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FABLOK

BUMAR FABLOK

RESTRUCTURING STUDY

VOLUME I

Coopers
&Lybrand

TABLE OF CONTENT

EXECUTIVE SUMMARY

Introduction

- Recent political and economic changes in Poland have led to a radically new environment in which most Polish companies operate. Major factors include:
  - the need to operate in competitive markets
  - real interest rates on borrowings
  - lack of liquidity in the economy
  - a real threat of bankruptcy
- An ambitious privatisation programme is under way supported by Western expertise and financial assistance. A major initiative is the pilot restructuring project of which Fablok is a part. UNIDO is administering this project on behalf of the British "Know How Fund". The key aims include:
  - short term assistance with technical, marketing and financial areas
  - detailed technical evaluation leading to advice on technical capabilities and areas of comparative advantage
  - assistance with strategic planning and restructuring
  - transfer of British consulting experience to Polish consultants.
- Fablok itself was established in 1919 as a locomotive manufacturer and grew in size and reputation up until the second world war. After 1945 the enterprise diversified its product range notably into mobile cranes. Many problems typical under central planning evolved and led to a large and complex site, capital expenditure without an overall plan and a product driven rather than market driven approach. A downward trend in sales profitability over the last 18 months has meant that Fablok is unlikely so survive 1992 without major restructuring.

- Coopers & Lybrand has been selected to support Fablok management who see the need for change but are understandably lacking in experience of doing business in a free market economy.

Problems

- Since 1989 Fablok has faced the almost total collapse of it traditional markets which were concentrated in the old CMEA.
- At the same time Fablok has lacked the marketing skills and brand image to be able to make an impact on Western markets.
- As a result sales have fallen dramatically. Inflation adjusted results for 1991 show a fall of almost 50% against 1990.
- Margins are being squeezed with some major product lines routinely sold at a loss.
- There is now severe over capacity within the production areas and an unreduced level of overhead being supported by a shrinking volume of activity.

Strengths

- Fablok have a number of sound products which, with the right marketing, could be attractive in Western markets.
- The production facilities are relatively modern and the labour force is skilled. Manufacture to Western standards is possible without the need for extensive investment.
- The enterprise is financially sound by Polish standards. Cash forecast indicate that survival in its current form is possible for at least six month. Therefore there is time for restructuring to take place.
- Concentration within the new structure must be upon developing an effective sales and marketing function to enable Fablok to establish itself in new Western markets.
- Engineering improvements must be introduced to key products to reduce cost and increase quality.
- System improvements particularly as regards production planning and control and costing must be introduced.

Short Term Action

- Fablok must drastically reduced in size to match the new level of activity.
- Large sections of the production facilities must be closed down and severe manning reductions introduced in all areas of the operation.
- Fablok management have already started cutting peripheral, mostly social related, activities but have yet to attack the core areas.

Medium to Long Term

1992-1994

- The enterprise should be divisionalised to match its various product groups as follows:

  Road - car platforms, cranes*

  Rail - locomotives*, brakes*

  Engineering - gears, transmission units, axles and wheels

  Fabrication - all fabrication work

  Laboratories - testing

  * these products have a doubtful future

- A staged process is recommended moving from profit centres to independent units or even separate legal entitles. Expected gains from divisionalisation include:

  - increased management focus

- better measure of performance
- improved staff motivation
- simplified management structure
- better joint venture prospects

1994 Onwards

- The restructured enterprise can embark on a period of expansion based on those products showing most promise in the new markets.
- Product improvement and development can be undertaken and an investment programme initiated to bring the plant up to full Western standards.

Financial Forecast

- Financial forecasts have been produced based on potential sales figures coming out of our market research. In summary they show the following:

US$ '000

	1992	1993	1994	1995	1996
Scenario 1 Low Sales					
Net Profit	(2843)	(1860)	(72)	495	1134
Y/E Cash Position	(3656)	(4329)	(3214)	(1532)	789
Scenario 2 Medium Sales					
Net Profit	(2115)	(414)	1815	2678	3054
Y/E Cash Position	(2928)	(2154)	849	4713	8954
Scenario 3 High Sales					
Net Profit	(1386)	(1184)	2975	3490	3941
Y/E Cash Position	(2199)	171	4333	9011	14140

- If the medium sale scenario is achieved the proposed restructuring programme can go ahead with expansion and investment being financed internally

- If only the 100 sales scenario is achieved the programme becomes more difficult to implement and expansion must be delayed until 1986

Conclusion

- If Fablok management are prepared to implement the very severe retrenchment exercise necessary the enterprise has a positive long term future.
- However
  - source of short term financing must be found to exist until 1994
  - outside assistance is required particularly to help develop the crucial marketing and sales function.

SECTION I

Introduction

INTRODUCTION

Background

- Political and economic change in Poland.

  In 1989 the formation of the first Solidarity dominated government marked the end of communism in Central and Eastern Europe and introduction of the desire to move rapidly to Western style market economies.

- Effect on Polish Industry.

  The relaxation of control over the economy and the collapse of the central planning system has had a profound impact on Polish industry reflected by:

  - the need to operate in competitive markets
  - real interest rates on borrowings
  - severe lack of liquidity in the economy
  - real threat of bankruptcy in the face of non profitability

- Privatisation of the Economy.

  The response of the Polish government to these changes has been to embark on an ambitious programme for rapid privatisation of the whole economy, relying heavily on Western sources for most expertise and investment.

- British ODA (Overseas Development Agency) Funds.

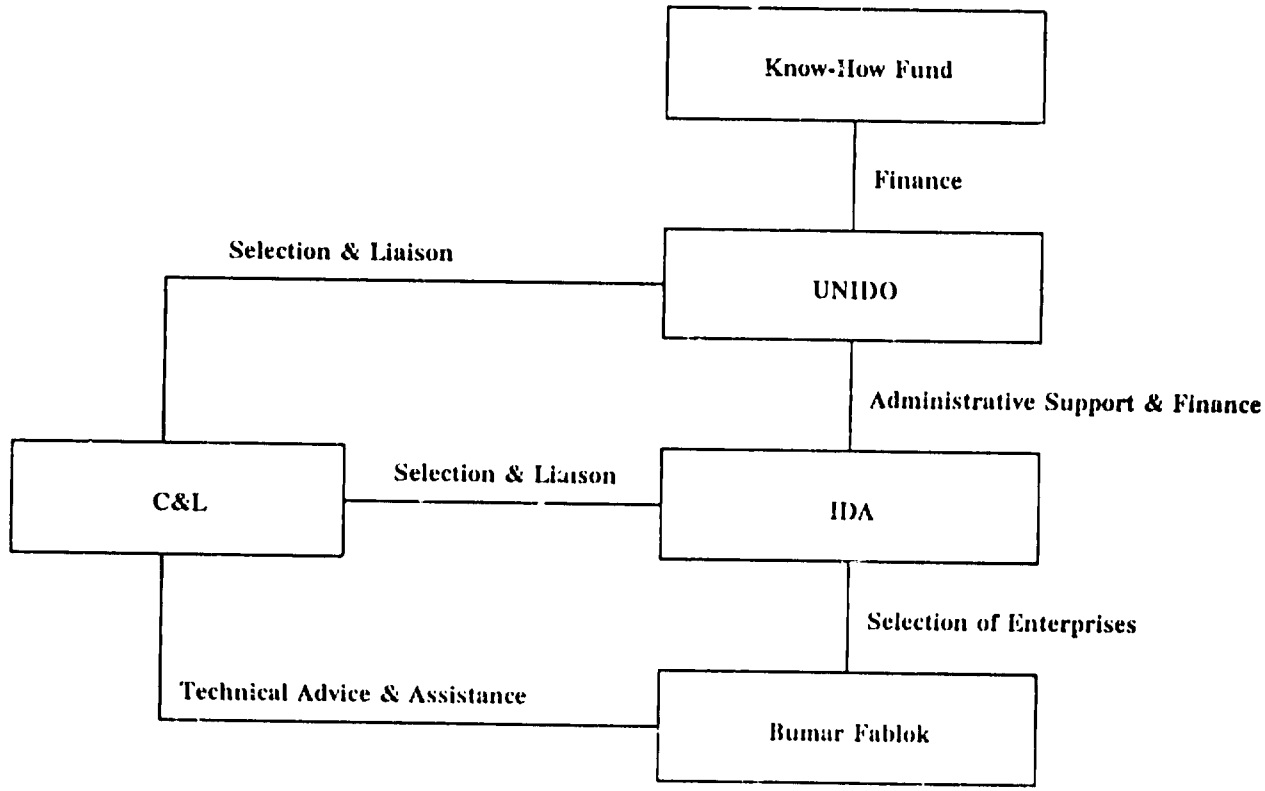
  Britain, in common with other OECD countries has channelled resources to support the Polish government's economic restructuring programme. The best known British initiative is the so called "Know How Fund" which aims at financing the transfer of British expertise to Poland.

- Pilot Restructuring Project.

  A major initiative has been the pilot restructuring project involving three enterprises in phase I and six in the current phase (II). Bumar Fablok is one of the six phase II projects and Coopers & Lybrand have been selected as the restructuring consultants.

- UNIDO and the IDA

The pilot restructuring project is administered by UNIDO as the executing agency and the IDA as the government representative. The diagram below illustrates this process:



- Polish sub-contractor.

  A key component of the pilot restructuring scheme is the use of a Polish sub-contractor by the British Consultants. This enables the transfer of expertise to be directed to the Polish consulting industry as well as to the end user.

- Objectives of the Fablok study (from UNIDO Terms of Reference).

  - To provide the company with immediate advice to help the enterprise remain in operation by dealing with the short-term technical, marketing and financial problems which it faces.

  - Carry out a comprehensive technical evaluation of the company operations from the view point of types of plant, machinery and equipment employed; the types and volumes of products manufactured at present and identification of any technical problems faced. Based on this technical evaluation, offer advice to the enterprise on the ideal product mix, and identify new or diversified product lines the enterprise should concentrate on in view of the changing economic environment, comparative advantage and technical capabilities.

  - To help the company management to develop a better and more coherent strategic view of its future. This would not only enable to elaboration and implementation of and effective restructuring plan, but also strengthen its position during discussions/negotiations with potential technical and/or commercial partners. The end result of the work would thus be a preliminary proposal for enterprise restructuring.

  - To facilitate transfer of British management consulting know how to Polish consultants and/or the Polish Industrial development Agency (IDA) staff.

- Enterprise Background.

  - Bumar-Fablok (Fablok) was first established in 1919 as a locomotive manufacturer. The company grew in size and reputation both at home and abroad and won high acclaim for its "Pacific" type locomotive at the 1937 Paris Rail Show.

  - Over time the product range has been diversified. There is now a relatively complex array of products although based around the technology of locomotive manufacture.

- Fablok exhibits many of the problems that developed in the Polish economy during the period of Communist rule:
  - large, complex site
  - capital investment undertaken without an overall plan in mind
  - production rather than market focused management
  - wide range of peripheral activities related mostly to social benefits
- Fablok belongs to that part of Polish industry particularly badly affected by the switch to a market based economy, which has seen the collapse of its traditional markets.
- Over the last 18 months the enterprise has started on a downward performance spiral which would inevitably end in its liquidation unless drastic restructuring action is taken quickly.
- Fablok management are fully aware of this need and have introduced a number of measures representing the start of such restructuring.
- Because management lack the experience of, and exposure to, modern market economies, assistance was required in establishing new market places and re-organising the enterprise to meet the challenges of its new operating environment.

SECTION II

Methodology

Methodology

- The project has been divided into three phases which follow on directly from each other:
  - short term strategy
  - detailed investigations
  - medium to long term strategy
- Phase I

  The initial thrust of the study is to define Fablok's strengths and weaknesses and to help keep the company afloat until a longer term restructuring plan is prepared, Key tasks include rapid evaluation and:
  - preliminary analysis of sales/profitability by product group and preparation of basic sales and cash flow projections
  - examination of balance sheet position
  - asset management capability and organisation
  - preliminary technical evaluation including production systems and methodologies
  - review of all non-production related activities
  - review of debt position and examination of working capital management practices

- Phase II

  A more detailed investigation building on knowledge gained in Phase I. The focus is on key issues in the areas of:

  - financial analysis - ensuring future financial viability through a full financial evaluation and cost audit
  - product, market and competitor analysis helping establish and appropriate product mix and marketing strategy
  - organisation and management analysis using a management audit and management information systems analysis to develop an organisation capable of meeting Fablok's corporate goals.
  - technical and operational analysis to ensure maximum effectiveness of production operations.

- Phase III

  The third and final phase of the project aims at creating a coherent programme which will secure longer term viability for the enterprise, evaluating join venture options and any other forms of co-operation with British companies. The C&L team and management task force co-operate here to develop a strategy based upon data collected in prior phases. Any training requirements or recommendations for further technical or financial assistance are discussed at this point.

SECTION III

Initial Analysis

INITIAL ANALYSIS

- This section is sub-divided as follows:
  - Key Factors
  - Financial Analysis
  - Sales & Marketing Analysis
  - Short Term Action Plan

KEY FACTORS

Three key factors largely explain the marked decline in the performance of Fablok:

- collapse of FABLOK's traditional markets
- non-competitive products for the Western Markets
- company structure unable to react to the changing operating environment

FINANCIAL ANALYSIS

Fablok's declining performance can be demonstrated by a comparison of the financial results for the four financial periods up to 30th September 1991. Table 1 sets out, in summary form, the profit and loss accounts for those periods. Detailed financial statements are given as appendix A:

TABLE 1

US$'000's

	1988	1989	1990	1991 annualised (9 month basis)
Sales	43,216	32,396	27,264	21,645
Cost of Sales	33,387	23,225	20,754	18,049
Operating Profit	9,829	9,171	6,510	3,596
Operating Profit %	22.7%	28.3%	23.9%	16.6%
Average Exchange Rate	431	1,446	9,500	10,378

Note: Comparison in zlotys is not possible because the Polish economy has suffered hyper-inflation over the past two years. Consequently, as an approximate method of removing the impact of inflation, the financial statements are converted to US dollars.

Analysis of this data shows

- from 1989 to 1990:
  - 15.8% decrease in sales
  - 10.6% decrease in the production cost
  - 29.0% decrease in the operating profit
- continuing decline towards 1991:
  - 20.6% decrease in sales from 1990 to 1991
    (1991 sales calculated on an annualised basis)
  - 13.0% decrease in corresponding production cost
  - 44.8% decrease in operating profit in comparison with 1990 results
  - 60.3% decrease in operating profit in comparison with 1989 results

The margin shortfall is caused by:

- increases in material and energy costs which were not absorbed by price increases
- undiminished fixed overheads allocated over a much reduced production level

Working Capital Comparison

- Table 2 shows the evolution of working capital during 1991
- Although this represented a period when Fablok was experiencing a collapsing market place the position has remained stable
- Both trade debtors and creditors have increased reflecting the lack of liquidity in the Polish economy. However, Fablok management have been able to keep the two in line avoiding the need for financing
- Stocks have been reduced in line with the management policy of minimising purchases to arrive at realistic stock levels
- Bank debt has not been increased in contrast with the situation in the majority of Polish industry
- The current ratio has remained around 1.5 demonstrating again the relative financial strength of Fablok
- Key figures are analysed in more depth later in this section

TABLE 2

US$'000

	31/12/90	31/3/91	30/6/91	30/9/91
Current Assets:				
- cash at bank	206	150	64	170
- debtors	6,090	5,093	5,637	7,987
- stocks	10,245	10,648	9,949	9,534
Total Current Assets	16,541	15,891	15,650	17,691
Current Liabilities:				
- trade creditors	5,787	4,739	6,244	7,359
- taxation payable	536	191	404	725
- other creditors	1,979	979	809	1,003
- bank loans	3,105	3,648	3,174	3,354
Total Current Liabilities	11,407	9,557	10,631	12,441
Net Current Assets	5,134	6,334	5,019	5,250
Exchange Rate	9,500	9,500	11,458	11,098

Debt Position

The present indebtedness of Fablok consists of the short-term loans from Polish banks only. Fablok has no long-term debts.

Short term loans are renewable and consist of:

- 10 milliard zl from Bank Handlowo-Kredytowy SA, Katowice at 68% interest and;
- 25 milliard zl from Bank Przemyslowo-Handlowy w Krakowie, Oddz. w Chrzanowie at a variable interest rate.

The first loan is due to be repaid as scheduled and will not be renewed. Regarding the 25 milliard loan Fablok intend to repay 5 milliard as scheduled (2.5 milliard in October 2.5 milliard in November) and to renew the loan agreement at the original amount of 25 milliard zl from 30th November.

By Polish standards this is a very low level of indebtedness. Even at the current low level of activity, Fablok is well able to meet the financing costs implied. It is possible that there is scope for taking on extra indebtedness in order to finance restructuring.

Trade Receivables and Payable

The current liabilities amount to 100,839 million zl. Most of the liabilities are trade suppliers.

Fablok policy is to keep the present liability level for the time being and to start gradual repayment from December 1991.

Trade receivables stand at 88,635 million zl, which is coming close to matching the trade payables. However this figure includes no provision for bad and doubtful debts. Taking a rule of thumb approach the adjustment required is shown in Table 3:

TABLE 3

Type of Debtor	Amount million zl	Provision %	Collectable Debt
Soviet Union through PHZ BUMAR	17,367	80%	3,473
Due from PMOD	10,931	25%	8,198
Other	60,337	10%	54,303
TOTAL	88,635		65,974

The amount of trade receivables realistically collectable is therefore much less that the nominal book value.

The general liquidity problem in Poland is affecting Fablok with an increase in the average number of days for which debts remain outstanding. However Fablok management have been able to react to this by extending the length of credit taken from suppliers. Thus in the 3rd quarter of 1991:

- the average collection period has increased to 142 days from 64 and 99 days in the 1st and 2nd quarters respectively;
- average payment period have increased to 194 days from 85 and 153 days in the 1st and 2nd quarters respectively.

1990/1991 Comparison

TABLE 4

	1990 average per quarter	1991 - I Quarter	1991 - II Quarter	1991 - III Quarter
Sales (US$ '000's)	6,816	7,155	4,903	4,984
Operating profit margin (%)	23.9	12.7	15.4	22.9
Liquidity ratio	0.55	0.55	0.54	0.65
Inventory turnover	2.0	2.3	1.76	1.77
Exchange rate	9,500	9,500	9,949	10,378

It can be seen from the table that:

- efforts to find new markets are, so far, meeting little success and sales remain depressed
- cost reduction methods are having an effect, allowing profit margins to be restored
- working capital management is improving

The evidence suggests that Fablok is learning to live with its lower activity level. At the same time, as demonstrated earlier, Fablok has, by Polish standards, a strong balance sheet. This suggests that time does exist for the enterprise to implement a well thought out restructuring programme without the fear of immediate collapse. This is confirmed by the cash flow forecast for the next six months.

Cash Flow Forecast

A cash flow forecast for the next six months is shown at Table 5. The presented projection is based on the following assumptions:

- sales projection is based entirely on the actual firm orders for the first 4 months and on the potential orders for the later months;
- gradual in-flow of outstanding receivables;
- partial cash payments for the material, remaining part covered from the stores and by deferred payments;
- gradual liquidation of liabilities;
- continuation of current financing plans.

The forecast confirms that the enterprise is in decline as far as its financial results are concerned. However it is encouraging that cash flow remains positive until March 1992. Even then the negative flow can be supported from reserves in the initial months.

This indicates that Fablok have time, albeit limited, in which to implement a comprehensive restructuring programme.

TABLE 5

CASH FLOW PROJECTION

MILLION ZLOTY						
IN-FLOW	1991		1992			
	XI	XII	I	II	III	IV
Sales	25,000	30,000	26,000	25,000	20,000	18,000
Debtors Payments	4,500	7,500	10,000	12,000	10,000	8,000
Sales From Store	250	250	250	250	250	250
Credit Increase		5,000				
Total In-Flow	**29,750**	**42,750**	**36,250**	**37,250**	**30,250**	**26,250**
OUT-FLOW						
Salaries, energy, etc.	8,440	8,440	8,945	8,235	8,750	8,495
Material Purchase	8,000	9,500	9,000	10,000	8,000	8,000
Liability Payments	8,000	9,500	15,000	18,000	15,000	12,000
Credit Repayments	4,500	3,000	3,000			
Total Out-Flow	**28,940**	**30,440**	**35,945**	**36,235**	**31,750**	**28,495**
CASH	810	12,310	305	1,015	(1,500)	(2,245)
CUMULATIVE (+ 1,890)	2,700	15,010	15,315	16,330	14,830	12,585

SALES AND MARKET ANALYSIS

Key Patterns and Trends

- Detailed sales statistics are given at Appendix B

- Since the war Fablok has diversified from locomotive production into a number of new areas. At the end of the last decade it was making the following assortment of key products (as well as a number of sundry items with low production runs):

    - locomotives
    - brake sets
    - axles and wheels
    - tank tracks
    - cranes
    - gears and transmission units

- The company seems to have over extended itself beyond its marketing and sales support abilities and when the CMEA bubble burst in 1991 Fablok experienced a dramatic decline in sales.

- Based on inflation adjusted sales statistics, there was an overall reduction in sales of almost one half in the year to December 1991 which followed a rise of similar proportions in the year to December 1990.

- There is a change in breakdown of sales with traditional products being worst affected by the market decline. Locomotives and cranes share of sales has fallen from some 60% in 1989 and 1990 to 50% in 1991. This trend is expected to continue.

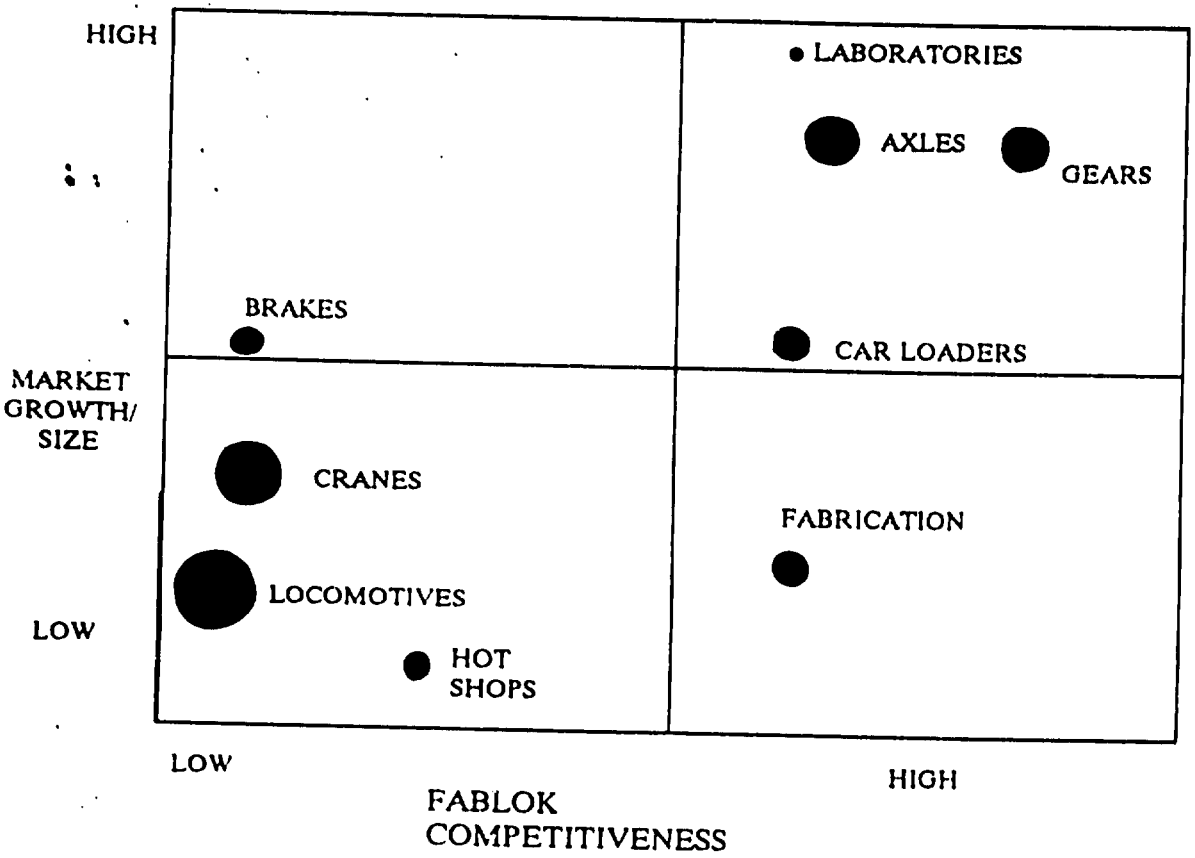
- Tank tracks' share of total sales has experienced a major fall in 1991 from c.13% in former periods to c.8%. The current position of the Polisn Ministry of Defence (PMOD) suggests that the decline in demand will continue.

- Brake sales have experienced a gradual decline in share from c.19% in 1989 to c.12% in 1991. For current product range there is unlikely to be a recovery from the current low demand.

- Gear boxes, gear wheels and axles are growing in importance as a proportion of sales moving from some 12% in the first two periods to c.23% in 1991.

Note: Sales data given above and in pie charts covers only key products and not spare parts and other sundry items.

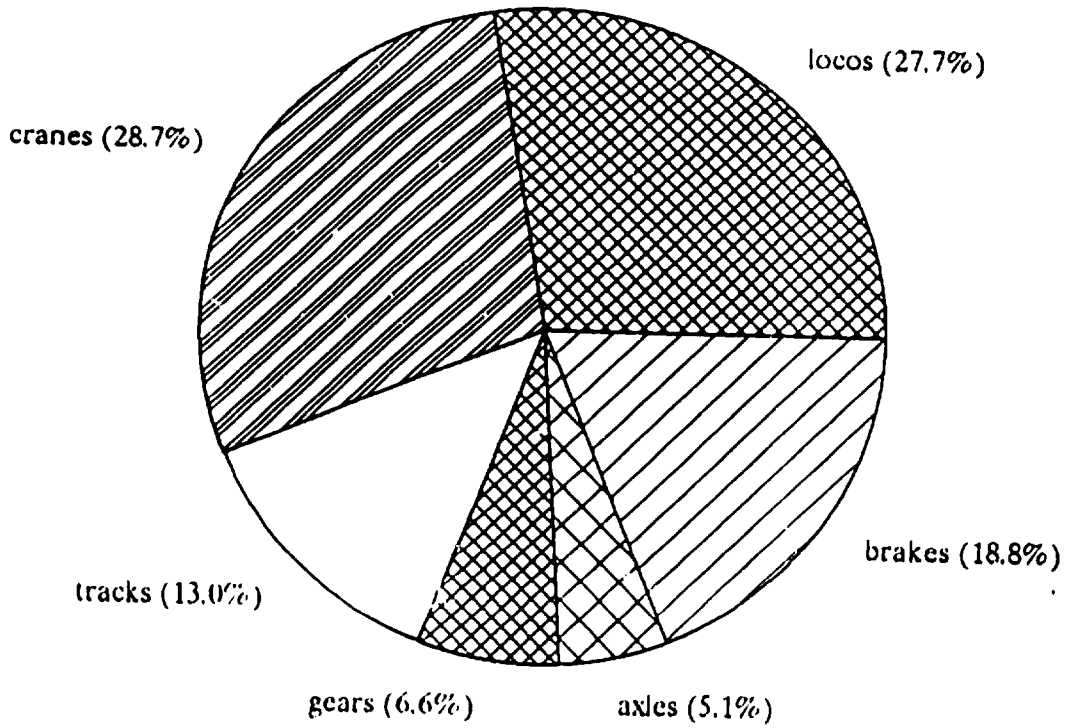
PORTFOLIO ANALYSIS



● approximate value of Fablok sales based on historic data

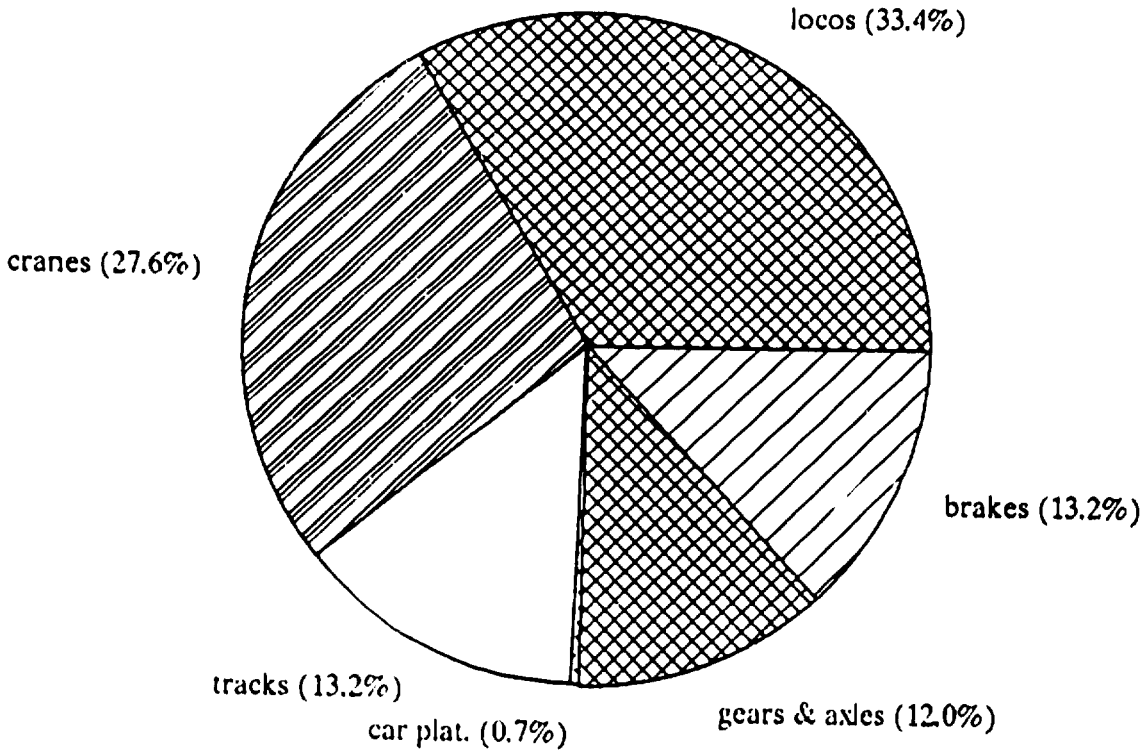
BUMAR FABLOK

1989 SALES DATA



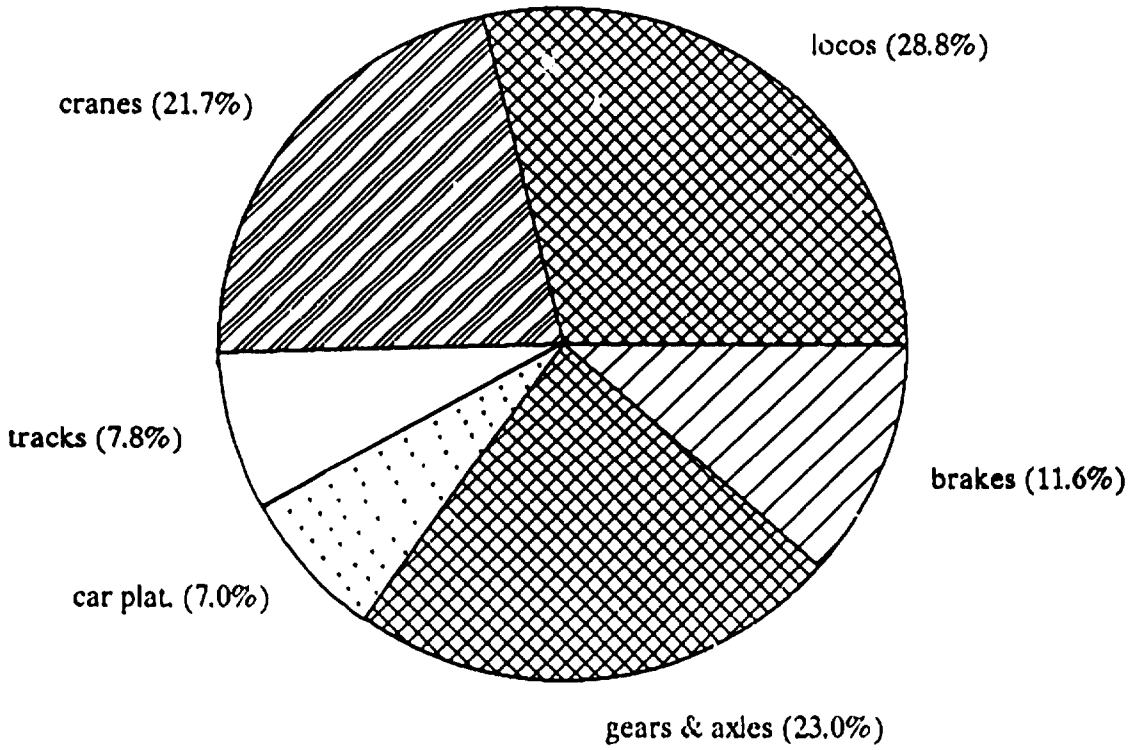
BUMAR FABLOK

1990 SALES DATA



BUMAR FABLOK

1991 SALES DATA



- The most dynamic growth in share has been experienced by the car loading platform which constituted barely 1% of sales in 1990 and is expected to account for a full 7% in 1991.

- The Soviet Union and CMEA traditionally held a dominant position in export markets. This is being erroded as sales to these countries decline in importance as a result of the demise of the transferable rouble and Soviet economic and political decline.

- The importance of West European markets, which were relatively unimportant in the past, has grown. The car platform, for example is almost entirely geared for export (to Germany).

- There is a virtual standstill in domestic investment in capital goods by the PMOD, PKP and building industry. Since these constitute Fablok's major historic trading partners,this has caused a major drop in local sales.

- The portfolio analysis, above, approximates Fablok's position in 1991.

