ETLA ELINKEINOELÄMÄN TUTKIMUSLAITOS
THE RESEARCH INSTITUTE OF THE FINNISH ECONOMY
Lönnrotinkatu 4 B 00120 Helsinki Finland Tel. 609 900 Telefax 601753

Keskusteluaiheita - Discussion papers

No. 458

Jussi Raumolin

AHLSTRÖM:

SHIFT FROM FOREST PRODUCTS COMPANY TO ENVIRONMENTAL TECHNOLOGY

ISSN 0781-6847

27.12.1993

ETLA Discussion papers no. 458

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Projektin päärahoittajina ovat Suomen itsenäisyyden juhlarahasto (SITRA), Elinkeinoelämän Tutkimuslaitos (ETLA), kauppa- ja teollisuusministeriö (KTM) sekä eri alojen tärkeimmät yritykset.

"The Competitive Advantage of Finland" research project evaluates the competitiveness of Finnish export industries and crucial elements behind their performance. The project focuses on what kind of industrial activities have the best possibilities for success in Finland.

The project is organised by Etlatieto Ltd and financed mainly by the Finnish national Fund for Research and Development (SITRA), The Research Institute of the Finnish Economy (ETLA), Ministry of Trade and Industry (KTM) as well as major companies in various fields.

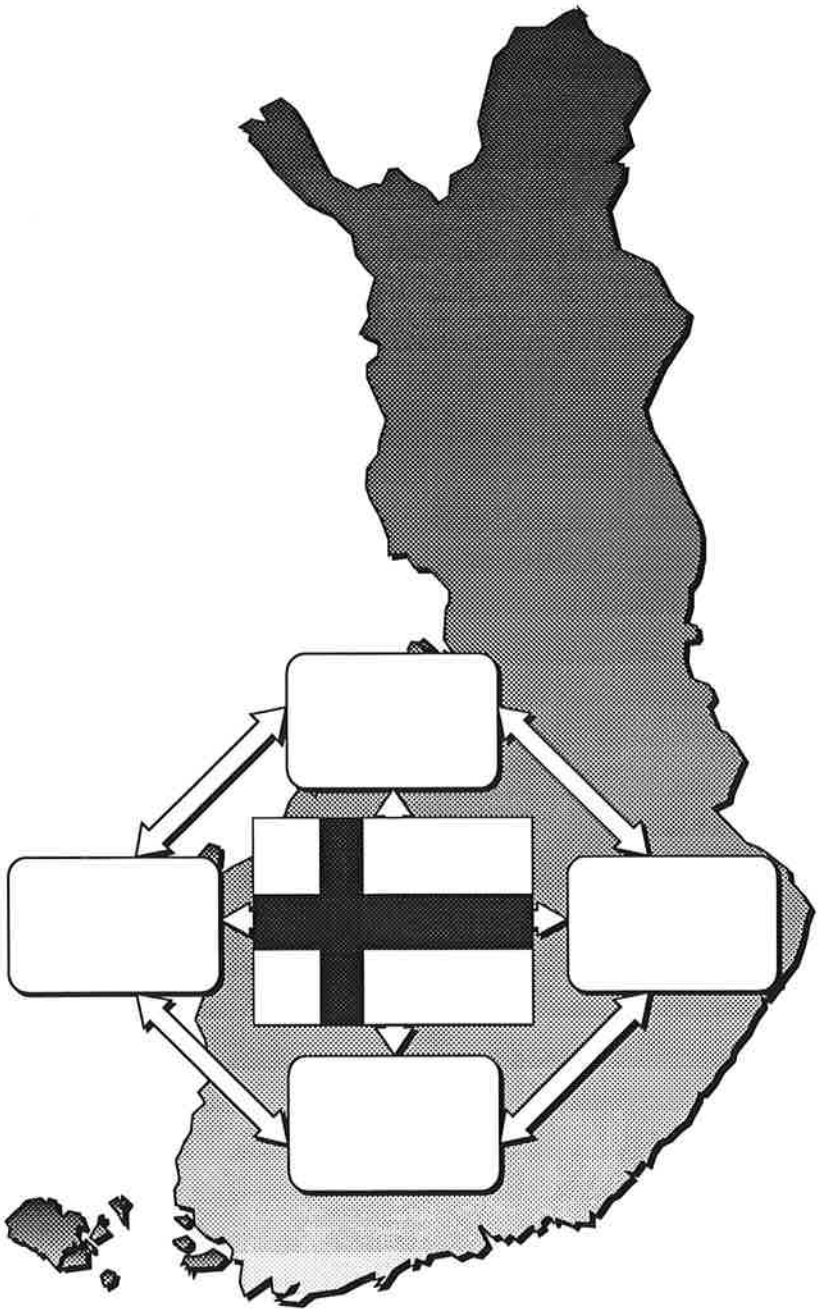
ETLATIETO
(ETLAn projektitutkimus- ja tietopalveluyksikkö)
Lönnrotinkatu 4 b 00120 Helsinki Finland
90 - 609 901 fax: 90 - 601 753

