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DIAGNOSTIC/ RESTRUCTURING STUDY

ELEKTROMONTAZ LUBLIN

A British Government Financed Project
executed by the
United Nations Industrial Development Organisation

Final Report

London - Warsaw, March 1992

CENTRAL EUROPE TRUST

CONTENTS

CENTRAL EUROPE TRUST HAS PREPARED A RESTRUCTURING PLAN FOR ELEKTROMONTAZ LUBLIN

- The present document is the draft final report of the Unido Pilot Restructuring Project for Elektromontaz in Lublin, Poland (TF/POL/90/910). This assistance has been provided by the United Nations Industrial Development Organisation / Polish Agency for Industrial Development acting on behalf of the UK Know-How-Fund. UNIDO has subcontracted the professional services to Central Europe Trust (contract 91/66)

- Przedsiebiorstwo Produkcji i Montazu Urzadzen Elektrycznych Budownictwa - Elektromontaz Lublin is an enterprise which produces industrial electrical goods and provides construction/ installation services. The enterprise is in Lublin, a town with a population of approximately 400,000 people, located in south-eastern Poland. With a workforce in excess of 700 people, Elektromontaz is one of the larger employers in the town and the enterprise's future prosperity is therefore very important to the economically depressed region

- The project had two parallel objectives. Firstly, to provide the company with immediate advice to help the enterprise remain operational in the short term and secondly, to help the company management develop a better and more coherent strategic view of Elektromontaz's future. During the project the subcontractor (CET) had to:

    - Analyse the domestic and international markets for Elektromontaz's products and services in order to establish market potential and Elektromontaz's competitive position
    - Perform revenue analysis to identify principal income sources
    - Perform cost analysis in order to identify leading cost factors
    - Evaluate Elektromontaz assets and technological base
    - Evaluate Elektromontaz management and staff structure
    - Analyse financial performance
    - Develop a strategic business plan

- The aim of these evaluations and analyses was to make conclusions as to the options available to company and to make recommendations regarding the most attractive options

THE RESTRUCTURING PROJECT HAS BEEN CARRIED OUT OVER A FIVE MONTH PERIOD

- Initial visits to Elektromontaz to gather information for diagnostic. (October 1991)
- information gathering and analysis performed by the following Central Europe Trust staff:
    - M. Holubiec (Analyst)
    - J. Kochaniak (Analyst)
    - P. Chudy (Project Manager)

- Engineering and financial experts fielded:
    - D.Anstiss (Industrial Engineer)
    - J. Koniecki (Accounting/ Financial Expert)
    - W. Sliwinski (Electrical Engineer)
    - A. Kinast (Chartered Accountant)

- Market and industry research work at the Central Europe Trust London office (September 1991 - February 1992) carried out by William Saarbach with input from Central Europe Trust industry experts E. Weyhausen and C. Jonscher
    - Preparation of questions to be used for international market/ industry analysis
    - Desk research from secondary sources
    - Interviews with industry experts
    - Preparation of slides summarising findings of market/ industry analysis

- Market and industry research on Polish electrotechnical sector by J. Kochaniak and M. Holubiec (September 1991 to January 1992)
- Preparation of interim report with initial conclusions and recommendations by P.Chudy and J.Kochaniak (December 1991)
- Presentation of interim report to Elektromontaz management by P.Chudy, J.Kochaniak and A.Rakowski (November 1991)
- Review of interim report with Elektromontaz management, the Agency for Industrial Development, British Embassy and United Nations Industrial Development Organisation representatives. (February 1992)
- Training sessions with Elektromontaz management carried out by P.Chudy:
    - Marketing (January 1992)
    - Product/ market selection (January 1992)
    - Strategic options (February 1992)

- Visit to ABB Poland by P.Chudy (February 1992)
- Preparation of cost/ profit centre outline and recommendations on management information systems by A. Kinast. (January 1992)

- Discussion of restructuring options with Elektromontaz management. (A. Rakowski and P.Chudy February 1992)
- Preparation of business plan, strategic options and final report by P.Chudy, J.Kochaniak, J.Koniecki (January to February 1992)

Introduction...