Note: Sales data given above and in pie charts covers only key products and not spare parts and other sundry items.

SHORT TERM RESTRUCTURING PROGRAMME

Introduction

- Fablok's basic problem is the loss of its traditional markets
  - the former Soviet market has been eliminated by the economic and political problems now dominating the region
  - PKP and other Central and East European railways face severe cash constraints
  - the Polish Ministry of Defence has drastically reduced its procurement programmes
- Fablok must identify new markets and develop products to match the needs of those markets
  - such a fundamental realignment of a business takes much time
  - it is almost inevitable that the enterprise must accept a much lower level of activity than that enjoyed previously until the new markets are established
  - it is vital that the enterprise adjusts to this lower level of activity
- Fablok is fortunate in that it is relatively strong financially
  - our forecasts indicate that Fablok can exist for at least six months in its current form
  - time is available for the introduction of a well formulated restructuring programme

Key Short Term Objectives

- Match the size of the enterprise to that required based on realistic sales forecasts
  - Fablok is a large, complex and self contained business with very high overheads. The enterprise is designed for a regular, stable flow of large orders
  - it must now adapt to an environment where it must build market share from a low base, in a competitive situation
  - this will require
    - cut backs in production facilities
    - cut backs in overheads expenditure
    - cut backs in labour force
    - minimising new investment
- Establish a dynamic marketing function and sales and distribution organisation

Short Term Strategy

General

- Cease to manufacture for stock. Manufacture should be only against confirmed orders
  - in the past regular orders allowed long term manufacturing planning with components and even completed products built to stock. In the new, much more uncertain, environment this practise must stop
  - it is possible that certain basic components, suitable for a number of products, may be stocked. However such production should be minimised
  - although increasing lead times between order and supply Fablok cannot carry the sort of stocking costs implied by its traditional manufacturing strategy. Further the increased manufacturing flexibility which will be introduced in the longer term, will minimise any worsening of lead times

- Do not enter sales contracts below cost
  - although "loss leading" is an accepted method of establishing a product in new markets it demands financial support from established "cash cow" products. Fablok does not have such products.

- Sell any stocks of finished products at less than cost if necessary
  - this does not contradict the previous point since it refers only to products already completed. They therefore represent a sunk cost
  - even at a much reduced price such products could earn between one and two million dollars thereby providing much of the funding necessary to finance the restructuring programme

Production

- Close down the brake assembly plant
  - our investigations lead us to believe that little potential exists for this unit. Although a small order has recently been won from SAB-WABCO orders of this size do not justify a dedicated manufacturing facility
  - in recognition of negotiations, which are on-going, to enter into joint ventures for brake manufacture we suggest that at this stage the unit is "moth balled". That is closed down but kept intact such that re-opening, in the event of suitable a joint venture agreement being reached, would be straight forward

- Cease tool manufacturing activities
  - the reduced activity level does not justify a dedicated tool manufacturing facility
  - in the new economic environment a regular supply of tools of the necessary type and quality can be assured

- Move the shot blasting facility and paint shop to the main assembly area and close the building
  - with the loss of the tank track manufacturing activity this facility can no longer be justified
  - the shot blasting and paint shop activities are more logically located in the assembly area
  - the move also makes more effective use of the production capacity of the assembly area

- Close down the electro-plating shop
  - our research has shown that there is little market potential for this activity
  - any internal requirement for electro-plating can be met more effectively using outside suppliers
  - electro-plating is Fablok's only major ecological "black spot"

Overheads

- Close down, lease or otherwise dispose of all peripheral activities

  - Fablok management have already done much in this area. The process should be continued and, where possible, accelerated

  - leases should not be entered into where the income from the lease is less than that necessary to cover any costs Fablok may still be responsible for. For example a mechanism should be organised whereby the leasor is charged separately for utilities

- Eliminate surplus labour

  - in the time allowed for our assignment it was impossible to carry out the necessary studies to identify exactly how many staff are surplus to existing requirements. However in the area where such identification was possible, the administration functions, 64 out of a total staff of 151 were found to have inadequate work loads

  - it is probable that reductions of at least a similar percentage are possible in all other overhead areas

Laboratories

- We have identified opportunities for the laboratory to operate profitably by providing service to third parties notably Polcargo
- The possibility of creating a separate legal entity to run these activities should be investigated

Fablok Management Action

In response to the worsening situation the Fablok management have already started a programme of action aimed at slowing down and reversing the current trend. In summary the key points of the action programme are:

- pro-active search for new contracts to achieve increased sales of car platforms, wheels and axles
- cost reduction exercises
- cutbacks in purchases of raw materials and the consequent run down of stock levels
- actions aimed at improved collection of outstanding receivables

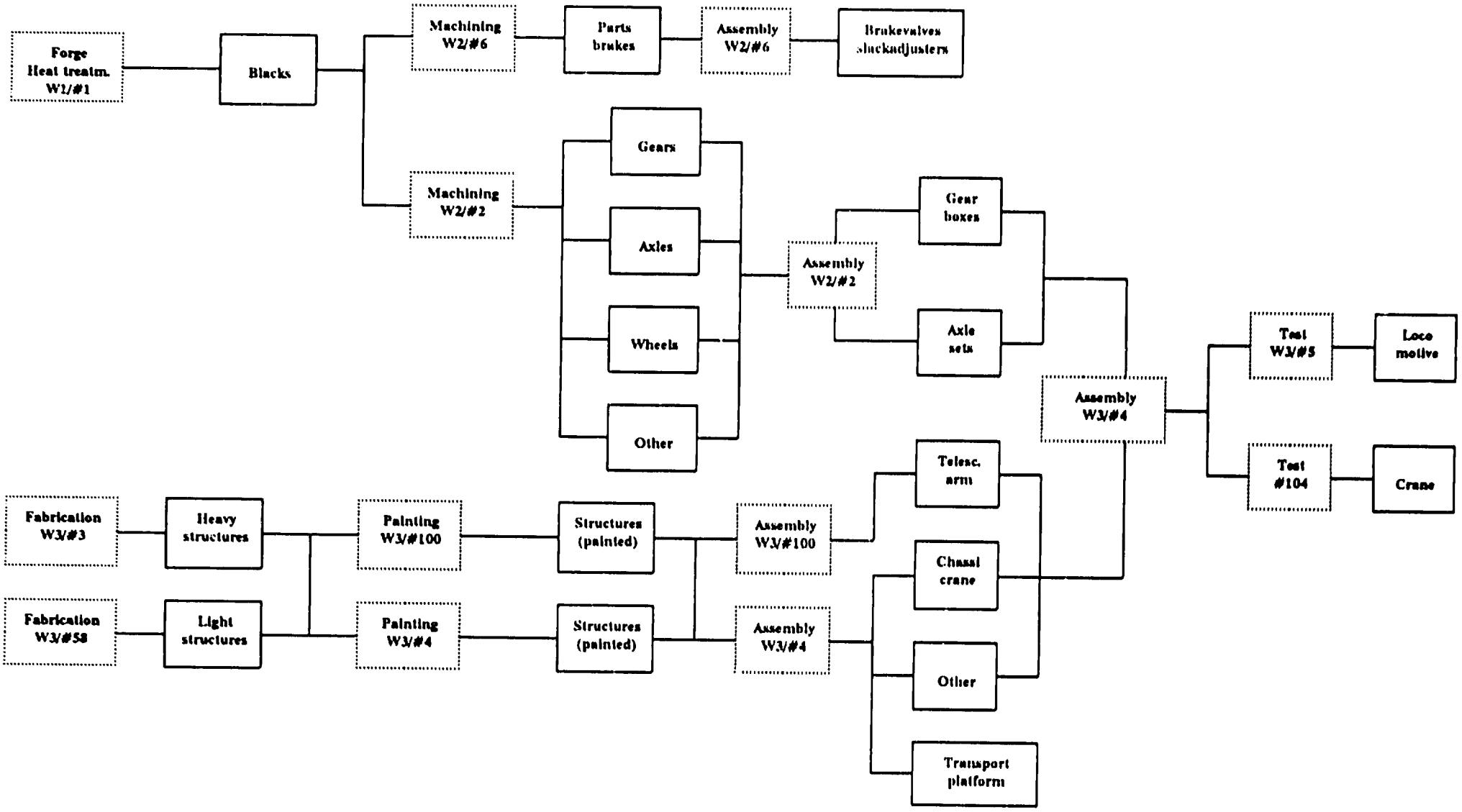
This action programme has begun to show results, however, the retrenchment and cost reduction exercise must be far more vigorous if real improvement is to be seen.

SECTION IV

Main Study

- Operations
  - Manufacturing
  - Warehousing
  - Quality
  - Inventory Control
- Finance & Administration
- Marketing

OPERATIONS - OVERVIEW



OPERATIONS - SITE PLAN AND CAPACITY

- **Situation**

  - Functional organisation

    Plant is divided in workshops where each manufacturing process is carried out separately rather than integrated in production lines (brake manufacture is an exception to this). In functional organisations products manufactured share capacity and therefore methods used are less specialised. This organisation is more suitable for manufacture of customised products or a number of different standard products where the number manufactured each year does not justify investment in specialised equipment and dedicated production lines. Neither condition matches the current Fablok situation

  - Complex products

    Locomotives and road vehicles are large and complicated products

  - Low production rates of main products

  - Irrational site layout

    Ad hoc rather than planned expansion:

    - buildings not custom designed for current usage
    - long distances between some main buildings

  - Capacity

    At the moment Fablok has general overcapacity due to a much reduced order book. The average utilisation is 25%. The laboratory, electroplating shop and tool manufacturing facility are not specific to Fablok's requirements. Services could be bought in, or workload could be increased by selling services to third parties.

- **Weaknesses**
  - Manufacture of transport platforms

    Platforms differ from the other main products both in complexity (less complicated) and demand (much higher rate of demand)

  - Irrational site layout

    Large number of small buildings and long distances lead to high handling and transportation costs, long lead times and unnecessary WIP (Work in Progress)

  - Overcapacity

    Laboratory, electroplating and tool manufacture require marketing resources to gain access to third party users. Brake plant cannot be efficiently utilised for other purposes.

    Activities in buildings No 100, No 58 and No 18 can be removed to buildings No 3 and No 4

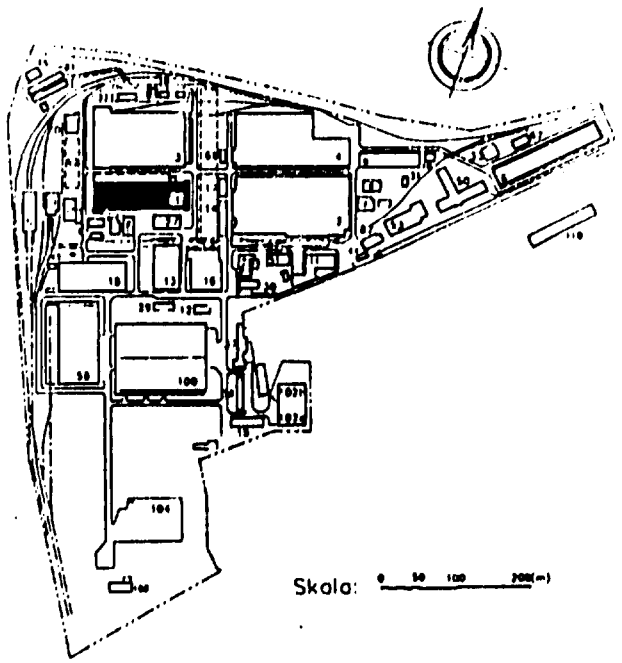
- **Recommendations**
  - Transport platforms

    Introduce "production line" for transport platforms through removing paint and shotblasting facilities to building No 4

  - Overcapacity/Site layout

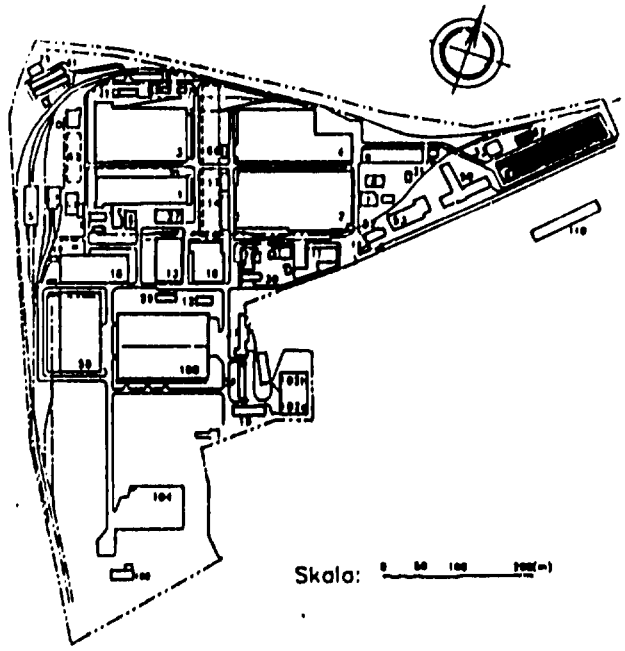
    Close down buildings No 100, No 58 and No 18. Remove activities to buildings No 3 and No 4
    Find alternative sources for tools and electroplating; close down
    Increase workload in laboratory by selling services to third parties
    Close down brake manufacture

OPERATIONS - FORGING SHOP, HEAT TREATMENT



- BUILDING No 1
  - Workshop: 4944 m^2
  - Outdoor unprotected storage area: 1750 m^2
- PRODUCTS
  - Die forgings: 2 - 6 kg
  - Flat die forgings: 100 - 800 kg
  - Tools/dies for forging
  - Heat treatment: normalising and hardening
- WEAKNESSES
  - Questionable if forging best method for current production
- RECOMMENDATIONS
  - Evaluate where casting can replace forging

OPERATIONS - BRAKE DEPARTMENT

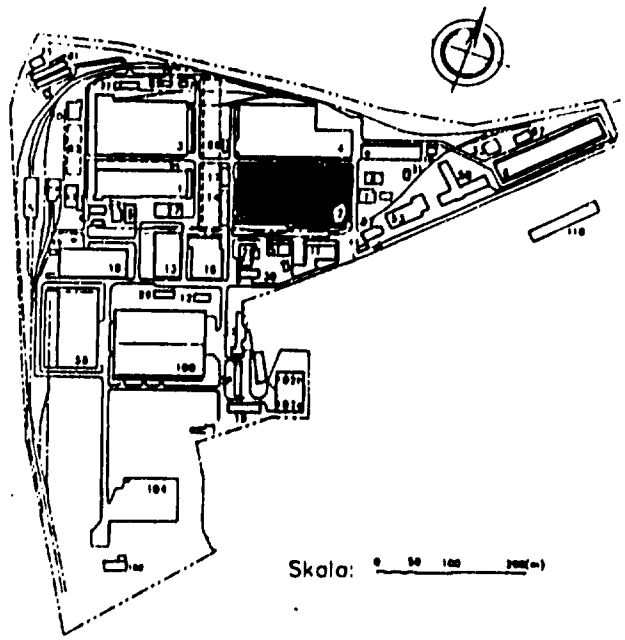


BUMAR–FABLOK

- BUILDINGS No 6 AND No 67
  - Workshop: 5,251 m^2
  - Storage area: 350 m^2
- PRODUCTS
  - Air brake valves
  - Slack adjusters
- WEAKNESSES
  - Current workload represents only 10% of shop capacity
  - Current/potential orders from SAB-WABCO do not require this dedicated, specialised manufacturing facility
- RECOMMENDATIONS
  - Close down plant until strategy/joint venture is decided but preserve and maintain plant in existing form (mothball)
  - Keep and reassign key workforce
  - Evaluate whether existing machines and equipment match requirements for manufacture of new brake systems to be introduced by PKP

OPERATIONS - MACHINING SHOP

- BUILDING No 2
  - Workshop: 14,526 m^2
  - Store area: 326 m^2
  - 4 overhead cranes
  - Lifting capacity: 0.5 - 3 Mg; lifting height: 2.6 - 6.5 m
  - Universal machine tools + NC machines
- PRODUCTS
  - Parts and subassemblies for cranes and locomotives
  - Wheels and axles for locomotives/trams
  - Gear transmissions for locomotives, trams, cranes, mining locomotives
  - Gear wheels



BUMAR–FABLOK

- WEAKNESSES

  - Poor quality of supplied steel
    Tolerances not met on wheel to axle set

  - Poor handling of gear wheels
    High tolerance requirements met in manufacturing process, but inadequate handling practices and poor storage damages a high quality product

  - Helicol wheels do not meet tolerance requirements
    Current tools out-dated

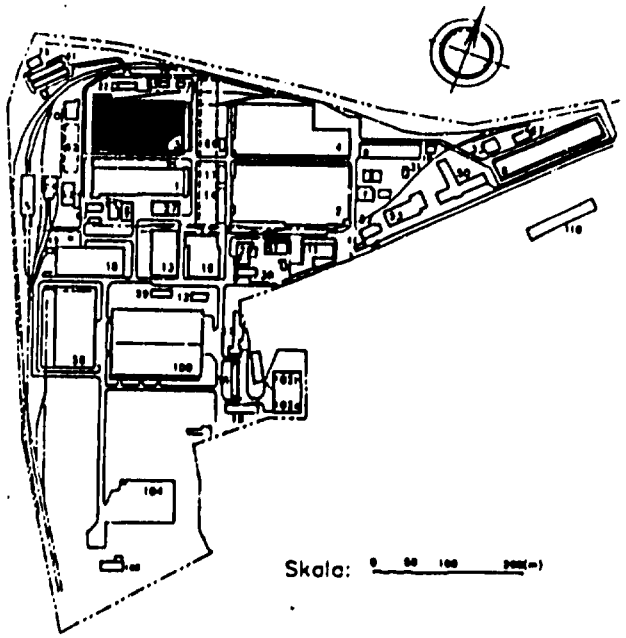
- RECOMMENDATIONS

  - Introduce 100% reception inspection of incoming steel

  - Search for new/better supplier

  - Introduce polystyrene or wood protection units for gear wheels. Start immediately with simple wood protection, made locally, and search for appropriate styrene units

OPERATIONS - WELDING HEAVY CONSTRUCTIONS



BUMAR–FABLOK

- BUILDING No 3
  - 1,300 m^2
  - 10 overhead cranes
  - Lifting height: 5.5 m - 10.4 m
  - Lifting capacity: 7.5 Mg - 20 Mg
  - Semiautomatic MIG and TIG welding
  - Numeric controlled gas cutter
  - Sheet metal presses
- PRODUCTS

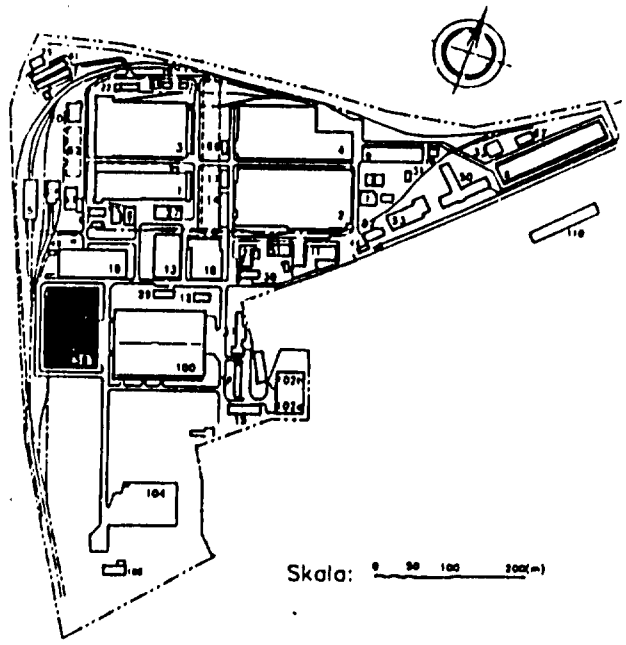
  Crane and locomotive assemblies of sheet metal >5 mm thickness
- WEAKNESSES
  - Shotblasting of parts prior to constructing not undertaken as a matter of course

- RECOMMENDATIONS

  Introduce inspection routine that shotblasting is being undertaken prior to constructing

OPERATIONS - WELDING, LIGHT CONSTRUCTIONS
PREVIOUS TANK TRACK MANUFACTURE

- BUILDING 58
  - Workshop: 6,833 m^2
  - Storage area: 64 m^2
  - 5 overhead cranes, lifting capacity: 13.2 - 5.0 Mg; height - 4 m
  - Hardening furnaces
  - Machine tools for manufacture of tank track components
  - Welding equipment
  - Sheet metal presses
- PRODUCTS
  - Welded constructions <5 mm for cranes and locomotives
- WEAKNESSES
  - Building is surplus to requirements

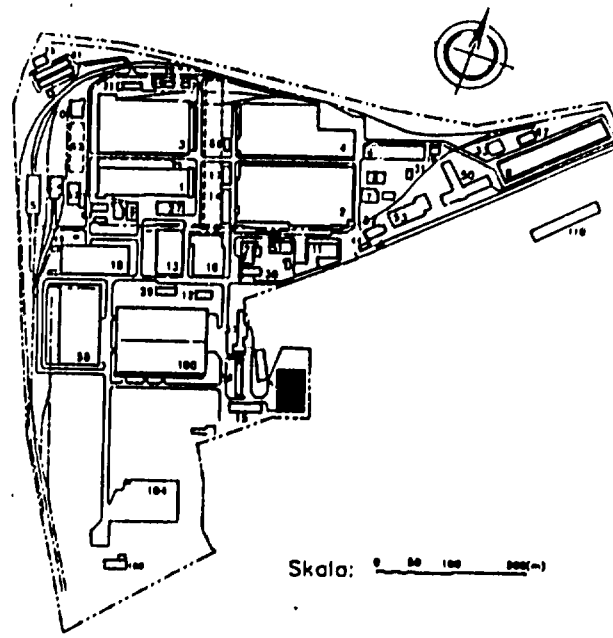


BUMAR–FABLOK

- RECOMMENDATIONS
  - Close down and move welding shop to building 3

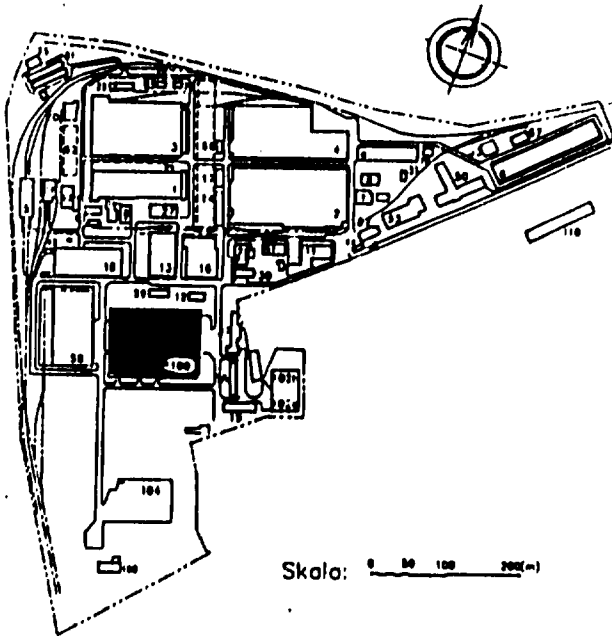
OPERATIONS - ELECTROPLATING

- BUILDING 102 a, b
  - 3,500 m^2
- PRODUCTS
  - Coating of zinc, chromium, copper, phosphate, aluminium anodizing
- WEAKNESSES
  - Workload represents only 20% of capacity
  - Most production can probably be bought in
- RECOMMENDATIONS
  - Replace customised items with standard items
  - Find outside source of supply
  - Close down shop



BUMAR–FABLOK

OPERATIONS - BUILDING No 100



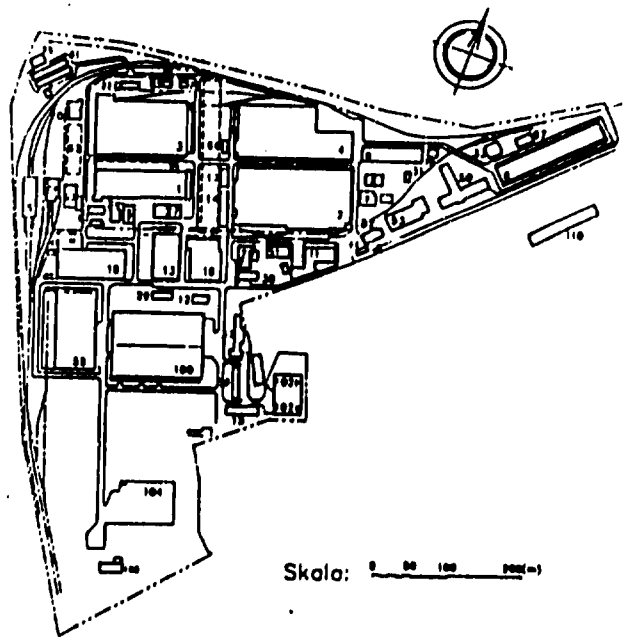
BUMAR–FABLOK

- BUILDING No 100
  - 7,449 m^2
  - Shotblasting and painting cells
  - 4 overhead cranes
  - Lifting capacity: 5 - 20 Mg
  - Lifting height: 7.4 m
- PRODUCTS
  - Painting constructions
  - Large constructions
  - Crane jibs assembly
- WEAKNESSES
  - Shop very much under utilised
  - Long distance to welding plant (No 3) and assembly plant (No 4)

- RECOMMENDATIONS

  - Remove 1 shotblasting, 1 degreasing and 1 painting cell to buildings No 3 and No 4
  - Close down

OPERATIONS - ASSEMBLY



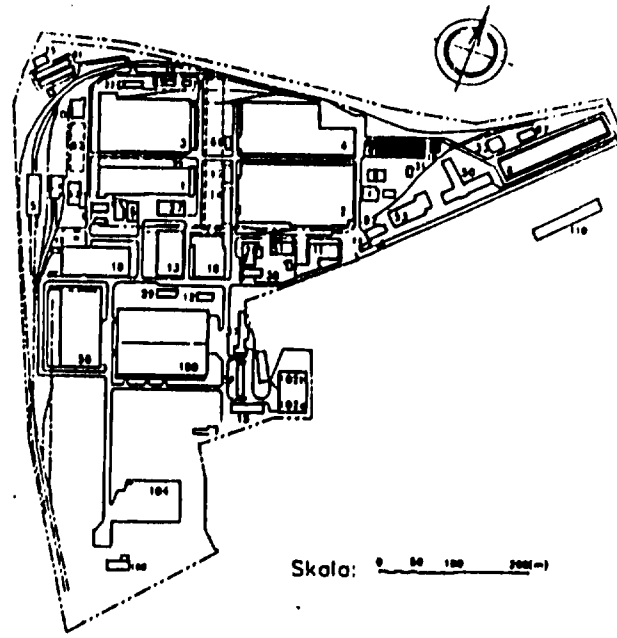
BUMAR–FABLOK

- BUILDING No 4
  - 11,400 m^2
  - 8 overhead cranes, 2 - 50 Mg capacity
  - 3 - 9.5 m lifting height
  - Assembly and paint facilities
- PRODUCTS
  - Transport platforms
  - Cranes
  - Locomotives
- WEAKNESSES
  - No appropriate facility for "2-pack paint"; basic problem is too low temperature during winter
  - No convenient shotblasting or degreasing facility

- RECOMMENDATIONS

  - Move in 1 shotblasting 1 degreasing and 1 paint cell from building 100
  - Separate and isolate painting painting area with walls, raise temperature to 20 C - 25 C for better hardening

OPERATIONS - TOOL DEPARTMENT

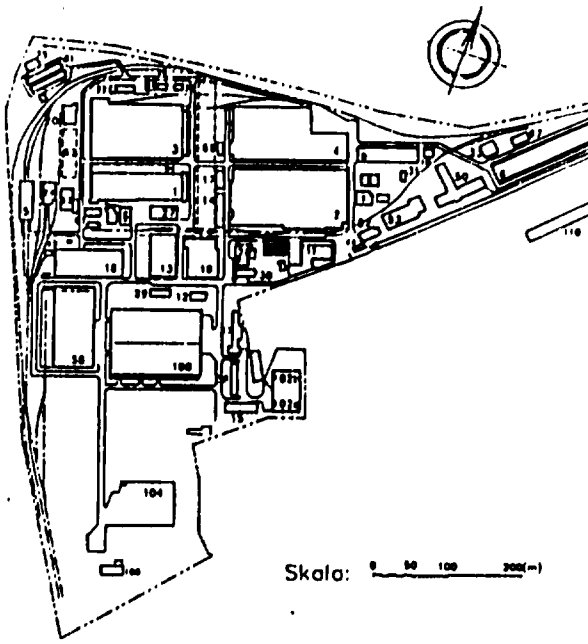


BUMAR–FABLOK

- BUILDING No 9 AND No 10
  - 1,700 m2
- PRODUCTS
  - Cutting tools
  - Jigs and fixtures
  - Service of tools
- WEAKNESSES
  - Cutting tools can be replaced by standard items or if necessary, customised by other, ie Bumar Labedy and bought in
  - Jigs and fixtures can be manufactured in building No 2

- RECOMMENDATIONS
  - Organise tool sourcing group
  - Search for alternative methods/tools/suppliers
  - Close down

OPERATIONS - LABORATORY

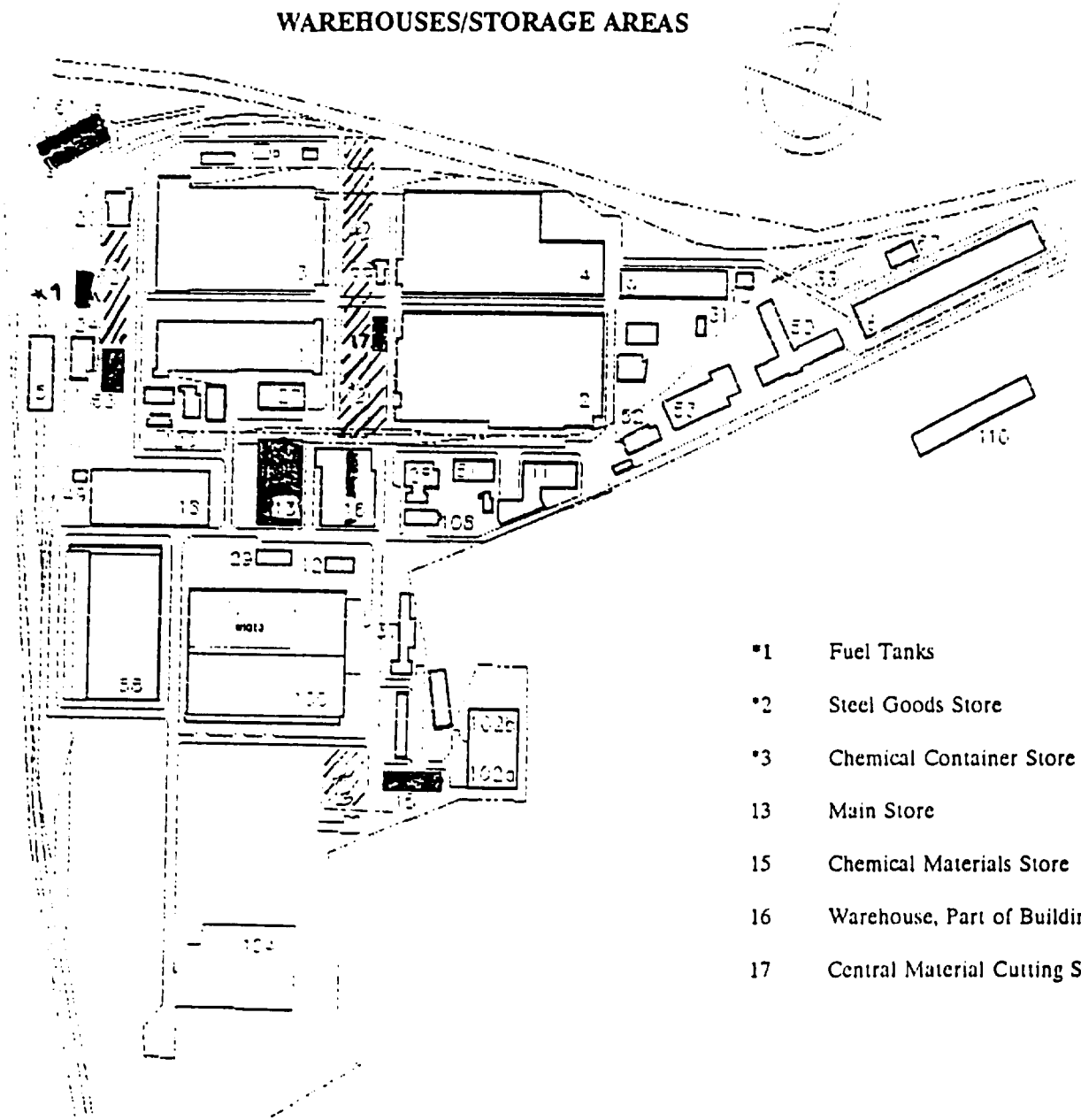


BUMAR–FABLOK

- BUILDING No 51
  - 12 employees
- PRODUCTS

  Full range of destructive and non-destructive material/product test facilities in following laboratories:
  - material laboratory
  - metrology laboratory
  - chemical laboratory
- WEAKNESSES
  - Too low workload - approximately 10% of capacity
- RECOMMENDATIONS
  - Laboratory is well equipped, has a skilled and experienced workforce.
  - There appears to be an unfulfilled demand on the local market for services provided by the laboratory
  - Survey local market, prepare business plan for laboratory as a "stand alone unit"

WAREHOUSES/STORAGE AREAS



*1	Fuel Tanks
*2	Steel Goods Store
*3	Chemical Container Store Place
13	Main Store
15	Chemical Materials Store
16	Warehouse, Part of Building
17	Central Material Cutting Shop

Fablok.Eng

OPERATIONS - WAREHOUSING AND MATERIAL HANDLING

- **Situation**
  - Main store (no 13) is well located, suffers from lack of stillage in main storage area
  - Other stores scattered around the site
  - Steel stored outdoors, roof only protection, some areas have no protection at all
  - Overhead cranes dominating handling methods
  - No standardised pallet / stillage system
  - Poor order and marking of storage/buffer areas
  - Steel sheets piled and mixed

- **Weaknesses**
  - Inefficient use of store volume/roof height in main store (no 13) when goods stored on floor without stillage system
  - Unnecesarily large organisation and transportation costs because of scattered operations, central storing is more efficient
  - Steel detoriates in outdoor storage
  - Inefficient material handling because of lack of standardised handling units (ie pallets)
  - Difficult to physically connect order papers with product/batch because of lack of pallet system which normally also serves a information carrier

- Unnecessarily long search times for goods because of poor marking of storage/buffer areas and no natural information carrier

- Steel sheets difficult to identify, dangerous to handle and time consuming search/handling

- **Recommendations**

  - Because of uncertanity regarding Fablok's future product range and items to handle, is it not recommended to invest in material handling pallets/stillage for all of Fablok's operations. Therefore, scattered and inefficient warehousing operations, underutilised storage buildings, unnecessarily large organisation and transportation costs have to be accepted for two to three more years

  - Introduction of finished goods protection units for gear wheels (wood or styrene) is urgent, start with simple wood protection

  - Introduce inspection routine of goods stored/buffered outdoors to control that no sensitive materials or items detoriate because of lack of attention

  - Introduce "upright" storage of steel sheets where possible, posts to differentiate and keep sheets upright can easily be constructed by Fablok. Each dimension will have its own dedicated place.
    This will save floor space and create better order.