Jussi Raumolin

Kansallinen kilpailukyky ja teollinen tulevaisuus

The Competitive Advantage of Finland

AHLSTRÖM: SHIFT FROM FOREST PRODUCTS COMPANY TO ENVIRON-MENTAL TECHNOLOGY



Raumolin, Jussi, **AHLSTRÖM:SHIFT FROM FOREST PRODUCTS COMPANY TO ENVIRONMENTAL TECHNOLOGY.** Helsinki, ETLA, Elinkeinoelämän Tutkimuslaitos, The Research Institute of the Finnish Economy, 1993, 15 p. (Keskusteluaiheita, Discussion Papers, ISSN 0781-6847; no: 458)

Abstract: This paper deals with transformation of the Finnish company Ahlström from a traditional forest and engineering industry company to a new multinational with heavy interests in environmental technology.

It is emphasized that typical of the company has been a corporate culture which has cultivated originality as compared with other major Finnish companies engaged in the forest industries and heavy engineering industry. The company has been able to make innovations, in particular, it developed a new energy efficient Pyroflow technology in power generation.

Ahlström has internationalised its production during the last few decades, its is now operating in Europe, North America as well as Asia. It made a major decision to retire from the forest industries, its traditional base at the early 1980s. It only preserved a niche, the high value-added speciality papers.

The company is now putting a heavy emphasis in research and development with aim of becoming significant actor in the production of environmentally friendly power generation as well as chemical pulp process technology.

Finally, the transformation of the company is presented as an example of an ecological modernization of production on the company level. It is also stressed that Ahlström enjoys a positive company image as compared with other traditional Finnish forest industry companies continuously engaged in the pulp and paper production and facing many environmental challenges.

Key Words: Finland, forest industries, Ahlström, power technology, environmental technology.

Jussi Raumolin November 10, 1993

AHLSTRÖM: SHIFT FROM FOREST PRODUCTS COMPANY TO ENVIRONMENTAL TECHNOLOGY

Contents

1. Introduction

The forests and the forest sector have played a key role in the industrialization of Finland. The exports of forest products dominated the Finnish exports up to the 1970s and they still play an important role. The leading Finnish pulp and paper companies which have internationalized their production are among the largests in the field in Europe nowadays.

Along with the large pulp and paper companies, important supplier industries have grown up in Finland, by and by. For instance, Finnish multinationals in the engineering industry are the leading companies in the world as far as the paper machine as well as in the logging machinery and equipment manufacturing are concerned.

The pulp and paper industry which as a process industry is both energy intensive and considerable agent of pollution has become an object of an increasing pollution control effort starting in the late 1960s. Later on, environmental movements in the West have paid special attention to toxic chemicals used in the production of chemical pulp. During the last few years, new issues, such as the rise of paper recycling, the discussion of the biodiversity of forests and the sustainability of forestry practices as well as new concern of energy based on forest biomass have affected the industry.

Typical of the leading Finnish pulp and paper companies is that the company histories go back to the last century. Only a couple of the traditional leading companies in the field have sold their principal assets related to the forest industries and directed their activities to the other fields. Nokia which has experienced a transformation to a multinational company in electronics and telecommunications is a striking example while the transformation of Ahlström to a multinational company concentrating in the engineering industry and environmental technology is a more recent phenomenon. In this study, we shall deal with the specific case of Ahlström.