THE RESTRUCTURING PROJECT WAS PERFORMED IN TWO PHASES - DIAGNOSTIC AND STRATEGIC BUSINESS PLAN

- The first phase consisted of Elektromontaz diagnostic which formed the foundation for the second phase - a strategic business plan for the enterprise. The main steps within each of the two phases were as follows:

  - Collection of market industry and company information
  - Analysis of gathered information in order to develop a company diagnostic allowing conclusions and recommendations to be drawn and presented in the interim report
  - Development and analysis together with company management of strategic options available to Elektromontaz
  - Final report

The objectives were to provide information and analysis from which the company would make decisions and to train management in strategic thinking

- The diagnostic had five main components:
  - Revenue / product mix analysis
  - Financial analysis
  - Management and staff structure
  - Cost analysis
  - Asset utilisation

The result of the diagnostic work was an evaluation of the competitive positioning of Elektromontaz. This evaluation was used to develop basic assumptions behind the strategic business plan

- The strategic business plan was developed by carrying out strategic training sessions with the management team and by interviewing key individuals within the organisation. The key elements of the plan were as follows:
  - Corporate mission
  - Product/ market strategy for each major product group/ and services
  - Cooperation strategy
  - Company organisation and asset mix
  - Financial business plan

The aim of this plan was to clearly identify options available to the enterprise, to outline constraints which the company might face in pursuing various options, and to develop strategic actions which the company needs to take in order to improve competitive position

CENTRAL EUROPE TRUST HAS ASSEMBLED A MULTI DISCIPLINARY TEAM TO PERFORM THE TASK OF RESTRUCTURING ELEKTROMONTAZ LUBLIN...

Individual	Role	Man Months
Mr. Mierzwa	Executive Coordinator for/Warsaw-London	1.0
Mr. Jonscher	Industry Expert/London	1.5
Mr. von Weyhausen	Industry Expert/London	1.0
Mr. Anstiss	Production Expert/London	1.5
Mr. Kinast	Chartered Accountant/London	0.5
Mr. Koniecki	Accountant/Warsaw	1.0
Mr. Saarbach	Project Analyst/London-Warsaw	1.5
Mr. Chudy	Project Manager/Warsaw-London	3.0
Mr. Sliwinski	Industry Expert/Warsaw	1.0
Mr. Kochaniak	Project Analyst/Warsaw	3.0
Mr. Holubiec	Project Analyst/Warsaw	1.5