QUALITY

General

- **Situation**
  - Current system of controlling quality is primarily finished work inspection. Faults found after completion of work.
  - For successful penetration of international market Fablok would need to be ISO 9000 approved.
  - Fablok have taken the initial steps of producing a quality manual.

- **Weaknesses**
  - Quality manual not consistent with ISO 9000 requirements (suggest that it is every ones responsibility to improve process, according to ISO 9000 changes must be approved by a qualified engineer).
  - Speed in implementation of routines required by ISO 9000.

- **Recommendations**
  - Define project to move rapidly to ISO 9000, develop strategy and select team.
  - Recruit experienced project leader on consultancy basis.

Quality of Products

Locomotives

- **Situation**
  - First produced 1958 and have changed little. Under frame and bogie are manufactured from fabricated steel sections. Similar to any Western products.
  - Fabricator work quality is good. With good weld profiles and no evidence of splatter.
  - External appearance not unlike current locomotives being manufactured by GE & GM.
  - Such Locomotives would now be used for loco hauled passenger traffic as well as shunting.

- **Weaknesses**
  - For its purpose speeds are too low; 90 km/h against competitor 120 km/h.
  - Power Equipment DC generator traction with DC drive. Customers require AC driver with modern control equipment. Give greater reliability and improved efficiency. They are also able to cope with higher speeds of modern engines - 30% greater, the engine has low power rating of 800 HP and is probably inefficient and unreliable.
  - Cab design very dated. Functional rather than aesthetic. All knobs, wheels and gauges. Appearance not enhanced by aluminium strip trimming.

- **Recommendations**
  - Since projected sales cannot justify investment in redesign in key areas (ie higher speed, driver and control equipment), stop all improvements/facelift activities, if any).

Cranes

- **Situation**
  - First impressions are of a modern crane. The under frame is constructed of fabricated plate. Workmanship is good. However design requires many production hours, could be simplified by greater use of pressed and rolled sections and simpler fabrication.
  - Crane Jib was manufactured at Fablok from welded fabricated box section. Good quality of workmanship.
  - Suitable for Polish market but doubtful if it would be competitive in the international market.

- **Weaknesses**
  - Cab is constructed of steel skinned fabrication. Could be cheaper to use fibreglass cabs. Noted that steel skin was only degreased prior to painting; better anticorrosive protection required by phosphating or sand blasting.
  - Design and workmanship of the crane cab was poor.
  - Cab door sliding window frames made from untreated aluminium. There is also a centre windscreen bar of untreated aluminium. Modern Cabs would have one piece window. Both these items give cab dated feel. Competitors would have door glass which drops into door.
  - Same can be said for door panels secured by many screws - no hidden fasteners.
  - Ergonomics; seats could be better.
  - Noted that door bottom edges were showing rust.
  - When cab door was opened water leaked from inside the door skin. Window seals not adequate.
  - Engine and gearbox were of old design unreliable, inefficient and noisy.

- **Recommendations**
  - Focus on Polish Market.
  - Sand blast cab.
  - Evaluate GRP cab.
  - Improve window seals.

Road Platform Transporter

- **Situation**
  - Three designs produced.
  - Workmanship very good.

- **Weaknesses**
  - Painting of questionable quality, may lead to premature paint failure and various claims.
  - Shot blasted platforms were not immediately painted. Shot blasted steel should be painted within 2 hours otherwise corrosion will set in.
  - Shot blasting being undertaken in another workshop, transport in the open air to assembly and paint. During transport from shot blast plant in open high risk of being rained on which can lead to immediate rusting and the probability that steel will be painted rusty.
  - Later platforms only degreased prior to paint.
  - Unnecessarily complicated and heavy construction.
  - Flat steel skin is slippery for user.

- **Recommendations**
  - Remove shot blasting and degreasing to building no 4.
  - Value engineering required, possible areas of cost savings.
    1. Use rolled sections for side frame (restriction on length of press brake capability).
    2. As car only uses outer sides where wheels rest, centre of platform can be simplified.
  - Improve design by using steel skin with pattern to make platform less slippery

Gear and gear wheels

- **Situation**
  - Ability to produce a wide range of gears up to maximum size of 10,000 mm with module 12 tooth.
  - Can produce to class DIN 5 quality for straight teeth ISO 1328 - 1975. Polish spec. PN 79 M885220 for straight - toothed wheels and to PN-80/M-88522.03 for helicol toothed wheels.

- **Weaknesses**
  - Good back up of measuring and material assessment.
  - Cannot grind helicol toothed wheels after hardening hence reduced quality standard.
  - Inadequate handling practices and poor storage damages a high quality product.
  - Production machines are not of the latest design. There are currently more productive machines on the market. To stay in the market Fablok will soon need to invest in latest and most modern machine tools.

- **Recommendations**
  - Emphasise marketing on straight toothed wheels
  - Introduce polystyrene or wood protection units for gear wheels. Start immediately with simple wood protection.

Wheels and axles

- **Situation**
  - Full range of wheels and axles produced but main strengths in manufacturing of driving wheels and axles complete with driving gear.
  - No problem in meeting any specification.
  - Quality good.
- **Weaknesses**
  - Material specification needs assessing for comparison with internationally approved standards.
  - Large scrapping of tyres caused by material supply defects (Polish suppliers).Only discovered after full machining taken place Steel company pay scrapping costs, but time wasted causes extensive lead times.
- **Recommendations**
  - Introduce 100% reception control of steel
  - Search for new steel supplier

General fabrication

- **Situation**
  - Good weld preparation and fit up with good final weld quality.
  - Finished assemblies were shot blasted and painted in shop 100.
- **Weaknesses**
  - Poor shop storage of plate prior to processing.
  - There was no shot blasting of plates and sections prior to processing. This meant that welding could take on mill scaled material or material had to be taken to shot blast cabinets in shop 100.
- **Recommendations**
  - Introduce marked storage sectors for each plate dimension
  - Introduce control routine so that shotblasting is being undertaken prior to welding.

Brake work

- **Situation**
  - All valves were comprehensively tested prior to delivery to stores. Quality is good and combatable with other Western manufactures.

- **Weaknesses**
  - Quality testing on finished goods rather than controlled in accordance to ISO 9000 principles.

- **Recommendations**
  - Introduce ISO 9000 quality system if joint venture with SAB WABCO or other is realised in order to reequip PKP rolling stock.

INVENTORY CONTROL, PRODUCTION PLANNING AND SUPPLY

- **Situation**
  - Records are manually kept, order procedures are also manual
  - Sudden fall in customer orders and long lead times have led to high inventory and WIP levels, in some cases more than two years demand
  - Fablok have stopped procurement of material and components where inventory is too high
  - Inventory levels are being reduced
  - Forecasting, production planning and shop control are carried out along standard principles. The process is based upon a hierarchical structure with a step by step break down from a yearly production plan to quarterly masterplans to detailed material requirements plans and capacity plans
  - System works well when production programme is largely unchanged

- **Weaknesses**
  - Manual record system and ordering procedures are slow, long administrative lead times and labour consuming
  - Fluctuations in demand create a need for large and detailed changes in plans and orders, too many to be handled manually
  - Documentation of production planning and process planning shows that existing system is too complex and contains far too many reports, which slows down planning, ordering and control

- **Recommendations**
  - Manufacture only against customer orders
  - Revise production plans
  - Remove unnecessary WIP back to stock until required
  - Introduce computer based inventory control, production planning and order routines

FINANCE AND ADMINISTRATION

Financial systems are responsible for the following functions:

- financial analysis and planning
- cash and credit management
- fund raising and capital expenditure control
- financial accounting
- cost accounting

The basis of the financial systems is the accounting system which provides data for:

- measuring the firm's performance
- assessing its financial position
- paying taxes

Key problems of FABLOK's system:

- poor management information system
- accounting system does not provide data required
- out-dated inventory system
- inefficient electronic data processing

Recommendations/Short term actions

- revision and modernisation of computerised systems:
  - receivables and payable ledgers
  - general ledger
  - payroll
  - inventory
- implementation of cash flow analysis
- daily updating and weekly reporting of basic financial information

Management Information System

Current Status

- Existing management information systems (MIS) are weak.
- There are no recognised performance measures.
- There is no attempt to measure performance at a lower level than total enterprise.
- Only one report is prepared on a regular basis. On a monthly basis a report is prepared comparing actual and plan for the following headings:
  - sales
  - export sales
  - profit
  - retained profit
  - inventory
  - employment
  - wages fund
  - wages fund without profit bonus
  - sales per employee
  - hours not worked due to sickness per employee
- Any other information is reported on an ad hoc, as requested basis.
- Even the limited information that is available is subject to time delays and inaccuracy due to the inadequacy of the financial systems responsible for producing the base data.
- The information provided is inadequate for effective management decision taking

Recommendations

- In the short term:
  - appoint a senior member of the accounts staff as responsible for MIS
  - carry out a detailed survey of management information needs
  - match those needs to the capacity of the existing system even if the information is partially simplified and estimated.
- In the longer term build a comprehensive MIS around the management accounting and costing systems which will be introduced as part of the restructuring programme.

Costing System

Current Status

- Fablok's costing system is in reality a pricing system. The primary weaknesses are:
  - the concept of cost centres is non-existent
  - actual costs are not recorded
  - as such, there is no possibility to carry out variance analysis

Recommendations

- In the short term little effective action is possible. The final restructuring programme will almost certainly demand a fundamental change in manufacturing processes and in the organisation of the enterprise. It would not be cost efficient to introduce improvements now, based on the existing structure, which would only be in use for several months at the maximum.
- Longer term, it will be necessary to introduce a comprehensive costing system meeting the needs of the enterprise's organisation after restructuring.

Inventory System

Current Status

- The main weaknesses of the existing inventory system are:
  - excessive time delays between the transaction taking place and its recording by the system
  - duplication of work between the manual systems and the computerised systems.
- Given the relative complexity of the enterprise's product lines, and in particular the very high levels of work in progress created by existing manufacturing methods, it is vital that inventory control be efficient and effective. The potential for loss in the existing environment is enormous.

Recommendation

- Priority should be given to the identification and introduction of a modern, computerised inventory-control system. Even where the organisation of the plant changes after restructuring the requirements of an inventory system will remain almost unchanged. Those requirements in the case of Fablok are standard. It will therefore be possible to identify a suitable package-based solution

Electronic Data Processing (EDP)

Current Status

- The EDP function is a major source of weakness. In particular:
  - the system is over centralised demanding:
    - a large number of specialised staff
    - specialised recording and control of original documents
    - duplication of tasks between the manual and electronic parts of the systems
  - programmes are bespoke and no longer meet the requirements of the users
  - the hardware is obsolete

Recommendations

- There is little point in making further developments using the outdated hardware. A priority must be, therefore, to replace the existing equipment with the more modern computers now readily available in Poland.
- Software for the new systems should be package-based where possible. In the majority of cases the system requirements of Fablok are standard for the industry. Packages could therefore be identified and introduced with the minimum of modifications.
- Systems would be decentralised to the users as far as possible, in line with western practice.
- The number of specialised EDP staff could then be substantially reduced.

MARKETING

In the past, sales and marketing was virtually all handled by:

- Foreign trade units (FTU - Bumar or Kolmex) for exports
- Fablok's marketing department acting as an administrative unit; responding to large state sector product requisitions or plans

Traditionally this meant that, due to the build up of repressed "demand pull" inflation, all production was usually sold at the ruling market price. Unfortunately this centrally planned system rapidly eliminated the need for activities and skills in key areas such as:

- Market research: formal research is virtually non-existent.
- Product development: no coherent strategy exists in the marketing sense.
- Promotional mix: currently basic product literature, foreign trade visits, and limited press advertising.
- Price setting: not based on commercially accepted formulae.
- Selling and negotiation: weakened by lack of past experience in this area and limited language abilities.

Any short term survival programme should focus upon:

- Optimising activities in key marketing areas through the assistance of an outside technical expert, who will help implement new codes of practice.

- Acquisition of market information which will allow Fablok to assess critically the strengths and weaknesses of its product range and marketing stance. The C&L team have initiated this process, for all product areas, but it will be up to Fablok to continue this programme. Clearly this research will only be of benefit if supported by the ability and willingness to use the data to modify existing systems or products.

- Develop an offensive marketing poise within Fablok, bringing more and more responsibility to the internal marketing team for sales, even where they are dealing through an intermediary.

- A modified relationship with Bumar and Kolmex FTUs. This may take the form of direct contact with FTU sales negotiators, offering additional incentives for sales. The benefits of positive communication between FTU negotiators and Fablok staff cannot be overstated.

SECTION V

Product Analysis

CAR PLATFORM

Fablok Product

- Good quality.
- Built to western buyer's requirements and well matched to market's needs. Allows faster/longer-distance transportation than simple tow bar/hook.
- Low cost product (c. 50% of UK price).
- 2.5 x 5 m welded and painted structure including some hydraulics.

Production facilities/operations

- General:
  - unnecessarily complicated material flow;
  - product would benefit from value engineering i.e. evaluation of where costs of production can be minimised while retaining features and quality of product;
  - Fablok will not need any advanced design abilities.

- Painting/shot blasting:
  - good facilities;
  - long time delay between shotblasting and painting;
  - painting should be undertaken within two hours.

- Welding:

  - semi-automatic MIG and TIG welding, good quality;
  - potential for reducing man hours needed, 25% by simplified design & hydraulic clamping.

- Sheet metal cutting (numeric controlled):

- "messy" material storage creates long set-up times and probably unnecessary large stock of raw materials.

Profitability

- Export sales.
- Increased sales in 1991.
- No confirmed order for the next year.
- Production cost (c.9,000 USD) higher then sales price.
- Loss of 55 million zl on each platform sold at current price.

World Markets

- Very specialised; breakdown recovery sector.
- The AA, the UK's largest recovery organisation, purchases approximately 50 vehicles with this "slide back" platform per annum.
- There appear to be opportunities in this niche area which is likely to grow as car numbers increase. This may mean longer term potential in East European markets where per capita car numbers are low.

Competition/J.V. Partners

- At least two other Polish producers of this product exist.
- Fumaba (Głogów) and Eurokran (Pyskowice) total production is approximately 150 units.
- There are likely to be numerous producers of this and similar "transport welded products" in the rest of Europe such as Jige Lohr in France and MSM Engineering in the UK.
- Companies like Jige Lohr may be interested in Fablok's platform, positioning it at the lower end of their price range, for cost-conscious customers.

Prospects

- "Installed base" of same 200 platforms with expectations of 300 sales per anum. This may be an entry for other specialist welded constructions such as security vehicles, refuse trucks, airport equipment etc. (in the UK alone, some 1,000 plus security vehicles are bought annually).
- The key here is to understand the customer and build to his requirements, be he the end user or higher cost Western manufacturer. One important trend in Western markets is a move towards 2 level, 2 car platforms.
- Speeding up of and efficiency control over the production cycle is likely to be important in order to meet the strict deadlines which are a feature of Western markets.
- Limited design ability. Or access to an appropriate, independent design house may be necessary.
- Low labour costs and good shot blast/paint facility (allowing quality paint finish) indicate good future potential here.
- With dynamic and market driven production and good marketing, this sort of product has a very good longer term future.

Marketing Requirements

- Review price setting policy to ensure profitability. A policy of loss leading cannot be maintained indefinitely.
- Competitor analysis
  - Poland;
  - Eastern Europe;
  - Western Europe.
- Customer search
  - Western Europe;
  - Eastern Europe;
  - Concentrate on brokers, producers of platforms and any interested car recovery services.
- Distribution arrangements: plan coherent network using brokers/agents and Polish FTU's as appropriate. Maximise ease of collection for buyer and be prepared for "CIF" sales.
- Ensure after sales customer care is available.
- Marketing Materials
  - Review range of point of sale materials to ensure they are best able to highlight features and benefits of the products and compare favourably with western literature.

- Quality Standards
  - Aim for ISO rating (or equivalent) in shortest realistic time.
  - Make sure quality information features in sales literature and that there is a quality sign on products.
- Development
  - review potential/option for other "road" or related products like security or specialist airport vehicles.

CRANES/UNDERCARRIAGE

Fablok's Product

- Out-dated and technically questionable design, though aesthetically acceptable.
- Obsolete and inefficient power unit causing excessive noise levels and exhaust emissions, poor reliability.
- Unnecessarily high weight to lift ratio of crane.
- 25-28 ton lifting capacity and very large undercarriage are less popular than smaller models i.e. 16 ton and 6 ton cranes and standard lorry undercarriage.
- Lack of attention to detail as reflected by computer-controlled lifting mechanism, which is a chronic source of problems.
- Potential problem with spares produced by Ukrainian partner.
- Expensive bespoke service network usually involving staff travelling from Chrzanów to customer site.
- Possible risk of liability for customer loss as a result of poor design/workmanship although product is generally considered to be very reliable.
- Recent low sales and "installed base" of less than 400 units.
- Complex mechanical product containing:

  - main equipment, ie engine, generator etc.;
  - welded structures (in house);
  - forged/machined items (in house).

Production facilities/operations

- Assembly:

  - capacity c.60 units/year
  - rotary part supplied from Ukrainian company, poor quality and uncertain delivery times
  - take over of rotary part would improve quality, delivery and image and would increase workload FABLOK is able to produce rotary part to same cost as it is now being supplied according to management
  - manually assembled without any advanced support equipment, crane overhead is only device
  - components, structures and main equipment are transported to assembly stand by non specialized vehicles
  - assemble to customer order - philosophy, no surplus material

- Welded structures:

  - semi-automatic MIG and TIG welding, good quality;
  - potential for reducing man hours needed, 25% by simplified design & hydraulic clamping.

- Sheet metal cutting (numeric controlled):

  - "messy" material storage creates long set-up times and probably unnecessary large stock of raw materials.

- Forged items:

  - labour intensive;
  - poor worker safety at forges;
  - high tooling & set-up costs;
  - potential for reducing set-up costs.

- Machined items:

  - small production runs and large range of customised items justifies current type of manual machining equipment. Alternative is expensive and complex - the so called "flexible manufacturing system" which requires advanced programming capacity and high utilisation which FABLOK is unlikely to manage ;
  - large WIP indicates poor production planning, long lead times and poor cost control;
  - potential for reduction of 50% WIP;
  - excessive material wastage & tool wearing.

Profitability

- (Production of cranes, chasses and telescopic arms).
- Drastic decrease in sales of cranes and chasses.
- Estimated 1991 sales:

  - 35 cranes;
  - 76 chasses;
  - 65 telescopic arms.

- No further orders for cranes.
- Export sale price frequently below production cost for cranes and chasses (c.80,000 USD).
- Marginal operating profit on telescopic arm.

World Markets

- General contraction in construction markets as a result of current international recession. Only selected areas of demand in Polish economy e.g. road building, Warsaw Airport.
- Possible local demand related to aid funded or other infrastructure developments i.e. road building, motorways, metro. Unfortunately virtually all building enterprises contacted felt that:

  (i) Fablok product is too large for its needs. 6 + 16 ton cranes seem to dominate the "mass" market

  (ii) The current undercarriage is not suited to many construction jobs as it cannot cope with many building site terrains.
- High potential demand for "cross country" mobile cranes.
- The Japanese appear to be targeting European markets with their technically-superior product.

Competitors/J.V. Partners

- In Poland Famaba of Głogów produce smaller cranes (6-18 tones). Mostostal produce much larger ones.
- Fablok product at c. $110,000 unlikely to be competitive against Japanese equivalent at c. $160,000.
- Smaller cranes which are cheaper and more universally used by the building industry.
- J.V. partnership unlikely at present. Sub-contracting may be possible.

Prospects

- Poor for final product. Possibilities for sub-components such as the telescopic arm made to order for use with a production line undercarriage.
- Possible use of western technology/components for enhanced final product.
- Investigate options for "contract hire" customers.
- Investigate cost/benefits for cross country mobile cranes.
- An exit strategy is likely to be appropriate here for the product in its current form.

Marketing Requirements

- Competitor analysis in Western Europe to see if there is any scope for co-operation in sub-component (telescopic arm) production for foreign producer. To date, Grove International have shown some interest.
- Customer Search
  - Investigation of road building, "metro" underground plans, or any major building projects in Poland, which may require such a crane.
  - Investigate all potential brokers, state or private, who might be able to sell the stocks of finished products, even at cost. Devise methods of sales incentives for employees of state FTU's like Bumar.

LOCOMOTIVES

Fablok's Product

- Original design dates back to 1958 with little modification since then.
- Locomotive is DC powered whereas AC generation drives are currently favoured.
- High fuel usage, high noise levels, poor reliability, inefficient, low speed.
- 800 horse power engine is considered to be under powered for its purpose.
- "Installed base" of 1,500 locos virtually all in Poland.
- Complex mechanical product containing:
  - main equipment, ie engine, generator etc.
  - welded structures (in house)
  - forged/machined items (in house)

Production facilities/operations

- Assembly:
  - capacity c.30 units/year;
  - locomotive manually assembled without any advanced support equipment, crane overhead is only device;
  - components, structures and main equipment are transported to assembly stand by non specialised vehicles;
  - assembly to customer order philosophy; no surplus material.

- Welded structures:

  - semi-automatic MIG and TIG welding, good quality;
  - potential for reducing man hours needed, 25% by simplified design & hydraulic clamping.

- Sheet metal cutting (numeric controlled):

  - "messy" material storage creates long set-up times and probably unnecessarily large stock of raw materials.

- Forged items:

  - labour intensive;
  - poor worker safety at forges;
  - high tooling & set-up costs;
  - potential for reducing set-up costs.

- Machined items:

  - small production runs and large range of customised items justifies current type of manual machining equipment. Alternative is expensive and complex - the so called "flexible manufacturing system" which requires advanced programming capacity and high utilisation which FABLOK is unlikely to manage;
  - large Work-in-Progress (WIP) indicates poor production planning, long lead times and poor cost control
  - potential for reduction of 50% WIP;
  - excessive material wastage & tool wearing.

Profitability

- Drastic decrease in sales, 1991 sales less than 50% of the previous years.
- Estimated sales of 15 locomotives in 1991, but no further orders.
- Increasing production cost, operating profit of 18.6% in 1991 versus 24.4% in 1990.
- Increased sales of spare parts with substantial profit margin.

World Markets

- Low growth, steady demand only for latest products.
- Less Developed Country (LDC) markets are likely to be aid funded in this area and generally favour "big name" Western suppliers.

Competitors/J.V. Partners

- Tightly concentrated with smaller and middle sized players exiting (i.e. Hunslet, RFS UK).
- Czechs, Romanians and Soviets all produce locomotives.

Prospects

- Re-engineering or re-equipping of 1,200 PKP owned Fablok locomotives may be possible, but unlikely.
- J.V. might be possible here on the basis of a Western producer offering technology/components and Fablok using this to re-engineer existing stock of locos.

- It seems unlikely that PKP would want to re-equip "in house" but this possibility is being investigated by our team.
- Possibility of western licence for new engine but only if it can be tied to firm PKP orders.
- Essentially an exit strategy is required here.

Marketing Requirements

- Customer Search
  - talk to PKP to investigate any options for work related to re-engineering of current products. At the moment it seems unlikely that PKP will have funds available for this.
- Partner Search
  - talk to all major locomotive producers to investigate if any opportunities for co-operation exist, not only for finished products, but for components.

BRAKES

Fablok Product

- Good quality distributor and slack adjuster based on licence from world class producer. Although design is from late 1960's, it is not obsolete and is quite suitable for loco hauled rolling stock of speeds below 160 km/h.
- Product is of standard air brake design and meets international safety requirements.
- Mechanically complicated product with high reliability requirements;

Production facilities/operations

- General:
  - capacity c.10,000 units/year;
  - well defined manufacturing/assembly unit with relatively clear material flows;
  - uneven workload in workshop indicating poor production planning/shop loading principles and cost control;
  - obvious surplus capacity;
  - piles of material indicating poor production planning;
  - potential reduction of WIP of 75%.
- Assembly:
  - manual process with basically standardised tools;
  - too large batch sizes creating physical bottlenecks.
- Testing:
  - specialised testing equipment.

Competitors/J.V. Partners

- markets are dominated by 3 producers:

  - Oerlikon/Knorr (FRG),
  - Davis & Metcalf (UK),
  - Westinghouse(USA);

  with SAB producing the braking mechanism for the above.

- one other East European manufacturer of similar brakes, in Czechoslovakia;

- unlikely to be much scope for J.V. here in the short-term, but may move to this through sub-contract work or on the back of eventual PKP orders.

Prospects

- Fablok has large stock piles of work in progress and so no further production should be undertaken, save for completion of WIP.

- If enough large orders are found to warrant further production Fablok may be able to stay in this market, although this is unlikely.

- Some encouragement can be gained from a proposed SAB-WABCO deal by which Fablok will produce certain sub-components at attractive prices. This may lead to further co-operation.

Marketing Requirements

- Customer Search

  - outside Poland focus on South Africa, possibly South America and Australia;

  - sell at cost only, if necessary, to eliminate stocks and gain inroads into markets, but ensure quality is maintained.

- Partner Search
  - talk to all major brake equipment producers to investigate prospects for co-operation.
- Quality Standards:
  - Aim for appropriate ISO rating (or equivalent) in shortest realistic time.
  - Make sure quality information features in sales literature and that there is a quality sign on products.

GEARS + GEAR WHEELS

Fablok's Product

- Good quality product, among best in Poland, special groove enhances life.
- Module 2-12 for all standard gear wheels.
- Good testing/quality-control facilities.
- Poor design ability.
- Relatively short lead times.
- Attractive price.
- Symmetric item with basically standardised requirements concerning quality and design parameters
- General
  - Fablok have specialised in large gears where even small production runs are economical because of the technology used;
  - connected to the production facility Fablok has advanced measuring equipment which confirms the quality of the gears produced. We have been informed about the tolerances reached which proves the high quality of work carried out.

Profitability

- Produced types: gear LD-31 and 20 PM.
- Increased sales of LD-31 gear in 1991.
- No confirmed orders for future periods.
- Operating profit of 38.4%.
- Competitive prices, approximately half that of international competitors.

World Markets

- Large and varied; growing in transportation sector (i.e. light rail).
- Eastern Europeans are established producers.

Competitor/J.V. Partners

- Fairly small scale production lines, often East European. Relatively few direct Polish competitors, primarily Bumar Labędy and to a lesser degree Zamet and Zremb.
- In past, products have been exported to Hungary. This may give scope for partnership.

Prospects

- Fablok should aim to offer a flexible full-range product within the capabilities of their equipment, which is of a good standard although not most productive in terms of output volume.
- Eventually specialisation may allow for closer co-operation with customers and some design work.
- Quality and low cost, even for small batch production, an important advantage here.
- This is potentially a longer-term product line for Fablok. An attractive international market exists and Fablok is among Poland's leading manufacturers.

Marketing Requirements

- Competitor analysis
  - Poland;
  - Eastern Europe;
  - Western Europe.
- Customer analysis. Examine what type of products are needed and factors such as price, features, delivery times, quality.
- Customer search
  - Western Europe;
  - Concentrate on end users, sub-component manufacturers.
- Distribution arrangements: plan coherent network using agents and FTU's as appropriate.

- Ensure that reasonable after sales service is available.
- Marketing Materials:
  - Review range of point of sale materials to ensure they are best able to highlight features and benefits of the products and compare favourably with western literature.
- Quality Standards
  - Aim for ISO rating (or equivalent) in shortest realistic time.
  - Make sure quality information features in sales literature and that there is a recognised quality sign on products.

Profitability

- Marginal sales in foreign markets.
- Decreased, but confirmed orders for the next year.
- Low production cost with substantial operating profit (40.2%).
- Spare parts sales in the range of 10% of basic sales.

World Markets

- Generally depressed with only 1,500 wagons p.a. being produced in Western Europe 1990 (compared to Fablok's annual production capacity of 10,000 units).

WHEELS + AXLES

Fablok Product

- Good quality although fairly high level of material wastage in production.
- Large amount of scrap and poor quality suppliers.
- Wheels are not "monoblock" and as such have poor prospects.
- "In house" design ability is virtually non-existent although quality control/testing facilities are good. Link with PKP design allows some flexibility here.
- Short lead times.
- Heavy mechanical product with few components.

Production facilities/operations:

- General:
  - large piles of forged axles indicate poor production planning & cost control.
- Forged items:
  - the rough tolerances of the forged axels create a large amount of material wastage and unnecessary tool wear;
  - labour intensive;
  - poor worker safety at forges;
  - high tooling & set-up costs;
  - potential for reducing set-up costs.

- Machining:
  - generally old machines, though appropriate for turning axels. Milling of wheels might be out-dated;
  - regarding demand for monoblock wheels, it might be appropriate, in the longer term, to invest in modern equipment. Estimated cost of investments $1,000,000.

Profitability

- Increased sales in 1991.
- Confirmed orders for the next year.
- Material cost lower than estimated.
- High operating profit (45.9%).

World Markets

- Segments of the transport-related sector are growing and opportunities exist for the right products (e.g. light rail or high speed trains).
- Eastern Europeans are established producers in domestic markets.

Competitors/J.V. Partners

- Relatively few specialist players within Poland and a similar picture abroad.
- May be opportunities for co-operation with Western rail sector producers who are able to make "monoblock" wheels.

Prospects

- Axle with built on gear is a potentially attractive product with a number of potential uses.
- Fablok should aim to offer a flexible product, within the capabilities of their equipment, benefiting from low labour costs and the ability to have small/unit production runs, short lead times.
- Subject to success of axle sales, may be justification for investment in monoblock technology in long-term although the necessary investment is some 1 million USD.

Marketing Requirements

- Competitor analysis
  - Poland;
  - Eastern Europe;
  - Western Europe.
- Customer analysis. Examine what type of products are needed and factors such as price, features, delivery times, quality.
- Customer search
  - Western Europe;
  - Concentrate on end users, sub-component manufacturers.
- Distribution arrangements: plan coherent network using agents and FTU's as appropriate.
- Ensure that reasonable after sales service is available.

- Marketing Materials:

  - Review range of point of sale materials to ensure they are best able to highlight features and benefits of the products and compare favourably with western literature.

- Quality Standards:

  - Aim for appropriate ISO rating (or equivalent) in shortest realistic time.

  - Make sure quality information features in sales literature and that there is a recognised quality sign on products.

FABRICATION

Fablok Product

- Good quality products.
- Difficulty is avoiding/eliminating rust at early stages of construction - particularly affects quality/cost of welding.
- Good machine park allowing large degree of flexibility in items produced.
- Restricted by lack of "in house" design.
- Welded and painted structures. Preferably large items (short production runs)

Production facilities/operations

- lack of "in house" design
- fabrication/sub-contracting requires a streamlined, responsive administrative function and very short and well-defined lead times
- linked with good shotblasting/paint shop and electroplating facility

World Markets

- The recent European recession means that at present this is unlikely to be a growth market.
- A market for low cost/quality fabrication products will always exist.

Competitors/J.V. Partners

- There are numerous competitors in the fabrication area both in Poland and abroad ranging from small family workshops to large state enterprises.

Prospects

- A J.V. may be possible, sub-contracting is more likely.
- With good marketing of services and attending to quality and cost, the fabrication division may survive as a low cost sub-contractor. Further suitable ventures, perhaps in the area of environmental protection, or petroi station constructions, may lead to profitable "spin offs".
- May be worth investigating large automated shot blast facility in medium to long term to enhance welding quality (this investment is currently planned by management).

Marketing Requirements

- Competitor analysis
  - Poland;
  - Eastern Europe;
  - Western Europe.
- Customer analysis. Examine what type of products are needed and factors such as price, features, delivery times, quality.

- Customer search
  - Western Europe;
  - Eastern Europe;
  - Concentrate on products for which Fablok has competitive advantage; where paint shop can be best used etc.
  - Use agents, consulting firms, trade offices FTU's and trade fair contacts. Perhaps advertise in specialist press.
- Marketing Materials
  - Review range of point of sale materials to ensure they are best able to highlight features and benefits of the products and compare favourably with western literature.
- Quality Standards
  - Aim for ISO rating (or equivalent) in shortest realistic time.
  - Make sure quality information features in sales literature and that there is a recognised quality sign on products.

LABORATORIES

Fablok Product

- Long-serving, professional and skilled workforce.
- Adequate levels of testing machinery.
- Weak/unnecessarily large chemical testing laboratory.
- Broad range of standard material tests, destructive and non destructive tests and measurements.

