

**Fabryka Maszyn
POLAND¹**

In early July, 1991, Mr. Jerzy Kowalski, a plenipotentiary for ownership change in the Department of Regional Development in a northeastern Polish vovoidship, had to make a swift decision on the privatization of a local machinery company. Fabryka Maszyn (FM) was a state-owned Polish enterprise producing machinery for food packaging and milk separation. Like many Polish enterprises whose production was tied to agriculture, FM was facing bankruptcy. Due to the collapse of the Soviet market and the recession in Poland, in 1991 orders for all of FM's products had fallen precipitously. In addition, with Poland's increasingly open trade policies, competition from foreign firms had increased. By the end of June, the enterprise had fewer than three weeks of sales orders left on its books.

From a short review of the enterprise's privatization documents, Mr. Kowalski could see that the company's cash reserves would not allow any delay in a search for alternatives. FM's options included liquidation (an asset sale) and two possible agreements with a foreign partner. To assess these options, Mr. Kowalski had to reach a better understanding of FM's competitive and financial position.

Industry Change in Dairy and Food Processing

Poland's "big bang" program of privatization and economic reform had induced major changes in the domestic dairy and food processing industries, the two principal markets for FM's products. With price liberalization and the opening of Poland's borders to the West, the domestic economy had suffered a severe recession marked by sharply reduced industrial output, rising unemployment, and high interest rates. The Polish agricultural industry and its many related businesses were particularly hard-hit.

The dairy and food processing industries were undergoing a difficult process of consolidation throughout Central Europe. With costs rising and sales falling, many small producers were on the brink of collapse. Drawn by the potential to lower costs through economies of scale, firms were joining in large production units. The Polish Ministry of Agriculture expected at least 125 small and medium-sized food processors (roughly 15 percent of all enterprises) to be bankrupt by 1992.

¹This case was written by Charles A. Webster under the supervision of the International Privatization Group of Price Waterhouse, Washington, DC, with valuable assistance from Andrew Alexandrowicz, as the basis for class discussion rather than to illustrate either effective or ineffective handling of an administrative situation. Although the case was based on an actual enterprise, important facts have been changed, including financial data. Basic Business Skills, 1995.

The poor performance of dairy and food processors had depressed capital expenditures on new machinery. Equipment purchases in the sector were not expected to change in the near future. On the other hand, as market conditions improved (perhaps 18 months from now), industry experts believed that large Polish food processors would launch capital investment programs.

A consequence of the recession and industry consolidation was that repair and maintenance services were becoming an increasingly profitable part of the machinery production business. A number of privately-owned Polish enterprises had been established to sell, repair and overhaul services to the food processing industry.

In addition to depressed sales, in 1991 Polish agricultural machinery producers faced increasing foreign competition. Attracted by the potential of the eastern European market, foreign producers of dairy and food processing machinery were making serious efforts to expand in Poland and elsewhere. In Western Europe, competition in the milk separators segment was concentrated among three major firms -- Hartsen International (HI), NPO and Ag-Products. In food packaging machinery, however, competition was fragmented. In general, Western companies competing in the food processing and separators segments did not serve both markets.

Private Sector Growth

Another change in the industry was the emergence of a small, dynamic private sector in Poland. But as of May, 1991, the Polish food processing industry was still dominated by SOE's and cooperatives (this group accounted for over 95 percent of all sales of processed food in Poland). Almost all of these plants were in bad financial condition, and operated with run-down equipment.

Private entrepreneurship, however, had been flourishing in key Polish food processing sectors. As Table 1 shows, the number of private firms operating in this sector was relatively large, particularly in meat processing, fruits and vegetables, grain milling, and food concentrates. Many of these entrepreneurs were packaging foodstuffs imported from the West for consumption in Poland.

Table 1.

**Number of Enterprises in Key Food Processing Sectors
(May, 1991)**

	<u>State-Owned</u>	<u>Private</u>
Meat Processing	93	984
Dairy	348	106
Grain Milling	40	139
Fruits and Vegetables	77	333
Food Concentrates	10	84
Sugar	81	15

Source: The Foundation for the Development of Polish Agriculture

Most of these firms were small, under-capitalized start-up operations whose growth would depend on their ability to purchase processing machinery. By the end of 1993, experts estimated that the private sector's share of industry sales could reach 25 percent. This same trend toward a dynamic private sector and a moribund state sector was likely to occur throughout Eastern Europe and in the former Soviet Union.

Bases of Competition

Roughly one-third of all state-owned food processing enterprises and cooperatives in Poland met the average Western standard of technology; almost half of privately-owned food processing firms attained these quality standards. A recent survey by a Western investor showed that firms packaging food up to Western standards purchased one machine over another based on certain key factors. Ranked in order of importance, these were:

1. Modern product features (i.e., capacity, accuracy, automatic lubrication, self-cleaning)
2. Quality/reliability
3. Order-to-installation time
4. Price
5. After-sales service

In contrast, those food processors operating below Western technological standards reported that they purchased machines on the following criteria:

1. Price
2. Financing
3. Quality/reliability
4. Modern product features (i.e., capacity, accuracy, automatic lubrication, self-cleaning)

5. Order-to-installation time
6. After-sales service

In repair services, competitiveness hinged on proximity to customers, and the ability to respond to customers' service needs promptly.