The discussion of specific structural characteristics of the peripheral industrialization based on the exports of resource-based commodities, such as the Canadian version of the staple theory or the Latin American school of dependent development, has stressed the importance of a long-term historical view. Typical of the periphery has been a neglect of R & D and a lack of innovation. Some innovations made by peripheral companies have been an exception from the rule but they do not often emerge suddenly while stem from history.

It is not possible to take all the relevant factors into consideration in a short study In this study, for instance, insufficient attention is paid to the competitive structure in the market, in particular, to domestic and foreign companies which have manufactured and manufacture such products as Ahlström.

2. A Traditional Finnish Company in Forest Industries

Ahlström company was founded by the Finnish entrepreneur Antti Ahlström who was engaged in timber trade and the sawmill industry in the middle of the last century. The liberalisation of the international trade and the Finnish economy created good opportunities for the development of modern forest industries.1)

The company grew up by several acquisitions among the leading exporter of sawngoods towards the end of the century. At the beginning of this century, Ahlström entered in the pulp and paper industry and acquired important engineering industry companies. By this acquisitions, it also became the owner of an important glass factory.

The engineering industry companies acquired by Ahlström were engaged, among other things, in boiler, sawmill machinery and pulp mill machinery manufacturing. Hence the company became a main supplier for the rapidly expanding Finnish forest industries. This kind of integration of the forest industries and the engineering industries which is not at all typical on the international scene was not exceptional in Finland as some other important companies had parallel structures.

After Finland, formerly a Grand-Duchy of the Russian Empire, gained independence in 1917 Ahlström entered in plywood and particle board production while the structure of main activity fields of company i.e. the sawmill industry, the pulp and paper industry, the engineering industry as well as the glass industry did not experience a major change.

3. Engineering Industry Background

The engineering industry units of Ahlström in Karhula and Varkaus mainly manufactured war supplies to the Russian Imperial Army from 1914 to 1917 which made it possible to extend production. After the War, they turned back to suppliers to the Finnish forest industries. 2)

The constant expansion of production, in particular, that of pulp and paper in Finland during the interwar years, 1918 to 1939 created an occasion for the development of the supplier industries as well. The integration of engineering industry and forest industries within the structures of the Ahlström company created, of course, markets internal to the company. The mills of the company could serve as an experimental field for the introduction of new machinery and equipment as well.

As far as the Finnish market was concerned the machinery and equipment made by Ahlström had to compete with a couple of other important domestic manufacturers as well as with

foreign competitors, in particular, with the Swedish and German engineering industry. Ahlström specialized in the manufacturing of boilers, sawmill machinery as well as chemical pulp mill machinery and equipment. It became, for instance, the leading domestic supplier of sawmill machines in the 1920s.

In the 1930s, when the international economy experienced a deep recession, and protectionism and trade policy dominated international trade relations, Ahlström´s capabilities as supplier of the chemical pulp mills was strenghtened by the acquisition of American licenses, in particular, Bird screens and Nash pumps. On the other hand, it entered as a Finnish partner in the Swedish-Norwegian joint venture Kamyr which was specialised in the development and manufacturing of the cooking technology for chemical pulp mills and was operating in the international markets as well. There were other important Finnish suppliers of chemical pulp mill machinery while Ahlström was the only to make international alliances.

During the war years in Finland 1939 to 1944, Ahlström engineering industry mainly manufactured war supplies to the Finnish Army. After the War, when few new investment was made in the Finnish forest industries and Finland had to pay considerable war reparations to the Soviet Union, it mainly manufactured war reparation products. In this situation, the Ahlström engineering industry shop in Karhula entered in the manufacturing of paper machines, in particular, fine paper machines. Instead, the other Finnish large supplier of pulp mill technology Wärtsilä entered in the manufacturing of large newsprint machines.

After the war reparations were paid at the beginning of the 1950s, Finland continued the exports to the Eastern block by bilateral agreements. Thus the exports of the machinery and equipment made by Ahlström were first exported to the Eastern markets.

When the traditional leading Finnish suppliers for the pulp and paper industry and the new state-owned company Valmet shifted in the manufacturing of paper machines in the late 1940s and in the 1950s, Ahlström was the only one to choose and to keep in the manufacturing of the smaller fine paper machines. All the others undertook the manufacturing of large newsprint machines.