Production facilities/operations

- appropriate technical level of most equipment
- lack of computerised record system (PC)
- long serving and skilled workforce
- questionable chemical laboratory
- very low level of utilisation relative to facilities

World Markets

- Polish market only is appropriate here; most clients will be Polish companies with only c. 5% foreign.

Competitors/J.V. Partners

- The market is dominated by Polcargo although a number of smaller, sometimes foreign J.V.'s, are moving into the market, especially in the chemical and biological testing area, i.e. Bureau Veritas (France), Griffiths (UK), Omic (Japan).

Prospects

- Depending upon the ability to market their services and the level of demand in Katowice (which is neither a port nor a border town) there may be a long-term potential here for service revenues.
- The optimal approach may be to join up with other similar facilities such as Bumar-Labędy's Laboratory to provide a more cost effective facility better able to meet internal and external market needs.
- Polcargo Warszawa and Gliwice are interested in co-operation and await an offer from Fablok.

Marketing Requirements

- Competitor analysis
  - Poland
- Customer analysis. Examining the kind of services which are required and the features needed to obtain a marketing edge.
- Customer/Contractor Search:
  - Poland;
  - Focus on bank contacts (quality tests re. letter of credit business), FTU's, Polcargo and other similar enterprises. Determine which of Fablok's lab. services are in demand, if any.

- Marketing Materials

  - In the event of interest by any of the above groups, a comprehensive range of point of sale (p.o.s.) marketing materials will be required clearly highlighting features and benefits of services.

- Quality Standards

  - Ensure appropriate standards of testing are maintained to meet all necessary and realistic testing requirements.
  - Range from 2 kg to 800 kg

UNIDO

FABLOK

BUMAR FABLOK

RESTRUCTURING STUDY

VOLUME II

Coopers
&Lybrand

TABLE OF CONTENT

SECTION VI

Organisation & Management

- Manufacturing
- Warehousing
- Product Development
- Design Department
- Finance & Administration
- Marketing

MANUFACTURING

- **Situation**
  - Total number of staff in production: 1,208
    Total cost/month: 3,318 million zl
  - Break down:
    - Number of staff in planning and supply: 63
      Cost/month: 168 million zl
    - Number of staff in productive departments: 824
      Cost/month: 2,500 million zl
    - Number of staff in maintenance department: 321
      Cost/month: 650 million zl

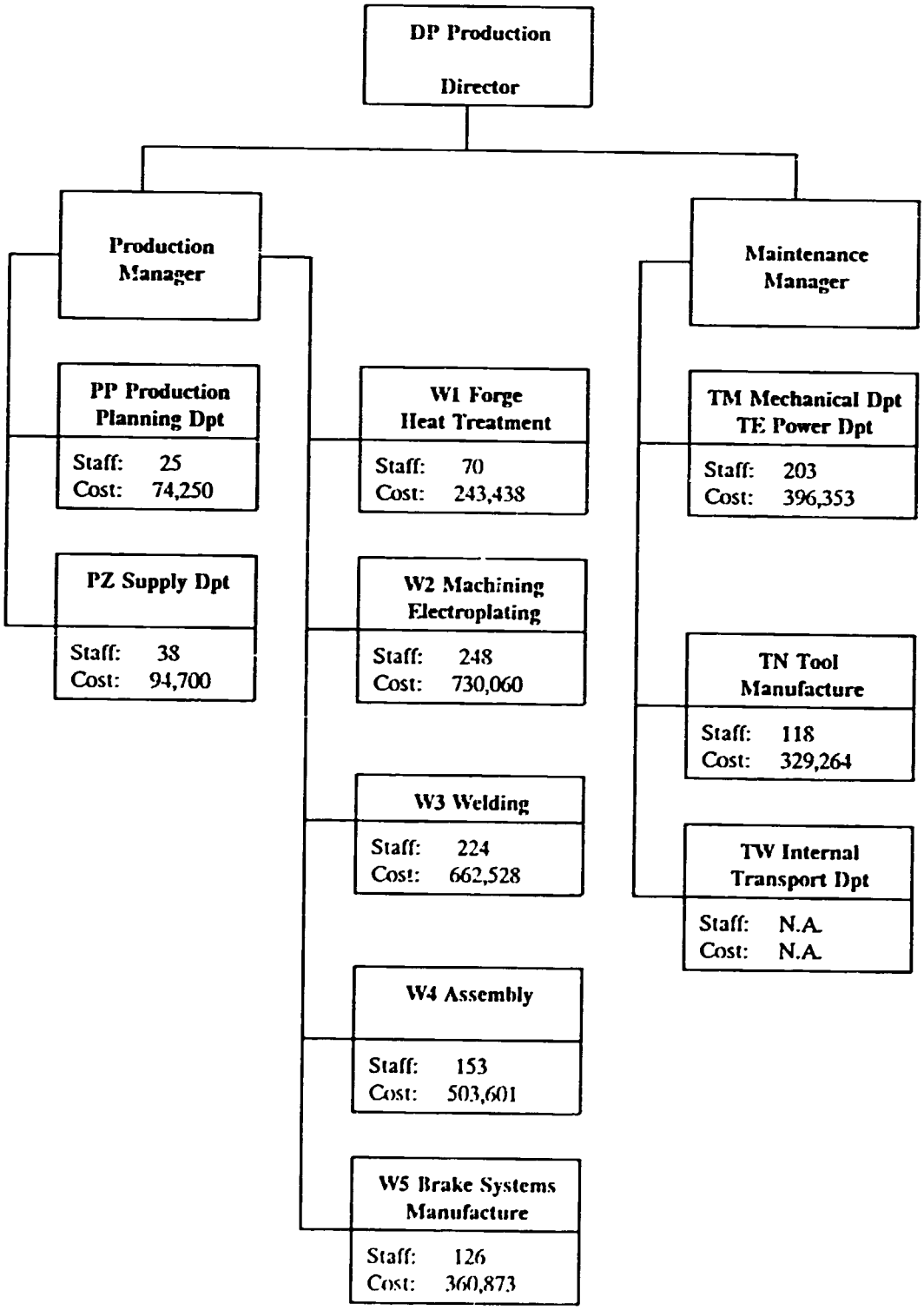
- **Weaknesses**
  - Obvious overcapacity in all areas, especially in brake manufacturing and tool manufacture
  - Inadequate skills base in some technology functions

- **Recommendations**

  - Take over design department (RK)
  - Take over staff from production technology department (RT)
  - Take over warehousing/inventory control department (AM)
  - Immediate lay offs 30%, estimated savings per month; 1,020 million zlotys
  - Lay offs during 1992 35%, estimated savings per month: 1,267 million zlotys

MANUFACTURING, CURRENT ORGANISATION

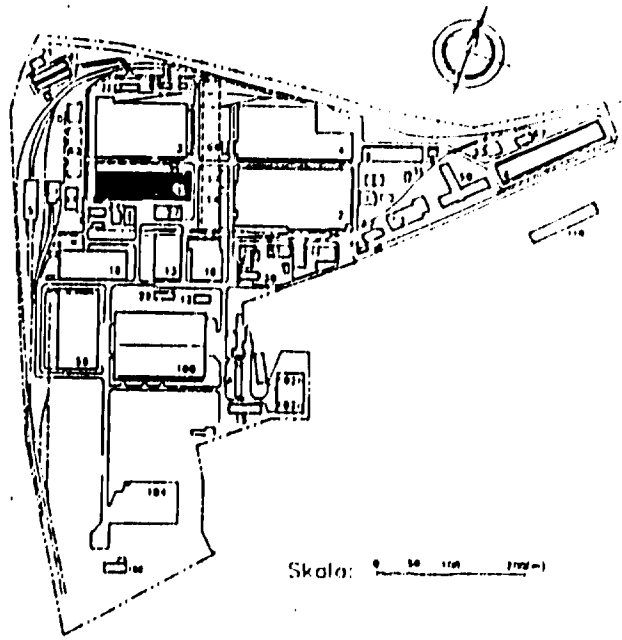
(Cost is given in thousand zlotys)



MANUFACTURING

Department W1 (Forge/heat treatment)

Building #1



BUMAR–FABLOK

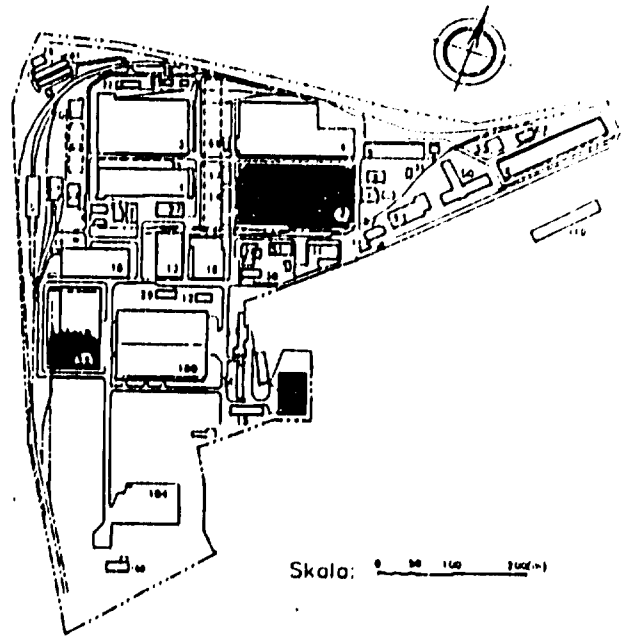
- **Situation**
  - Total: 70 employees
  - Direct labour: 44
  - Indirect labour: 13
  - Management and technologists: 13
  - Total cost/month: 243 million zl
- **Weaknesses**
  - One designer of jigs and fixtures
- **Recommendations**
  - Take over 4 technologists from production technology department
  - Lay off 20% off workforce, savings per month approximately: 45 million zlotys

Fablok.Eng

MANUFACTURING

Department W2 (Machining and electroplating)

Buildings #2, #102a, b, part of #58



BUMAR–FABLOK

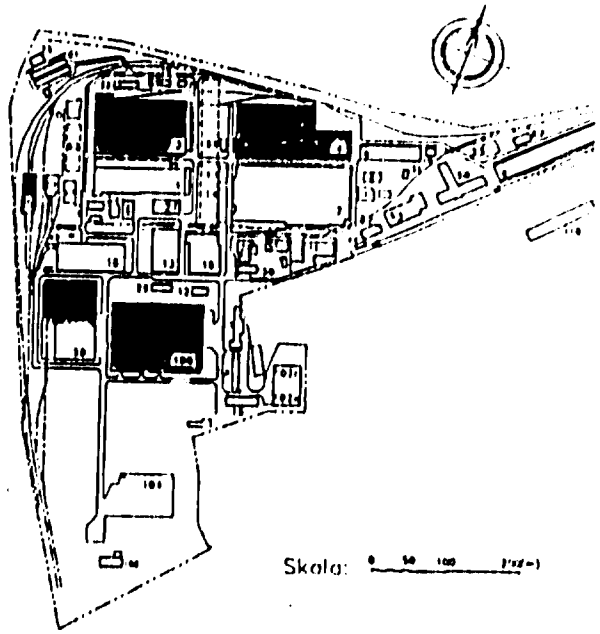
- **Situation**
  - Total: 248 employees
  - Labour: 230
  - Management and technologists: 18
  - Total cost/month: 730 million zl
- **Weaknesses**
  - One technologist in heat treatment
  - Electroplating heavely under utilized

- **Recommendations**
  - Recruit deputy technologist (max age 40 years)
  - Close down of electroplating would result in layoff of 8 employees. Savings per month approximately 20 million zl
  - Take over 11 technologists from production technology department
  - Lay off 30% of workforce, savings per month approximately 200 million zlotys

MANUFACTURING

Department W3 (Welding) & W4 (Assembly, painting and testing)

Buildings #3, #4, #5, #100 and part of #58



BUMAR–FABLOK

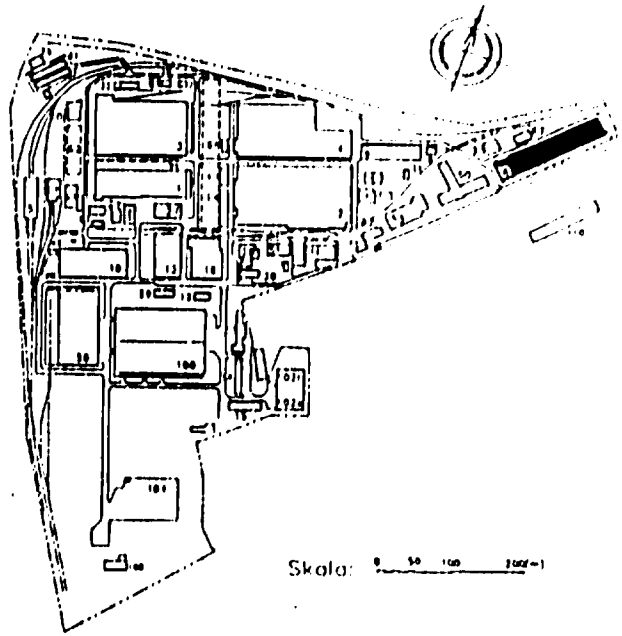
- **Situation**
  - Total: 374 employees
  - Direct labour: 294
  - Indirect labour: 63
  - Management and technologists: 17
  - Total cost per month: 1,166 million zlotys
- **Weaknesses**
  - Loss of qualified welders to competitive employer "Energokam" because of double salaries

- **Recommendations**
  - Classify core skills and monitor development
  - Take over 8 technologists from production technology department
  - Lay off 30% of work force, savings per month approximately 350 million zlotys

MANUFACTURING

Department W5 (Brake Department)

Building #6



BUMAR--FABLOK

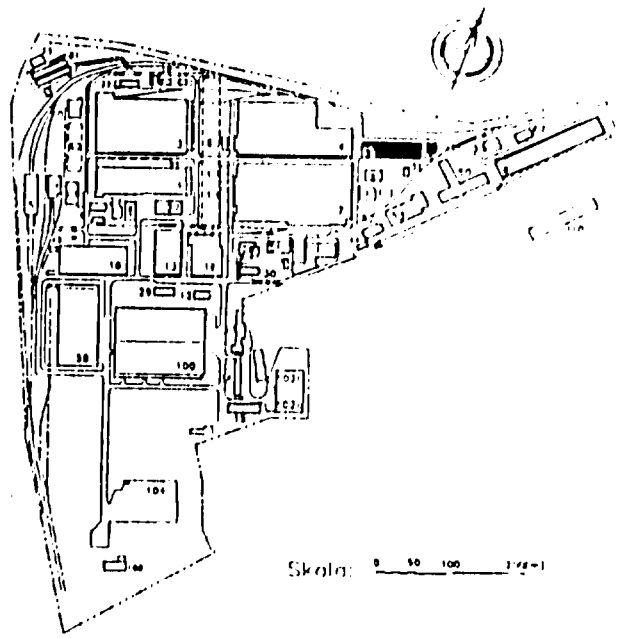
- **Situation**
  - Total: 124 employees
  - Labour: 117 employees
  - Management and technologists: 7
  - Total cost per month: 360 million zl
- **Weaknesses**
  - Too low utilisation for brake system manufacture, approximately 10%

- **Recommendation**
  - Close down manufacture immediatly
  - Keep management, technologists and key workforce
  - Lay off immediatly unskilled workforce, 100 employees, saved costs per month approximately 280 million zl
  - Lay off rest of workforce mid 1992 if joint venture with SAB-WABCO or other company to re-equip PKP rolling stock is not agreed, savings per month; approximatly 50 million zlotys

MANUFACTURING

Department TN (Tool Manufacturing)

Building #9 and #10



BUMAR--FABLOK

- **Situation**
  - Total: 118 employees
  - Labour: 100 employees
  - Management and technologists 18
  - Total cost per month: 194 million zl
- **Weaknesses**
  - Inefficient, can be replaced by purchase of standard tools

- **Recommendation**
  - Lay off immediatly 30% (36 employees) of workforce, savings estimated at 66 million zlotys
  - Organisation of tool sourcing group (5 employees) within Supply department (PZ), based on management, technologists and procurement staff from Tool department
  - Set objectives and train staff
  - Lay off 50% of staff (36 employees) when tool sourcing group has been operating for one month, savings per month; approximatly 66 million zlotys
  - Lay off rest of tool manufacture staff (c. 30 employees) when tool sourcing group has been operating for six months, savings c. 50 million zlotys per month
  - Retain c. 10 of labour force, one foreman and one technologist for service and maintanence

WAREHOUSING/INVENTORY CONTROL (AM), PRODUCTION PLANNING (PP) AND SUPPLY (PZ)

- **Situation**
  - Warehousing/inventory control department (AM) is under the control of the administrative manager
  - Total staff: 110 employees
  - Total cost: 263 million zl per month
  - Break down
    - Warehousing/inventory control department (AM): 47 employees
    - Supply department (PZ): 38 employees
    - Production planning department (PP): 25 employees
  - Outdated, slow and labour consuming manual record systems and order procedures
  - Oversized for current level of activity
- **Recommendations**
  - Lay off 30% of staff because of current level of activity, savings approximately 80 million zl per month
  - Simplify inventory control, production planning and ordering systems through minimising number of reports
  - Introduce computer based inventory control, production planning and ordering routines
  - Lay off 40% of staff when computer system is introduced because of decreased workload, estimated savings per month approximately 80 milllion zl

PRODUCT DEVELOPMENT

- **Situation**
  - Under control of the marketing director
  - Total staff: 98 employees
  - Total salary cost: 278 million zl per month
  - Break down
    - Production technology department (RT): 55 employees
    - Design department (RK): 39 employees
    - Safety and environmental department (RB): 4 employees
- **Weaknesses**
  - Safety and environment does not fit in well here
  - Most staff are support to productive departments and should not belong to Product Development
  - No real design or engineering skills
  - Oversized

- **Recommendations**
  - Remove Safety and Environment department to the control of the quality manager
  - Remove Design department to the control of the production director, lay off 11 employees, savings approximatly 30 million zl per month
  - Break up Production Technology department, remove staff to productive departments, lay off 14 employees, savings estimated at 40 million zl per month
  - Keep development manager and production technology manager to interface with marketing function
  - Recruit senior engineer to interface with the marketing managers on engineering
  - Job specification:
    - Agreeing product specifications with client
    - Producing specifications
    - Laying down standards
    - Providing engineering solutions to all technical problems
    - Agreeing to unplanned changes and when necessary seeking client approval or expert help

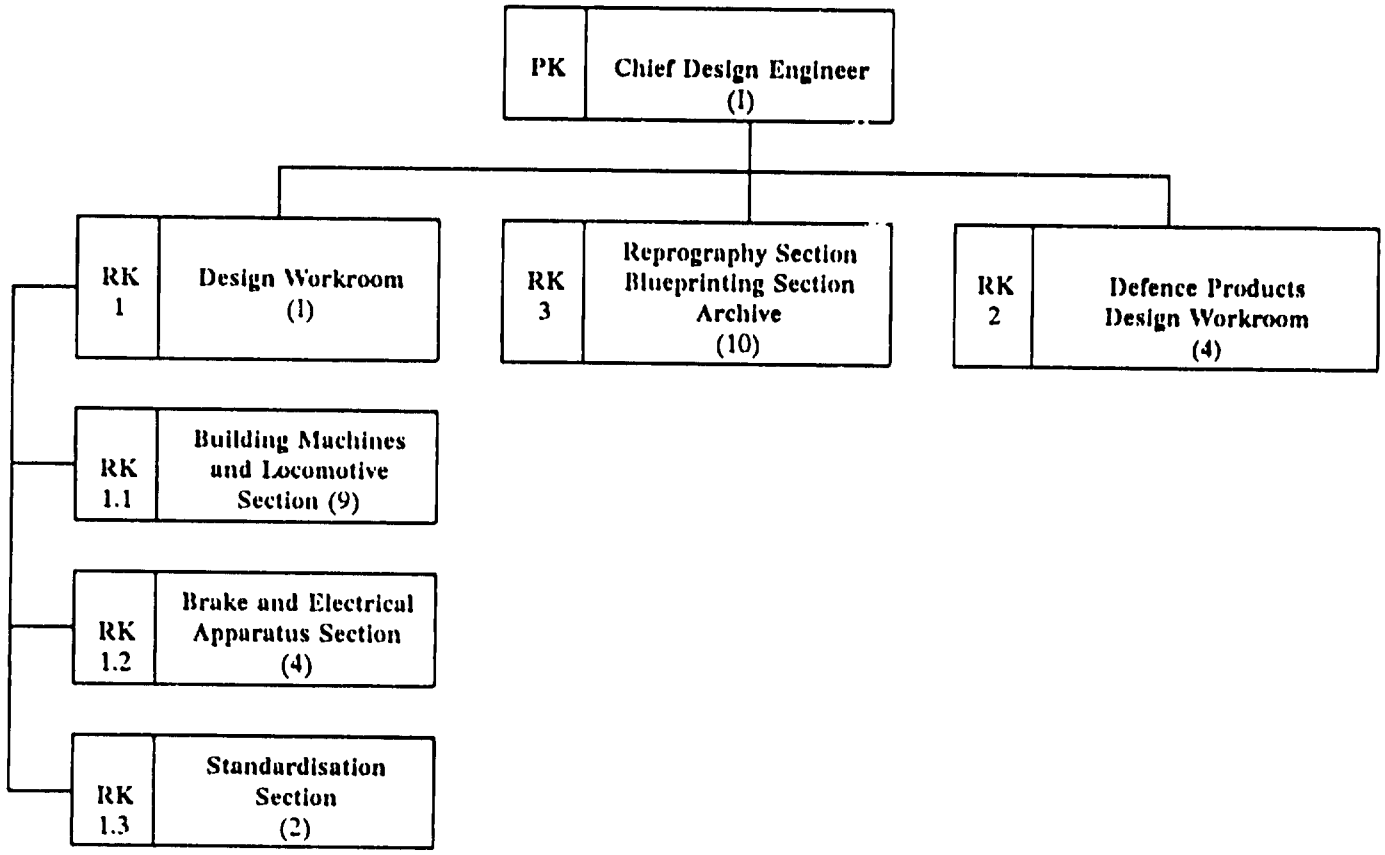
DESIGN DEPARTMENT (RK)

- **Situation**
  - total 31 employees
  - breakdown:
    - management: 2
    - cranes and locomotive section: 9
    - brake and electric apparatus section: 4
    - standardisation section: 2
    - archive, blueprinting section: 10
    - defence products: 4
  - Function is to administrate, control and interpret technical specifications provided by external designs
- **Weaknesses**
  - No real design abilities
  - No need for design in defence products
  - Lack of skill in construction (transport platforms)
  - Poor skill base in engineering (ie gears, wheels and axles)
  - Oversized in some areas

DESIGN DEPARTMENT

Current Organisation

Number of staff in brackets



- **Recommendations**

  - Create construction section, transfer chief welding engineer and senior welding engineers (2) from process engineering department (department RT)

  - Create engineering section, recruit machining engineer from the process engineering department. Recruit also gear transmission engineer from building machines and locomotives section

  - Divide building machine and locomotive sections into a crane section and a rail section

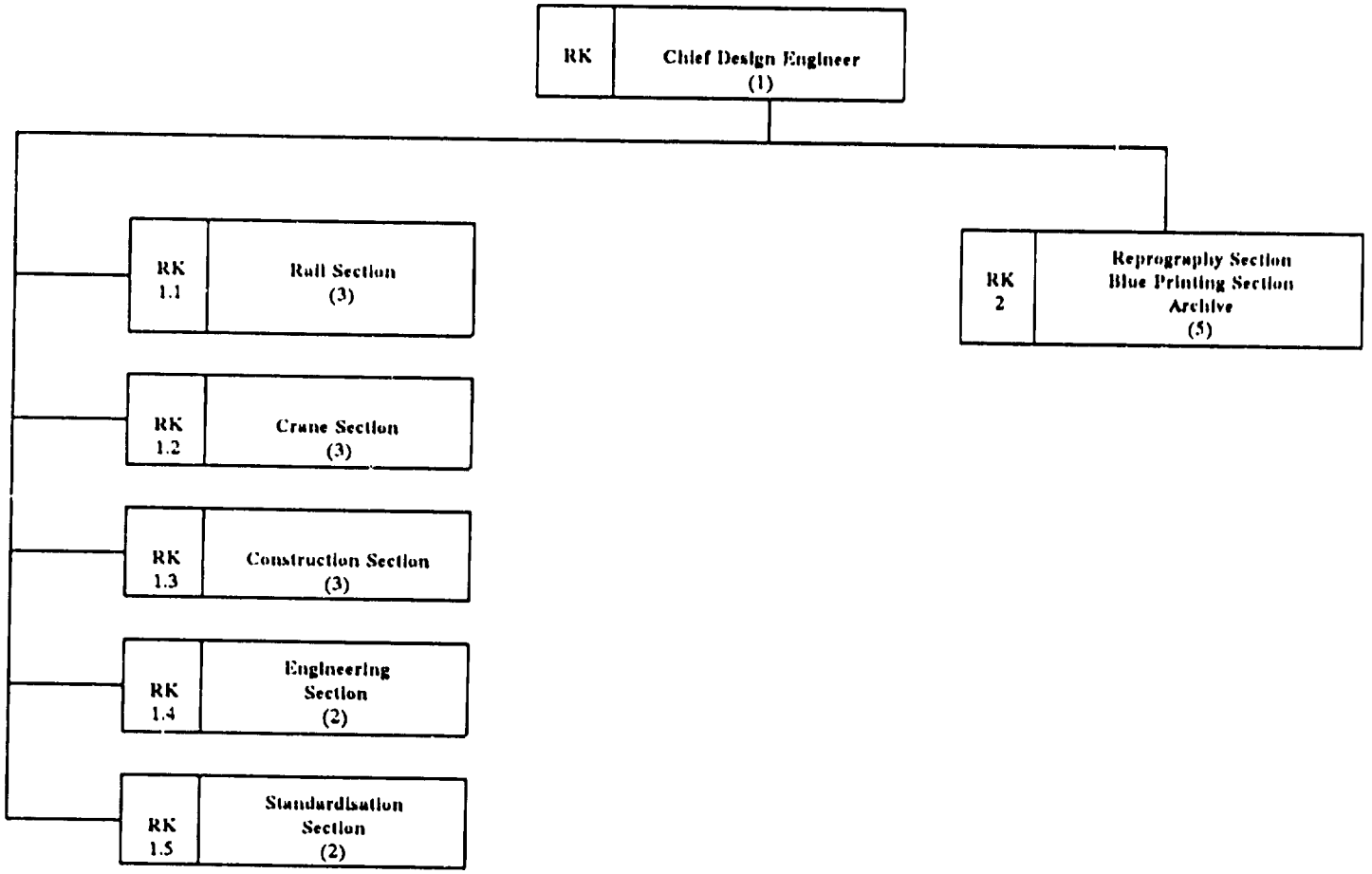
  - Recommended lay offs:

    - Workroom chief (1)
    - Crane and chassis designer engineer (1)
    - Crane and chassis designer (1)
    - Design area specialist (5)
    - Defence design staff (4)
    - Archive staff (5)

  - Total staff in recommended organisation 19

DESIGN DEPARTMENT

Proposed Organisation - Number of staff in brackets



PRODUCTION TECHNOLOGY DEPARTMENT

- **Situation**
  - Total staff: 49 employees
  - Under control of development manager
- **Weaknesses**
  - Staff should be allocated to productive departments
  - Oversized
- **Recommendations**
  - Run down department, allocate and lay off staff
  - Keep the chief process engineer and economist as advisors to the product development manager
  - Recommended transfers to Forge (W1)
    - Rate fixer and time calculator (1)
    - Material quantity calculator (1)
    - Technical area specialist (1)

- Recommended transfers to Engineering department (W2)

  - Junior machining process engineers (2)
  - Machining engineers (2)
  - NC machine tool programmers (4)
  - Rate fixer and time calculator (1)
  - Material quantity calculator (1)
  - Technical area specialist (1)

- Recommended transfers to Construction department (W3)

  - Chief welding engineer (1)
  - Senior welding engineer (1)
  - Welded constructions process engineer (1)
  - Senior jig and fixtures engineer (1)
  - Jig and fixtures designer (1)
  - Rate fixer and time calculator (1)
  - Material quantity calculator (1)
  - Technical area specialist (1)

- Recommended transfers to Assembly department (W4)

  - Assembly engineer (1)
  - Rate fixer and time calculator (1)
  - Technical area specialist (1)

- Recommended transfers to Brake department (W5)

  - Rate fixer and time calculator (1)
  - Material quantity calculator (1)
  - Technical area specialist (1)

- Transfer computer service to maintanence department

- Recommended lay offs

  - Total layoffs: 14
  - Chief of process engineering workroom (1)
  - Section chiefs (3)
  - Junior machining process engineers (2)
  - Machining engineers (2)
  - Senior production engineers (3)
  - Chemical technology engineer (1)
  - Librarian (1)
  - Work stand specialist (1)

ECONOMICS AND FINANCE DEPARTMENT

Managed by V-Director for Economic and Financial Matters, Mr Burakowski, comprises 3 divisions

- Economic
- Administration
- Accounting

Responsibilities:

Economic Division:

- economic analyses
- pricing policy
- employment, payroll and personnel promotion policy
- payroll system
- internal audit and stock-taking

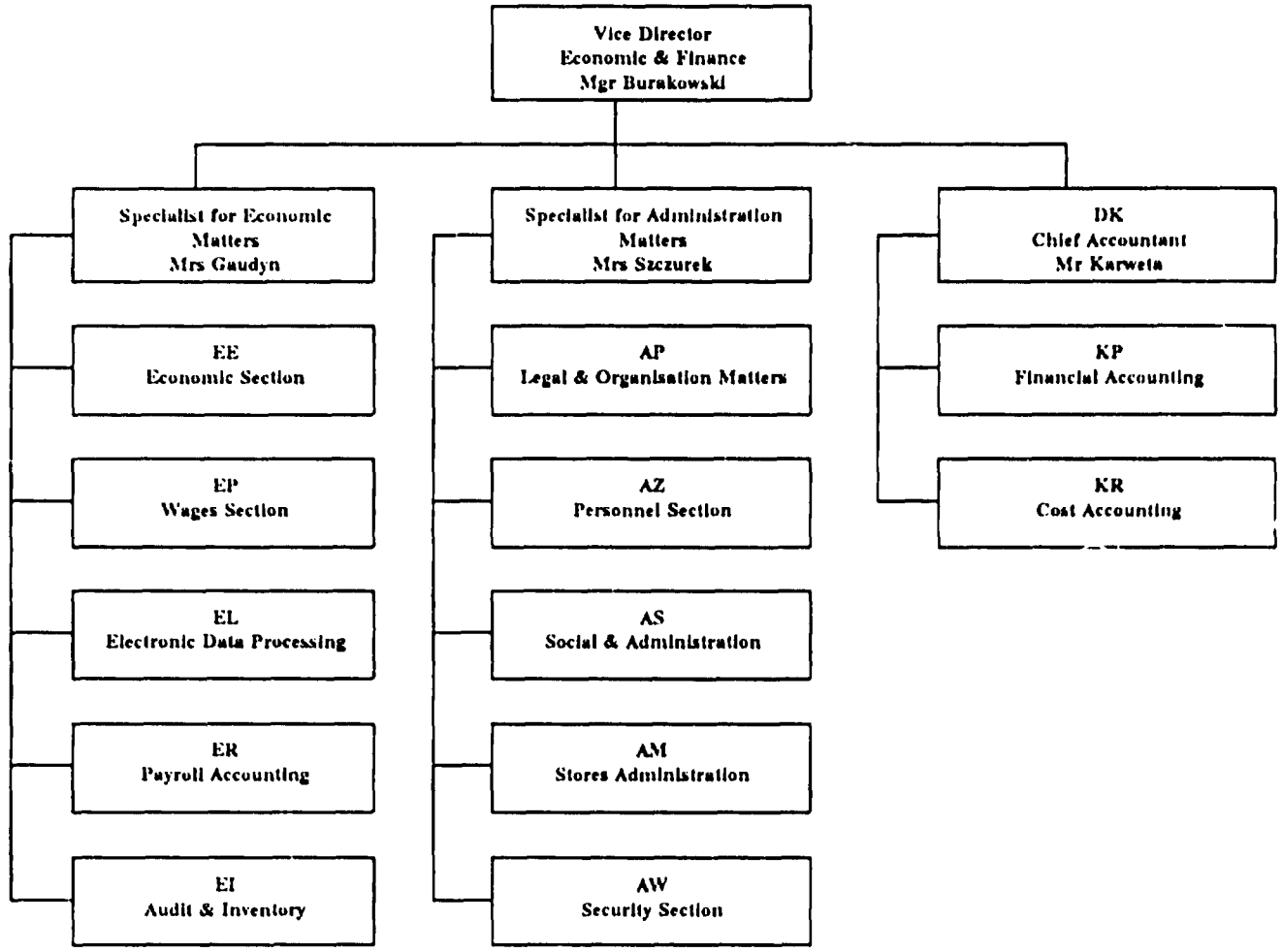
Administration Division:

- legal and administrative matters
- employment and training matters
- social matters and social facilities supervision
- stores and inventory matters
- security system

Accounting Division

- accountancy and book-keeping
- settlement of accounts and financial matters
- cost accounting

Current Organisation



Staff and Personnel Expenses

	Economic	Administration	Accounting
Staff:			
Division Manager	1	1	1
Section Manager	4	4	2
Unit Manager	2	6	2
Accountants	8		28
Specialists	12	6	
Clerks	17	22	
Manual Workers	3	84	
	47	123	33
Personnel Expenses (thousand zl/month)	127,476	384,897	88,199
TOTAL STAFF: 203			
Personnel expenses: 600,572 (thousand zl/month) (including insurance and tax expense)			

Key Problems

- overstaffing and functional overlapping
- inefficient data processing system
- vague definition of responsibilities
- mixture of functions under one division