The Enterprise: Product Lines

A leading Polish producer of food packaging machinery and milk separators, FM was located on a 52,000 square meter site in northeastern Poland. Established in 1952, the enterprise employed 458 workers in 1990 (although many had been given extended vacation due to the low production levels). In the first six months of 1991, FM reported sales of 31.6 billion zlotys, with net income of 3.2 billion zlotys.

The production of food packaging machinery had been FM's largest product area, accounting for roughly 70% of total sales in 1990 and '91. Exhibit 1 displays one of FM's leading food packaging machines. In addition to this machine, FM sold the following types of food packaging machinery:

- * heat-sealing machines for packaging granulated products
- * machines for packaging liquids and semi-liquids in PVC and PE containers
- * metal canning machines
- * lidding machines for "twist off" jars
- * stretch-wrapping machines
- * machines for wrapping butter and cheese

FM's milk separating business historically comprised almost 30% of sales, although sales for 1991 had dropped to 5.4%, down from 10.2% in 1990. Repairs, spare parts and services accounted for 25 percent of total sales revenue in 1991. FM produced a variety of milk separator models for small capacity (from 100-750 liters per hour) dairy plants, as well as a model with a capacity of 10,000 liters per hour. However, FM did not have a medium capacity model (3,000-5,000 liters per hour). The smaller models consisted of both hand-driven and motor-driven designs. Exhibit 2 shows an FM milk separator that can be operated either by hand or by electric motor. Exhibit 3 shows FM's sales distribution by product line, by client type, and by individual units.

Organization

Management. Managing director Jacek Lugowski was a design engineer with 25 years of experience on FM's production floor. The 59-year-old Lugowski had been appointed director 1-1/2 years ago, but seemed less knowledgeable about the business than his fellow managers. But Lugowski and his technical and sales directors felt they

understood the enterprise's major problems. They identified: a lack of funds to modernize outdated capital equipment, a lack of a viable market for sales, and poor worker attitudes (including adversarial relations with management).

Because Polish law gave considerable authority to FM's governing workers' council, Lugowski and his directors felt limited in what they could accomplish. In his brief tenure as director, Lugowski had found that his efforts to improve FM's financial performance were often hampered by the unions, who were strongly represented on the workers' council. Most recently, management had attempted to award the sales department a bonus for new sales, but the workers' council refused to approve the bonus, arguing that it would unfairly disadvantage production workers. This and similar experiences had produced a breakdown of management authority, and relations between management and labor were strained.

Labor. Of FM the 408 people employed in 1991, some 188 or 44% of the total labor force were recorded as direct labor, and 220 as indirect labor. Western firms in this industry employed on average 35 percent of their work force in indirect labor positions. Labor productivity was significantly below that of a typical Western packaging machinery manufacturer. Based on FM's annualized 1991 sales of approximately 60 billion zlotys, FM's sales per employee were \$15,480,² compared to an average of \$123,000 per employee for the average American company in the same industry.

Management felt that 100-110 direct production employees could be laid off without disrupting FM's ability to meet normal production requirements. Longer-term reductions would be dependent on how extensively the enterprise moved toward productivity improvements like Computer Numeric Control (CNC) machinery.

Most of the enterprise's indirect labor was retained to maintain many in-house services, including a cafeteria, the resort, a medical clinic, and legal services, as well as transport, maintenance and tooling units. Many of these service departments, however, were operating significantly below capacity. An additional problem was that many skilled workers had been leaving the enterprise, apparently drawn by higher paying jobs with private firms.

Operations

FM's operating premise had been to gear the plant for large-scale production runs whenever sufficient orders were accumulated for a specific type of machine. As a result, delays from the time an order was placed to when it was delivered often stretched as long as 3 years. It once took 2-1/2 years, for example, to accumulate an order for 20 jar-closing machines.

²Using an exchange rate of US\$1 = 9,500 zl.s.

FM's production was highly vertically integrated. In the production of both packaging machinery and separators, FM manufactured almost all components in-house (except computer controls, electrical fasteners, motors and a few other items). As a result, the company's equipment spanned a wide range of metal forming and cutting functions. FM produced over 20,000 parts for a product line of 20 machines.

FM's product designs for food packaging machinery were based on West German models of 15-20 years ago. In addition, the enterprise had few Computer Numeric Controls (CNC) on any of its machines. Computer controls had become an increasingly important feature in Western machines.

FM's milk separators were produced under license from Hartsen International with technology from the early 1970's. The key licensed technology was a floating plate mechanism that separated the milk when spun at high revolutions per minute. While most milk separators worked in this same manner, newer machines were self-cleaning (a feature that FM machines did not have). Self-cleaning was regarded as an extremely important feature for health, hygiene, and maintenance reasons, particularly where milk quality varied (as it did in most of Eastern Europe and the developing world). Self-cleaning was also considered very important for larger machines.