Although Ahlström was able to expand considerably its sales of technology for the forest industries, its products were mainly not very original while mostly based on imitations and foreign licences. Among the leading Finnish manufacturers of boilers, Ahlström had, however, not been so dependent on Anglo-American licences as the others. This kind of structure was typical of the Finnish engineering industries nurtured under protection and aimed at the substitution for imports.

4. New Focus in Production Starting in the 1960s

The Finnish government started liberalisation of foreign trade in 1958 and Finland became an associate member of EFTA at the beginning of the 1960s. At the beginning of the 1970s, Finland made a free trade agreement with the EC. The increasing international competition posed new challenges to the Finnish industries. On the other hand, Finland continued the bilateral trade with the Eastern block. 3)

When the Finnish pulp and paper industry invested massively in the new production capacity in view of the expanding markets in the West, Ahlström strategy was different of the other large Finnish companies in the branch.

On the one hand, it invested in the mass production of bulk paper grades alike the majority of companies. On the other hand, it adopted a niche strategy by developing the production of high value-added specialty papers which was an exception in the Finnish industries. The production of specialty papers was traditionally located in the central manufacturing regions in Europe. This choice signified that an internationalization of production was a necessity and Ahlström started acquiring specialty paper mills within the EC in the 1960s. Thus it was ahead of the other large Finnish pulp and paper companies as far as the strategies of internationalization of production are concerned.

After the exports of large paper machines opened the exports of Finnish supplies to the markets of the West, Ahlström was able to start the exports of its chemical pulp mill machinery and equipment there, by and by. Among the most competitive products of Ahlström were process pumps. Ahlström like other Finnish engineering industry companies aiming at the export markets of the West had now to pay special attention to design and development of products in order to keep up with technological development as well as to turn down accusations for copying foreign product ideas.

The position of Ahlström in the internal market strengthened after another large traditional supplier Wärtsilä decided to retire from the manufacturing of boilers and chemical pulp mill technology in order to concentrate its forces to other products and technologies.

When pollution caused by the industries became a public political issue in the West in the late 1960s, the pulp and paper industry was directly affected right from the beginning. In Finland, for instance, this industry was accused for provoking pollution of many inland lakes. In the 1970s, in particular after the so-called energy crisis, the energy intensity of the industry and air pollution caused by it became public issues.

As Ahlström was manufacturing both boilers and chemical pulp mill process technology it

was directly affected by new challenges posed by the introduction of stricter environmental regulation. The company invested in R & D and was able to introduce a new boiler technology, the Pyroflow Technology in the late 1970s. It is based on the circulating fluidized bed system and is able to produce energy very efficiently from a wide variety of fuels as well as to cut down air pollution. 4)

Since many companies started to develop a more efficient power generation technology in the middle of the 1970s why it was so that just Ahlström made an innovation? We have stressed that Ahlström had reacted differently from other major Finnish pulp and paper as well as engineering industry companies, for long ago. This kind of keeping of different attitudes and strategies creates an entrepreneurial culture which is more open to original ideas and innovation than, for instance, that created by the practice of an imitative strategy typical of the Finnish companies. On the other hand, the extension of markets in the 1960s and the early 1970s had increased the capability to invest in R & D.

The Pyroflow Technology was able to use wood waste as well as waste liqueurs and sludge stemming from the chemical pulp production which increased energy self-sufficiency of the mills. In addition, Ahlström started to pay increasing attention to the technology of recovery and recirculating of cooking chemicals in order to cut down pollution.

Except for development of new process technology, Ahlström paid attention to the end-of-pipe technology. It developed a technology of effluent treatment of its own and acquired American and Japanese licenses for the construction of desulfurization facilities for flue gases.

Side by side with the new environmental regulation, the introduction of microprocessors and new automation technology was a great challenge for process industries in the 1970s. Ahlström decided to enter to the expanding market of automation and process control technology by establishing a new division Altim Control in 1979.

After the production of cores for the paper industry started externalize from the mills in the late 1960s, Ahlström adopted a niche strategy in this branch. On the one hand, it specialized in the production of board to the core industry and, on the other hand it expanded its core production. The company soon started internationalize the production by acquiring core mills in Sweden.

Summa summarum, Ahlström was continuously investing in the traditional mechanical wood industry and the pulp and paper industy while it also reacted to the new challenges in the 1960s and 1970s by the adoption of new niche strategies in a couple of branches, such as specialty papers and cores for the paper industry. In those branches, it soon started internationalize the production.

