably quite a few people in the company's timber business who looked down their noses at the small plastics



Pipe project in Stockholm, 1956 — with a view of contemporary plastic pipe, Weholite 3 meter diameter.

department and felt very sceptical about its development potential.

It was already clear at a very early stage that if a plastics company was to be successful it had to have a wide range of products. Consequently, Wiik & Höglund both bought up other companies and invested in its own operations. In 1954 the company bought up the Vaasa firm Lars Berts, which made plastic profiles. At the same time it started making plastic-coated electrical cables and wires. The cables turned out to be a marginal product, however, and production was discontinued in 1958.

More important for the future, though, was the launching of polyethylene film manufacture in 1954, and a crucial step forward was taken in 1955, when the first polyethylene pipes were supplied to customers. PVC hose came onto the scene in 1956. Oy Wiik & Höglund Chemicals Ab, as the plastics company was called from 1953 on, was the first in Finland to buy equipment to make expanded polystyrene sheets. The product was marketed under the brand name Styrox, a name that is still used today in Finland for all products made from this raw material.

The product range expanded still further when the Jakobstad company Forss & Govenius was bought up by Wiik & Höglund. The company made primarily foil and plastic floor coverings. At the same time its talented technical expert, engineer Karl-Jan Govenius, also joined Wiik & Höglund.

Autumn 1957 marked a turning point in the history of Finnish industry using imported raw materials. Importing was deregulated and instead of a shortage of plastic raw materials there was actually an abundance. Competition got keener. Now was the time to develop new products and look for fresh markets.

The rapid expansion of the product range meant resources were excessively stretched. In the 1960s Wiik & Höglund established their own special line in the plastics business. In 1961, after intensive R & D, the company was able to make 400 mm pipes.

At that period the manufacture of really high-diameter pipes was considered pretty well a technological impossibility. In 1964, when the plastics factory engineers presented their 600 mm pipe — the first in the world — it caused an international stir. The 600 mm pipe had been developed through

intense experimentation, where the company's engineers had frequently defied all known concepts and struck out across unexplored territory. A unique welding machine designed especially for joining pipes together was developed at the same time and also patented.

The large-diameter pipes were developed in association with the raw material supplier, Farbwerke Hoechst AG, but Wiik & Höglund designed its own production machinery. Only a year later, it put an 800 mm pipe on the market, and in April 1966 a 1000 mm model. By 1969 the maximum diameter had risen to 1200 mm, and 1976 witnessed the launching of a 1600 mm pipe.

Wiik & Höglund thus won an international name as a manufacturer of large piping. Since its breakthrough in 1964 the company has always been one step ahead of its rivals, and even today KWH Pipe is one of the few manufacturers who can make 1600 mm PEH piping. KWH Pipe now uses new, patented production technology for the manufacture of Weholite lightweight pipe in dimensions over 3000 mm in diameter.

But before the company could go international, it had to reinforce its standing on the home market and also take a decision about the future of its timber business.

The competition in the piping business, especially with Oy Nars Ab, occasionally made production unprofitable. Indeed, Oy Nars Ab had been hit by an acute economic crisis in the late 1950s and had been taken over by Kansallis-Osake-Pankki bank. Edvin Wiik and Emil Höglund now received an offer to buy the company, at a point when Wiik & Höglund's economic position was somewhat strained due to several unprofitable years in the timber sector. After protracted negotiations with the bank, Oy Nars Ab was bought out in April 1963. The synergy benefits were obvious. As well as making pipes, Nars had a strong standing as a manufacturer of cal-

endered products and its marketing organization was almost identical to Wiik & Höglund's. These combined resources produced a powerful unit with considerable growth potential. In its day, the take-over was one of the most important rationalization measures in the Finnish plastics industry.

A decision to wind up the timber business was made in the same year as the Nars acquisition. Between 1963 and 1966 the timber trade was gradually wound up and the ships were sold. Wiik & Höglund has since been a purely manufacturing enterprise, though it retained a toehold in the timber trade through its appreciable holding in Oy Wilh. Schauman Ab. Emil Höglund was a member of the latter's Board in 1945–1973, and chairman of the Board from 1968–1973.

Although the takeover of Nars made Wiik & Höglund Finland's biggest plastics company, employing 506 people, it could not build its future on the home market alone. Growth and profitability were to be found in exports.