FM's outdated technology gave the enterprise a domestic reputation for relatively poor quality products and service. FM often did not exercise quality control until the final product was tested. Product failures in the first year seemed to be a problem. In addition, FM's repair crew took at least 14 days to get on location was considered to be a very long down-time for food processors.

FM's capabilities in the finishing areas like painting, however, were of high quality. In addition, the skill level of workers was above average for Poland, and the company had a well-regarded engineering and design staff, which historically had developed as many as seven new product prototypes a year (although few of these products were developed from customer specifications). FM's manufacturing site also had ample room for expansion, as production facilities took up only 10,000 of the 52,000 square meters available.

Distribution and Markets

Until recently, much of the demand for FM's food processing and milk separator machinery had originated in the USSR, Bulgaria, and Romania via orders from Polimex-Cekop, a Polish foreign trade organization (FTO). With the collapse of COMECON, however, much of this demand had disappeared. Polimex had been unsuccessful in generating Western export opportunities. In Eastern Europe, Polimex displayed brochures for a few select FM products at trade shows, but had not displayed an FM machine since

1989. In general, the FTO acted as an order-taker. The only other marketing FM did was to advertise some of its products in the local newspaper.

FM's milk separator segment was directed toward supplying small dairies that had dominated the Eastern European market to date. Because they could be driven by motor or hand, FM's small separators also had considerable appeal to developing nations. FM faced little competition in this market niche, but had no marketing capacity, and Polimex showed little interest in selling anything but the large separators. A key to selling in Eastern Europe and lesser developed countries was to find distributors who could provide technical support services.

The long-term prospects for the food processing markets in Poland and Eastern Europe were considered to be excellent, with strong growth potential. Modern packaging of even the most basic foodstuffs was becoming very popular. With the trend toward consolidation, however, both the dairy and food processing industries would move increasingly to large-scale machines.

Due to the Polish recession, prospects for machinery sales in the short term seemed limited. The current market appeared to be more favorable for second-hand machinery and repairs, particularly for the small but growing private sector. But second-hand machines dairy and packaging machines from the West represented a serious threat to this market segment. Even 10-years old, many Western machines were more advanced than FM's. In addition, it appeared that other possible substitutes like foil wrapping and packing in glass might alter demand patterns for the food packaging segment.

Financial Condition

By the end of June, 1991, FM's financial condition had deteriorated. The enterprise had recorded net profits in 1990 of over 4 billion zlotys. Management knew these margins were overstated as a result of Poland's hyperinflation (climbing above 1,500 percent in 1990). By mid-1991 net income had fallen to 3.2 billions zlotys, and with only 3 weeks of sales orders on its books, FM appeared to be on the brink of bankruptcy. Exhibit 4 shows FM's income statements for 1990 and the first 6 months of 1991.

FM's balance sheet indicated that the enterprise's working capital had increased slightly in 1991. Much of the marginal increase, however, seemed to have accrued from growth in inventory, and the liquidity of this inventory was questionable. In addition, management reported that the enterprise had difficulty meeting payroll every month. Exhibit 5 shows FM's balance sheets at year-end 1990 and the end of June, 1991.

At the end of June, 1991, enterprise's debt totaled 14 billion zlotys. Annual debt service amounted to 7 billion zlotys, or slightly less than \$750,000 at the June exchange rate. This represented a heavy burden on FM's earnings, and it was clear that if the enterprise

was to upgrade its production equipment and facilities, it would require a considerable amount of additional investment. Exhibit 6 shows estimates of near-term investment needs, calculated by a Western industry expert hired by the Polish Industrial Development Agency (see below) in early June, 1991.

Privatization Options

Jerzy Kowalski had to decide which option for FM's privatization seemed to best fit the company's needs. He currently had documents describing three alternatives: liquidating FM and selling its assets, forming a joint venture, and signing a marketing agreement with an international firm.

1. Liquidation

In late April, 1991, Jacek Lugowski made a request to the Industrial Development Agency (IDA) for assistance. The IDA responded by contracting a Western consulting group, FirmConsult, Inc., who then made a number of visits to FM in May and June. While FirmConsult's review was mixed, one member of the team argued forcefully that FM should be liquidated and its assets sold as quickly as possible. In confidential conversations with IDA and the vovoidship, he stated:

If these guys think they can survive, they're dreaming. FM's products are of extremely poor quality, a situation caused by obsolete machine tools, poor quality inputs, faulty quality control and abysmal worker attitudes. The company has no sales orders beyond July 1, and I see little chance for any short-term improvement. Equally important, I believe management has either little understanding of market opportunities, or cannot take necessary steps given current structure of authority. Moreover, FM cannot survive long term without major capital investments. Further delay will greatly reduce retrievable value of the firm's assets.