Secondly, it was able to react creatively to the new challenges posed by the stricter environmental regulation. Ahlström´s engineering industry developed an innovation, the Pyroflow technology in energy production and the company started an effort to develop new chemical pulp process technology which would diminish pollution. As it aimed at offering an integral solution to the pollution problems related to the chemical pulp production, it became involved in the technology of effluent treatment and desulfurization of flue gases as well.

In addition, the company set a target to become a significant player in the expanding automation and process control branch
in the future.

5. Restructuring and Internationalisation of Production Since 1984

In the second half of 1970s, the international economy was characterised by a recession. Simultaneously, the traditional industries of western industrialised countries started to face with a new competition from the part of the so-called newly industrialized countries. As a consequence, a restructuring and rationalization of those industries took place. 5)

At the beginning of the 1980s, a globalisation of markets started due to the spread of industrialization, the liberalization of the markets and the introduction of new technologies, in particular, information technology. Dynamic companies reacted to those challenges by internationalizing the production.

As the bilateral trade with the Soviet Union functioned well in Finland in the late 1970s, the retructuring and rationalisation process started in Finland later than in the western Europe. The collapse of the Soviet Union, which signified a considerable loss of markets, for its part, increased the pressure in the late 1980s.

Ahlström made a strategic decision to sell out the tradional core activities of the company, the forest industries in 1984. First, it sold its plywood and particle board factories to other Finnish companies. Secondly, it sold its major pulp and paper mills in Varkaus to Enso-Gutzeit, the large state-owned forest industries company operating in eastern Finland in 1987. Thirdly, it sold out or closed the sawmills of the company. Fourthly, it sold its assets in the chemical pulp mill at Sunila and finally, it started to sell out its forest land propriety at the beginning of the 1990s.

Ahlström retained only a couple of the specialty paper mills and board factories from its traditional forest industries in Finland. It did not manufacture pulp any more while resorted to

the use of market pulp.

In the engineering industry, Ahlström made a strategic choice to concentrate mainly to the manufacturing of boilers, chemical pulp mill machinery and equipment and environmental technology. Hence the company sold a majority of the assests of its paper and board machine unit to the Finnish company Valmet Paper Machines which had risen among the leading manufacturers of paper machines in the world.

Ahlström utilized the financial resources which it gained from the sales to strenghten those branches where it considered to be able to attain a strong position in the international markets or in the European market.

As far as the Pyroflow technology is concerned, the company shifted more resources to research and development as well as created a global marketing organisation. It established a subsidiary in the United States and a joint venture with Kobe Steel, called Shinko Pyropower in Japan. It sold first a licence of the Pyroflow technology to the French engineering industry company CNIM and then established a joint venture with this company.

Recently, Ahlström acquired the Polish manufacturer of boilers FAKOP in order to gain a better access to eastern European market. On the other hand, it acquired the boiler manufacturing and service units of the Finnish multinational mining and metal company Outokumpu which had operated in the eastern markets as well.

Turning to the chemical pulp mill technology, it acquired first the other pump manufacturing units in Finland and then built a new factory destined to supply the European market. In North America, Ahlström acquired a couple of companies and thus gained manufacturing facilities in this main market. In order to obtain a better access to the difficult Japanese market, it established a joint venture with the Swedish trading company Gadelius with long experience there.

After the Swedish interests retired from the internordic Kamyr organization which had become specialised in the manufacturing of continuous cooking systems for chemical pulp mills Ahlström obtained the North American market while the Norwegian partner Kvaerner gained the European market. Ahlström has not, however, been content with the agreement. It is now able to supply integral chemical pulp mill technology and would like to do this also in Europe.

Thirdly, Ahlström continued the internationalization of the specialty paper industry. It built a new mill in South Korea, acquired mills in Germany and became established in this branch in North America as well. Recently, it acquired a controlling interest in Sibille-Dalle which is

one of the main manufacturers of specialty papers in France.

Concerning the other niche product of the company, the cores for the paper industry, Ahlström Alcore expanded its production from the Nordic countries to the EC market by acquiring first small factories in Great Britain and then the core unit of the large German paper manufacturer Feldmühle.