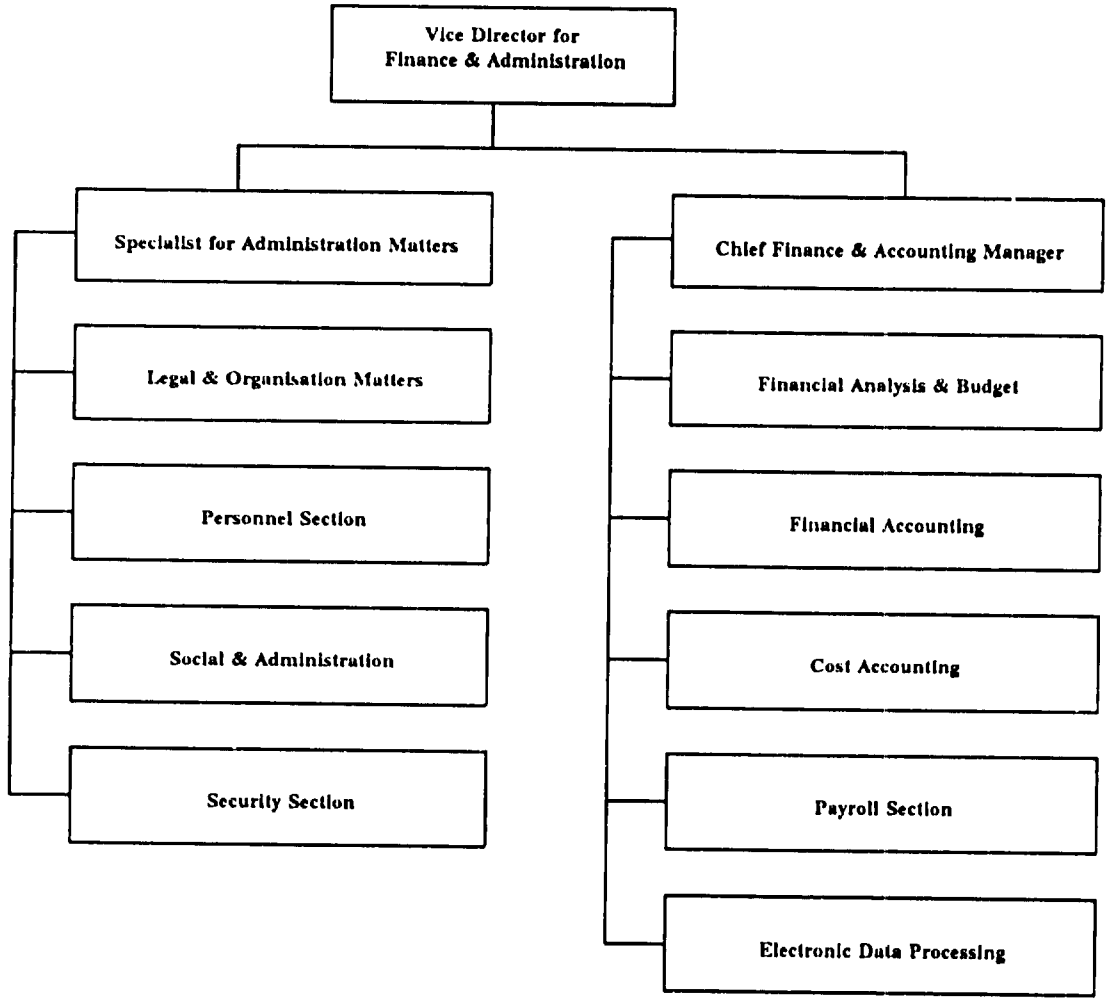
Recommendations

- strengthening of financial functions
  - adding financial analyses and management information functions to the accounting division
  - installation of proper accounting system
- secure functional support by electronic data processing
- secure functional staff levels (reductions)
- carry out organisational changes

Proposed organisational changes

- add financial management responsibilities to the Chief-Accountant position, ie create CFO (Chief Financial Officer) position, with responsibilities for financial analysis and participation in decision-making
- transfer of Economic Section, partially reduced, to Finance/accounting division; reduction concerns pricing group, since work of that group will be done by cost accounting and marketing sections
- transfer of EDP equipment to the end-users, ie to accounting and payroll sections and store-keepers
- liquidation of Wages Section; employee remuneration policy is under responsibility of Personnel Section
- transfer of payroll accounting to Finance/Accounting division with reduction of staff levels when computer payroll system properly installed
- liquidation of Audit and Stock-taking Section, as overlapping accounting functions
- reduction of staff levels in Social-Administration Section due to reduced work load
- reduction of staff levels in other administration sections
- transfer of specialist for economic matters in effect of liquidation of Economic division
- transfer of Stores Administration to the Production Division

Proposed Organisation

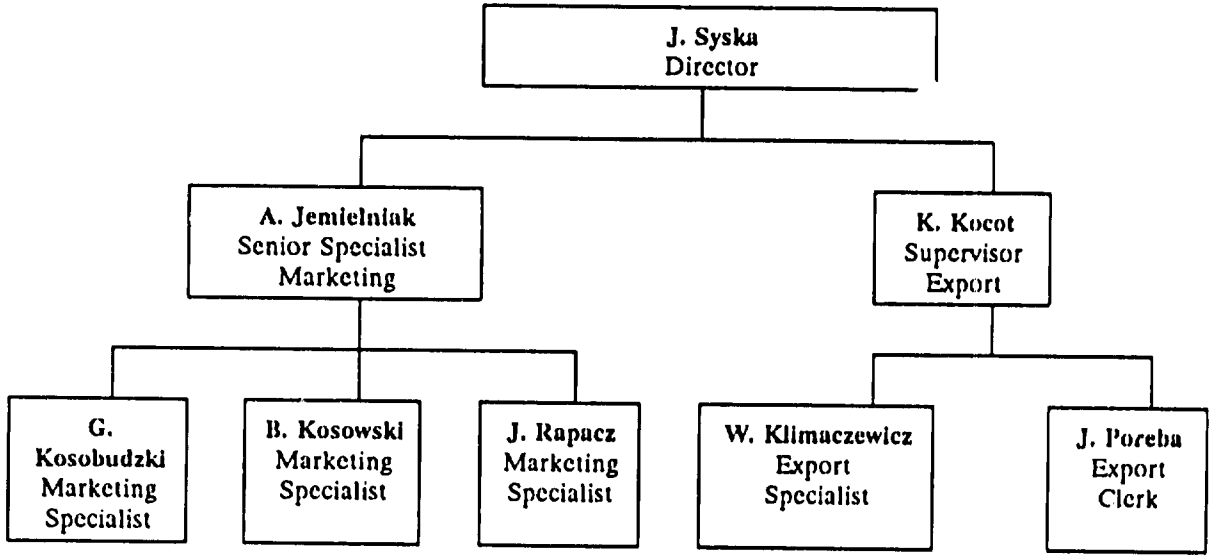


Proposed Staff Reduction

Section:	No	Cost Reduction/Month (thousand zl)
Economic Section	5	12,768
EDP	10	21,817
Wages Section	4	12,056
Payroll Accounting	6	16,641
Audit and Stock-taking	4	8,919
Social Administration	30	57,622
Administration Division	5	12,587
	64	142,410

MARKETING DEPARTMENT

- 8 staff including director and senior specialist
- Age profile mid twenties to late fifties
- No independent budget allocation



Weaknesses

- Process led structure which has no relevance to the customer
- Very much an administrative unit looking after the "paperwork" and technicalities of sales and marketing
- No specialist staff or internal/external training programme
- No incentive schemes and very low salary levels averaging some 1.5 million zlotys (national average c. 1.8 million zlotys)
- The current organisational structure is unlikely to meet the challenge of the new Polish market and requires modification
- No independent budget, therefore cannot develop marketing strategy and implement it

Results

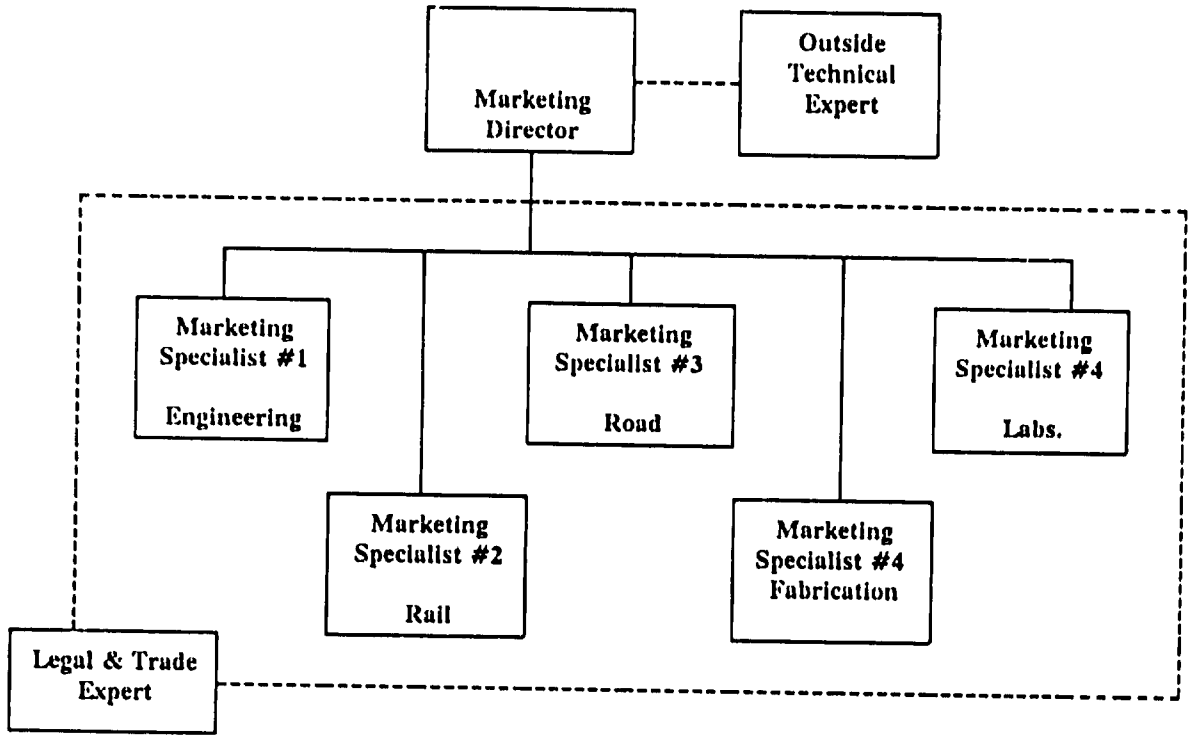
The negative effects of this organisational structure and policies include:

- difficulty for marketing specialists/salesman to focus upon one market segment, ie engineering products, and benefit from deeper market and product knowledge
- problems with creating accountability for positive as well as poor performance
- difficulty with planning marketing activities where no budget allocation is made
- unnecessarily high level of clerical work which could be performed by the finance department
- low skills levels and few opportunities for staff development
- poor morale and motivation

Recommendations

There is a desperate short term need for restructuring. Fablok has lost its traditional markets and is unable to accurately identify or enter new ones. A priority goal must be to gain the skills needed to effectively target markets and customers and be in a position to exploit such information.

In the short term we suggest a restructuring of the marketing department as below:



Interface with economic/finance department.

The new structure allows closer specialisation and accountability by each marketing specialist with legal and trade expertise cover available to all. Overall guidance of the department is maintained by the marketing director who is supported by an outside technical expert. Financial, administrative and statistical tasks should be transferred to the economic/finance department. It is, however, critical that close co-operation exists, possibly via the legal and trade expert, and that consequently, suitable information is produced by the finance department.

In addition to this new structure there will be a need for:

- Marketing and language training particulary for persons dealing with potential export products such as engineering and road. Ideally the incumbents of these positions will speak good English and possibly German. This will give better openings for Fablok in Western markets.

- An incentive scheme allowing attractive bonuses and commissions to be paid for new ideas which benefit Fablok as well as sales achievements. To be successful, any bonus scheme must be based upon highly objective criteria such as net economic effect for Fablok.

- A market planning/new product development manager. In the short term this function will be carried out by the marketing director/technical adviser team.

- Implement a budget for marketing and sales with targets for the department as a whole.

In the longer term, as divisionalisation begins, we would expect the Divisions Director role (see Section VII) to be taken on by the former marketing director; the marketing specialist functions would remain unchanged.

Note: This is an area where staff reductions are not recommended.

SECTION VII

Medium to Long Term Restructuring Programme

MEDIUM TO LONG TERM RESTRUCTURING PROGRAMME

INTRODUCTION

- The smaller, more focused enterprise created from the short term restructuring has the following objectives:
  - Identify suitable new markets
  - Develop products suitable to those markets
  - Sell those products into those markets and establish a brand image
  - Restrict costs
- The most suitable means of achieving these objectives is through the adoption of a divisional structure

DIVISIONAL STRUCTURE

- It is proposed that Fablok be subdivided into five divisions as follows:

  - Fablok Road

    Car Transporters
    Cranes

  - Fablok Rail

    Locomotives
    Brakes

  - Fablok Engineering

    Gear Boxes
    Gear Wheels
    Axles and Wheels

  - Fablok Fabrication

    All fabrication work

  - Fablok Laboratories

    All laboratory and testing work

- The divisionalisation of Fablok would be a four stage process:
  - Stage I : Profit Centres
  - Stage II : Manufacturing Units
  - Stage III : Independent Units
  - Stage IV : Legal Entities
- The stages are described more fully in the following pages
- Embarking on divisionalisation by the adoption of Stage I does not make the move to Stage IV inevitable. Management may curtail the divisionalisation process at any intermediate stage they believe is appropriate. The four stages are described here for the sake of completeness

Stage I : Profit Centres

- Each of the divisions defined above would be created as profit centres
- Each profit centre would be responsible for managing a predefined range of products
- Sales would be allocated to profit centres based on the product range for which the centre is responsible
- Manufacturing units would remain under a single management control but would be divided into a number of cost centres (for suggested cost centres see later section on proposed costing systems). Costs would be allocated to products and so through to profit centres
- Administration units, with the exception of marketing, would remain under a single management control. Costs would be allocated to profit centres according to predetermined formulae
- Each profit centre would have a dedicated marketing department

Stage II : Manufacturing Units

- The various manufacturing units retained by Fablok would be assigned to, and managed by, the profit centre whose products dominate that production unit
- Work could still be carried out for other profit centres but the owning profit centre would make a charge for such work
- Administrative units would remain under a single management control and perform services for all the profit centres. Costs would be allocated to profit centres in the same way as in Stage I

Stage III : Independent Units

- The profit centres would become stand alone business units
- Each business unit would perform the full range of operating and administrative functions on an individual basis. In particular the units would be fully self accounting
- Overall control would be exercised by a central management unit whose main responsibilities would include:
    - Development of long term strategy
    - Development and enforcement of policy
    - Consolidation of accounts
    - Target setting and performance measurement
- It is possible that the central unit would also retain control over a range of functions such as:
    - Personnel
    - Treasury
    - Information Technology
    - Security

Stage IV : Legal Entities

- The final stage would be the establishment of the business units as separate legal entities
- Such entities may be entirely independent or controlled through some form of holding company structure

Advantages of Divisionalisation

- Better management focus

  Under the present structure managers must have knowledge of the enterprise's entire product range. They are unable to specialise in any one area. The benefit of such specialisation will be felt most quickly in marketing. Marketing personnel will be allowed the opportunity to become fully familiar with narrowly focused markets and thus offer a truly market oriented product range. Since this is also the area in need of greatest improvement we consider this a major advantage

- Better performance measurement

  By creating profit centres and later manufacturing units, it is possible to measure the performance of individual parts of the business. Management can identify cases of cross subsidisation and can see which areas are expanding and which are in decline. In this way rational decisions can be taken about future production to ensure the optimum usage of resources.

- Better staff motivation

  Assigning staff to divisions and measuring the performance of those divisions will improve the performance of the staff. It is possible to introduce competition, in terms of performance, between the divisions further enhancing staff motivation. Remuneration can be heavily weighted towards divisional performance

- Simpler management structure

  The larger an enterprise and the greater its product range the more difficult it is to manage. Since skilled management is, and will continue to be for some time, a scarce resource in Poland this is a disadvantage. Divisionalisation breaks the enterprise down into smaller units which are, in consequence, easier to manage. Management resources can be concentrated in areas of greatest need

- Improved joint venture prospects

  It is unlikely that any joint venture partner can be found for the entire enterprise. Prospective partners interested in only a part of Fablok's production are likely to be deterred by the part that interests them being inextricably linked with the remainder of the enterprise. Dividing the enterprise into divisions enhances the possibility of finding different partners for the various divisions

STAGE I : DETAILED PROGRAMME

- At this stage it is only possible to provide a detailed description of Stage I of the divisionalisation process. The detail of later stages will depend upon developments in the first stage

- This section of the report therefore sets out our proposals for this initial stage in the divisionalisation of Fablok. It is presented under the following headings:

  - Organisation
  - Production
  - Marketing
  - Systems
  - Financial Performance Forecasts
  - Implementation Programme

Organisation

- An organisation chart for the proposed structure is given below. The enterprise would be headed by a Managing Director. Reporting to him would be:
    - Production Director
    - Finance & Administration Director
    - Divisions Director

Production Director

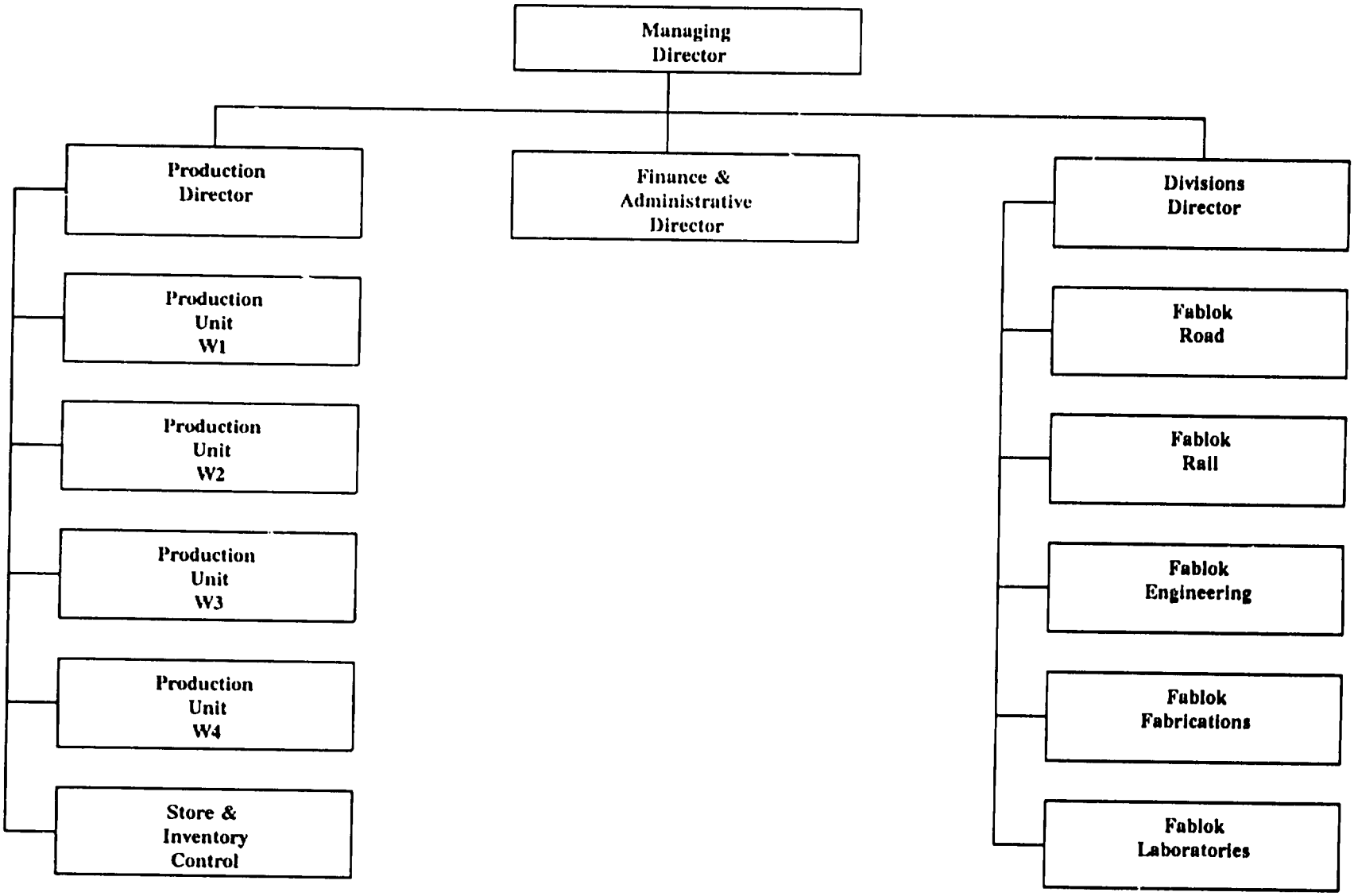
- Would be responsible for the four production units remaining in operation in the new structure
- Additionally all stores functions would report to this director
- Reporting to the position would be a manager for each production unit and a stores and inventory supervisor
- Production planning would report directly to the Production Director

Finance & Administration Director

- Would be responsible for all financial aspects of the business, incorporating a rationalised version of the existing Finance and Accounting functions
- Would be primarily responsible for personnel issues but would also take responsibility for all remaining administration functions, for example security
- The purchasing function would be part of this director's responsibility

Bumar Fablok

Proposed Organisation - Stage 1



- In these initial phases of restructuring the information technology function would remain under the responsibility of the Finance Director

isions Director

- It would be possible to have the head of each division reporting directly to the Managing Director. However this is considered unwise in the initial phases of divisionalisation because:
    - the size of the functions do not merit such a position; and
    - the span of control for the Managing Director would be too great in a period of rapid and fundamental change in the organisation
- Rather each division would be headed by a manager reporting to the Divisions Director
- The proposed organisation structure for the Division Director function is given below. It is not expected that any more than ten persons including secretarial and other support staff would be employed in any one division in the initial stages of divisionalisation. Reporting to the division manager would be three functions:
    - Marketing
    - Sales
    - Business Planning

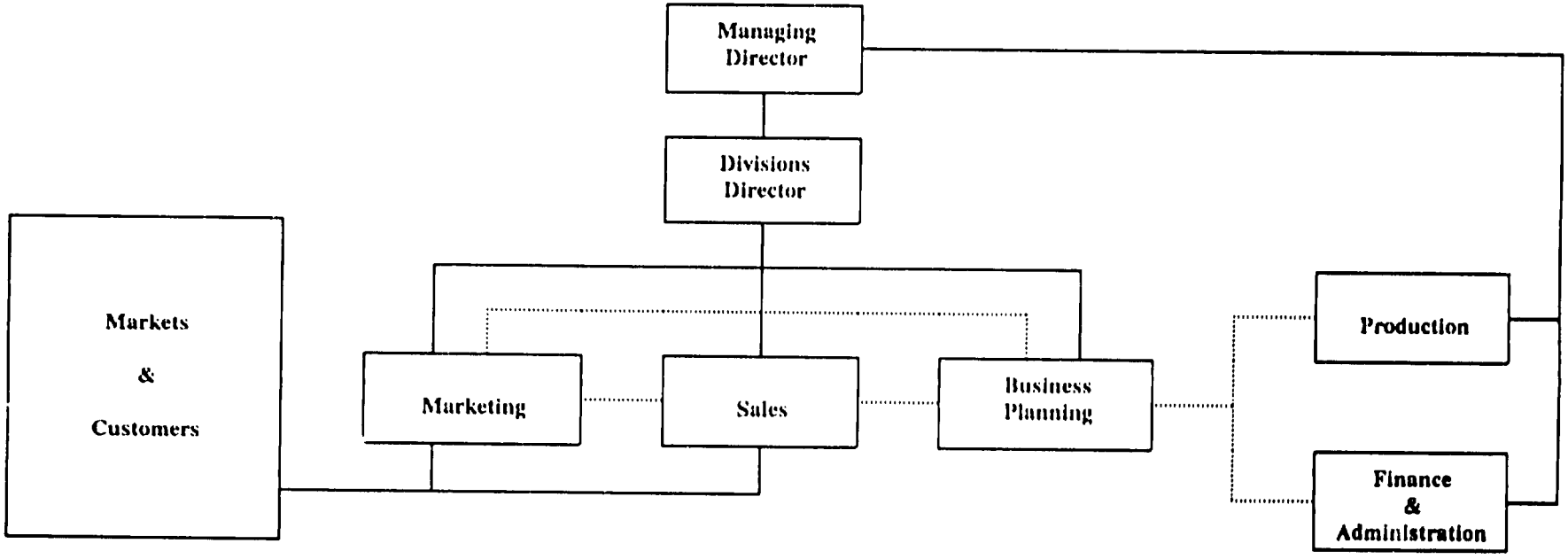
Marketing

- The divisional marketing organisation would be responsible for identifying suitable markets for the divisions products and working with the production function and design houses to develop optimum marketing mix for those markets

Bumar Fablok

Divisions Director

Proposed Organisation



line of control

working relationship

Sales

- Sales would be responsible for selling into the markets and maintenance of after sales service levels

Business Planning

- Business Planning would have two primary roles:
    - Liaison between the divisions sales and marketing teams and the production and administrative functions of the remainder of the enterprise
    - Measuring the performance of the division
- In the former role responsibility would be for arranging with production planners to turn sales orders into products and then monitoring progress in the production units
- The latter role would involve the development of performance measures exclusively for the division. Although a minor role in the initial stages of divisionalisation it represents the first stage in the move towards divisions becoming self accounting

Production

Concentrate on Core Activities

Brake Department

- Close down brake manufacture immediatly
- Lay off unskilled workforce, 100 employees, savings approximatly 28 million zlotys per month
- Remove machines and equipment which are needed for other production to machine shop 2
- Maintain facilities and equipment, keep key workforce until latest mid 1992 or until joint venture with SAB-WABCO or other company to re-equip PKP rolling stock is agreed
- Lay off rest of workforce if joint venture is not decided before mid 1992, savings of approximately 80 million zlotys per month
- Stop all maintanence activities
- Sale or lease of equipment and facilities

Tool Department

- Lay off 30% (36 emloyees) of staff due to low level of activity: savings approximately 66 million zlotys per month
- Create tool sourcing group whithin Supplies department (PZ) of 5 employees from tool department
- Set objectives and train staff
- Start replacing current tools manufactured by Fablok with tools manufactured by a specialist tool manufacturer

- Lay off 50% (36 employees) of staff when tool sourcing group has been operating for one month, savings of approximately 66 million zlotys per month
- Lay off rest of tool manufacture staff (30 employees) when tool sourcing group has been operating for six months, savings approximately 50,000 zlotys per month
- Retain labour force of 10 plus 1 foreman and 1 technologist for service and maintanence
- Remove equipment necessesary for maintanence to Workshop 2
- Prepare buildings 9 and 10 for sale or lease

Electroplating Plant

- Remove technological specialist to supply department (PZ)
- Create electroplating sourcing team with one purchaser
- Search for alternative sources and methods
- Lay off labour, 8 employees, six months after creation of electroplating sourcing team, savings per month of approximately 20 million zlotys
- Close down

Concentrate Operations in Smaller Area/Fewer Facilities

Building No 100

- Remove 1 degrease cell, 1 shot blast cell and 1 paint cell to Assembly shop, (No 4)
- Remove all other activities
- Prepare for sale or lease

Building 58

- Remove heat treatment to Forge (No 1)
- Remove light construction work to Welding shop (No 3)
- Remove all other activities
- Prepare for lease or sell

Development of Overhead Activities

Warehousing/inventory control (AM), production planning (PP) and supply (PZ)

- Move AM to be under the control of the Production Director
- Layoff 30% of staff because of current level of activity, savings approximately 80 million zlotys per month
- Simplify inventory control, production planning and ordering system through minimising number of reports
- Introduce computer based inventory control, production planning and ordering routines
- Lay off 40% of staff because of decreased workload when computer system is operating, savings per month approximately 80 million zlotys

Product Development

- Transfer Safety and Environment Department (RB) to the control of the Quality Manager
- Transfer Design Department to the control of the Production Director. Lay off 11 employees, savings approximately 30 million zlotys per month
- Brake up Production technology department, remove staff to productive departments, lay off 14 employees, savings per month approximately 40 million zlotys
- Keep Development Manager and Production technology manager to interface with the divisional marketing functions
- Recruit senior engineer to interface with the divisional marketing functions on engineering

Quality and Methodology Improvements

ISO 9000

- Develop strategy for implementation (use outside expert assistance)
- Recruit experienced project leader on consultancy basis

Locomotive

- Stop all improvement activities, if any, since projected sales do not justyfy investments in product or methodolygy development

Crane

- Introduce shot-blasting of cab prior to painting
- Improve window seals to prevent leaking in of water
- Evaluate cost and possible timescale for changing to fiberglass cab

Transport Platform

- Introduce control routine to ensure that shotblasting is undertaken prior to painting
- Carry out value engineering in order to simplfy construction work and improve product (for example steel skin with pattern to make platform less slippery)

Gear Wheels

- Introduce, immediatly, simple wood protection for finished goods
- Search for polystyrene protection units
- Invest in grinding machine for helicol teeth wheels in 1993, if funds are then available

Wheels and Axles

- Converting, immediatly, material specification to ensure compatability with internationally approved standards
- Introduce 100% reception control of steel
- Search for new/better steel supplier

Fabrication

- Introduce shot blasting prior to welding

Forge

- Evaluate where casting can replace forging

Sales & Marketing

Sales

- A short term priority is to use C&L's market analysis data and sales leads (see below) to maximise sales in the short term. Sales staff should be fully aware of the aged debtor situation.
- Young and dynamic staff whose skills match the needs of the relevant market as closely as possible (ie language, technical expertise, etc) and who are likely to easily absorb sales training should immediately be recruited. They must be incentivised by an objective commissions system.
- Close rapport should be developed between the sales and marketing functions allowing new market information gained by sales representatives to quickly be passed on.
- Customer database to be implemented containing all available information on Fablok's customer in the relevant market and file notes from all customer meetings. This will be invaluable in future years.
- Co-operation with finance and marketing department to produce meaningful sales statistics by product, market and customer type showing weekly or **at least** monthly trends.
- Increased co-operation with the finance department is advised to ensure that, at least, variable costs are being covered.
- Access to a legal/trade, expert is essential to ensure a reduction in bad and doubtful debts.

Marketing

Data collected by Coopers & Lybrand should be used rapidly and effectively to develop appropriate marketing strategies. Concurrently efforts must be made to build upon and continue market analysis internally. Broadly speaking, the marketing managers must:

- Co-operate with senior management to reconcile corporate objectives such as increased revenues or, as currently, cash flow with the results of their market analysis to develop market specific strategies within a pre-allocated budget
- Within the strategy for a given market, aim to meet objectives with the optimal marketing mix (see below). Close liaison with the finance production and sales functions is required here

To be successful, marketing must be an integrated process involving:

- Creation of the appropriate PRODUCT fitting in with corporate goals.
- Calculation of the necessary PRICE to achieve corporate goals.
- Select appropriate PROMOTIONAL activity to sell the products/enhance corporate image.
- Decide upon the right PLACE in which to sell the product, ie distribution planning.

It is PROMOTION which currently presents most problems for Fablok and it is this which will be dealt with here.

Any coherent and integrated planning process aiming for successful promotional planning requires a planned process such as the one above. The key steps in this process are:

(1) Decide, whether the aim of the activity is to increase demand for products or to enhance the image of the company. The former is probably most important for Fablok in the short term although the latter will play an increasingly important role as time goes on.

(2) Clearly define the target audience, looking at who they are and how they behave.

(3) Use knowledge gained in step (2) to formulate the most appropriate message for this group.

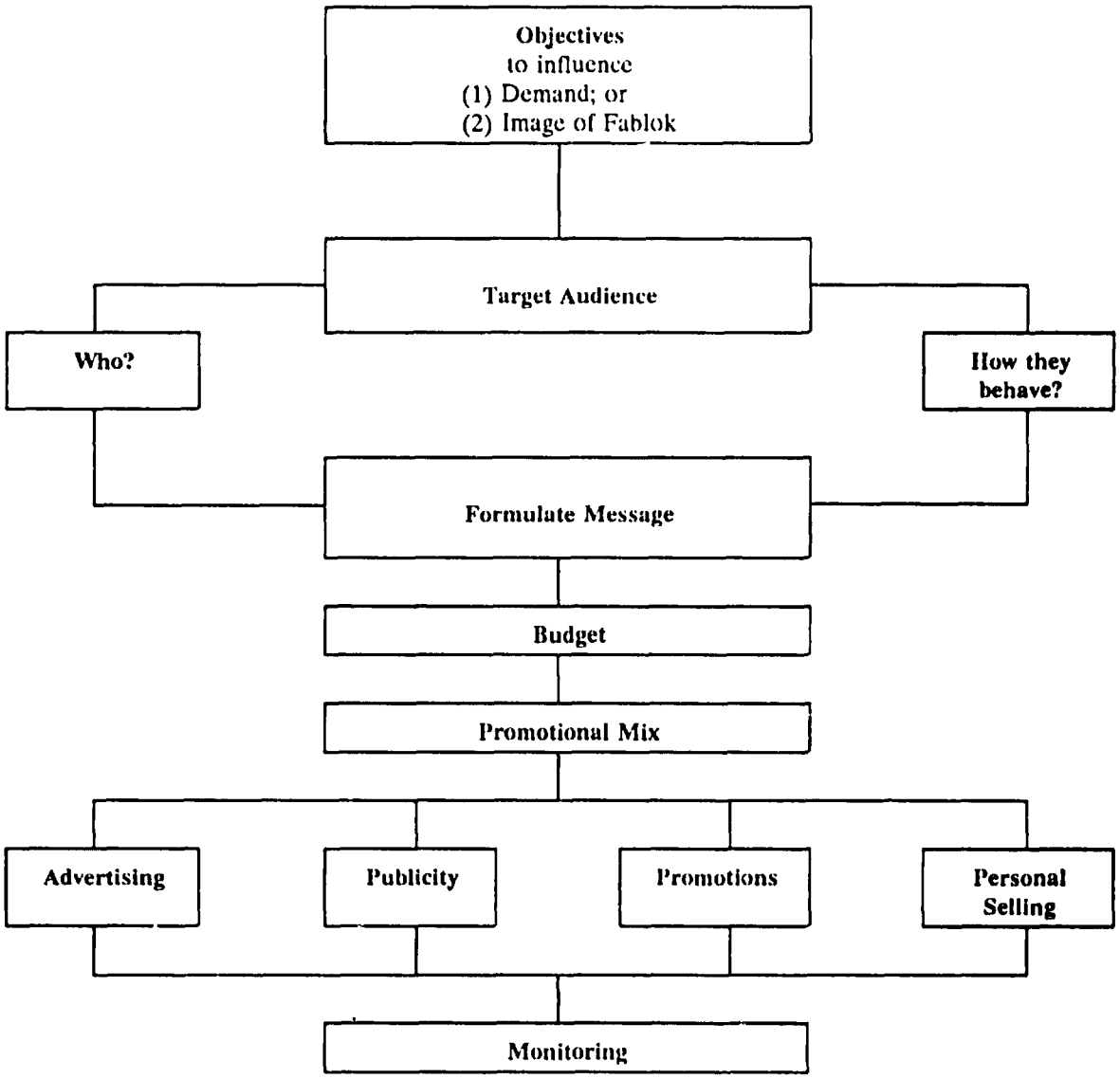
(4) Set a budget for promotional activity **consistent with corporate goals** and available funds.