To get onto the Scandinavian market Wiik & Höglund set up a sales company in Umeå, Sweden, in 1962. Forenede Plast A/S started up the same year in Oslo and Forenede Plast A/S in 1964 in Roskilde, Denmark. Despite these investments in exporting, the home market remained the most important sales territory. As recently as 1965 exports still accounted for only 13% of turnover. 1969 can be considered the breakthrough year, when the Vaasa factory started exporting its polyethylene pipes.

As a result of its development work in the 1960s, Wiik & Höglund received offers of cooperation from several multinational producers of plastic raw materials, including Phillips Petroleum, Exxon, Du Pont of Canada, Mannesmann, Mitsui, the French company Rhône-Poulenc and the Belgian company Petrofina.

Collaboration with Hoechst led to the establishment of a pipe factory called Europlast Rohrwerk GmbH in Hamburg



From a 1950s coating line to a 21st century pilot plant.

in 1966. This proved a disappointment, however; it recorded large losses and was closed down in 1977. In contrast, Wiik & Hoeglund (Canada) Ltd. was a great success. The factory was built in Huntsville, Ontario, in 1967 in cooperation with Du Pont, which assumed responsibility for sales and service. The two companies collaborated until 1988.

In the mid 1960s both Emil and Edvin had reached normal retirement age and in 1966 they withdrew from day to day management, retaining their seats on the Board. Tor Wiik was appointed Managing Director and Håkan Smeds Deputy Managing Director.

For his services to industry, Emil Höglund was granted the Finnish honorary title of 'kauppaneuvos' in 1951 and that of 'vuorineuvos' in 1972. Edvin Wiik was given the title of 'teollisuusneuvos' in 1964. Both continued to be actively involved in the company's affairs after retirement. Edvin Wiik died in 1971, and Emil Höglund two years later.

At the end of the 1960s Finnish plastics companies worked together quite closely and set up a number of sales companies to market building plastics, expanded polystyrene, polyethylene pipes and sacks. These companies continued to operate right up to the mid 1980s. Wiik & Höglund played an active role in all their operations.

Another outcome of such collaboration was that Wiik & Höglund and Oy Finlayson Ab jointly bought up a rival polyethylene pipe company called Muovitehdas Oy Ulvila in 1969. Muovi-Ulvila became a Wiik & Höglund subsidiary in 1986, during the restructuring of the pipe business.

A number of large international piping projects in the 1970s led to the setting up of a projects department, later to be turned into WH Pipe International. Pipe projects in Brazil, Iraq, South Korea and Thailand increased the company's familiarity with these markets. A mobile extruder was developed for such project work, and used to make pipes on site.

Restructuring and concentration on certain products continued in the 1980s, while the company continued to expand abroad. The expanded polystyrene and floor tiles and coverings side of operations was sold. Profile manufacture was demerged to form a separate company called Oy WH-Profil Ab, with the Danish company Primo Plast as the other owner.

Factories producing polyethylene pipes were set up in Denmark, Thailand, Canada, and in 1990 in Malaysia and Portugal.

Industrial piping was added to the production programme when Oy Muotekno Ab, Oy Sul-Mu Ab, Laurolon Oy, Plastilon Oy and the French company Sipap Pipe Systems S.A. joined the Group.

As a result of restructuring in the Group, the whole of pipe manufacture was transferred to KWH Pipe, which accounts for around half of consolidated turnover.

KEPPO 1954–1984

The activities of Oy Keppo Ab were completely unlike the rest of Emil Höglund's business operations. The only real point of contact was silviculture and the woodlands that came along with Keppo manor house.

Around this period the United States was the leading mink farming country. To study American breeding methods Emil set off on a study tour of the States in autumn 1946, establishing good contacts with America's leading fur farmers. He also bought some breeding animals in America. Later, Keppo in turn sold breeding stock to farmers in the USA, thanks to Emil's good contacts.

The day-to-day management of Keppo was in the hands of Jukka Tidström, who was also responsible for breeding programmes and improvements in feed production and fur farming technology, jointly with the farm managers and foremen. The machines were made by the Petsmo sawmill workshop, which eventually became the leading Finnish manufacturer of such equipment.

Large sums of capital were invested in mink farming in the 1960s. But the company also acquired businesses in other fields, and Keppo increasingly became a multi-sector enterprise with a more industrial profile.

Kimo Bruk, which goes right back to 1703, found itself in financial difficulties in the early 1960s and was taken over by Keppo in 1962. The original ironworks was closed down in the late 19th century, and now the sawmill, too, stopped working. At the same time a large fur farm was set up. Local electricity distribution continued to be part of operations, however.