Ahlström put a strong effort to develop its automation and control system division Altim Control while the company met with difficulties in becoming a significant player in the international market where a concentration took place, in particular, large multinational companies strenghtened their position.

Ahlström also retained some divisions which were operating mainly in the domestic market. By a major acquisition, it obtained a quasi-monopoly position in the glass industry in Finland. Side by side with glass bottles it started manufacturing plastic bottles.

When the economy of main industrial countries and, in particular, the Finnish economy ran into depression at the early 1990s Ahlström decided to rationalise production which signified sales of certain production units. Hence the Japanese companies Jujo Paper and Mitsui jointly overtook the production unit of thermosensitive papers in Finland and the Canadian CAE Industries acquired screen plate production units of Ahlström. Those were minor cases while the acquisition of Altim Control by Honeywell in 1992 was a sign of a major change in the company strategy. It decided to retire from automation and control system business because of high research and development costs and poor profitability.

Ahlström has experienced a major transformation during the last ten years. At the beginning of the 1980s, it was still a traditional Finnish forest industries company with strong engineering division and production facilities mainly in Finland. The company is now mainly a multinational engineering industry company with limited interests in the paper industry.

6. An Answer to the Challenge of Sustainable Development in the 1990s

Typical of the late 1980s and the early 1990s was a growing concern of global environmental issues, such as the greenhouse phenomenon, desertification and loss of biodiversity. The report of the so-called Brundtland Commission set up by the UN introduced a new aim for the future, a shift to sustainable development. New institutions have been established to promote the idea of sustainable development, such as the Business Council for Sustainable Development which tries to find out a compromise between business practices and sustainable development. 6)

Ahlström which is involved in the production of power generation and chemical pulp mill technology, in the paper industry and in the manufacturing of packaging materials, and which is present in global markets has a chance of becoming an actor in the shift of the energy production and the industrial production towards sustainability.

Ahlström has increased its effort in research and development and has been able to gain new patents constantly. The company has established several technology centres all over the world. In each center, 20 to 30 experts and assistants are involved in the development of a particular product or product group. For instance, as concerns the chemical pulp mill technology the main R & D centres are located in Karhula, Finland and in Glens Falls in the USA while the ones associated to the Pyroflow technology are lying in Karhula and San Diego in the USA. 7)

Ahlström Pyropower is the leading supplier of the circulating fluidized bed boiler technology in the world. The aim is to develop an ideal environment where fuel can be burned as totally as possible, reduce emissions and destroy or capture the amount of emissions still left. The company is just developing an advanced PCFB (pressurized circulating fluidized bed) technology which would increase the net plant efficiency up to 46 % or more. On the other hand, it has developed a new Bioflow energy system to make better use of the low heat value biofuels, such as fuelwood, wood waste and wood chips.

The integration of the chemical pulp mill technology developed by Ahlström with the Kamyr process technology increases the possibilities of finding out better solutions for recovery of chemicals and waste materials. Ahlström is developing new circulating systems which would increase both efficiency of the process and cut down pollution. Since few greenfield chemical pulp mills will be erected in the near future, the diffusion of the new integral solutions will not be rapid. The suppliers will to have offer incremental improvements as well.

As the use of traditional chemical agents for bleaching of pulp, such as chlorine has met with strong opposition from environmental groups, ozone bleaching has become an alternative, by and by. As ozone bleaching has been expensive as compared with the traditional methods and the results has been uneven, its diffusion has not, however, been rapid. Ahlström has developed a medium consistency technology of ozone bleaching of its own. The company claims that it is cheaper than the other methods of ozone bleaching as well as guarantees a better quality. The first plants using the new Ahlström method have just started operation in Finland and Sweden.

Ahlström is developing side by side with new process technology the traditional end-of-pipe technology in order to be able to supply comprehensive environmental technology solutions for pulp and paper mills. It has established a special division Ahlström Aquaflow to supply

effluent treatment plants making use of various waste water treatment systems. Ahlström Ecomachinery, for its part, supplies facilities to treat airborne emissions. Ahlström is making an effort to extend the markets of its end-of-pipe environmental technology from the traditional pulp and paper industry to the power generation in general. It is marketing its technology to improve the environmental record of the power plants operating in the Baltic States and Russia.