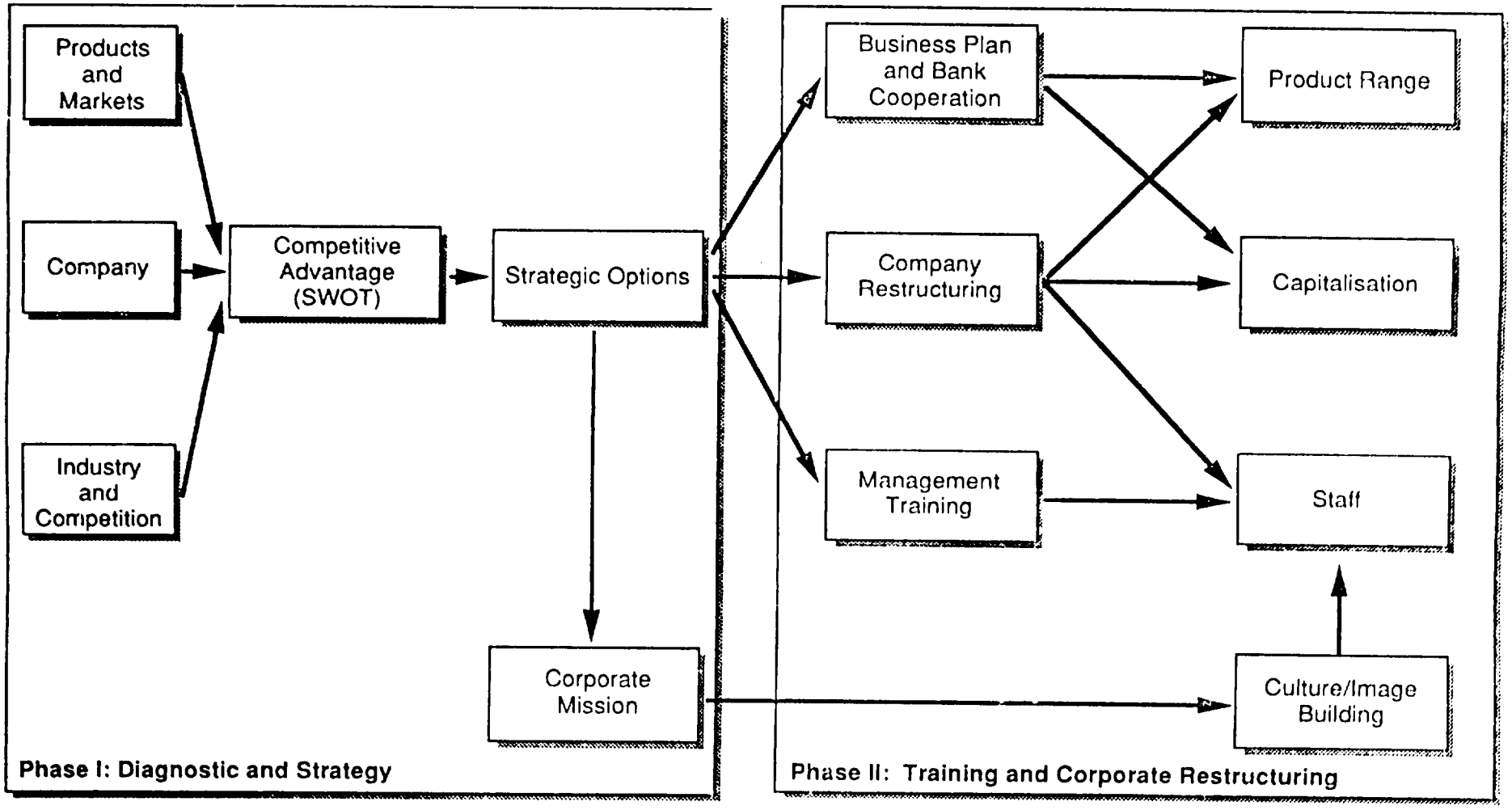
... THE FOLLOWING INTERVIEWS WERE CARRIED OUT

Interviews

Internal	
Mr. Gromaszek	- Managing Director
Mr. Wojtowicz	- Equipment Production Dir. Manager
Mr. Pikula	- Design Manager
Mr. Mrowczynski	- Quality Control Manager
Mr. Palka	- Equipment Sales and Marketing Manager
Mr. Pozdzik	- Construction Sales and Marketing Manager
Mr. Polaszek	- Stock Control and Purchase
Mr. Szczotka	- Chief Plant & Maintenance Engineer
Mr. Dudzinski	- Construction/ Installation Dir Manager
Mr. Mitura	- Construction/ Installation Manager for Projects and Labour Organisation
Ms. Kacprzak	- Deputy Director of Finance
Mr. Kedzierski	- Transportation and Equipment Manager