The same year the abrasives factory Mirka moved from Pitäjänmäki to Jeppo. Almost by chance Keppo found itself a shareholder in this company, and soon acquired the majority holding. By hindsight, this must be seen as a lucky chance as KWH Mirka is now one of the mainstays of the KWH Group.

When a fur farm was set up in Ireland in 1964, on the other hand, it was the outcome of long-term planning. Because mink production was expanding rapidly in Finland in the early 1960s, there was a potential shortage of animal feed. Ireland was considered a likely source of raw material.

In 1965, to safeguard its feed supply, Keppo invested in a refrigeration ship which was also needed for depreciation purposes. The M/S Keppo was delivered in August 1966 and the company owned her up to 1975. One of Emil Höglund's dreams came true in 1964, when the Keppo farms produced over 100,000 mink pelts: this made Keppo the biggest in the world.

In 1966, Oravais Klädesfabrik Ab, which was founded in 1885 to continue the operations of Oravais Masugn, founded in 1736, was offered to Emil Höglund. Though the

textile business was already encountering marketing problems, the deal went through. The firm's net worth was great, because its assets included 700 hectares of forest in an area in which Keppo and Kimo already owned some 2,000 hectares. It was also possible to set up a large fur farm on its land.

By the 1970s Keppo had become a company which relied on industry for about half its turnover. Profits from fur farming were used to expand and to spread risks. The company had appreciable assets, for as well as forest it had a large holding in Oy Wilh. Schauman Ab.

In 1973, the year in which Emil Höglund died, the company's five mink farms produced about 320,000 pelts, which was 10% of total Finnish production and a good 2% of world output of mink pelts. Some 10,000 fox pelts were produced in Oravais. Jukka Tidström died in 1975 and thus the company lost both its founders.

The second generation assumed the mantle of management. Henrik Höglund was appointed the new Managing Director of the Keppo Group in 1975.

At the end of the 1970s the mink farms were still doing well and the extension of Mirka could continue: the company invested in abrasives for industrial use. Turnover rose fivefold, to FIM 27 million, between 1975 and 1980, and in 1985 stood at FIM 52 million, 70% for export.

Oravais Textil was totally restructured. Woollen cloth making was closed down in 1977 as unprofitable and yarn

manufacture in 1979. Electricity distribution was sold to Ab Albäck Oy in 1979.

The same year the fur division acquired new territory, when it began to sell feed to small fur farmers nearby.

Sales rose rapidly, so Monäs Frys Ab was acquired in 1982 to meet the need for capacity and to increase the market share. The company's fur farms and feed kitchen passed into Keppo's hands. Output of fox pelts more than doubled and Keppo became the world's biggest producer of this item. At peak times, the company produced about 480,000 mink pelts and about 130,000 fox pelts.

In 1979 Keppo acquired a majority holding in the Vaasa company Oy Litaset Ab, adding printing to the Group's business range. The same year, fur farming machinery manufacture in Petsmo was sold.

BIRTH OF THE KWH GROUP

When Keppo bought up the majority holding in Wiik & Höglund in 1984, the Group's structure changed dramatically. Earlier, fur farming had been the main sphere of operations, but now over 50% of turnover came from the plastics industry. Turnover rose from FIM 249 million in 1983 to FIM 787 million in 1984, and personnel from 972 to 2,451.



A refrigerated vessel in 1966, the M/S Keppo.

One key activity during the early days was the shaping of a joint corporate culture for the new organization, the KWH Group, based on newly formulated strategies, goals, operating principles and 'rules of play'.

At the time, the enterprise was organized into nine divisions, despite the fact that some operations had been sold off to finance Group expansion. In autumn 1988 most of the divisions were demerged, with the aim of creating a clear separate identity for each of them with extensive independence in terms of business strategy and operations. The parent company changed in character, becoming more of an investment company. At the same time a large proportion of its total forest holdings of about 13,000 hectares were sold. Its holding in Oy Wilh. Schauman Ab was also sold.

Oravais Konfektion was wound up in 1988 and the Kauhava production unit was sold. The global crisis in the fur business in the late 1980s led to a drastic stripping of production and several farms were closed down. After several years with heavy losses, the Group put an end to its fur farming business in 1992, after 55 years in the sector. The majority holding in KWH Monäs was also sold to Rehuraisio Oy in 1989–1990. Thanks to the wide range of operations and flexibility in the Group structure, the Group was able to weather this crisis without suffering any major setback, despite showing a loss for three consecutive years.