FM's records, however indicated that of the firm's more than 100 machine tools, management estimated that only 4-10 would have any residual value. FM's large building could possibly be sold commercially, but it was constructed in 1964, and the real estate market around the production facilities was depressed.

Kowalski knew that as FM's founding body, he would need to initiate liquidation. This move would have serious consequences. He recognized that without an improvement in sales, an asset sale would be inevitable. And if it was inevitable, Kowalski reasoned, then the longer he waited, the less the firm's liquidation value.

2. Foreign Partner: Joint Venture

Earlier in 1991, FM had been approached by the international food processing company, Hartsen International (HI), with a proposal to form a joint venture. In the proposed agreement, HI expressed interest only in FM's milk separator business -- not in food processing machinery. Exhibit 7 shows the principal elements of the proposed agreement.

In May, FM's workers' council had rejected the proposal, instead suggesting a joint venture with the entire enterprise. The workers' council objection appeared to center on an issue of equity among employees. As proposed by HI, the joint venture would not really be a separate company (at least physically). The production of milk separators was to take place within FM's facilities, and involve only 10-15 percent of FM's current employees. These employees would receive substantially higher pay for roughly equivalent work. The workers' council believed this was unfair.

HI responded to FM's request for a complete joint venture that it was not interested in the food processing machinery business. At present, negotiations were at a standstill. FM seemed to have taken a very low-key approach to the joint venture talks. HI appeared to be equally content to wait.

A joint venture appeared to be an attractive solution to FM's troubles. Kowalski was not sure why neither FM management nor HI had not pursued negotiations more aggressively, and if he should try to jump-start the negotiations.

3. Foreign Partner: Marketing Agreement

As HI awaited action on its joint venture proposal, in June the company submitted another proposal -- an agreement to market FM's milk separators outside Poland, primarily in former Comecon countries. Exhibit 8 shows the principal elements of this second proposal.

Kowalski felt that the clearest short-term advantage to FM would be far better penetration of these markets than FM could attain on its own (particularly with Polimex's unimpressive marketing efforts). Still, it appeared that the prices HI would offer would be fixed, and somewhat lower than FM could achieve either through Polimex or on its own. In addition, giving marketing rights to HI would mean abandoning all sales activity (particularly direct selling) in this region. Kowalski wondered if, given FM's difficult short-term sales position, the agreement might be worth pursuing.

4. Restructuring

Finally, Kowalski needed to consider whether FM could be restructured, and if so how this might support other privatization options. The first challenge was to ensure the enterprise's short-term survival. This meant raising cash flow by cutting costs and boosting revenues. Several options he identified were to liquidate inventory, reduce wage costs, and sell off non-productive assets. But there were problems. It was unclear how much inventory or assets could be sold currently (or at what price), and laying off workers would be very difficult under the present structure of management. Meanwhile, overdue liabilities would continue to accumulate at annual interest rates of 60-100%, placing further pressure on FM's scarce working capital.

The second restructuring challenge was to build a viable long-term business plan that offered FM a future. The longer-term strategy would to be based around a market focus and competitive advantages. It seemed clear that the greatest needs would be new capital and strong management. Again, Kowalski had to assess whether or not the enterprise could get the time, money or requisite skills to make these steps possible.

Valuation

A critical part of selecting a privatization path for FM was understanding its value in June, 1991. Kowalski had three valuation methods to draw on: book value, liquidation value, and discounted cash flow. Calculating FM's book value from its balance sheet was straightforward, but there was considerable uncertainty about the accuracy of FM's balance sheet figures as recorded at historical cost. Still, Kowalski needed to compare this result against an estimate of FM's liquidation value.

Though FirmConsult, Inc., did not explain how they derived their figures, the company made a number of liquidation projections. These included:

Buildings	unsure (leasing more likely)
Equipment	\$600,000
Resort	\$250,000
Accounts Receivable	\$650,000
Inventory	\$700,000 (finished & raw materials)

TOTAL	\$2,200,000

FirmConsult noted that land value was excluded as FM was operating on the basis of a perpetual lease. Also, selling FM's buildings appeared unlikely at present, and if these buildings (particularly the largest one) could be leased, rent could be added to the

total liquidation value of \$2.2 million. These calculations were made at the exchange rate of 9,500 z.l.s per \$1 U.S.

The third valuation method Kowalski had to evaluate was a discounted cash flow (DCF) of FM's future earnings. Exhibit 9 shows the DCF analysis submitted by the IDA's Western consultants, FirmConsult. Kowalski knew that in comparing this result to FM's book and liquidation values, he had to determine if the key assumptions behind the DCF result were realistic. These were:

<u>Item</u>	<u>Annual Increase, 1991-95</u>
Machine Sales	5%
Revenue from Services	20%
Materials Costs	no change
Wages, etc.	decrease with layoffs after 1992
Service Costs	10%
Energy Costs	10%
Other Overhead	10%

In addition to these assumptions, FirmConsult estimated that FM's discount rate would range from 18-24%.