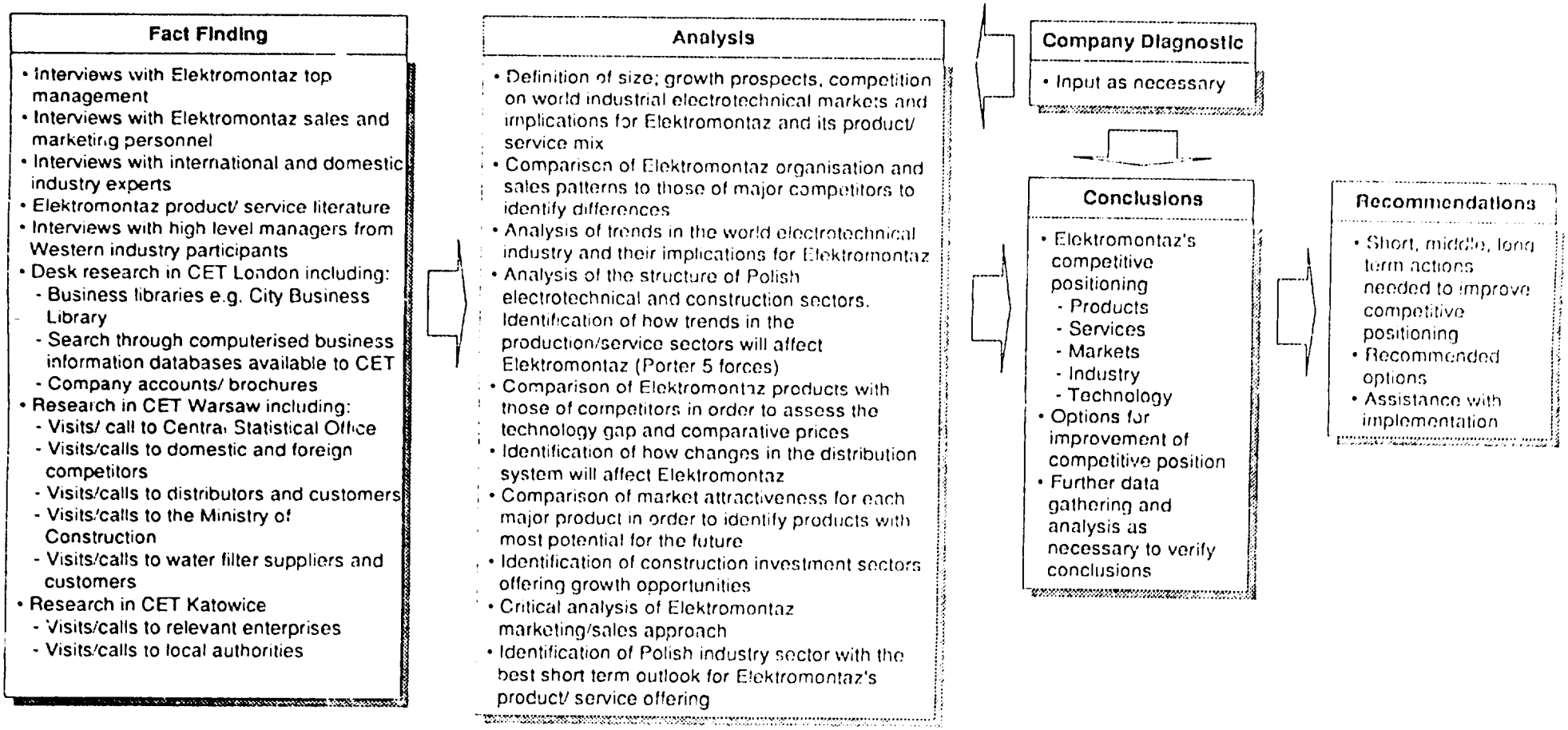
External	
Mr. Malinowski	- ABB, Poland
Mr. Kaluzny	- ABB, Poland
Mr. Lucas	- ABB, Product Manager
Mr. Romanowski	- Siemens, Poland
Ms. Happle	- Siemens, Marketing Manager
Mr. Doolby	- Electrical Review - Editor
Mr. Gardner	- Industrial Market Research Ltd.
Mr. Grzybowski	- Elment
Mr. Tarczewski	- Zwar
Representation	- Apena, Belos, Emit, Elester, ZWUT, Mefta, Bester, Elta
Mr. Tyszko	- Elektrim
Mr. Lewandowski	- Elektromontaz Export
Ms. Zaskorska	- Elektromontaz Export
Mr. Slubowski	- Sztandar Mlodych
Mr. Urbanski	- Warsaw Government Administration, Economic Promotion Department
Mr. Sochacki	- Housing Construction Institute
Mr. Church	- APL Manufacturing
Mr. Blaszczyk	- Ministry of Environmental Protection
Mr. Jerczynski	- Ministry of Aerial Planning and Construction
Mr. Pyla	- Lublin Voivodship Administration
Ms. Jagiello	- Polish-American Enterprise Fund
Ms. Stepniowska	- Central Planning Office
Mr. Lichota	- Lublin Government Administration