(5) Select the appropriate promotional mix (see next section) choosing between:

- Advertising
- Publicity
- Promotion
- Personal selling

(6) Monitor effects of promotional activity and **adjust strategy** as appropriate.

FABLOK PROMOTIONAL PLANNING



Promotional Mix

Advertising

Any paid non-personal presentation of a product or idea.

Example: T.V., radio, press advertising, direct mail, direct response.

Generally: large audience and low cost per person, good control over content, presentation, timing.

Key Types

(1) Informative - raises awareness of product or company especially for a new product.

(2) Persuasive - creates desire (usually for "mature" products).

(3) Reminding - reminds of product and reinforces its benefits.

For technically complex products direct response is attractive; customer shows an interest and is then provided with full information/sales call.

Looking at some important factors which affect advertising:

(1) Cost - TV is best for very large numbers in target audience although high base cost, per capita cost is low.

(2) Waste - greatest risk with TV; magazines and direct mail can be better targeted.

(3) Regularity - ie national paper advertisements can be altered daily but outside advertisements ie Billboard only occasionally.

(4) Permanence - TV is low as only seconds/minutes are available; magazine advertisement stays until its thrown away.

(5) Persuasive Impact - TV typically has highest persuasive impact due to combination of audio and visual images.

(6) Clutter - number of adverts presented together, TV and newspapers are most affected in Poland.

(7) Leadtime - newspaper probably shortest, TV somewhat longer

A trade off exists between cost, frequency and reach which should be carefully balanced.

Publicity (and PR)

Usually non-personal and non-paid

Features: - higher credibility (quasi/independent)
- harder to implement and control

Example: - press releases, sponsorship, etc.

Sales Promotions

Especially appropriate in early stages of product life cycles and in decline.

Always demand oriented, ie "discount"
free sample/cheap sample run
free "gifts"

Point of sale promotions are included here - ensure Fablok is differentiated by the display and image created.

Personal Selling

Generally expensive (although less so in Poland) but allows feedback - this is good for high value products with specific uses, such as most of Fablok's product range.

Prospecting, selling, after sales service, advice, data collection are all necessary skills for staff involved in sales. The basic key for success involves:

(1) Identifying needs;

(2) Matching production features to needs;

(3) Dealing with problems/objectives.

Given the new nature of such activities staff training is an essential factor here.

Sales Leads/Market Analysis

CAR LOADING PLATFORM

Overview

- Western markets are moving towards slide back platforms similar to that, produced by Fablok and away from traditional fixed platforms. The latest development is the two level slide back platform which can carry two cars at one time.

- Competition in the UK market is fierce; four large producers exist who meet the needs of major users. Many smaller roadside recovery companies are supplied by local workshops producing one or two platforms per year. Even the Automobile Association (Britain's largest recovery organisation) buys less than 50 platform of this type per annum.

- The Yugoslavs recently attempted to penetrate the UK market with a vehicle and platform combination. This action has not been successful apparently due to quality and confidence problems.

- Czechoslovakian platforms have been imported at c. 10,000 USD (ex works) but quality was poor - in fact they buckled under the weight of the car.

- Fablok's product is priced very competitively and with value engineering (cost savings to design where feasible) it should profitably be sold at almost 1/3 less than a similar British product.

- Products also made by producers of platforms include:

    - car transporter lorries
    - bulk carriers (grain, sugar etc)
    - cement mixers
    - aircraft refuelling vehicles
    - tippers for trucks

- Clearly opportunities exist at the lower price end of the market. The key to success is quality, without this even the cheapest East European, product will not gain a foothold.

- The German population has more cars than any other in Western Europe and this may be expected to be the largest market for Fablok's platform.

Company: Automobile Association (UK)

Tel: +44 256 494 027

Name: Gordon Burford

- Largest UK recovery organisation.

- Purchase c. 50 slide back platforms p.a. from Apex Bodyworks and MSM Engineering.

  Tel: +44 256 577 74
  Tel: +44 592 526 65

- Demand is moving towards two level slide back vehicles (for 2 cars).

- The AA buy finished products ie complete vehicles and are therefore unlikely to by from Fablok directly.

Company: AVRO (Association at Vehicle Recovery Operators)

Tel: +44 715 809 122

- REMSA is a part of AVRO and produce UK standards for recovery equipment (provided to Fablok). Andrew Newdick tel 744 733 348 262 is the contact here.

Company: RRRA (Road Rescue Recovery Assocn.)

Tel: +44 754 4600

- Small association less important than AVRO and not really able to assist here.

Company: Jige Lohr

Tel: +44 33 2975 1010

Name: Jean Georges

- One of largest international producers of car recovery equipment.
- Have sourced some platforms from Yugoslavia in the past and may wish to use Polish platforms to slot in tc low cost end of their product range.
- Major concerns regarding quality.

Company: FB - Forsalijnings AB

Tel: +48 550 15950

Name: Franz Bohm

- Largest supplier of platforms in Sweden.
- Feels there is scope for sales of 10-50 platforms p.a. if quality is acceptable.
- Has visited Fablok.

Company: MSM Engineering

Tel: +44 592 526 65

Name: David McLochlan

Received information on Fablok and made following points:

Buying in from Poland would replace production and lead to redundancies here.

Polish companies might not deal in hard currency and would want to deal with products instead.

Czechoslovakian platforms have been imported at an ex-factory cost of £6,000 but these were of low quality and buckled under the weight of cars. Thought E European platforms built for light cars of 16 cwt but must be stronger here. The platforms look similar but quality is different - MSM could apparently build similar quality platform for £6,000 (in earlier discussion this figure was £10,000).

MSM sells 10-12 platforms per month. The total market is 30-40 per month.

Maximum sales that Fablok might make of this particular product would be 5 cars per month.

Conclusions

Initially said he was not interested but then asked if the following information was available:

- cif of fob cost of platforms (ex-factory cost was not helpful)

Exact specification and construction of platform. There are doubts regarding his intentions.

Company: Alloy Transport Bodies

Tel: +44 61 205 7612

Name: Derek Asquith

- Small loading platforms are purchased by breakdown organisations and delivery companies.
- A number of body builders make one to two loaders per year, but few firms manufacture more. Brimec is a larger manufacturer.
- Mr Asquith thought $10,000 was very expensive. He says the company can build them for £3,000; this is almost certinly the price for a simple fixed platform and not a slide back.
- **Other products made by manufactures of car loader platforms**
  - Car transporters
  - Special purpose trucks

Also
  - Bulk carriers (grain, sugar etc)
  - Cement mixers
  - Aircraft refuelling vehicles
  - Tippers

GEARS AND GEARWHEELS

Overview

- UK industry has a very small number of large players - David Brown (1,030 employees) and Renold (300 employees) are the largest. The industry is made up mainly of small firms with 30-40 employees.
- An estimated 3,840 people are employed solely in gear manufacture in the UK.
- Some large users of gears also manufacture their own gears eg VSEL.
- Gear manufactures maintained good order books until mid-1989 when the recession began to bite - industrial gear sales are dependent on investment in machinery and plant refurbishment.
- Many firms cut staff in response to the downturn and there is now some concern about possible future shortages of skilled staff and lack of UK capability.
- Sales this year are 17% lower in value terms than last year's sales, although the UK market is reported to have picked up slightly since the summer.
- Competition is strong and prices are soft, companies are reducing delivery times to sell their products.
- French, German and US companies are active in the UK market, sometimes offering shorter delivery times than UK companies. The market has also been affected by machinery imports containing foreign gears.
- There has been a trend towards the set-up of assembly plants in the UK by continental gear manufactures.
- Perception of East European manufactures is mixed - sometimes viewed as offering reasonable products and good delivery times but some concern over quality and reliability. Low price is an advantage.

- Larger gear manufactures seem open to dealing with East European suppliers - either to meet gaps in sales range or for possible sourcing/partnerships.

- Several firms mentioned the possible need to use Polish gears if they were to win contracts in Poland.

- UK purchasers tend to buy from traditional, established suppliers or to produce their own gears. It may be rather difficult to convince them of the merits of a new supplier without going through an established producer/distributor.

Company: ABB Traction AB
Department TE, S72173 Vaesteraas, Sweden

Tel: +46 21 322 000

Name: Mr R Zeeck

- ABB develops and designs its own gears and currently manufacturers all its own gears.
- Has had discussions with firms in East Europe to try and find cheaper suppliers.
- Has decided to use own gears because of poor quality of imported products.
- Need all gears to be of same quality.
- Timescale - After an order for a train is received, ABB apparently produces first train in eight to ten months so requires complete gear or main parts in this time.

  May have an order for 20 train sets. After first train built, will order remaining gears with eight weeks delivery time.

  Gear supplier will know of order and will be expected to have materials in stock.
- Polish supplier would be useful if ABB received an order from the Polish railway. It might then need to source some parts from Poland.

ABB Traction has recently reviewed foreign suppliers and decided to use own gears but it reviews its position from time to time. ABB is interested in buying cheaper gears and might be willing to buy from Fablok, if it could be convinced about quality.

ABB would also be interested in Fablok's axles.

Company: Davall Stock Gears Ltd

Tel: +44 7072 65 432

Name: Mr Cappi, Sales Manager

- Davall is a gear manufacture with over 50 manufacturing machines.
- Interested but required further information.

Company: David Brown Radicon
Park Gear Works, Lockwood, Huddersfield HD4 5DD

Tel: +44 484 422 180

Name: David Makin, Product Manager

- Large UK gear manufacturer with 1,030 employees, 30% of workforce in gear industry.
- Company produces range of gears from 2 mm to 40 ft in diameter.
- Buys in some gears to meet gaps in production but not willing to specify what these are.
- Price depends on specific type of gear so general prices are not useful.
- Has had dealings with Eastern European suppliers but nothing has come of this - they have not been able to meet requirements.

Mr Makin appears doubtful about the ability of Eastern European suppliers to meet orders but was interested to see the range of gears produced by Fablok. If it could meet some gaps in production run, could be interested in Fablok.

Company: GEC Alsthom Engineering
Leicester

Tel: +44 533 750 750

Name: Mr Williams, Purchasing Manager

- Company has fairly low volume requirements for fairly small, mostly bevelled gears.
- Buys from UK suppliers only - has not looked abroad for suppliers of low volume.
- Quality very important as gears are often used in MOD work.
- Would require four to six weeks delivery time.

Would be interested in seeing literature but not likely to be a good match with Fablok.

Company: GEC Alsthom Gears
Mill Road, Rugby CV21 1BD

Tel: +44 788 542 121

Name: Clive Brimmell, Sales Manager

- Producers medium gears up to power station gears for 30-40 MW.
- Currently faces strong price competition in UK.
- French, German and US firms all compete in UK market.
- David Brown are main competitors.
- Interested in new suppliers and in dual sourcing of projects.
- Polish supplier would be useful if GEC were selling to Poland.

GEC Alsthom Gears seem very interested in Fablok and have asked for further information. Their main consideration appears to be price.

Company: Hamworthy Engineering
Fleets Corner, Poole BH17 71A

Tel: +44 202 665 566, Mr Jarrett, Marketing Manager

- Hamworthy has recently set up Hamworthy Traction Group to supply railway gears.
- Company is working a four-day week.
- Hamworthy contracted to provide Brush with 2720 axle mounted gearboxes and flexible drive couplings for light rail application.

Company: Renold Gears
Holroyd Gear Works, Milnrow, Rochdale QL16 3LS

Tel: +44 706 47491

Name: Mr Godson, Marketing Manager

- Renold is a very large gear manufacturer with 16 subsidiaries including US funded European operations.
- Has 300 employees in gear manufacture.
- As market is depressed, price and lead times are becoming more important, depending on product.
- UK firms face competition from French and German manufactures.
- Renold have been surprised by the quality of East European gears, some of which are better than UK gears.
- Information supplied on Fablok has been circulated to the Directors. Will ring back when he has a reaction.

Renold would be very interested in further information on Fablok, including the machinery they have. They may be interested in speaking to Fablok, with a view to entering into partnership.

Company: Self Changing Gears
Lythalls Lane, Coventry CV6 6FY

Tel: +44 203 688 881

Name: Peter Watts, Purchasing Manager

- Sometimes buy in gears for special projects.
- Have had problems with bought in gears due to slow delivery times and poor quality.
- As gears are used in assembly process, late delivery holds up process.
- Do work for MOD.
- Components may need approval from relevant body eg in aircraft manufacture.
- Required delivery times vary from few weeks to nine months.
- Price is important but quality/delivery are most important factors.

SCG might be interested in buying from Fablok but are apprehensive at buying from Eastern Europe because of past problems. Would have to be convinced of service reliability and quality.

Name:	Vickers Shipbuilding and Engineering Ltd (VSEL) Barrow-in-Furness, LA14 1AF
Name:	Stephen Grisdale, Purchasing Department
Tel:	+44 229 823 366
Alternative contacts:	Graham Woodhouse Jeremy Smith
Tel:	+44 229 873 524

Would consider buying from Fablok if cost effective.

Other Companies Contacted

- **Hansen Transmissions**

  Marketing Manager: Mr Durre

  - Subsidiary of Belgian firm which is part of BTR.
  - No interest in Eastern European firms.

- **Reliance Gear Co Ltd**

  Tell: +44 484 539 441

  Marketing Manager: Graham Lockwood

  - Manufactures small gears, specialising in instrumentation.
  - Interested in new suppliers but not in right market for Fablok.

- **Ross Gearmotors**

  Tel: +44 924 893 855

  - Assembly plant with all components sourced from parent company in Germany.

BRAKEWORK

Overview

- Current brake produced suitable for Loco Hauled Rolling Stock with speeds up to 160 km/h.
- Move to higher speeds and lighter pay loads (wagons) where Fablok brake would not be suitable.
- African countries, currently operating with vacuum brake are moving towards air brake system. They will probably follow South Africa which had standardised on USA System A.A.R.
- Fablok have capacity to produce 1,000 sets per month. Currently no International plans for building such quantities of vehicles, exception BR who were replacing freight liner fleet of 6,000 wagons. However, this would operate at speeds over 160 km/h. Initial order placed with a French Company.
- Immediate future market would be passenger rolling stock where EP, Disc Brakes combined brake actuators/slack adjustors would be required.
- Opportunities exist for overhaul of existing equipment, sales value 50% of new. This would be mainly from local market.
- No Design and Development available.
- Fablok need to tie up with recognised brake supplier possibly acting as sub contractor.

Contacts

Company: Davis and Metcalf

Tel: +44 61 430 4272

Name: Eddy Mulryan (Commercial Manager)

- Supply 50% of air brake equipment in UK.
- Had a licence with Knorr/Oerliken but recently terminated.
- Currently talking to Hunslet and a Hungarian company.
- Would like to visit Fablok in January 1992 would possibly be accompanied by director from Tissan (owner of D&M) and Barry Hall.

Company: SAB - WABCO

Tel: +44 325 312 666

Contact: John Mason - Managing Director Aycliffe, Co Durham

- As Fablok are talking to SAB. WABCO no attempt to push supply or partnership further.
- Also manufacture resilient drive wheels for locomotives not interested in Fablok as a sub contractor.
- Sab Wabco are a majoı supplier of brake equipment other than air valves.

Company: Wesinghouse Brake and Signal

Tel: +44 294 654 141

Contact: Mr Roger Boater - Financial Director

- Supplier of Air valves approx 50% of BR Equipment.
- Did not think there would be anything at Fablck for Westinghouse, will review the situation.

Company: Spoornet

Tel: +44 11 773 2872

Contact: Mr Alberts - Technical Development Manager

- Spoornet have policy to convert all wagons to air brake, probable that all other neighbouring Southern African countries will follow.
- Are standardising on the USA systems AAR. This was not compatable with UIC equipment produced by Fablok.
- Will still be using SAB Slack Adjusters. Letter written to SA Purchasing Department for Fablok for follow up.

CRANES

Company: Access Sales

Tel: +272 82661

Contact: Secretary to MD

- Company owned by Kato Japanese Company. They only deal with cranes owned by this company.
- No sales prospects.

Company: GCM 600 Ltd.

Tel: +462 682 360

Contact: Richard Green - Commercial Director

- Produce fixed head telescopic jib crane. "Iron Fairy".
- Had previous dealings with Bumar.
- Cranes produced are of much smaller capacity. Not interested in pursuing further.

Company: Groves Worldwide

Tel: +91 56 56 281

Contact: Peter Dawson - Managing Director
Bob Parker - Director
Stewart Macombia - Procurement Manager

- Groves are an international company with assets 1989 of 5,800 m.
- Took over Coles about 2 years ago.
- Agreement for S. Macombia to visit Fablok but due to pressure of work this was postponed.
- Groves have an international service network including cover in Poland.
- Groves have used Fablok crane in Poland and think it good for the former Comecon markets.
- Visit will be rescheduled. Every intention of visiting but periodical contacting is recommended.

WHEELS AND AXLES

Company: BREL

Tel: +33 251 703

Contact: Andry Wiscowski

- BREL repair wheels for 80% of the requirements of British Rail.
- Had previously looked at PKP workshops, but this was not progressed. Main problem was confirming that Polish specifications conformed to British requirements.
- Detailed specification to be forwarded to Andry Wiscowski who will confirm if they conform. Information can be in Polish.
- Fablok need to independently confirm if design and material specification meet international standards.

Systems

- It is clear from our investigations that virtually all systems in use within Fablok require up grading and modernisation. However, we believe it would be unwise to dissipate the limited resources available by attempting to improve all systems at once. Rather attention must be focused on a limited number of systems, the improvement of which will provide maximum benefit. In the case of Fablok the priority systems are:

    - Production Planning Systems
    - Costing Systems

Production Planning

- A single system should be used for each production unit. All parts can be considered as components of assemblies although many may never be used in such assemblies

- The system requirements are basic and are common to many engineering enterprises

- a PC based package solutions would be appropriate

Costing System

- The costing system should be integrated with the general ledger and budgeting systems

  Although adding to the complexity of the system and the problem of implementation, the benefits of such integration more that outweigh these disadvantages. Furthermore most modern packaged systems are integrated in this way

- A need for approximately 30 production cost centres has been identified

- The system should be capable of supplying cost:
    - in total for the enterprise
    - by cost centre with the possibility of accumulating cost centres into production units or other pre-determined management units
    - by product for allocation to divisions
- Product costing would be based on standards with full variance analysis capability
- As with the requirements for the production planning system the demands of the costing system are common to most engineering companies. Once again a PC based package solution is required

Implementation

- Fablok could not implement these solutions without outside help
- Help would be required to:
    - prepare a detailed requirements statement
    - selection of hardware and software
    - implementation and training
- The existing manual production planning system already contains most of the features that a computerised system would provide. The problem of transition is therefore simplified
- The costing system being new to the enterprise would demand considerable outside assistance at the implementation stage in training staff to use the system and in advising staff on how to interpret the information

Financial Performance Forecast

- We have developed five year financial forecasts for the divisionalised enterprise. These forecasts are general in nature and can only be taken as being indicative of the probable financial future of Fablok. Forecast details are shown as Appendix C. Summary data is given on pages 198 to 200 below

- Sales figures are based on our understanding of the markets potentially open to Fablok products. We have assumed that two years is necessary for Fablok to have established itself and built product identity in those markets

- Costs are based on 1991 actual as reduced to reflect:

    - a reduction in employment levels and expenses in line with the reduced activity level; and

    - more active cost control by management

- The effect of inflation and the movement in the exchange rate of the zloty have been ignored

- Three scenarios have been developed, low, median and high, reflecting varying degrees of success in breaking into new umarkets

Assumptions

Sales

- Are based on our market research and represent an estimate of realistic sales
- Scenario 2 increases sales by 25%
- Scenario 3 increases sales by 50%

Direct Labour

- labour force is reduced as follows:

Workshop	% Change
W1	25%
W2	30%
W3 & W4	60%

- The average rate of pay is increased by 50% in 1992 to prevent loss of staff to competition
- In Scenario 3 the labour force in all departments is increased by 25% in 1994 to allow for increased activity

Department Overheads

- Are based on 1991 actuals
- Brake and tool department overheads are eliminated on the basis that these close down
- Expenses are reduced to reflect the lower level of activity as follows

Personnel	50%
Consumable Material	50%
Energy	25%
Maintenance	25%
Other	30%

- In scenario 3 expenses other than depreciation are increased by 15% in 1994 to allow for increased sales

Administration Overheads

- Expenses are reduced according to our reorganisation recommendation

FINANCIAL FORECASTS
SCENARIO 1

US$ 000's

	1992	1993	1994	1995	1996
Operating Profit					
Fablok Road	(991)	84	94	127	128
Fablok Rail	232	219	219	219	219
Fablok Engineering	1,213	1,599	1,976	2,245	2,406
Fablok Fabrication	(9)	(8)	(4)	-	-
Total	445	1,894	2,285	2,591	2,753
Other Costs					
Unrecovered Cost	2,088	2,292	1,491	1,453	1,313
Financial Cost	1,200	1,462	866	643	306
Net Profit	(2,843)	(1,860)	(72)	495	1,134
Closing Cash Position	(3,656)	(4,329)	(3,214)	(1,532)	789

FINANCIAL FORECASTS
SCENARIO 2

US$ 000's

	1992	1993	1994	1995	1996
Operating Profit					
Fablok Road	(1,013)	105	117	159	159
Fablok Rail	232	219	219	219	219
Fablok Engineering	1,481	1,964	2,435	2,772	2,973
Fablok Fabrication	(11)	(11)	(5)	-	-
Total	689	2,277	2,766	3,150	3,351
Other Costs					
Unrecovered Cost	1,604	1,520	520	472	297
Financial Cost	1,200	1,171	431	-	-
Net Profit	(2,115)	(414)	1,815	2,678	3,054
Closing Cash Position	(2,928)	(2,154)	849	4,713	8,954

FINANCIAL FORECASTS
SCENARIO 3

US$ 000's

	1992	1993	1994	1995	1996
Operating Profit					
Fablok Road	(1,034)	122	281	309	309
Fablok Rail	232	219	219	219	219
Fablok Engineering	1,749	2,412	3,084	3,514	3,768
Fablok Fabrication	(13)	(13)	(5)	-	-
Total	934	2,740	3,579	4,042	4,296
Other Costs					
Unrecovered Cost	1,120	676	604	552	355
Financial Cost	1,200	880	-	-	-
Net Profit	(1,386)	(1,184)	2,975	3,490	3,941
Closing Cash Position	(2,199)	171	4,333	9,011	14,140

General Conclusions

- Under the low scenario Fablok continues to make large, although reducing, losses throughout the forecast period. Cash requirements are over $4 million in the first two years with little reduction in the debt position thereafter.

- Under these circumstances the enterprise should be closed down.

- However under the median scenario the enterprise begins to show profit in 1994. The maximum cash requirement is $ 2 million at the end of 1992 and the cash position is positive by the end of 1994. In the high scenario profitability is also attained in 1994 but the maximum additional cash requirement is less than $1 million at the end of 1992 and the cash position is positive by the end of 1993

- In these circumstances it is worthwhile Fablok embarking upon the restructuring exercise. Only relatively small amounts of short term funding are required to enable Fablok to establish new markets. Thereafter the business is generating sufficient cash to be able to commence major product development and expansion programmes

- The cash being generated in scenarios 2 and 3 is sufficient to fund major product development and improvement programmes and to finance new investment and expansion from 1994 onwards.

- Assuming that in the intervening two years:

    - cost and investments are minimised (Fablok management investment programme should be abandoned)

    - organisational changes are implemented

    - sales and marketing are strengthened

    - systems are developed

- The company would be in a good position to exploit these changes

Fablok Road

Assumptions

- It has been assumed that the market for car platforms will continue to grow but that the crane market will stagnate
- We have ignored the possibility of sales of customised bodies other than car platforms, eg security vans, refuse collection vehicles. There is a definite market potential for such bodies as the Polish service industries expand. With cash for investment available after 1994 this is an area for expansion
- We have assumed that engineering improvements to be implemented during 1992 will
    - reduce the cost by an average of 15%
    - allow sales prices to increase

Conclusions

- Other than in 1992 when the effect of loss making contracts is still working through, Fablok Road makes a positive contribution to the profitability of the enterprise
- Even at increased sales prices cranes still show an operating loss. This and the unsuitability of the design for most western markets means that production should probably cease and resources diverted to the production of customised bodies
- A basically sound and profitable division that should be expanded

Fablok Rail

Assumptions

- We have assumed that brake production will not be restarted
- We have assumed that no further sales of locomotives are possible. Traditional markets are expected to remain dormant for the forecast period. In any case the out dated nature of Fablok's design means that further sales are unlikely
- Sales of spare parts will continue

Conclusions

- Fablok rail should be closed as a division in 1993
- Spare parts sales would be transferred to Fablok Engineering

Fablok Engineering

Assumptions

- A steady increase in sales volumes as quality improvements being introduced enhance the divisions reputation in the market place

Conclusion

- Highly profitable division from 1992 onwards
- Little potential for major expansion; could be used as a provider of cash for the expansion of other activities

Fablok Fabrications

Assumptions

- Difficult to forecast sales and the cost of those sales since most orders are "one off" or small batches
- We have base our forecasts on current production
- The business gradually declines as specialised sub contractors, with much lower costs, enter the market and develop the necessary skills to match Fablok quality

Conclusion

- Although a loss making division it is considered worthy of preservation. The expected growth in the business of Fablok Road after 1990 will absorb much of the production capacity of Fablok Fabrication

- The laboratory business has been excluded for this forecast. The nature of the business and the geographic location of its premises make it a prime candidate for being hived off as a separate legal entity with immediate effect

Implementation Programme

The proposed restructuring process outlined above requires various attributes and skills, some of which are simply not yet available in the local market. However willing and motivated Fablok's directors are they will require some form of ongoing assistance, at least over the first 6 to 9 months. Areas in which implementation support is most likely to be needed include:

- Marketing & Sales - assistance in implementing Fablok's corporate goals through activities in the company's markets. Wide ranging marketing experience, exposure to Western markets, flexibility and training/leadership skills are desirable here
- Financial Control & Management - identifying and implementing a coherent costing system which will give management relevant and timely data with which to make strategic and marketing plans

APPENDIX A

Financial Statements

PROFIT AND LOSS ACCOUNT

Thousand US$	1988	1989	1990
Sales	43,216	32,396	27,264
Cost of Sales	33,387	23,225	20,754
Operating Profit	9,829	9,171	6,510
Other Income	5	236	155
Exceptional (Inc) Exp	(109)	1,717	(499)
Turnover Tax	(747)	(349)	(90)
Profit Before Tax	8,978	10,775	7,074
Tax on Ordinary Activities	(3,541)	(4,935)	(3,528)
Profit After Tax	5,437	5,840	3,546
Years Average Exchange Rate	431	1,446	9,500

BALANCE SHEET

Thousand US$	1988	1989	1990
Fixed Assets	16,375	15,698	25,002
Intangibles	30	183	10
Investments	18	24	20
Other Assets	1,036	-	-
Current Assets:			
- cash at bank	226	630	177
- trade debtors	7,886	2,465	6,005
- other debtors	34	88	85
- stocks	11,134	2,340	10,043
Total Current Assets	19,280	5,523	16,310

Thousand US$	1988	1989	1990
Current Liabilities:			
- trade creditors	3,894	1,972	5,823
- accruals	635	193	346
- taxation payable	1,747	799	540
- other creditors	1,409	448	1,427
- bank loans	8,812	946	3,105
- social welfare fund	441	1	-
Total Current Liabilities	16,938	4,359	11,241
Net Current Assets	2,342	1,164	5,069
Deferred Income	(411)	(16)	(471)
Net Assets	19,390	17,053	29,630
Equity	19,390	17,053	29,630
Year-end Exchange Rate	¥ 499	6,500	9,500

WORKING CAPITAL COMPARISON

Thousand USD	31/12/90	31/3/91	30/6/91	30/9/91
Current Assets:				
- cash at bank	206	150	64	170
- debtors	6,090	5,093	5,637	7,987
- stocks	10,245	10,648	9,949	9,534
Total Current Assets	16,541	15,891	15,650	17,691
Current Liabilities:				
- trade creditors	5,787	4,739	6,244	7,359
- taxation payable	536	191	404	725
- other creditors	1,979	979	809	1,003
- bank loans	3,105	3,648	3,174	3,354
Total Current Liabilities	11,407	9,557	10,631	12,441
Net Current Assets	5,134	6,334	5,019	5,250
Exchange Rate	9,500	9,500	11,458	11,098

1991 ECONOMIC RESULT

Thousand US$	1st Quarter	2nd Quarter	3rd Quarter
Sales	7,155	4,903	4,984
Cost of Sales	6,244	4,148	3,844
Operating Profit	911	755	1,140
Other Income	156	-	62
Interest (Inc) Exp.	(330)	(720)	(625)
Exceptional (Inc) Exp	(210)	216	(225)
Profit Before Tax	527	251	352
Tax on Ordinary Activities	(444)	(320)	(353)
Profit After Tax	83	(69)	(1)
Average Exchange Rate	9,500	9,949	10,378

Wzór wprowadzony zarządzeniem nr 73 Prezesa GUS
z dnia 30 listopada 1990 r. (Dz. Urz. GUS Nr 29, poz. 139)

GŁÓWNY URZĄD STATYSTYCZNY 00-925 Warszawa, al. Niepodległości 208

Nazwa i adres jednostki sprawozdawczej 22-500 Biłgoraj ul. Fabryczna 3 adres telegr. „Bumar-Fablok" telex 0312337, 0312338 telefon 2231 do 2239 15 16	IIwersja **F-01** **(wersja bilansowa)** **Sprawozdanie o przychodach, kosztach i wyniku finansowym za okres od początku do końca 1990 roku**	Wojewódzki Urząd Statystyczny Katowice w ..... Przekazać (wysłać) do dnia 5 lutego każdego roku
Numer statystyczny — REGON p_0029943-13002000 51-1-085-27153		

w mln złotych bez znaku po przecinku

Dział 1. Przychody ze sprzedaży i wynik finansowy

Wyszczególnienie		Kwota
0		1
Sprzedaż	01	259 007
Koszt własny sprzedaży	02	197 162
Wynik na pozostałej sprzedaży	03	1 477
Zyski nadzwyczajne	04	8 840
Straty nadzwyczajne	05	9 705
Podatek obrotowy	06	851
w tym na imporcie	07	-
Dotacje przedmiotowe	08	-
Dodatnie rozliczenia w imporcie	09	-
Ujemne rozliczenia w eksporcie	10	5 606
Inne obciążenia	11	-
Inne dopłaty	12	-
w tym dotacje podmiotowe	13	-
Zysk	14	67 212
Strata	15	
Podatek dochodowy	16	27 969
Podatek od wzrostu wynagrodzeń	17	578
Dywidenda	18	4 970
	19	-
Suma kontrolna (w. 01 do 19)	20	583 377

Dział 2. Koszty

Rodzaj kosztów		Kwota
0		1
Amortyzacja	01	7 311
Materiały i przedmioty nietrwałe	02	143 317
w tym paliwa	03	2 416
Energia	04	6 179
Obróbka obca	05	288
Usługi transportowe	06	1 742
Usługi remontowe i konserwacje	07	459
Inne usługi materialne	08	9 053
Razem koszty materialne (w. 01 + 02 + 04 do 08)	09	168 359
Wynagrodzenia	10	23 549
Podatek od płac	11	4 595
Ubezpieczenia społeczne	12	9 626
Odpisy na fundusze zakładowe	13	765
Odpisy na pozostałe fundusze	14	-
Usługi bankowe	15	16 207
Podróże służbowe	16	267
Podatki	17	4 532
w tym podatek od nieruchomości	18	1 324
Inne usługi niematerialne	19	2 498
Razem koszty niematerialne (w. 10 do 17 + 19)	20	62 039
Ogółem koszty (w. 09 + 20)	21	230 398
		-
		-

6555
1991 -1.. - 17

Wzór wprowadzony zarządzeniem nr 73 Prezesa GUS z dnia 30 listopada 1990 r. (Dz. Urz. GUS Nr 29, poz. 139)

GŁÓWNY URZĄD STATYSTYCZNY 00-925 Warszawa, al. Niepodległości 208

Nazwa i adres jednostki sprawozdawczej	F-01	Wojewódzki Urząd Statystyczny
FABRYKA MASZYN BUDOWLANYCH I LOKOMOTYW ... 32-500 ... ul. Fabryczna 3 ... "...-Fablok" telex 0312327, 0312338 telefon 2201 do 2239	**Sprawozdanie o przychodach, kosztach i wyniku finansowym za okres od początku roku do końca** m-ca IX 1991 r.	w Katowice
Numer statystyczny — REGON: 00209413-13002000 51-1-085-27153		Przekazać (wysłać) do dnia 16 każdego miesiąca, do dnia 5 lutego każdego roku

w mln złotych bez znaku po przecinku

Dział 1. Przychody ze sprzedaży i wynik finansowy

Wyszczególnienie		Kwota	Wyszczególnienie		Kwota
0		1	0		1
Przychód ogółem	01	170 471	Zysk netto	17	66
w tym: przychód ze sprzedaży własnej produkcji i usług	02	168 472	Strata netto	18	-
w tym: przychody finansowe	03	2		19	-
w tym: dotacje przedmiotowe i inne zwiększenia	04	1 997		20	-
Koszt uzyskania przychodów	05	157 281	Suma kontrolna (wiersze 01 do 20)	21	693 340
w tym: koszty sprzedaży własnej produkcji i usług	06	140 486			
w tym: koszty operacji finansowych	07	16 789			
w tym: podatek obrotowy	08	6			
w tym: inne obciążenia przychodów	09	-			
Zyski nadzwyczajne	10	4 238			
Straty nadzwyczajne	11	6 288			
Zysk brutto	12	11 140			
Strata brutto	13	-			
Obowiązkowe zmniejszenie zysku	14	11 074			
w tym podatek dochodowy	15	5 030			
Obowiązkowe zwiększenie straty	16	-			

Dział 2. Koszty

Wyszczególnienie		Kwota
0		1
Koszty ogółem	01	161 646
w tym amortyzacja	02	11 502
zużycie materiałów i energii	03	100 566
usługi obce	04	5 778
wynagrodzenie	05	22 329
podatek od płac	06	4 424
podatek od nieruchomości	07	2 077
	08	-
Saldo stanu produktów + −	09	/-/ 20 754
	10	-
Suma kontrolna (wiersze 01 do 10)	11	287 568

Wzór wprowadzony zarządzeniem nr 73 Prezesa GUS
z dnia 30 listopada 1990 r. (Dz. Urz. GUS Nr 29, poz. 139)

GŁÓWNY URZĄD STATYSTYCZNY 00-925 Warszawa, al. Niepodległości 208

Nazwa i adres jednostki sprawozdawczej
FABRYKA MASZYN BUDOWLANYCH I LOKOMOTYW „BUMAR-FABLOK"
32-500 Chrzanów, ul. Fabryczna 3
adres telegr. „Bumar-Fablok"
telex 0312337, 0312358
telefon 2231 do 2239

Numer statystyczny — REGON
P_0029943-13002000
51-1-085-27153

F-01

Sprawozdanie o przychodach, kosztach i wyniku finansowym za okres od początku roku do końca VI m-ca 1991 r.