A new sector was incorporated into the Group in 1986 when KWH Freeze of Vantaa, a company storing and distributing frozen foods, was acquired. During the period 1989–1992, operations were radically restructured. The insight that the Group did not possess the resources needed to develop all its units made it clear that priorities would have to be set. This process was speeded up by the gloomy economic climate. In 1991–1993, Finland's GDP fell by a total of over 12 per cent and unemployment skyrocketed. The fall had not been so rapid even in the depression in the 1930s.

During three years when all familiar concepts were overthrown and the government had to go in and rescue the Finnish banking sector from collapse, the KWH Group was restructured from the ground up. About 15 companies were sold, but about 10 new ones were also founded or acquired. Anything to do with fur farming was sold off. KWH Freeze was also streamlined, in that over 30 distribution vehicles were taken out of service and sold. Some smaller companies which had been collected within KWH Invest were also sold. The considerable real estate holdings in the form of cold storage facilities were sold to an investment company in 1991 and leased back on a long-term agreement.

The most drastic restructuring took place in the pipe division. The industrial pipe division within the Muotekno Group was sold to business partner Neste Oy. KWH Tech,



KWH Mirka: from product focus to customer focus.



Keppo manor, one of the few manor houses in Ostrobothnia, is closely linked with the history of KWH since 1954. This was once the core of the company's fur farming operations, and today, this is where the Board of Directors of the KWH Group convenes.

which specializes in machine technology, was bought out in a 'swap' with Muotekno, as were the district heating pipe operations. WH-Profil was taken over in its entirety by the Danish company Inter Primo A/S. Litoset was sold off through a management buyout arrangement.

According to the new strategy, the Group's limited resources were to be focused on developing its core operations, which were defined as KWH Pipe, KWH Plast and KWH Mirka. Other aspects of operations would be gathered together within KWH Invest.

To begin with, KWH Pipe received the biggest share of available resources. Operations were characterized by energetic strategies involving new acquisitions and establishment on new markets. After several years of successful project sales to the Iberian peninsula, a new company called KWH Pipe (Portugal) Tubos Lda was registered, and started production in 1990. Operations in Canada were doubled through the acquisition of a pipe factory from Du Pont Canada Inc, in Saskatoon, Saskatchewan.

In Southeast Asia, a new factory building was opened in Thailand, while pipe production started in Malaysia. Operations in India began in 1992 in the form of a joint venture company in Bombay.

New acquisitions were also made closer to home when Nortena Plast in Norsjö, Sweden, was bought in 1990. The factory was moved to Borås six years later.

Attention also focused on the former socialist countries in Eastern Europe, whose civil engineering and infrastructure were lagging behind and the need for new construction cre-

ated good potential for operations. In 1992, a pipe factory was set up in Erfurt in Germany. In 1991, KWH Tech delivered machinery to the district heating pipe factory Finpol-Rohr Ltd in Poland, while also becoming a part owner. Production of polyethylene pipes started in Poland when the factory in Bełchatów, 170 km south of Warsaw, opened in 1995.

The changes in the early 1990s are perhaps best mirrored through changes in Group personnel. Between 1990 and 1991, the personnel figure fell by 576, from 2,150 to 1,574. The biggest fall, 334 people, was recorded at KWH Pipe. Turnover fell by 12.3%, from FIM 1,125 million to 987 million.

REORGANIZED GROUP STRUCTURE

The main restructuring of the Group into an international industrial group within the chemical-technical sector was chiefly carried out in 1992. Since then, core operations have largely remained unchanged or been developed further, though with some major changes.

KWH Mirka

Mirka underwent the biggest changes. Systematic and determined investment in product development created products for the company which measure up to the market leaders. From a modest starting position in the international field, KWH Mirka has become one of the world's leading operators, especially in automotive refinishing (ART), automotive manu-

facturing (OEM) and its subcontracting as well as marine and composites. Mirka is the world's fifth largest operator in the coated abrasives sector; in paper-based abrasives it is approximately the world's second largest.

This rapid expansion has resulted in continuous expansion of the main factory in Nykarleby (Jeppo) and the old Oravais Textil factory building is now also used entirely by Mirka. In 1991, a new coating line, Maker 3, came on stream; two years later, the Maker 4 was ready to start producing non-woven abrasives, and in 1995, the company was able to launch a completely new product, Abralon®. Further capacity was added by the Maker 5, which came on stream in 2001 and Maker 6, which was up and running in Hall 10 in 2006. That year, Tricol Oy was acquired to ensure the delivery of base materials for the new products. In 2007 the office and technical facilities in Jeppo were expanded.