Important mills of Ahlström´s specialty paper division operate in Germany where the concern for recycling, in particular, recycling of paper, is growing stronger. Hence, its customer-oriented strategy is paying increasing attention to the recycling of specialty papers. The R & D centres and laboratories associated to the paper mills are making intensive research in this field. The Kauttua mill in Finland was able to develop a new high-quality paper grade produced from chlorine free pulp and recycled paper which had been granted the official Scandinavian Green label, the Swan Label.

Ahlström Alcore which is involved in the production of board within the EC and which is supplier of cores to the paper industry in Germany is facing the challenge of recycling as well. It has started to develop new high quality coreboard which includes recycled board. Ahlström´s glass industry which is manufacturing glass containers for beverages, foodstuffs and pharmaceuticals mainly for the Finnish market and glassfibre products for the world market has used recycled glass already for several years. It introduced refillable plastic PET bottles in the Finnish market in 1992. Due to its dominant market position, Ahlström is, in fact, the key company in the organization and operation of glass recycling in Finland.

The increasing attention that Ahlström pays in its business strategy for environmental concerns is not an isolated phenomenon in Finland. The Ministry of Trade and Industry in Finland has recently presented a new national industrial strategy which emphasizes that the creation of a Finnish eco-industrial complex a crucial task for the future. Some experts stress the importance of the greening of the Finnish industries. Other experts see the production of environmental technology as an important part of the diversification of the national production structure. Considerable attention is paid to the large potential market in the former Communist countries in central and eastern Europe. 8)

Since the pulp and paper industry will be a backbone for the national economy a strong effort is put in the development of more environmentally friedly production methods in the industry. The Technology Development Centre under the auspices of the Ministry of Trade and Industry is funding and the laboratories of the industry, the Technical Universities as well as the leading consulting engineering bureaus are engaged in the R & D for the development of new process technology. The target is to develop closed process circuits in the future.

As far as the chemical pulp industry is concerned, Ahlström is a key company in Finland in this branch. And as the company has a strong position in the international market new technological solutions developed by it will have international implications as well.

7. An Example of Ecological Modernization of Production

Ecological modernization, in particular, ecological modernization of production has become a key concept in the recent German discussion of reactions of the western industrial societies and economies to the contemporary environmental crisis.9)

The notion of ecological modernization of production means a change of the production structure so that the energy consumption per production unit diminishes and the production processes change in the manner that both raw materials use and emissions diminish. It involves an emphasis on recycling of waste. The transformation of production structure implies a shift from the traditional heavy industries towards new high-tech and service industries in the long run.

This interpretation of structural change can be applied to the company case as well. We mean, on the one hand, the transformation internal to a company and, on the other hand, the contributions by the company to the transformation of other companies.

In the case of Ahlström, we see a shift from a large-scale energy intensive pulp and paper industry and bulk products to a small-scale production of value-added specialty papers. There was also a new aim at becoming a significant actor in a high-tech branch, automation and process control. Hence we see a process of ecological modernization of production taking place within the company itself.

In the new company strategy, the priority is given to the production of environmental technology. The new power generation and chemical pulp process technology directly contribute to an ecological modernization of production in the pulp and paper industry as well as in energy generation.

As recycling of waste is considered to be an integral part of ecological modernization of production, the participation of the Ahlström company of the use of recycled paper as well as use of recycled board and glass and related product developments is making it a contributor of ecological modernization of production in the respective branches.

Summa summarum, all the main divisions of Ahlström are involved in ecological modernization of production, by one way or another. Ahlström has become a forerunner of the

ecological modernization of production in Finland, an example to other companies to follow.

8. Final Reflections

Discussion of business strategies related to environmental issues has intensified during the last few years. I have distinguished between two set of major reactions of companies to the new environmental regulation, defensive and adaptive strategies. 10)

The main defensive strategies are locational change, organisation of a lobby against new legislation as well as an introduction of end-of-pipe technology. Companies do not pay attention to the change of traditional strategical ideas while they are reacting by defending their traditional positions.
In contrast, the adoption of adaptive strategies means that companies are reacting to the environmental challenges on the strategical level. They may adopt a technologically-oriented strategy, risk assessment-anticipatory strategy or integral strategy.

The technologically-oriented strategy signifies that company is making an effort to change the manufacturing methods in order to make both manufacturing as well as products more environmentally-friendly. It may also promote recycling to gain a better public image.