Kowalski's Decision

With only 3 weeks of orders left on FM's books, Kowalski knew that if he did not move quickly to select a privatization path for the enterprise, FM could go bankrupt. Clearly, the most important task in evaluating the three options laying on his desk was to reach a sharper understanding of FM's competitive and financial position. From this knowledge, matching FM's "company needs" with a privatization method would follow far more easily. But determining how best to privatize FM would also depend on the enterprise's valuation range. Equally important, it would depend on how Kowalski felt he could manage negotiations for selling FM. Kowalski cleared his desk and set to work. There was much to do.

EXHIBIT 1

Fabryka Maszyn

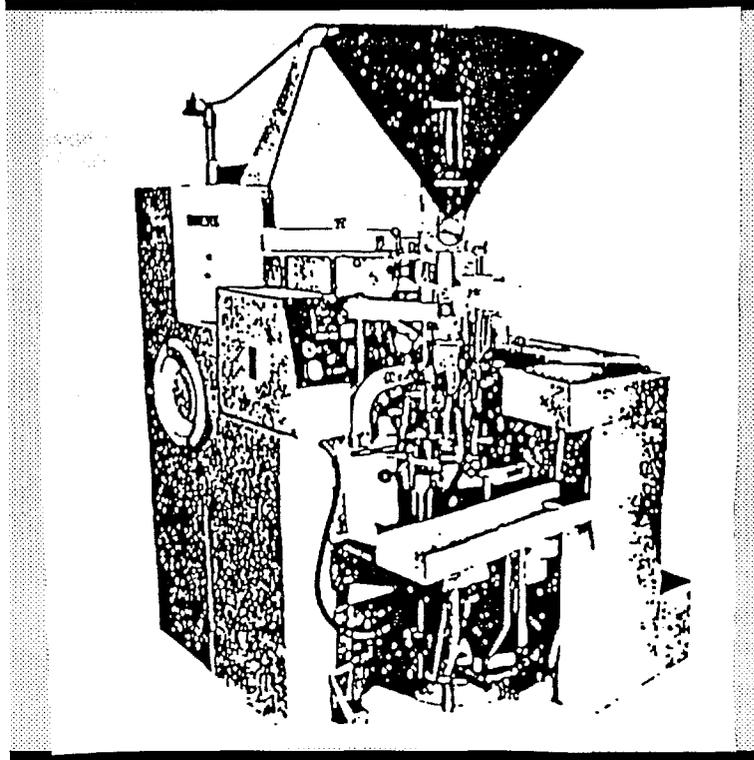
Product Specifications: Packing Machine

APPLICATION

The machine is designed for packing dusty and finely-grained products (such as: pudding, powdered jelly, cacao, powdered drugs, paints) into ready flat paper-bags. The products are supplied by gravitation charging or (in case of small quantities) by manual filling of the doser hopper. In a special version the machine is adapted for packing seeds.

TECHNICAL DESCRIPTION

The machine carries out automatically all dose batching operations, filling of paper-bags taken from a container, applying of glue, closing, stamping and laying away of ready bags to the take-up trough. It consists of the



following main components: Body and guards, drive set with camshafts, head, bag feeder, bags closing and gluing mechanisms, ejector, batcher, control cubicle and dedusting system.

The body forms the carrying structure for all mechanisms. Guards protect the servicing staff against accidents and the movable elements against contamination.

The drive set ensures the transmission of drive to all mechanisms of the machine. A stepless belt transmission makes possible output control.

The head serves for catching the bag and its transportation successively to the work stations.

A Maltese cross mechanism causes a stepwise turn of the head by $1/8$ of a turn and the turn of camshafts.

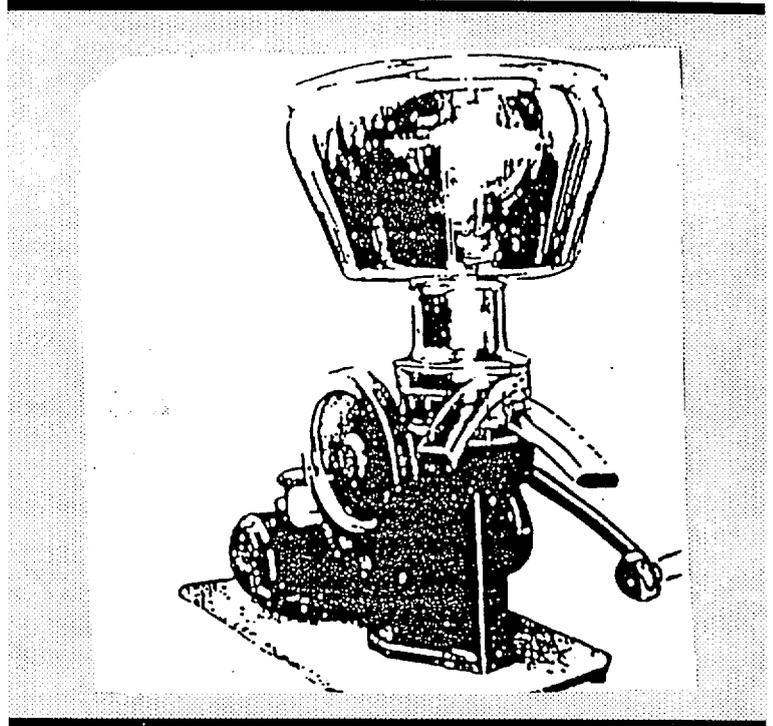
The bag feeder picks up individual bags from the containers, hands them onto the head and opens the bags under the doser discharge funnel.