Abranet® is a unique, patented product, for dust-free sanding. It was launched in autumn 2000 and marketed on a full scale as of 2002; it has won environmental awards in several countries and generally attracted a great deal of attention.

Through the launch of several new products, Mirka has made a name for itself as the world's most innovative producer of abrasives. Abralon® and Abranet® in particular have consistently given Mirka excellent profitability through the years.

Mirka's presence and visibility on the market has been boosted through its own marketing companies on its main markets. It maintains marketing companies in 13 countries: Great Britain, Germany, United States, Sweden, France, Italy, Spain, Mexico, Brazil, Singapore, China Russia and Canada. Exports and foreign operations account for 94% of the turnover, with exports going to over 80 countries. Since 2004, the distribution hub for Europe has operated out of Belgium, and in 2006 a warehouse was opened in Mexico.

In 2008 Mirka's turnover was EUR 139 million and the company maintained a staff of 835 employees.

KWH Pipe

The objective in pipe manufacturing has been to come away from bulk products and invest in niche products, which enjoy greater profitability. Lightweight pipes, such as the patented Weholite, were extensively launched in the 1990s on markets where KWH Pipe operated. Weholite production facilities and licenses have been sold to, among others, Japan, South Africa and Chile. Despite the fact that Weholite has been on the Finnish market for a long time, it takes time to achieve the same kind of market presence in a new market area, such as Canada or Thailand.

Tighter EU regulations on wastewater treatment for single-family homes in rural areas resulted in the launching of WehoPuts, a mini wastewater treatment plant, in 2003. A mobile pipe production line for use on large-scale projects was developed in 2005. This solution was used in the renovation of a drinking water line in Scotland in 2009.

The German market for pipe products did not live up to expectations in the 1990s, and for the second time in the company's history, KWH Pipe was forced to withdraw from Germany in 1998. A promising start in India indicated potential for rapid growth in a huge market. But demand soon deteriorated and a decision to discontinue operations was taken in 1999. Work on establishing a pipe factory in California met with the same fate. Following establishment in 1996, the Californian factory was eventually hit by a slump in local construction, and it was closed in 2002.

A joint venture district heating pipe factory in Dalian, China, proved unable to achieve adequate volumes and profitability even in the long term, and was closed in 2002. Similar



The Backman-Trummer Group is one of Finland's largest port operators.

plants in Poland and the Czech Republic, founded as joint ventures in 1992 and 1993 respectively, have performed satisfactorily, however.

In 2008 KWH Pipe had a turnover of EUR 308 million and maintained a staff of 1,449 employees.

KWH Logistics

Oy Backman-Trummer Ab in Vaasa was formed in 1988 through the merger of two smaller shipping and stevedoring companies. The KWH Group owned 50% of the shares and Silja Line the rest. KWH bought Silja Line's share of Backman-Trummer in 2000, adding a group of companies with 149 employees and EUR 34 million in turnover to the KWH Group.

At the end of 2001, a new division, KWH Logistics, was formed, consisting of KWH Freeze Ltd and the Backman-Trummer Group. Operations are comprised of three business units: *Cold Storage*, *Port&Sea* and *Freight Forwarding*. Stevedoring and storage operations are maintained at the ports of Vaasa, Kokkola, Kalajoki, Kristiinankaupunki, Pori, Uusikaupunki, Naantali, Turku, Olkiluoto and Hanko as well as cold storage warehouse hotels in Vantaa and Inkoo.

In 2008 KWH Logistics had a turnover of EUR 92 million and maintained a staff of 339 employees.

KWH Invest

Oy Prevox Ab in Nykarleby manufactures injection-moulded HEPAC products and foodstuffs packaging. Since the 1980s, the KWH Group has owned one-third of the company's shareholdings following an industry restructuring. In 1999 this company became a subsidiary through additional share acquisitions and in 2003 came under full ownership.

Prevox is a market leader in Scandinavia in water traps, and is considered to be the producer of the world's most functional and compact water traps for kitchen sinks and bathrooms. A fully-automated system for the manufacture of water traps was installed to enhance competitiveness.