Wojewódzki Urząd Statystyczny
w Katowicach

Przekazać (wysłać) do dnia 16 każdego miesiąca, do dnia 5 lutego każdego roku

w mln złotych bez znaku po przecinku

Dział 1. Przychody ze sprzedaży i wynik finansowy

Wyszczególnienie		Kwota
0		1
Przychód ogółem	01	118 107
w tym: przychód ze sprzedaży własnej produkcji i usług	02	116 751
w tym: przychody finansowe	03	2
w tym: dotacje przedmiotowe i inne zwiększenia (741 705)	04	1 354
Koszt uzyskania przychodów	05	110 896
w tym: koszty sprzedaży własnej produkcji i usług	06	100 591
w tym: koszty operacji finansowych	07	10 301
w tym: podatek obrotowy	08	4
w tym: inne obciążenia przychodów	09	-
Zyski nadzwyczajne	10	3 757
Straty nadzwyczajne	11	3 476
Zysk brutto	12	7 492
Strata brutto	13	-
Obowiązkowe zmniejszenie zysku	14	7 404
w tym podatek dochodowy	15	3 443
Obowiązkowe zwiększenie straty	16	-
Zysk netto	17	88
Strata netto	18	-
	19	-
	20	-
Suma kontrolna (wiersze 01 do 20)	21	483 666

Dział 2. Koszty

Wyszczególnienie		Kwota
0		1
Koszty ogółem	01	121 335
w tym amortyzacja	02	7 715
zużycie materiałów i energii	03	83 439
usługi obce	04	3 470
wynagrodzenie	05	14 630
podatek od płac	06	2 914
podatek od nieruchomości	07	1 380
	08	-
Saldo stanu produktów + -	09	/-/ 20 293
	10	-
Suma kontrolna (wiersze 01 do 10)	11	214 590

Wzór wprowadzony zarządzeniem nr 73 Prezesa GUS z dnia 30 listopada 1990 r. (Dz. Urz. GUS Nr 29, poz. 139)

GŁÓWNY URZĄD STATYSTYCZNY 00-925 Warszawa, al. Niepodległości 208

Nazwa i adres jednostki sprawozdawczej

Fabryka Maszyn Rusowlanych i Lokomotyw
DUMAR - FABLOK

Numer statystyczny — REGON

P- 000943-13002000
51-1-085-27153

F-01

Sprawozdanie o przychodach, kosztach i wyniku finansowym za okres od początku roku do końca

m-ca III 19 91 r.

Wojewódzki Urząd Statystyczny

w Katowicach

Przekazać (wysłać) do dnia 16 każdego miesiąca, do dnia 5 lutego każdego roku

w mln złotych bez znaku po przecinku

Dział 1. Przychody ze sprzedaży i wynik finansowy

Wyszczególnienie			Kwota
0			1
Przychód ogółem		01	69 455
w tym	przychód ze sprzedaży własnej produkcji i usług	02	67 974
	przychody finansowe	03	2
	dotacje przedmiotowe i inne zwiększenia	04	1 479
Koszt uzyskania przychodów		05	63 074
w tym	koszty sprzedaży własnej produkcji i usług	06	59 323
	koszty operacji finansowych	07	3 134
	podatek obrotowy	08	617
	inne obciążenia przychodów	09	-
Zyski nadzwyczajne		10	2 557
Straty nadzwyczajne		11	3 935
Zysk brutto		12	5 003
Strata brutto		13	-
Obowiązkowe zmniejszenie zysku		14	4 221
w tym podatek dochodowy		15	2 091
Obowiązkowe zwiększenie straty		16	-

Wyszczególnienie		Kwota
0		1
Zysk netto	17	782
Strata netto	18	-
	19	-
	20	-
Suma kontrolna (wiersze 01 do 20)	21	283 647

Dział 2. Koszty

Wyszczególnienie		Kwota
0		1
Koszty ogółem	01	62 032
w tym amortyzacja	02	3 860
zużycie materiałów i energii	03	41 631
usługi obce	04	1 006
wynagrodzenie	05	7 393
podatek od płac	06	1 474
podatek od nieruchomości	07	690
	08	-
Saldo stanu produktów + −	09	2 533
	10	-
Suma kontrolna (wiersze 01 do 10)	11	115 555

APPENDIX B

Sales Statistics

- Sales of Major Products 1989 - 1991
- Sales Statistics - Actual Data
- Sales Statistic - 1991 Price
- Sales Statistics - US Dollars

FABLOK SALES STATISTICS 1989-91

US Dollars

	Locomotives		Cranes		Gear Boxes		Tank Tracks	
	No	Value	No	Value	No	Value	No	Value
1989	34	5,590,713	56	5,781,243	814	711,256	388	2,614,848
1990	28	5,931,523	61	4,886,713	820	802,147	259	2,340,297
1991	15	4,545,859	35	3,433707	279	450,745	95	1,238,085

	Car Platforms		Gear Wheels		Axle and Wheel Sets		Brake Sets	
	No	Value	No	Value	No	Value	No	Value
1989	-	-	1449	637,220	34 x 4	1,006,682	N.A.	8,000,470
1990	30	112,597	1473	474,135	29 x 4	849,664	N.A.	2,339,061
1991	219	1,108,113	N.A.	423,650	N.A.	2,770,736	N.A.	1,830,756

Note: data in adjusted to USD equivalent according to average annual dollar: zloty exchange rates of:

1989 1,446 zl : 1 USD
1990 9,500 zl : 1 USD
1991 10,378 zl : 1 USD

FABLOK SALES STATISTICS 1989-91 **1991 Prices**

	Locomotives		Cranes		Gear Boxes		Tank Tracks	
	No	Value	No	Value	No	Value	No	Value
1989	34	43,768,914	56	45,260,551	814	5,568,329	388	20,471,280
1990	28	87,341,680	61	71,956,847	820	11,811,611	259	34,460,873
1991	15	47,176,923	35	35,635,010	279	4,677,833	95	12,848,850

	Car Platforms		Gear Wheels		Axle and Wheel Sets		Brake Sets	
	No	Value	No	Value	No	Value	No	Value
1989	-	-	1449	4,988,706	34 x 4	7,881,172	N.A.	29,955,566
1990	30	1,657,999	1473	6,981,634	29 x 4	12,511,306	N.A.	34,442,680
1991	219	11,500,000	N.A.	4,396,636	N.A.	28,754,702	N.A.	19,000,000

* figures in thousand zlotys

Note: data is adjusted to give 1991 equivalent prices. Inflation statistics were obtained from GUS, the Central Statistical Office, and are as follows:

1990	249.3%
1991	(E) 55% (50% as at November)

FABLOK SALES STATISTICS 1989-91

Actual Data

	Locomotives		Cranes		Gear Boxes		Tank Trucks	
	No	Value	No	Value	No	Value	No	Value
1989	34	8,084,171	56	8,359,678	814	1,028,477	388	3,781,070
1990	28	56,349,471	61	46,423,772	820	7,620,394	259	22,232,821
1991	15	47,176,923	35	35,635,010	279	4,677,833	95	12,848,850

	Car Platforms		Gear Wheels		Axle and Wheel Sets		Brake Sets	
	No	Value	No	Value	No	Value	No	Value
1989	-	-	1449	921,420	34 x 4	1,455,662	N.A.	5,532,829
1990	30	1,069,677	1473	4,504,280	29 x 4	8,071,810	N.A.	22,221,084
1991	219	11,500,000	N.A.	4,396,636	N.A.	28,754,702	N.A.	19,000,000

* figures in thousand zlotys

SALES OF THE MAJOR PRODUCTS

	1989	1990	1991
Locomotives			
- number	34	28	15
- value in mln zl	8,084	56,349	47.177
- equivalent in '000$	5,591	5.931	4.546
- & change versus previous year		+ 6,1%	- 23,4%
Cranes			
- number	56	68	35
- value in mln zl	8.360	46.424	35.635
- equivalent in '000$	5.781	4.887	3.434
- % change versus previous year		- 15,5%	- 29,7%
Gears			
- number	814	820	279
- value in mln zl	1.028	7.620	4,678
- equivalent in '000$	711	802	450
- % change versus previous year		+ 12,8%	- 43,9%
Tank Tracks			
- number	388	259	95
- value in mln zl	3,781	22,233	12,849
- equivalent in '000$	2,615	2,340	1,238
- % change versus previous year		- 10,5%	- 47,1%
Car Platform			
- number	-	30	219
- value in mln zl	-	1,070	11,500
- equivalent in '000$	-	113	1,108
- % change versus previous year			+ 880,5%

	1989	1990	1991
Parts for the Rolling Stock			
- value in mln zl	1,120	15,515	14,034
- equivalent in '000S	774	1,633	1,352
- % change versus previous year		+ 110,9%	_ 17,2%
Braking Systems			
- value in mln zl	5,533	22,221	19,000
- equivalent in '000S	3,826	2,339	1,831
- % change versus previous year		- 38,9%	- 21,7%
Gear Wheels			
- value in mln zl	921	4,504	4,397
- equivalent in '000S	637	474	424
- % change versus previous year		- 25,6%	- 10,5%
Axles & Wheels			
- value in mln zl	1,456	8,072	28,755
- equivalent in '000S	1,007	850	2,771
- % change versus previous year		- 15,6%	226,0%

Note: 1991 figures annualised based on Fablok marketing department forecasts.

APPENDIX C

Financial Forecasts

- Scenario 1 Low Sales
- Scenario 2 Medium Sales
- Scenario 3 High Sales

BUMAR FABLOK SCENARIO 1 - LOW SALES

All data in US Dollars

NARRATIVE	OPERATING PROFIT				
	1992	1993	1994	1995	1996
FABLOK ROAD					
PLATFORMS	(87,306)	139,414	178,123	178,123	178,123
CRANES	(912,663)	(64,310)	(96,473)	(64,315)	(64,315)
SPARE PARTS	8,750	9,000	12,000	13,250	13,750
TOTAL	(991,220)	84,104	93,650	127,058	127,558
FABLOK RAIL					
LOCOMOTIVES	13,299	0	0	0	0
BRAKES	0	0	0	0	0
SPARE PARTS	218,750	218,750	218,750	218,750	218,750
TOTAL	232,049	218,750	218,750	218,750	218,750
FABLOK ENGINEERING					
GEAR BOXES	62,039	51,699	31,020	20,680	10,340
GEAR WHEELS	324,910	379,061	433,213	541,516	541,516
AXLES & WHEELS	685,814	1,028,722	1,371,629	1,543,082	1,714,536
SPARE PARTS	140,000	140,000	140,000	140,000	140,000
TOTAL	1,212,763	1,599,482	1,975,861	2,245,278	2,406,392
FABLOK FABRICATION					
WELDED STRUCTURES	(8,014)	(8,014)	(4,007)	0	0
ELEMENTS FOR CONCRETE MIXER	(964)	(482)	(241)	0	0
TOTAL	(8,979)	(8,496)	(4,248)	0	0
TOTAL OPERATING PROFIT	444,615	1,893,840	2,284,013	2,591,086	2,752,700

BUMAR FABLOK SCENARIO 1 - LOW SALES

All data in US Dollars

NARRATIVE	NET PROFIT				
	1992	1993	1994	1995	1996
TOTAL OPERATING PROFIT	444,615	1,893,840	2,284,013	2,591,086	2,752,700
UNRECOVERED COSTS	2,087,362	2,291,616	1,491,367	1,453,387	1,313,215
PROFIT/LOSS	(1,643,247)	(397,776)	792,646	1,137,700	1,439,484
FINANCIAL COST	(1,200,000)	(1,462,333)	(865,706)	(642,835)	(306,379)
NET PROFIT/LOSS	(2,843,247)	(1,860,110)	(73,059)	494,865	1,133,105

SUMAR FABLOK SCENARIO 1 - LOW SALES

All data in US Dollars

NARRATIVE	PROFIT/LOSS AS A % OF SALES				
	1992	1993	1994	1995	1996
FABLOK ROAD	(38.46)	3.53	2.78	4.67	4.67
FABLOK RAIL	4.16	0.00	0.00	0.00	0.00
FABLOK ENGINEERING	32.77	34.44	35.84	36.13	36.67
FABLOK FABRICATION	(65.96)	(65.96)	(65.96)	0.00	0.00
TOTAL FABLOK	(26.48)	(6.24)	9.83	13.77	16.70

BUMAR FABLOK SCENARIO 1 - LOW SALES

All data in US Dollars

NARRATIVE	CASH FLOW				
	1992	1993	1994	1995	1996
Opening cash position	(2,000,000)	(3,655,833)	(4,328,529)	(3,214,175)	(1,531,896)
Cash Flow	(1,655,833)	(672,696)	1,114,355	1,682,279	2,320,519
Closing cash position	(3,655,833)	(4,328,529)	(3,214,175)	(1,531,896)	788,623
Interest rate %	0.6	0.4	0.2	0.2	0.2
Financial Cost	(1,200,000)	(1,462,333)	(865,706)	(642,835)	(306,379)
Profit/Loss	(1,643,247)	(397,776)	792,646	1,137,700	1,439,484
Financial cost	(1,200,000)	(1,462,333)	(865,706)	(642,835)	(306,379)
Profit/Loss Net	(2,843,247)	(1,860,110)	(73,059)	494,865	1,133,105
Depreciation	1,187,414	1,187,414	1,187,414	1,187,414	1,187,414
Cash Flow	(1,655,833)	(672,696)	1,114,355	1,682,279	2,320,519

BUMAR FABLOK SCENARIO 1 - LOW SALES All data in US Dollars

NARRATIVE	UNRECOVERED COSTS				
	1992	1993	1994	1995	1996
UNRECOVERED COSTS FROM MAIN PRODUCTION					
DIRECT LABOUR	738,227	787,020	598,234	590,066	556,980
DEPARTMENT OVERHEAD	1,522,370	1,623,581	1,231,985	1,215,044	1,146,415
ADMINISTRATIVE OVERHEAD	819,764	874,264	663,398	654,276	617,320
TOTAL	3,080,362	3,284,866	2,493,617	2,459,387	2,320,715
RECOVERED FROM PARTS SALES					
FABLOK RAIL	406,250	406,250	406,250	406,250	406,250
FABLOK ROAD	26,250	27,000	36,000	39,750	41,250
FABLOK ENGINEERING	560,000	560,000	560,000	560,000	560,000
TOTAL	992,500	993,250	1,002,250	1,006,000	1,007,500
NET UNRECOVERED COSTS	2,087,862	2,291,616	1,491,367	1,453,387	1,313,215

NARRATIVE	COST RECOVERY CALCULATION				
	1992	1993	1994	1995	1996
DEPARTMENT OVERHEAD					
TOTAL DEPARTMENT OVERHEAD	3,137,545	3,137,545	3,137,545	3,137,545	3,137,545
OVERHEAD RECOVERY					
Platforms	240,351	360,526	460,672	460,672	460,672
Cranes	610,427	244,171	366,256	244,171	244,171
Locomotives	46,291	0	0	0	0
Gear Boxes	118,408	98,673	59,204	39,469	19,735
Gear Wheels	229,747	268,038	306,329	382,911	382,911
Wheels & Axles	353,457	530,185	706,913	795,277	883,642
Welded structures	8,247	8,247	4,124	0	0
Elements for concrete mixer	8,247	4,124	2,062	0	0
Total Recovery	1,615,175	1,513,964	1,905,560	1,922,501	1,991,130
UNRECOVERED OVERHEAD	1,522,370	1,623,581	1,231,985	1,215,044	1,146,415
ADMINISTRATION OVERHEAD					
TOTAL ADMINISTRATION OVERHEAD	1,689,502	1,689,502	1,689,502	1,689,502	1,689,502
OVERHEAD RECOVERY					
Platforms	129,424	194,136	248,062	248,062	248,062
Cranes	328,702	131,481	197,221	131,481	131,481
Locomotives	24,927	0	0	0	0
Gear Boxes	63,760	53,134	31,880	21,253	10,627
Gear Wheels	123,714	144,333	164,952	206,190	206,190
Wheels & Axles	190,329	285,493	380,658	428,240	475,822
Welded structures	4,441	4,441	2,221	0	0
Elements for concrete mixer	4,441	2,221	1,110	0	0
Total Recovery	869,738	815,238	1,026,104	1,035,226	1,072,182
UNRECOVERED OVERHEAD	819,764	874,264	663,398	654,276	617,320
DIRECT LABOUR					
TOTAL DIRECT LABOUR	1,516,896	1,516,896	1,516,896	1,516,896	1,516,896
DIRECT LABOUR RECOVERY					
Platforms	115,872	173,808	222,088	222,088	222,088
Cranes	294,284	117,714	176,571	117,714	117,714
Locomotives	22,317	0	0	0	0
Gear Boxes	57,084	47,570	28,542	19,028	9,514
Gear Wheels	110,760	129,220	147,680	184,600	184,600
Wheels & Axles	170,400	255,600	340,800	383,400	426,000
Welded structures	3,976	3,976	1,988	0	0
Elements for concrete mixer	3,976	1,988	994	0	0
Total Recovery	778,669	729,876	918,663	926,830	959,916
UNRECOVERED DIRECT LABOUR	738,227	787,020	598,234	590,066	556,980

NARRATIVE	CALCULATION OF DIRECT LABOUR		
	CURRENT	PROPOSED	% CHANGE
TOTAL WORKERS (BY SITE)			
W 1	60	45	-25
W 2	230	161	-30
W 3 & W4	357	143	-50
W 5	17	17	0
	664	366	-33
TOTAL LABOUR COST (BY SITE)			
TOTAL HOURS (CALENDAR) PER YEAR	1,381,120	760,864	55
TOTAL EFFECTIVE HOURS (-30%)	966,784	532,605	55
AVERAGE HOURLY LABOUR RATE	1.89	2.84	+50
W 1	182,628	205,457	+12
W 2	627,989	659,388	+5
W 3 & W 4	976,964	586,178	-40
W 5	43,915	65,872	+50
TOTAL LABOUR COST	1,831,496	1,516,896	-17
TOTAL DEPARTMENT OVERHEADS	4,482,356	3,137,545	-59
TOTAL ADMINISTRATION OVERHEADS	2,434,875	1,689,502	-69
TOTAL COST	8,748,727	6,343,943	-67

SUMAR FABLOK SCENARIO 1 - LOW SALES

All data in US Dollars

NARRATIVE	PLATFORMS				
	1992	1993	1994	1995	1996
SALES					
Sales Quantity	60	90	115	115	115
Sales Price	10,000	12,500	12,500	12,500	12,500
Sales Value	600,000	1,125,000	1,437,500	1,437,500	1,437,500
COST OF SALES					
Material cost per unit	3,361	2,857	2,857	2,857	2,857
Labour Hours per Unit	680	680	680	680	680
Labour Cost per Hour	2.84	2.84	2.84	2.84	2.84
Department Overhead per Hour	5.89	5.89	5.89	5.89	5.89
Administrative Overhead per Hour	3.17	3.17	3.17	3.17	3.17
Total Material Cost	201,660	257,117	328,555	328,555	328,555
Total Labour cost	115,872	173,808	222,088	222,088	222,088
Total Department Overhead	240,351	360,526	460,672	460,672	460,672
Total Administrative Overhead	129,424	194,136	248,062	248,062	248,062
Total Cost	687,306	985,586	1,259,377	1,259,377	1,259,377
Operating Profit	(87,306)	139,414	178,123	178,123	178,123

BUMAR FABLOK SCENARIO 1 - LOW SALES

All data in US Dollars

NARRATIVE	CRANES				
	1992	1993	1994	1995	1996
SALES					
Sales Quantity	25	10	15	10	10
Sales Price	80,000	100,000	100,000	100,000	100,000
Sales Value	2,000,000	1,000,000	1,500,000	1,000,000	1,000,000
COST OF SALES					
Material cost per unit	67,170	57,095	57,095	57,095	57,095
Labour Hours per Unit	4,145	4,145	4,145	4,145	4,145
Labour Cost per Hour	2.84	2.84	2.84	2.84	2.84
Department Overhead per Hour	5.89	5.89	5.89	5.89	5.89
Administrative Overhead per Hour	3.17	3.17	3.17	3.17	3.17
Total Material Cost	1,679,250	570,945	856,425	570,950	570,950
Total Labour cost	294,284	117,714	176,571	117,714	117,714
Total Department Overhead	610,427	244,171	366,256	244,171	244,171
Total Administrative Overhead	328,702	131,481	197,221	131,481	131,481
Total Cost	2,912,663	1,064,310	1,596,473	1,064,315	1,064,315
Operating Profit	(912,663)	(64,310)	(96,473)	(64,315)	(64,315)

BUMAR FABLOK SCENARIO 1 - LOW SALES

All data in US Dollars

NARRATIVE	LOCOMOTIVES				
	1992	1993	1994	1995	1996
SALES					
Sales Quantity	1	0	0	0	0
Sales Price	320,000	320,000	320,000	320,000	320,000
Sales Value	320,000	0	0	0	0
COST OF SALES					
Material cost per unit	213,166	213,166	213,166	213,166	213,166
Labour Hours per Unit	7,858	7,858	7,858	7,858	7,858
Labour Cost per Hour	2.84	2.84	2.84	2.84	2.84
Department Overhead per Hour	5.89	5.89	5.89	5.89	5.89
Administrative Overhead per Hour	3.17	3.17	3.17	3.17	3.17
Total Material Cost	213,166	0	0	0	0
Total Labour cost	22,317	0	0	0	0
Total Department Overhead	46,291	0	0	0	0
Total Administrative Overhead	24,927	0	0	0	0
Total Cost	306,701	0	0	0	0
Operating Profit	13,299	0	0	0	0

SUMAR FABLOK SCENARIO 1 - LOW SALES

All data in US Dollars

NARRATIVE	GEAR BOXES				
	1992	1993	1994	1995	1996
SALES					
Sales Quantity	300	250	150	100	50
Sales Price	1,613	1,613	1,613	1,613	1,613
Sales Value	483,900	403,250	241,950	161,300	80,650
COST OF SALES					
Material cost per unit	609	609	609	609	609
Labour Hours per Unit	67	67	67	67	67
Labour Cost per Hour	2.84	2.84	2.84	2.84	2.84
Department Overhead per Hour	5.89	5.89	5.89	5.89	5.89
Administrative Overhead per Hour	3.17	3.17	3.17	3.17	3.17
Total Material Cost	182,609	152,174	91,304	60,870	30,435
Total Labour cost	57,084	47,570	28,542	19,028	9,514
Total Department Overhead	118,408	98,673	59,204	39,469	19,735
Total Administrative Overhead	63,760	53,134	31,880	21,253	10,627
Total Cost	421,861	351,551	210,930	140,620	70,310
Operating Profit	62,039	51,699	31,020	20,680	10,340

NARRATIVE	GEAR WHEELS				
	1992	1993	1994	1995	1996
SALES					
Sales Quantity	1,500	1,750	2,000	2,500	2,500
Sales Price	700	700	700	700	700
Sales Value	1,050,000	1,225,000	1,400,000	1,750,000	1,750,000
COST OF SALES					
Material cost per unit	174	174	174	174	174
Labour Hours per Unit	26	26	26	26	26
Labour Cost per Hour	2.84	2.84	2.84	2.84	2.84
Department Overhead per Hour	5.89	5.89	5.89	5.89	5.89
Administrative Overhead per Hour	3.17	3.17	3.17	3.17	3.17
Total Material Cost	260,870	304,348	347,826	434,783	434,783
Total Labour cost	110,760	129,220	147,680	184,600	184,600
Total Department Overhead	229,747	268,038	306,329	382,911	382,911
Total Administrative Overhead	123,714	144,333	164,952	206,190	206,190
Total Cost	725,090	845,939	966,787	1,208,484	1,208,484
Operating Profit	324,910	379,061	433,213	541,516	541,516

NARRATIVE	AXLES & WHEELS				
	[redacted]	1993	1994	1995	1996
SALES					
Sales Quantity	200	300	400	450	500
Sales Price	[redacted]8,700	8,700	8,700	8,700	8,700
Sales Value	[redacted]740,000	2,610,000	3,480,000	3,915,000	4,350,000
COST OF SALES					
Material cost per unit	[redacted]1,700	1,700	1,700	1,700	1,700
Labour Hours per Unit	[redacted]300	300	300	300	300
Labour Cost per Unit	[redacted]2.84	2.84	2.84	2.84	2.84
Department Overhead per Unit	[redacted]5.89	5.89	5.89	5.89	5.89
Administrative Overhead per Unit	[redacted]3.17	3.17	3.17	3.17	3.17
Total Material Cost	[redacted]340,000	510,000	680,000	765,000	850,000
Total Labour Cost	[redacted]170,400	255,600	340,800	383,400	426,000
Total Department Overhead	[redacted]353,457	530,185	706,913	795,277	883,642
Total Administrative Overhead	[redacted]190,329	285,493	380,658	428,240	475,822
Total Cost	[redacted]1,054,186	1,581,278	2,108,371	2,371,918	2,635,464
Operating Profit	[redacted]685,814	1,028,722	1,371,629	1,543,082	1,714,536

All data in US Dollars

NARRATIVE	WELDED STRUCTURES				
	1992	1993	1994	1995	1996
SALES					
Sales Quantity (tonnes)	10	10	5	0	0
Sales Price	1,215	1,215	1,215	1,215	1,215
Sales Value	12,150	12,150	6,075	0	0
COST OF SALES					
Material cost per unit	350	350	350	350	350
Labour Hours per Unit	140	140	140	140	140
Labour Cost per Hour	2.84	2.84	2.84	2.84	2.84
Department Overhead per Hour	5.89	5.89	5.89	5.89	5.89
Administrative Overhead per Hour	3.17	3.17	3.17	3.17	3.17
Total Material Cost	3,500	3,500	1,750	0	0
Total Labour cost	3,976	3,976	1,988	0	0
Total Department Overhead	8,247	8,247	4,124	0	0
Total Administrative Overhead	4,441	4,441	2,221	0	0
Total Cost	20,164	20,164	10,082	0	0
Operating Profit	(8,014)	(8,014)	(4,007)	0	0

All data in US Dollars

NARRATIVE	ELEMENTS FOR CONCRETE MIXER				
	1992	1993	1994	1995	1996
SALES					
Sales Quantity (tonnes)	20	10	5	0	0
Sales Price	1,175	1,175	1,175	1,175	1,175
Sales Value	23,500	11,750	5,875	0	0
COST OF SALES					
Material cost per unit	390	390	390	390	390
Labour Hours per Unit	70	70	70	70	70
Labour Cost per Hour	2.84	2.84	2.84	2.84	2.84
Department Overhead per Hour	5.89	5.89	5.89	5.89	5.89
Administrative Overhead per Hour	3.17	3.17	3.17	3.17	3.17
Total Material Cost	7,800	3,900	1,950	0	0
Total Labour cost	3,976	1,988	994	0	0
Total Department Overhead	8,247	4,124	2,062	0	0
Total Administrative Overhead	4,441	2,221	1,110	0	0
Total Cost	24,464	12,232	6,116	0	0
Operating Profit	(964)	(482)	(241)	0	0

SUMAR FABLOK SCENARIO 1 - LOW SALES All data in US Dollars

NARRATIVE	SPARE PARTS SALES & COSTS				
	1992	1993	1994	1995	1996
FABLOK RAIL					
PARTS SALES - LOCOMOTIVES	625,000	625,000	625,000	625,000	625,000
ESTIMATED COSTS OF SALES (65%)	406,250	406,250	406,250	406,250	406,250
PROFIT	218,750	218,750	218,750	218,750	218,750
FABLOK ROAD					
PARTS SALES - PLATFORMS	35,000	36,000	48,000	53,000	55,000
ESTIMATED COSTS OF SALES (80%)	26,250	27,000	36,000	39,750	41,250
PROFIT	8,750	9,000	12,000	13,250	13,750
FABLOK ENGINEERING					
PARTS SALES - FORGINGS	700,000	700,000	700,000	700,000	700,000
ESTIMATED COSTS OF SALES (70%)	560,000	560,000	560,000	560,000	560,000
PROFIT	140,000	140,000	140,000	140,000	140,000

Note:
* Sales estimates based upon % of total sales in 1991

* Cost of sales based upon % of sales for each item in 1991

GUMAR FABLOK SCENARIO 2 - MEDIAN SALES All data in US Dollars

NARRATIVE	OPERATING PROFIT				
	1992	1993	1994	1995	1996
FABLOK ROAD					
PLATFORMS	(109,133)	174,268	222,654	222,654	222,654
CRANES	(912,663)	(80,388)	(120,591)	(80,394)	(80,394)
SPARE PARTS	8,750	11,250	15,000	16,563	17,188
TOTAL	(1,013,046)	105,130	117,063	158,822	159,447
FABLOK RAIL					
LOCOMOTIVES	13,299	0	0	0	0
BRAKES	0	0	0	0	0
SPARE PARTS	218,750	218,750	218,750	218,750	218,750
TOTAL	232,049	218,750	218,750	218,750	218,750
FABLOK ENGINEERING					
GEAR BOXES	77,549	64,624	38,774	25,850	12,925
GEAR WHEELS	406,137	473,827	541,516	676,895	676,895
AXLES & WHEELS	857,268	1,285,902	1,714,536	1,928,853	2,143,170
SPARE PARTS	140,000	140,000	140,000	140,000	140,000
TOTAL	1,480,954	1,964,353	2,434,827	2,771,598	2,972,990
FABLOK FABRICATION					
WELDED STRUCTURES	(10,018)	(10,018)	(5,009)	0	0
ELEMENTS FOR CONCRETE MIXER	(1,205)	(603)	(301)	0	0
TOTAL	(11,223)	(10,621)	(5,310)	0	0
TOTAL OPERATING PROFIT	688,734	2,277,612	2,765,329	3,149,170	3,351,187

BUMAR FABLOK SCENARIO 2 - MEDIAN SALES

All data in US Dollars

NARRATIVE	NET PROFIT				
	1992	1993	1994	1995	1996
TOTAL OPERATING PROFIT	688,734	2,277,612	2,765,329	3,149,170	3,351,187
UNRECOVERED COSTS	1,603,704	1,520,097	519,785	472,310	297,096
PROFIT/LOSS	(914,969)	757,515	2,245,544	2,676,860	3,054,091
FINANCIAL COST	(1,200,000)	(1,171,022)	(430,730)	0	0
NET PROFIT/LOSS	(2,114,969)	(413,507)	1,814,814	2,676,860	3,054,091

NARRATIVE	PROFIT/LOSS AS A % OF SALES				
	1992	1993	1994	1995	1996
FABLOK ROAD	(37.16)	3.53	2.78	4.67	4.67
FABLOK RAIL	4.16	0.00	0.00	0.00	0.00
FABLOK ENGINEERING	32.77	34.44	35.84	36.13	36.67
FABLOK FABRICATION	(65.96)	(65.96)	(65.96)	0.00	0.00
TOTAL FABLOK	(12.75)	9.51	22.27	25.91	28.35