The bags closing and gluing set carries out all operations connected with the bag closing and its stamping (production date). An ejector is provided serving for the removal of bags from the head and their placing into the take-up trough. The slide-type volume feeder serves for batching a portion of packet product and its pouring out at a suitable moment. In the control cubicle all electrical equipment elements are housed. It ensures a convenient access to all controlled points. The dedusting equipment, used when dusty products are packed, serves to catch dusts emitted during the packing process. It, therefore, protects the production room against dustiness.

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EXHIBIT 2
Lubelska Fabryka Maszyn
Product Specifications: Milk Separator

The centrifuge is destined for separating cream from cow milk on farms. This centrifuge is characterized by its easiness of servicing and simple functioning. The centrifuged cream may be utilized for alimentary aims on the spot while the skimmed milk may be used for making cheese or as fodder component. First class milk is in that way ensured for the farmer. The centrifuge is made with the greatest care and of the best materials and is, therefore very durable. The drum is equilibrated with the greatest precision and its construction is on the highest world standard. The cream density regulation is very easy. It is carried out after the dismantling of the feeding container and the removal of milk and cream receivers, by turning the cream regulating screw in the drum. The driving unit works in an oil bath.



OPERATION:

- with hand-crank]

1. Fill the feeding container with milk of a temperature about 35 C.
2. Begin to turn the hand-crank first slowly, gradually increasing the speed, up to obtaining a speed of 60 r.p.m. During the whole time of centrifuging the speed of the hand-crank must be kept constant, what has an influence on the quality of the centrifuging.
3. Open the cock in the feeding container. When there is more than 12 l of milk to be centrifuged, fill up the container before its complete emptying.
4. After centrifuging fill the container with some litres of warm water in order to rinse the drum and remove the remaining cream and milk.
5. The dismantling of the centrifuge for washing can start only after the complete stop of the drum.

- with electric motor

1. First of all take off the hand-crank and put in this place the crankshaft protecting sleeve.
2. Start the motor.
3. Fill the feeding container with milk of a temperature about 35 C.
4. After a run of about one minute open the cock and begin centrifuging. When more than 12 l of milk are to be skimmed fill up the container before its complete emptying.
5. After centrifuging fill the container with some litres of warm water in order to rinse the drum and remove the remaining cream and milk.
6. Stop the motor.
7. The dismantling of the centrifuge for washing can start only after the complete stop of the drum.

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Exhibit 3

Fabryka Maszyn
Markets & Distribution of Sales

Distribution of Sales by Product Line (in%)

Category	1989	1990	1991 (6 months)
Packaging Machines	50.2%	73.4%	69.8%
Separators	22.4%	10.2%	5.4%
Services, Spare Parts, etc.	27.4%	16.4%	24.8%

Distribution of Sales by Client (in %)

Category	1989	1990	1991 (6 months)
State Owned Enterprises	1	83.6%	60.6%
Private Companies	0	2.5%	35.0%
Export	0	14.0%	4.4%

Sales by Units

Product	1989	1990	1991 (6 months)
Large Separators	77	28	10
Small Separators	656	616	243
Transwrap	20	64	70
Multipack	83	45	37
Automatic Packing Machine	0	6	8
Automatic Machine for Packing of	0	0	1
Automatic Machine for Packing	0	0	5
Half-automatic Cardboard Box Pki	0	15	0
Closing Machine for Jars	20	0	0
Free Standing Disk-Type Feeder	48	21	9
Worm Feeder	0	20	9
Seeming Machine	0	0	13

Source: Company Management



Exhibit 4

Fabryka Maszyn

Income Statement
(in million zl)

	1990	1991 6 months
Revenues		
Sales of machinery	41,309	31,610
Services	1,859	1,178
	43,168	32,788
Cost of Goods Sold		
Materials	3,410	3,684
Direct Labor	3,990	1,777
Services	5,900	6,283
Energy	454	457
Depreciation	1,469	1,777
	15,223	13,978
Gross Profit	27,945	18,810
Operating Costs		
Indirect Labor	5,078	2,262
Severance	0	150
Overhead	203	159
	5,281	2,571
Operating Profit	22,664	16,239
Other Costs		
Interest Expense	5,640	3,469
Sales and Other Taxes	6,432	5,493
	12,072	8,962
Profit Before Tax	10,592	7,277
Excess Wage Tax (Popivek)	1,490	978
Tax on Fixed Assets (Dividenda)	1,204	848
Income Tax	3,159	2,180
	5,853	4,006
NET PROFIT	4,739	3,271