The 1990s were a decade of change for KWH Plast, too. The use of PVC sheeting in the stationery sector had shown a negative trend, but the manufacture of polypropylene (PP) film for packaging applications is compensating for the shortfall. A third extruder line for polypropylene film came on stream in 1993. A fourth line, completed in 1998, enabled the company to focus more forcefully on customized packaging film products for the food industry.

New and more highly processed PP films, with properties such as retortability and modified sealability have been developed. In 2007 the largest investment in company history was made, with the opening of extruder line 5. An automated warehouse was also opened.

In August of 2008 the production of PVC sheeting was



Prevox is the market leader in Scandinavia in traps for sinks.

shut down, thus concluding 60 years in calendar PVC foil production in Jakobstad. The market for PVC sheeting had decreased by half since the beginning of the 1990s; excess capacity on the market and an outdated machine installation contributed to a negative result.

The new, streamlined KWH Plast produces packaging films and injection-moulded containers for the foodstuffs industry (PAC), and label films and synthetic papers (Label). In its new form KWH Plast has been integrated into KWH Invest.

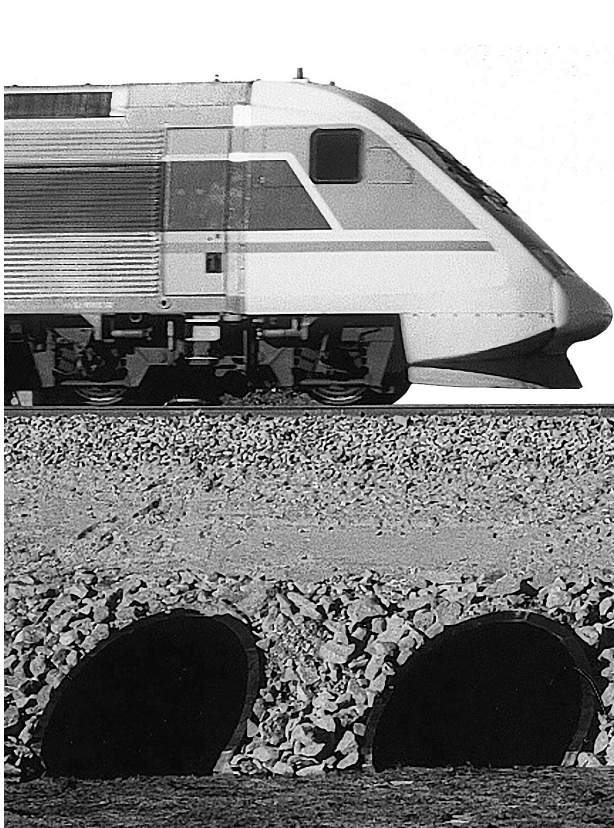
In 2008 KWH Invest had a turnover of EUR 51 million and maintained a staff of 281 employees.

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In 2008 the KWH Group had a turnover of EUR 588 million and maintained a staff of 2,916 employees.

Holger Wester

KWH at a glance 2009



KWH Pipe

Pipe Systems

KWH Pipe is a leading international plastic pipe expert operating in Europe, Asia and North America.

KWH Pipe develops, manufactures and markets complete plastic pipe systems for industrial, municipal and construction applications, environmental products, pre-insulated pipe systems and special machinery and production technology.

The Pipe Group has 10 production units and 5 sales offices.



KWH Mirka

Abrasives

KWH Mirka manufactures coated and nonwoven abrasives in Jeppo and Oravais in Finland. The Group has 13 marketing companies and 2 export offices abroad.

The product range is very wide: products used by the automotive refinishing trade, original equipment manufacturers, composite manufacturers, the furniture industry, metal finishing etc.

KWH Mirka exports about 94% of its production mainly to Europe, USA and North America.



KWH Logistics

Logistic Services

KWH Logistics consists of three business units:

KWH Freeze (*Cold Storage*) is Finland's leading commercial cold storage company with cold storage facilities in Vantaa and Inkoo.

Backman-Trummer Group (*Port & Sea* and *Freight Forwarding*) operates in the fields of port operations, freight forwarding and international transports. The Group is present at 10 Western Finland ports.



KWH Invest

KWH Plast – packaging

KWH Plast develops, manufactures and sells films and injection-moulded packaging for the food industry as well as films for labels and synthetic paper. Exports about 90% of the production mainly to Europe.

Prevex – HEPAC products

Prevex produces products to the plumbing sector and customer specified products. Prevex is the market leader in Scandinavia in traps for sinks. Exports about 75% of its production.



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