SUMAR FABLOK SCENARIO 2 - MEDIAN SALES — All data in US Dollars

NARRATIVE	CASH FLOW				
	1992	1993	1994	1995	1996
Opening cash position	(2,000,000)	(2,927,555)	(2,153,648)	848,580	4,712,854
Cash Flow	(927,555)	773,907	3,002,228	3,864,274	4,241,505
Closing cash position	(2,927,555)	(2,153,648)	848,580	4,712,854	8,954,359
Interest rate %	0.6	0.4	0.2	0.2	0.2
Financial Cost	(1,200,000)	(1,171,022)	(430,730)	0	0
Profit/Loss	(914,969)	757,515	2,245,544	2,676,860	3,054,091
Financial cost	(1,200,000)	(1,171,022)	(430,730)	0	0
Profit/Loss Net	(2,114,969)	(413,507)	1,814,814	2,676,860	3,054,091
Depreciation	1,187,414	1,187,414	1,187,414	1,187,414	1,187,414
Cash Flow	(927,555)	773,907	3,002,228	3,864,274	4,241,505

BUMAR FABLOK SCENARIO 2 - MEDIAN SALES

All data in US Dollars

NARRATIVE	UNRECOVERED COSTS				
	1992	1993	1994	1995	1996
UNRECOVERED COSTS FROM MAIN PRODUCTION					
DIRECT LABOUR	622,710	604,551	368,568	358,359	317,001
DEPARTMENT OVERHEAD	1,282,756	1,245,090	755,595	734,419	648,632
ADMINISTRATIVE OVERHEAD	690,737	670,455	406,872	395,469	349,275
TOTAL	2,596,204	2,520,097	1,531,035	1,488,247	1,314,909
RECOVERED FROM PARTS SALES					
FABLOK RAIL	406,250	406,250	406,250	406,250	406,250
FABLOK ROAD	26,250	33,750	45,000	49,688	51,563
FABLOK ENGINEERING	560,000	560,000	560,000	560,000	560,000
TOTAL	992,500	1,000,000	1,011,250	1,015,938	1,017,813
NET UNRECOVERED COSTS	1,603,704	1,520,097	519,785	472,310	297,096

NARRATIVE	COST RECOVERY CALCULATION				
	1992	1993	1994	1995	1996
DEPARTMENT OVERHEAD					
TOTAL DEPARTMENT OVERHEAD	3,137,545	3,137,545	3,137,545	3,137,545	3,137,545
OVERHEAD RECOVERY					
Platforms	300,438	450,657	575,840	575,840	575,840
Cranes	610,427	305,213	457,820	305,213	305,213
Locomotives	46,291	0	0	0	0
Gear Boxes	148,010	123,342	74,005	49,337	24,668
Gear Wheels	287,184	335,047	382,911	478,639	478,639
Wheels & Axles	441,821	662,731	883,642	994,097	1,104,552
Welded structures	10,309	10,309	5,155	0	0
Elements for concrete mixer	10,309	5,155	2,577	0	0
Total Recovery	1,854,789	1,892,455	2,381,950	2,403,126	2,488,913
UNRECOVERED OVERHEAD	1,282,756	1,245,090	755,595	734,419	648,632
ADMINISTRATION OVERHEAD					
TOTAL ADMINISTRATION OVERHEAD	1,689,502	1,689,502	1,689,502	1,689,502	1,689,502
OVERHEAD RECOVERY					
Platforms	161,780	242,669	310,078	310,078	310,078
Cranes	328,702	164,351	246,527	164,351	164,351
Locomotives	24,927	0	0	0	0
Gear Boxes	79,700	66,417	39,850	26,567	13,283
Gear Wheels	154,642	180,416	206,190	257,737	257,737
Wheels & Axles	237,911	356,867	475,822	535,300	594,778
Welded structures	5,551	5,551	2,776	0	0
Elements for concrete mixer	5,551	2,776	1,388	0	0
Total Recovery	998,765	1,019,047	1,282,630	1,294,033	1,340,227
UNRECOVERED OVERHEAD	690,737	670,455	406,872	395,469	349,275
DIRECT LABOUR					
TOTAL DIRECT LABOUR	1,516,896	1,516,896	1,516,896	1,516,896	1,516,896
DIRECT LABOUR RECOVERY					
Platforms	144,840	217,260	277,610	277,610	277,610
Cranes	294,284	147,142	220,713	147,142	147,142
Locomotives	22,317	0	0	0	0
Gear Boxes	71,355	59,463	35,678	23,785	11,893
Gear Wheels	138,450	161,525	184,600	230,750	230,750
Wheels & Axles	213,000	319,500	426,000	479,250	532,500
Welded structures	4,970	4,970	2,485	0	0
Elements for concrete mixer	4,970	2,485	1,242	0	0
Total Recovery	894,186	912,345	1,148,328	1,158,537	1,199,895
UNRECOVERED DIRECT LABOUR	622,710	604,551	368,568	358,359	317,001

NARRATIVE	CALCULATION OF DIRECT LABOUR		
	CURRENT	PROPOSED	% CHANGE
TOTAL WORKERS (BY SITE)			
W 1	60	45	-25
W 2	230	161	-30
W 3 & W4	357	143	-50
W 5	17	17	0
	664	366	-33
TOTAL LABOUR COST (BY SITE)			
TOTAL HOURS (CALENDAR) PER YEAR	1,381,120	760,864	55
TOTAL EFFECTIVE HOURS (-30%)	966,784	532,605	55
AVERAGE HOURLY LABOUR RATE	1.89	2.84	+50
W 1	182,628	205,457	+12
W 2	627,989	659,388	+5
W 3 & W 4	976,964	586,178	-40
W 5	43,915	65,872	+50
TOTAL LABOUR COST	1,831,496	1,516,896	-17
TOTAL DEPARTMENT OVERHEADS	4,482,356	3,137,545	-59
TOTAL ADMINISTRATION OVERHEADS	2,434,875	1,689,502	-69
TOTAL COST	8,748,727	6,343,943	-67

SUMAR FABLOK SCENARIO 2 - MEDIAN SALES

All data in US Dollars

NARRATIVE	PLATFORMS				
	1992	1993	1994	1995	1996
SALES					
Sales Quantity	75	113	144	144	144
Sales Price	10,000	12,500	12,500	12,500	12,500
Sales Value	750,000	1,406,250	1,796,875	1,796,875	1,796,875
COST OF SALES					
Material cost per unit	3,361	2,857	2,857	2,857	2,857
Labour Hours per Unit	680	680	680	680	680
Labour Cost per Hour	2.84	2.84	2.84	2.84	2.84
Department Overhead per Hour	5.89	5.89	5.89	5.89	5.89
Administrative Overhead per Hour	3.17	3.17	3.17	3.17	3.17
Total Material Cost	252,075	321,396	410,694	410,694	410,694
Total Labour cost	144,840	217,260	277,610	277,610	277,610
Total Department Overhead	300,438	450,657	575,840	575,840	575,840
Total Administrative Overhead	161,780	242,669	310,078	310,078	310,078
Total Cost	859,133	1,231,982	1,574,221	1,574,221	1,574,221
Operating Profit	(109,133)	174,268	222,654	222,654	222,654

SUMAR FABLOK SCENARIO 2 - MEDIAN SALES

All data in US Dollars

NARRATIVE	CRANES				
	1992	1993	1994	1995	1996
SALES					
Sales Quantity	25	13	19	13	13
Sales Price	80,000	100,000	100,000	100,000	100,000
Sales Value	2,000,000	1,250,000	1,875,000	1,250,000	1,250,000
COST OF SALES					
Material cost per unit	67,170	57,095	57,095	57,095	57,095
Labour Hours per Unit	4,145	4,145	4,145	4,145	4,145
Labour Cost per Hour	2.84	2.84	2.84	2.84	2.84
Department Overhead per Hour	5.89	5.89	5.89	5.89	5.89
Administrative Overhead per Hour	3.17	3.17	3.17	3.17	3.17
Total Material Cost	1,679,250	713,681	1,070,531	713,688	713,688
Total Labour cost	294,284	147,142	220,713	147,142	147,142
Total Department Overhead	610,427	305,213	457,820	305,213	305,213
Total Administrative Overhead	328,702	164,351	246,527	164,351	164,351
Total Cost	2,912,663	1,330,388	1,995,591	1,330,394	1,330,394
Operating Profit	(912,663)	(80,388)	(120,591)	(80,394)	(80,394)

BUMAR FABLOK SCENARIO 2 - MEDIAN SALES

All data in US Dollars

NARRATIVE	LOCOMOTIVES				
	1992	1993	1994	1995	1996
SALES					
Sales Quantity	1	0	0	0	0
Sales Price	320,000	320,000	320,000	320,000	320,000
Sales Value	320,000	0	0	0	0
COST OF SALES					
Material cost per unit	213,166	213,166	213,166	213,166	213,166
Labour Hours per Unit	7,858	7,858	7,858	7,858	7,858
Labour Cost per Hour	2.84	2.84	2.84	2.84	2.84
Department Overhead per Hour	5.89	5.89	5.89	5.89	5.89
Administrative Overhead per Hour	3.17	3.17	3.17	3.17	3.17
Total Material Cost	213,166	0	0	0	0
Total Labour cost	22,317	0	0	0	0
Total Department Overhead	46,291	0	0	0	0
Total Administrative Overhead	24,927	0	0	0	0
Total Cost	306,701	0	0	0	0
Operating Profit	13,299	0	0	0	0

SUMAR FABLOK SCENARIO 2 - MEDIAN SALES

All data in US Dollars

NARRATIVE	GEAR BOXES				
	1992	1993	1994	1995	1996
SALES					
Sales Quantity	375	313	188	125	63
Sales Price	1,613	1,613	1,613	1,613	1,613
Sales Value	604,875	504,063	302,438	201,625	100,813
COST OF SALES					
Material cost per unit	609	609	609	609	609
Labour Hours per Unit	67	67	67	67	67
Labour Cost per Hour	2.84	2.84	2.84	2.84	2.84
Department Overhead per Hour	5.89	5.89	5.89	5.89	5.89
Administrative Overhead per Hour	3.17	3.17	3.17	3.17	3.17
Total Material Cost	228,261	190,217	114,130	76,087	38,043
Total Labour cost	71,355	59,463	35,678	23,785	11,893
Total Department Overhead	148,010	123,342	74,005	49,337	24,668
Total Administrative Overhead	79,700	66,417	39,850	26,567	13,283
Total Cost	527,326	439,438	263,663	175,775	87,888
Operating Profit	77,549	64,624	38,774	25,850	12,925

BUMAR FABLOK SCENARIO 2 - MEDIAN SALES

All data in US Dollars

NARRATIVE	GEAR WHEELS				
	1992	1993	1994	1995	1996
SALES					
Sales Quantity	1,875	2,188	2,500	3,125	3,125
Sales Price	700	700	700	700	700
Sales Value	1,312,500	1,531,250	1,750,000	2,187,500	2,187,500
COST OF SALES					
Material cost per unit	174	174	174	174	174
Labour Hours per Unit	26	26	26	26	26
Labour Cost per Hour	2.84	2.84	2.84	2.84	2.84
Department Overhead per Hour	5.89	5.89	5.89	5.89	5.89
Administrative Overhead per Hour	3.17	3.17	3.17	3.17	3.17
Total Material Cost	326,087	380,435	434,783	543,478	543,478
Total Labour cost	138,450	161,525	184,600	230,750	230,750
Total Department Overhead	287,184	335,047	382,911	478,639	478,639
Total Administrative Overhead	154,642	180,416	206,190	257,737	257,737
Total Cost	906,363	1,057,423	1,208,484	1,510,605	1,510,605
Operating Profit	406,137	473,827	541,516	676,895	676,895

BUMAR FABLOK SCENARIO 2 - MEDIAN SALES

All data in US Dollars

NARRATIVE	AXLES & WHEELS				
	1992	1993	1994	1995	1996
SALES					
Sales Quantity	250	375	500	563	625
Sales Price	8,700	8,700	8,700	8,700	8,700
Sales Value	2,175,000	3,262,500	4,350,000	4,893,750	5,437,500
COST OF SALES					
Material cost per unit	1,700	1,700	1,700	1,700	1,700
Labour Hours per Unit	300	300	300	300	300
Labour Cost per Hour	2.84	2.84	2.84	2.84	2.84
Department Overhead per Hour	5.89	5.89	5.89	5.89	5.89
Administrative Overhead per Hour	3.17	3.17	3.17	3.17	3.17
Total Material Cost	425,000	637,500	850,000	956,250	1,062,500
Total Labour cost	213,000	319,500	426,000	479,250	532,500
Total Department Overhead	441,821	662,731	883,642	994,097	1,104,552
Total Administrative Overhead	237,911	356,867	475,822	535,300	594,778
Total Cost	1,317,732	1,976,598	2,635,464	2,964,897	3,294,330
Operating Profit	857,268	1,285,902	1,714,536	1,928,853	2,143,170

All data in US Dollars

NARRATIVE	WELDED STRUCTURES				
	1992	1993	1994	1995	1996
SALES					
Sales Quantity (tonnes)	13	13	6	0	0
Sales Price	1,215	1,215	1,215	1,215	1,215
Sales Value	15,188	15,188	7,594	0	0
COST OF SALES					
Material cost per unit	350	350	350	350	350
Labour Hours per Unit	140	140	140	140	140
Labour Cost per Hour	2.84	2.84	2.84	2.84	2.84
Department Overhead per Hour	5.89	5.89	5.89	5.89	5.89
Administrative Overhead per Hour	3.17	3.17	3.17	3.17	3.17
Total Material Cost	4,375	4,375	2,188	0	0
Total Labour cost	4,970	4,970	2,485	0	0
Total Department Overhead	10,309	10,309	5,155	0	0
Total Administrative Overhead	5,551	5,551	2,776	0	0
Total Cost	25,205	25,205	12,603	0	0
Operating Profit	(10,018)	(10,018)	(5,009)	0	0

NARRATIVE	ELEMENTS FOR CONCRETE MIXER				
	1992	1993	1994	1995	1996
SALES					
Sales Quantity (tonnes)	25	13	6	0	0
Sales Price	1,175	1,175	1,175	1,175	1,175
Sales Value	29,375	14,688	7,344	0	0
COST OF SALES					
Material cost per unit	390	390	390	390	390
Labour Hours per Unit	70	70	70	70	70
Labour Cost per Hour	2.84	2.84	2.84	2.84	2.84
Department Overhead per Hour	5.89	5.89	5.89	5.89	5.89
Administrative Overhead per Hour	3.17	3.17	3.17	3.17	3.17
Total Material Cost	9,750	4,875	2,438	0	0
Total Labour cost	4,970	2,485	1,242	0	0
Total Department Overhead	10,309	5,155	2,577	0	0
Total Administrative Overhead	5,551	2,776	1,388	0	0
Total Cost	30,580	15,290	7,645	0	0
Operating Profit	(1,205)	(603)	(301)	0	0

NARRATIVE	SPARE PARTS SALES & COSTS				
	1992	1993	1994	1995	1996
FABLOK RAIL					
PARTS SALES - LOCOMOTIVES	625,000	625,000	625,000	625,000	625,000
ESTIMATED COSTS OF SALES (65%)	406,250	406,250	406,250	406,250	406,250
PROFIT	218,750	218,750	218,750	218,750	218,750
FABLOK ROAD					
PARTS SALES - PLATFORMS	35,000	45,000	60,000	66,250	68,750
ESTIMATED COSTS OF SALES (80%)	26,250	33,750	45,000	49,688	51,563
PROFIT	3,750	11,250	15,000	16,563	17,188
FABLOK ENGINEERING					
PARTS SALES - FORGINGS	700,000	700,000	700,000	700,000	700,000
ESTIMATED COSTS OF SALES (70%)	560,000	560,000	560,000	560,000	560,000
PROFIT	140,000	140,000	140,000	140,000	140,000

Note:
* Sales estimates based upon % of total sales in 1991

* Cost of sales based upon % of sales for each item in 1991

BUMAR FABLOK SCENARIO 3 - HIGH SALES

All data in US Dollars

NARRATIVE	UNRECOVERED COSTS				
	1992	1993	1994	1995	1996
UNRECOVERED COSTS FROM MAIN PRODUCTION					
DIRECT LABOUR	507,193	401,635	518,126	505,876	456,247
DEPARTMENT OVERHEAD	1,043,142	824,185	937,775	915,369	824,603
ADMINISTRATIVE OVERHEAD	561,710	443,806	150,346	136,663	81,229
TOTAL	2,112,045	1,669,625	1,606,247	1,557,908	1,362,079
RECOVERED FROM PARTS SALES					
FABLOK RAIL	406,250	406,250	406,250	406,250	406,250
FABLOK ROAD	26,250	27,000	36,000	39,750	41,250
FABLOK ENGINEERING	560,000	560,000	560,000	560,000	560,000
TOTAL	992,500	993,250	1,002,250	1,006,000	1,007,500
NET UNRECOVERED COSTS	1,119,545	676,375	603,997	551,908	354,579

BUMAR FABLOK SCENARIO 3 - HIGH SALES

All data in US Dollars

NARRATIVE	CALCULATION OF DIRECT LABOUR		
	CURRENT	PROPOSED	AFTER 1994
TOTAL WORKERS (BY SITE)			
W 1	60	45	56
W 2	250	161	201
W 3 & W4	357	143	179
W 5	17	17	21
	664	366	457
TOTAL LABOUR COST (BY SITE)			
TOTAL HOURS (CALENDAR) PER YEAR	1,381,120	760,864	951,080
TOTAL EFFECTIVE HOURS (-30%)	966,784	532,605	665,756
AVERAGE HOURLY LABOUR RATE	1.89	2.84	2.84
W 1	182,628	205,457	256,821
W 2	627,989	659,388	824,236
W 3 & W 4	976,964	586,178	732,723
W 5	43,915	65,872	82,341
TOTAL LABOUR COST	1,831,496	1,516,896	1,896,120
TOTAL DEPARTMENT OVERHEADS	4,482,356	3,137,545	3,457,989
TOTAL ADMINISTRATION OVERHEADS	2,434,875	1,689,502	1,689,502
TOTAL COST	8,748,727	6,343,943	7,043,611

BUMAR FABLOK SCENARIO 3 - HIGH SALES All data in US Dollars

NARRATIVE	PLATFORMS				
	1992	1993	1994	1995	1996
SALES					
Sales Quantity	90	135	173	173	173
Sales Price	10,000	12,500	12,500	12,500	12,500
Sales Value	900,000	1,687,500	2,156,250	2,156,250	2,156,250
COST OF SALES					
Material cost per unit	3,361	2,857	2,857	2,857	2,857
Labour Hours per Unit	680	680	680	680	680
Labour Cost per Hour	2.84	2.84	2.84	2.84	2.84
Department Overhead per Hour	5.89	5.89	5.19	5.19	5.19
Administrative Overhead per Hour	3.17	3.17	3.17	3.17	3.17
Total Material Cost	302,490	385,675	492,833	492,833	492,833
Total Labour cost	173,808	260,712	333,132	333,132	333,132
Total Department Overhead	360,526	540,789	609,265	609,265	609,265
Total Administrative Overhead	194,136	291,203	372,093	372,093	372,093
Total Cost	1,030 59	1,478,379	1,807,323	1,807,323	1,807,323
Operating Profit	(130,959)	209,121	348,927	348,927	348,927

BUMAR FABLOK SCENARIO 3 - HIGH SALES All data in US Dollars

NARRATIVE	CRANES				
	1992	1993	1994	1995	1996
SALES					
Sales Quantity	25	15	23	15	15
Sales Price	80,000	100,000	100,000	100,000	100,000
Sales Value	2,000,000	1,500,000	2,250,000	1,500,000	1,500,000
COST OF SALES					
Material cost per unit	67,170	57,095	57,095	57,095	57,095
Labour Hours per Unit	4,145	4,145	4,145	4,145	4,145
Labour Cost per Hour	2.84	2.84	2.84	2.84	2.84
Department Overhead per Hour	5.89	5.89	5.19	5.19	5.19
Administrative Overhead per Hour	3.17	3.17	3.17	3.17	3.17
Total Material Cost	1,679,250	856,418	1,284,638	856,425	856,425
Total Labour cost	294,284	176,571	264,856	176,571	176,571
Total Department Overhead	610,427	366,256	484,395	322,930	322,930
Total Administrative Overhead	328,702	197,221	295,832	197,221	197,221
Total Cost	2,912,663	1,596,466	2,329,721	1,553,147	1,553,147
Operating Profit	(912,663)	(96,466)	(79,721)	(53,147)	(53,147)

BUMAR FABLOK SCENARIO 3 - HIGH SALES

All data in US Dollars

NARRATIVE	LOCOMOTIVES				
	1992	1993	1994	1995	1996
SALES					
Sales Quantity	1	0	0	0	0
Sales Price	320,000	320,000	320,000	320,000	320,000
Sales Value	320,000	0	0	0	0
COST OF SALES					
Material cost per unit	213,166	213,166	213,166	213,166	213,166
Labour Hours per Unit	7,858	7,858	7,858	7,858	7,858
Labour Cost per Hour	2.84	2.84	2.84	2.84	2.84
Department Overhead per Hour	5.89	5.89	5.19	5.19	5.19
Administrative Overhead per Hour	3.17	3.17	3.17	3.17	3.17
Total Material Cost	213,166	0	0	0	0
Total Labour cost	22,317	0	0	0	0
Total Department Overhead	46,291	0	0	0	0
Total Administrative Overhead	24,927	0	0	0	0
Total Cost	306,701	0	0	0	0
Operating Profit	13,299	0	0	0	0

BUMAR FABLOK SCENARIO 3 - HIGH SALES

All data in US Dollars

NARRATIVE	GEAR BOXES				
	1992	1993	1994	1995	1996
SALES					
Sales Quantity	450	375	225	150	75
Sales Price	1,613	1,613	1,613	1,613	1,613
Sales Value	725,850	604,875	362,925	241,950	120,975
COST OF SALES					
Material cost per unit	609	609	609	609	609
Labour Hours per Unit	67	67	67	67	67
Labour Cost per Hour	2.84	2.84	2.84	2.84	2.84
Department Overhead per Hour	5.89	5.89	5.19	5.19	5.19
Administrative Overhead per Hour	3.17	3.17	3.17	3.17	3.17
Total Material Cost	273,913	228,261	136,957	91,304	45,652
Total Labour cost	85,626	71,355	42,813	28,542	14,271
Total Department Overhead	177,612	148,010	78,301	52,200	26,100
Total Administrative Overhead	95,640	79,700	47,820	31,880	15,940
Total Cost	632,791	527,326	305,890	203,927	101,963
Operating Profit	93,059	77,549	57,035	38,023	19,012

BUMAR FABLOK SCENARIO 3 - HIGH SALES

All data in US Dollars

NARRATIVE	GEAR WHEELS				
	1992	1993	1994	1995	1996
SALES					
Sales Quantity	2,250	2,625	3,000	3,750	3,750
Sales Price	700	700	700	700	700
Sales Value	1,575,000	1,837,500	2,100,000	2,625,000	2,625,000
COST OF SALES					
Material cost per unit	174	174	174	174	174
Labour Hours per Unit	26	26	26	26	26
Labour Cost per Hour	2.84	2.84	2.84	2.84	2.84
Department Overhead per Hour	5.89	5.89	5.19	5.19	5.19
Administrative Overhead per Hour	3.17	3.17	3.17	3.17	3.17
Total Material Cost	391,304	456,522	521,739	652,174	652,174
Total Labour cost	166,140	193,830	221,520	276,900	276,900
Total Department Overhead	344,620	402,057	405,138	506,423	506,423
Total Administrative Overhead	185,571	216,499	247,428	309,285	309,285
Total Cost	1,087,635	1,268,908	1,395,825	1,744,781	1,744,781
Operating Profit	487,365	568,592	704,175	880,219	880,219

BUMAR FABLOK SCENARIO 3 - HIGH SALES All data in US Dollars

NARRATIVE	AXLES & WHEELS				
	1992	1993	1994	1995	1996
SALES					
Sales Quantity	300	474	600	675	750
Sales Price	8,700	8,700	8,700	8,700	8,700
Sales Value	2,610,000	4,123,800	5,220,000	5,872,500	6,525,000
COST OF SALES					
Material cost per unit	1,700	1,700	1,700	1,700	1,700
Labour Hours per Unit	300	300	300	300	300
Labour Cost per Hour	2.84	2.84	2.84	2.84	2.84
Department Overhead per Hour	5.89	5.89	5.19	5.19	5.19
Administrative Overhead per Hour	3.17	3.17	3.17	3.17	3.17
Total Material Cost	510,000	805,800	1,020,000	1,147,500	1,275,000
Total Labour cost	255,600	403,848	511,200	575,100	639,000
Total Department Overhead	530,185	837,692	934,934	1,051,801	1,168,668
Total Administrative Overhead	285,493	451,080	570,987	642,360	713,734
Total Cost	1,581,278	2,498,420	3,037,121	3,416,761	3,796,401
Operating Profit	1,028,722	1,625,380	2,182,879	2,455,739	2,728,599

BUMAR FABLOK SCENARIO 3 - HIGH SALES

All data in US Dollars

NARRATIVE	WELDED STRUCTURES				
	1992	1993	1994	1995	1996
SALES					
Sales Quantity (tonnes)	15	15	8	0	0
Sales Price	1,215	1,215	1,215	1,215	1,215
Sales Value	18,225	18,225	9,113	0	0
COST OF SALES					
Material cost per unit	350	350	350	350	350
Labour Hours per Unit	140	140	140	140	140
Labour Cost per Hour	2.84	2.84	2.84	2.84	2.84
Department Overhead per Hour	5.89	5.89	5.19	5.19	5.19
Administrative Overhead per Hour	3.17	3.17	3.17	3.17	3.17
Total Material Cost	5,250	5,250	2,625	0	0
Total Labour cost	5,964	5,964	2,982	0	0
Total Department Overhead	12,371	12,371	5,454	0	0
Total Administrative Overhead	6,662	6,662	3,331	0	0
Total Cost	30,246	30,246	14,392	0	0
Operating Profit	(12,021)	(12,021)	(5,279)	0	0

BUMAR FABLOK SCENARIO 3 - HIGH SALES All data in US Dollars

NARRATIVE	ELEMENTS FOR CONCRETE MIXER				
	1992	1993	1994	1995	1996
SALES					
Sales Quantity (tonnes)	30	15	8	0	0
Sales Price	1,175	1,175	1,175	1,175	1,175
Sales Value	35,250	17,625	8,813	0	0
COST OF SALES					
Material cost per unit	390	390	390	390	390
Labour Hours per Unit	70	70	70	70	70
Labour Cost per Hour	2.84	2.84	2.84	2.84	2.84
Department Overhead per Hour	5.89	5.89	5.19	5.19	5.19
Administrative Overhead per Hour	3.17	3.17	3.17	3.17	3.17
Total Material Cost	11,700	5,850	2,925	0	0
Total Labour cost	5,964	2,982	1,491	0	0
Total Department Overhead	12,371	6,185	2,727	0	0
Total Administrative Overhead	6,662	3,331	1,665	0	0
Total Cost	36,696	18,348	8,808	0	0
Operating Profit	(1,446)	(723)	4	0	0

BUMAR FABLOK SCENARIO 3 - HIGH SALES All data in US Dollars

NARRATIVE	COST RECOVERY CALCULATION				
	1992	1993	1994	1995	1996
DEPARTMENT OVERHEAD					
TOTAL DEPARTMENT OVERHEAD	3,137,545	3,137,545	3,457,989	3,457,989	3,457,989
OVERHEAD RECOVERY					
Platforms	360,526	540,789	609,265	609,265	609,265
Cranes	610,427	366,256	484,395	322,930	322,930
Locomotives	46,291	0	0	0	0
Gear Boxes	177,612	148,010	78,301	52,200	26,100
Gear Wheels	344,620	402,057	405,138	506,423	506,423
Wheels & Axles	530,185	837,692	934,934	1,051,801	1,168,668
Welded structures	12,371	12,371	5,454	0	0
Elements for concrete mixer	12,371	6,185	2,727	0	0
Total Recovery	2,094,403	2,313,360	2,520,214	2,542,620	2,633,386
UNRECOVERED OVERHEAD	1,043,142	824,185	937,775	915,369	824,603
ADMINISTRATION OVERHEAD					
TOTAL ADMINISTRATION OVERHEAD	1,689,502	1,689,502	1,689,502	1,689,502	1,689,502
OVERHEAD RECOVERY					
Platforms	194,136	291,203	372,093	372,093	372,093
Cranes	328,702	197,221	295,832	197,221	197,221
Locomotives	24,927	0	0	0	0
Gear Boxes	95,640	79,700	47,820	31,880	15,940
Gear Wheels	185,571	216,499	247,428	309,285	309,285
Wheels & Axles	285,493	451,080	570,987	642,360	713,734
Welded structures	6,662	6,662	3,331	0	0
Elements for concrete mixer	6,662	3,331	1,665	0	0
Total Recovery	1,127,792	1,245,696	1,539,156	1,552,839	1,608,273
UNRECOVERED OVERHEAD	561,710	443,806	150,346	136,663	81,229
DIRECT LABOUR					
TOTAL DIRECT LABOUR	1,516,896	1,516,896	1,896,120	1,896,120	1,896,120
DIRECT LABOUR RECOVERY					
Platforms	173,808	260,712	333,132	333,132	333,132
Cranes	294,284	176,571	264,856	176,571	176,571
Locomotives	22,317	0	0	0	0
Gear Boxes	85,626	71,355	42,813	28,542	14,271
Gear Wheels	166,140	193,830	221,520	276,900	276,900
Wheels & Axles	255,600	403,848	511,200	575,100	639,000
Welded structures	5,964	5,964	2,982	0	0
Elements for concrete mixer	5,964	2,982	1,491	0	0
Total Recovery	1,009,703	1,115,262	1,377,994	1,390,245	1,439,874
UNRECOVERED DIRECT LABOUR	507,193	401,635	518,126	505,876	456,247

BUMAR FABLOK SCENARIO 3 - HIGH SALES All data in US Dollars

NARRATIVE	SPARE PARTS SALES & COSTS				
	1992	1993	1994	1995	1996
FABLOK RAIL					
PARTS SALES - LOCOMOTIVES	625,000	625,000	625,000	625,000	625,000
ESTIMATED COSTS OF SALES (65%)	406,250	406,250	406,250	406,250	406,250
PROFIT	218,750	218,750	218,750	218,750	218,750
FABLOK ROAD					
PARTS SALES - PLATFORMS	35,000	36,000	48,000	53,000	55,000
ESTIMATED COSTS OF SALES (80%)	26,250	27,000	36,000	39,750	41,250
PROFIT	8,750	9,000	12,000	13,250	13,750
FABLOK ENGINEERING					
PARTS SALES - FORGINGS	700,000	700,000	700,000	700,000	700,000
ESTIMATED COSTS OF SALES (70%)	560,000	560,000	560,000	560,000	560,000
PROFIT	140,000	140,000	140,000	140,000	140,000

Note:
* Sales estimates based upon % of total sales in 1991

* Cost of sales based upon % of sales for each item in 1991

DEPARTMENT OVERHEADS - ACTUAL 1991 DATA

	W 1	W 2	W 3	W 4	W 5	TN	TME	M	CN	Summary	%
Personnel expenses	72,989	111,154	111,875	81,588	97,883	182,789	77,660	8,716	477	745,132	15.1
Consumable materials	22,394	92,783	26,713	8,783	24,138	11,062	9,467	0	2,584	197,924	4.0
Energy cost	231,409	208,821	120,762	36,331	40,015	21,973	7,339	0	0	666,651	13.5
Depreciation	87,919	480,833	310,483	77,124	92,178	67,117	42,208	2,002	677	1,160,541	23.5
Maintenance	158,420	493,565	177,739	110,087	136,826	44,652	20,000	0	12,435	1,153,724	23.4
Other operating cost	256,292	246,845	209,728	163,792	66,890	35,102	36,160	18	1,488	1,016,314	20.6
Total department cost	829,424	1,634,002	957,300	477,705	457,931	362,695	192,835	10,736	17,660	4,940,287	100

· INCORPORATING REDUCTIONS FELT POSSIBLE AS A RESULT OF REDUCED ACTIVITY

	Actual	Minus W5 & TN	% Reduct	Reduced	% of Total	Scenario 3 % increase	After 1994
Personnel expenses	745,132	464,459	50	232,230	7.4	15	267,064
Consumable materials	197,924	162,724	50	81,362	2.6	15	93,566
Energy cost	666,651	604,663	25	453,497	14.5	15	521,522
Depreciation	1,160,541	1,001,246	0	1,001,246	31.9		1,001,246
Maintenance	1,153,724	972,246	25	729,184	23.2	15	838,562
Other operating cost	1,016,314	914,322	30	640,026	20.4	15	736,029
Total department cost	4,940,286	4,119,660		3,137,545			3,457,989

ADMINISTRATIVE OVERHEADS - REDUCED FIGURES (WS AND TN ALSO TAKEN OUT)

	Actual	% of Total	Reduced	% of Total
General-admin. costs:				
Personnel cost	636,889	26.2	487,220	28.8
Duty travel	24,496	1.0	24,496	1.4
Office expenses	88,185	3.6	44,092	2.6
Fees and Taxes	210,663	8.7	210,663	12.5
Other Charges	14,697	0.6	14,697	0.9
Transportation	78,386	3.2	39,193	2.3
Other	14,697	0.6	(72,260)	-4.3
General-operating cost:				
Personnel expenses	205,764	8.5	158,027	9.4
Consumable material	127,378	5.2	127,378	7.5
Energy cost	83,285	3.4	83,285	4.9
Depreciation	186,168	7.6	186,168	11.0
Maintenance	186,168	7.6	186,168	11.0
Product development	24,496	1.0	24,496	1.4
Training expenses	4,899	0.2	4,899	0.3
Social activities	235,159	9.7	11,758	0.7
Service works	308,646	12.7	154,323	9.1
Other	4,899	0.2	4,899	0.3
Total overheads	2,434,875	100	1,689,502	100
FINANCIAL COST	2,464,270		1,507,748	