By adopting a risk assessment-anticipatory strategy the companies start looking for long-term visions and solutions. They may adopt the aim of practising sustainable business in the future. The companies practise risk assessment and environmental impact assessment and adopt a consistent environmental accounting for internal operations. They pay special attention to product development and are ready to eliminate the old products and adopt entirely new products.

Finally, the integrally environmentally-oriented strategy has been presented, in particular, by the German manager Georg Winter. He stresses six important elements in this strategy.
Firstly, the training of labour force should be ecologically oriented. Secondly, the partners of the company, such as the families of workers and sub-contractors, should become ecologically motivated. Thirdly, the company should create a consistent environmental plan as well as an ecological accounting for its internal operations. 11)

Fourthly, product development should become ecologically oriented and fiftly, the industrial plant as well as offices should be constructed according to ecological principles. Finally, the organization of transport and logistics should pay special attention to the protection of environment.

As far as the case of Ahlström is concerned we see first the adoption of a technologically-oriented strategy and at the beginning of the 1990s, the company is shifting towards the risk-assessment anticipatory strategy. This change of strategy is related to the shift of the company to a new multinational in environmental technology operating in the global market.

From the point of view of company image, the position of Ahlström is very different from other Finnish companies that are specialized in the pulp and paper industry. Those companies are facing with serious problems with environmental image.

The Finnish pulp and paper industry companies are accused to rely on energy intensive production methods with strong preferences on nucler power. They are facing with the challenge of paper recycling with a defensive stature. Because of the growing external pressure they have had to stop using dioxide and chlorine in the production process. Their industrial logging methods and techno-intensive forestry methods are in open conflict with the aims of ecologically sustainable forestry and the protection of biodiversity. In contrast, Ahlström enjoys a positive image as it is contributing to the development of new environmentally-oriented power generation and process technology. 12)

The advantageous position of Ahlström is partly due to an unintended consequence of a purposeful action. In fact, the new environmental challenges of the late 1980s and the 1990s were not known when the company decided to sell out the traditional forest industries. Taking into consideration the challenges of the 1990s and the beginning of the next century those choices can be better and better justified afterwards. 13)

References

1) Cf. Norrmén 1927, Raumolin 1992c.

2) Cf. Raumolin 1992c.

3) Cf. Raumolin 1992c.

4) Concerning the Pyroflow technology cf. Ahlström World 1993.

5) Concerning this restructuring and internationalization process cf. Raumolin 1988, 1990, 1992c.

6) The Swiss industrialist Stephan Schmidheiny undertook the initiative for the establishment of the Business Council for Sustainable Development cf. Schmidheiny et al. 1993.

7) Concerning the recent development and future aims of the Ahlström company cf. Ahlström

Annual Report 1992 and Ahlström World 1993.

8) Cf. Ministry for Foreign Affairs, Ministry of Environment & Ministry of Trade and Industry, Finland 1993; Ministry of Trade and Industry, Finland 1993. Similar plans have been presented in other European countries during the last few years cf. Ministry of Environment & Ministry of Industry, Denmark 1992.

The German scholars Michaele Schreyer and Rolf-Ulrich Sprenger problematized the idea the construction of a national eco-industrial complex in the late 1980s. A rapid building up of a new considerable industrial complex based on the end-of-pipe of technology with associated jobs would become a structural obstacle to the necessary shift to the manufacturing and adoption of integrated and environmentally-friendly process technology later on cf. Schreyer & Sprenger 1989.

9) Concerning the recent German discussion cf. Zimmermann, Harte & Ryll 1990 and Jänicke, Mönch, Binder et al. 1992.

10) Cf. Raumolin 1992a.

11) Cf. Winter 1993. Winter has created a special organization BAUM to promote his ideas.

12) Cf. Raumolin 1992b. As to other industrial sectors the German sociologist Ingo Braun compared the reactions of the washing machine industry and the chemical industry which manufactures washing powder to the environmental crisis. He emphasizes that the former one gained a positive image while the latter one is suffering from a negative image cf. Braun 1988.

13) The idea of the unintended consequences of a social action stems from the American sociologist Robert K. Merton who undertook an effort to elaborate Max Weber´s ideas of individual and social action cf. Merton 1936.

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