Source: Company Management

Exhibit 5

Fabryka Maszyn

Balance Sheet
(in millions zl)

	31.12.1990	30.06.1991
Current Assets		
Cash	331	375
Accounts Receivable	8,346	8,712
Inventory		
Materials	4,770	5,276
Work in Progress	9,518	14,016
Finished Products	1,230	4,398
Commodities	0	16
Total Inventory	15,518	23,706
Total Current Assets	24,195	32,793
Fixed Assets	69,750	71,117
less accumulated depreciation	27,762	29,539
Net Fixed Assets	41,988	41,578
TOTAL ASSETS	66,183	74,371
Current Liabilities		
Accounts payable	8,057	8,479
Short-term debt	9,548	14,039
Total Current Liabilities	17,605	22,518
Long-term Debt	83	87
TOTAL LIABILITIES	17,688	22,605
Equity		
State Funds	27,640	28,549
Enterprise Funds	18,430	19,671
Reserves	2,425	3,546
	48,495	51,766
TOTAL LIABILITIES AND EQUITY	66,183	74,371

Source: Company Management

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EXHIBIT 6

Fabryka Maszyn
Consultant Estimates of Short-Term Investment Needs

Our preliminary estimate is that the restructuring would comprise the following:

	Cost
1. License designs and production technology to produce PVC packagers and granulate fillers. The cost could probably be repaid via royalty payments (i.e., no up-front fees).	\$0
2. Six specialists in electrical engineering, mechanical engineering, production, industrial marketing, cost accounting, and one to rehabilitate machine tools for 12 months on location.	300000
3. A CAD/CAM system for engineering staff and necessary training:	50000
4. Plant and equipment investment	300000
5. Salaries for 80 employees during this time(cost=\$2500/emp)	200000
6. Sufficient working capital to cover other expenses.	150000

Estimated costs prior to existing debt service:	1000000

EXHIBIT 7

Fabryka Maszyn Key Elements of Joint Venture Proposal

Objective of the Company

The object of the Joint Venture Company's activity will be to:

1. Produce centrifuges for the food industry (including the dairy) on the basis of spare parts and elements manufactured by FM and Hartsen International.
2. Complete and assemble milk processing, pasteurizing and spinning lines, which include the above-mentioned centrifuges.
3. Offer services in terms of:
 - balancing rotational elements and centrifuges of all types
 - projecting and modernizing milk processing systems
 - setting up machinery at the client's companies, offering guarantee and over- guarantee repairs
 - repairing machinery and other equipment
 - teaching and training in the operation of machinery and other equipment
4. Conduct commercial activity domestically.
5. Maintain imports covering the Company's manufacturing needs, the shareholders' needs, and the cooperating firm's needs.
6. Export the Company's products and services.

Capital Structure of the Company

The Company's initial capital shall equal 16,528,193,000 zlotys, and is divided into 100 shares at the value of 165,281,930 zls each. The shares are equal and indivisible.

The companies initial capital can be raised as a result of the shareholders' resolution, passed at the Partners Assembly. The capital can be raised through contribution in kind. The manner in which the capital is raised does not alter the contract.

Shares may be purchased either through cash or assets in kind contribution.

The shares in the initial capital have been divided among the partners as follows:

1. Hartsen International - has received 70 shares (out of one hundred, 165,281,930 zls each) at the total value of 11,569,735,120 zlotys.

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2. FM - has received 30 shares (165,281,930 zlotys each) at the total value of 4,958,457,880 zlotys.

HI contributes to the Company's initial capital in cash - at the amount of which is the equivalent of \$1,217,887 (at the exchange rate 9,500 zls/\$US).

FM contributes to the Company in material assets in kind, at the value of 4,958,457,880 zlotys. These assets include:

- (a) an overstraining stand, value: 334,845,000 zlotys
- (b) a balancing stand, value: 3,989,683,000 zlotys
- (c) a centrifuge testing stand, value: 231,042,000 zlotys
- (d) a penetration research stand, value: 160,367,000 zlotys
- (e) elements of transport equipment, value: 96,294,000 zlotys

The Company's employees are responsible to the Board of Directors. The Board of Directors is specifically responsible for: employing and discharging workers and for setting their wages on the basis decided upon by the Partners Assembly.

Date: February 14, 1991

EXHIBIT 8

Fabryka Maszyn Key Elements of Marketing Agreement

THIS AGREEMENT is made and entered into BY AND BETWEEN

Fabryka Maszyn, a cooperation organized and existing under the laws of Poland, whose principal office is at (hereinafter referred to as "FM")

AND

Hartsen International Polska Sp., a corporation organized and existing under the laws of Poland, whose principal office is at ul. Nowy wiat 41, 00-001 Warszawa, Poland (hereinafter referred to as a "Hartsen International").

Article 1 - Definitions

- 1.1 "The Equipment" shall mean the equipment and the engineering related to centrifuges for milk, produced by FM in accordance with manufacturing license granted by Hartsen International.
- 1.2 "the Territory" shall mean the whole world.

Article 2 - Subject-matter of the Contract

- 2.1 FM hereby grants to Hartsen International during the terms of this Agreement the exclusive right to sell the equipment in the territory, subject, however, to the terms and conditions of this Agreement.
- 2.2 FM reserves the right to sell the Equipment through its own sales staff and representatives in Poland without involving Hartsen International. In the event that FM accepts such orders, Hartsen International will be entitled to commission, the rate which is to be established by the Parties in each individual case but in no case less than 15 percent of each order received by FM. Further, FM shall not solicit orders or submit bids to any customer in Poland without first giving notice to Hartsen International.

Article 3 - Responsibilities of Hartsen International

- 3.1 Hartsen International shall buy and sell in its own name and for its own account. It shall act as an independent contractor in its relationship with both FM and its customers...
- 3.4 Hartsen International shall be responsible for the successful marketing of the Equipment in the Territory and agrees at its own expense to promote the sale of the Equipment through suitable advertising and publicity...

Article 4 - Rights and responsibilities of the FM

- 4.1 Except as otherwise provided in this Agreement, FM shall not sell any Equipment directly to any customer within the Territory.
- 4.2 FM shall, free of charge, render all reasonable assistance to Hartsen International by way of providing technical advice and other technical data, test results and other product information...
- 4.3 Inquiries received by FM referring to customers or sales outside Poland shall be referred to Hartsen International.

Article 5 - Prices

- 5.1 Hartsen International shall buy the Equipment from FM at prices listed in Annex 2.¹ The prices shall be fixed during the initial terms of this Agreement as set forth in Article (7.1) below. After the initial term the prices shall be fixed for each calendar year and reviewed annually.

Article 7 - Terms and Termination

- 7.1 This Agreement comes into force as of the date of its signing of both parties. The term of this Agreement commences on the date hereof and terminates on June 30, 1992 if terminated by either Party at the latest on December 31, 1991. Unless terminated, this Agreement shall be prolonged in consecutive one year periods and may be terminated by each Party with six months' written notice prior to the expiration of the current validity period.
- 7.3 If this Agreement is terminated, each Party immediately and at its expense return to the other Party or deliver to this Affiliate or duly authorized representatives all technical documentation and other information that have been supplied by the other Party.

Article 9 - Miscellaneous

- 9.8 This Agreement is not intended to constitute a partnership or joint venture between Hartsen International and FM, and nothing herein shall be construed as giving either Party the right to bind and contract on behalf of the other Party.

¹Annex 2 is not attached, however, prices paid to FM by HI were approximately 20% below prices that FM could have sold its products for independently.

Exhibit 9

Fabryka Maszyn

Discounted Cash Flow Analysis
(in million PZL)

	1991 (6 months)	1,991 (annual)	1,992	1,993	1,994	1,995
Revenues						
Machine Sales	31,610	63,220	66,381	69,700	73,185	76,844
Services	1,178	2,356	2,827	3,393	2,356	2,356
	32,788	65,576	69,208	73,093	75,541	79,200
Cost of Goods Sold						
Materials	3,684	7,368	7,368	7,368	7,368	7,368
Direct Labor	1,777	3,555	3,555	3,136	2,614	1,620
Energy	457	914	1,005	1,106	1,217	1,338
Depreciation	1,777	3,554	3,554	3,554	3,554	3,554
Service Costs	6,283	12,566	13,823	15,205	16,725	18,398
	13,978	27,957	29,305	30,369	31,477	32,278
Gross Profit	18,810	37,620	39,904	42,724	44,064	46,922
Operating Costs						
Indirect Labor	2,262	4,524	4,524	3,992	3,326	2,062
Severance	150	300	300	324	180	330
Overhead	159	318	350	385	423	466
	2,571	5,142	5,174	4,700	3,930	2,858
Operating Profit	16,239	32,478	34,730	38,023	40,134	44,064
Other Costs						
Excess Wages Tax (Popivek)	978	1,956				
Interest Expense	3,469	6,171	6,599	7,224	7,625	8,372
Sales&Other Taxes	5,493	9,743	10,419	11,407	12,040	13,219
Tax on Fixed Assets (Dividenda)	848	1,696	1,696	1,696	1,696	1,696
	10,788	19,566	18,714	20,327	21,362	23,287
Pretax Profit	5,451	12,912	16,016	17,696	18,772	20,777
Income Tax	2,180	5,165	6,407	7,079	7,509	8,311
Net Profit	3,270	7,747	9,610	10,617	11,263	12,466
+ Depreciation	1,777	3,554	3,554	3,554	3,554	3,554
+Capital Expenditures	2,785	5,570	5,570	5,570	5,570	5,570
Operating Cash Flow	2,262	5,731	7,594	8,601	9,247	10,450

		in millions PZL	in millions \$
DCF@	18%	24,883	\$2.72
	20%	23,686	\$2.60
	22%	22,577	\$2.48
	24%	21,548	\$2.37

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