CET HAS DEVELOPED A STEP BY STEP APPROACH TO CORPORATE RESTRUCTURING IN POLAND



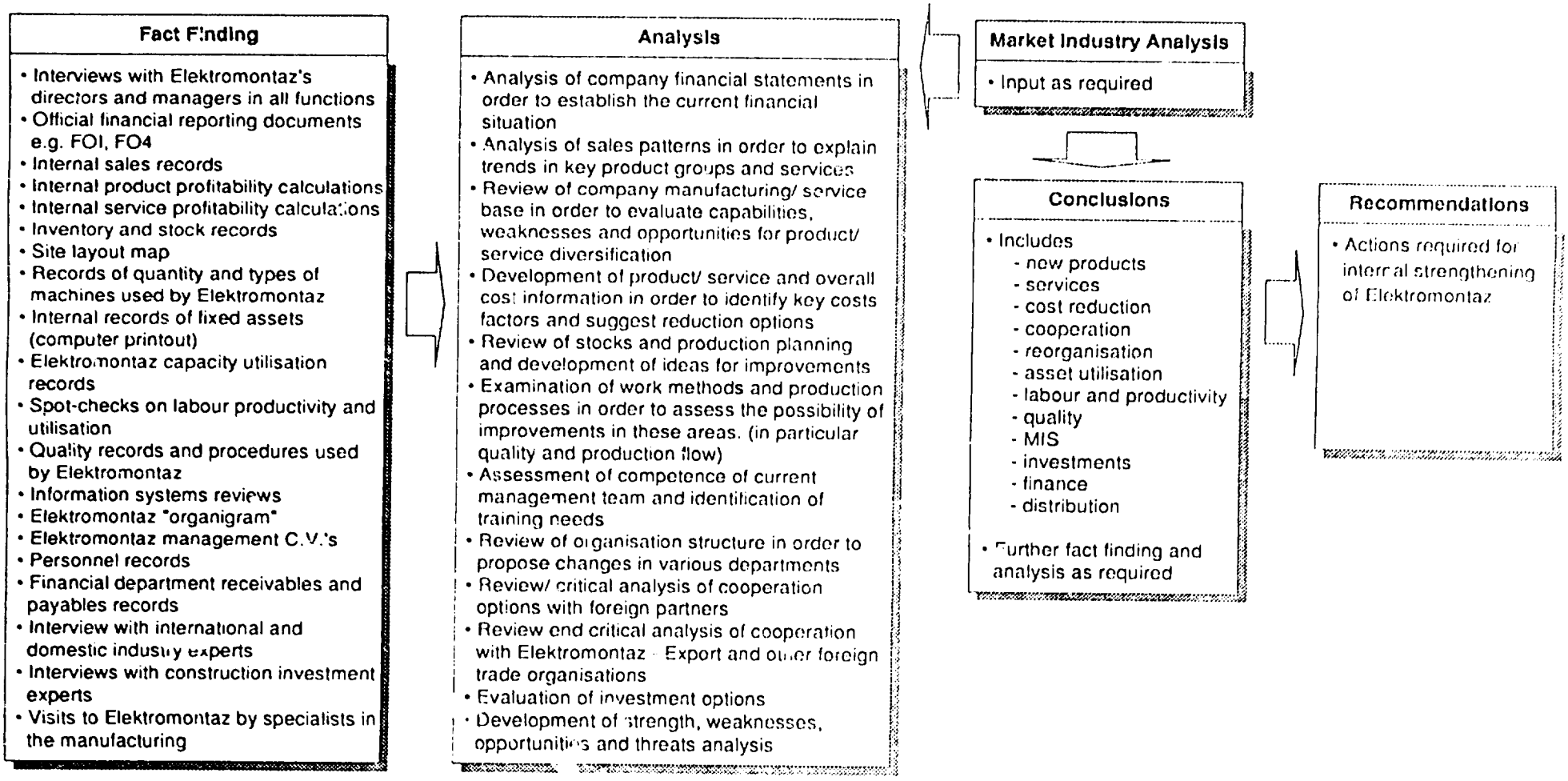
CET IMPLEMENTED CLEAR LOGICAL METHODOLOGY TO ANALYSE MARKET AND INDUSTRY FORCES IMPACTING ELEKTROMONTAZ

Summary of Methodology: Industry and Market



THE COMPANY DIAGNOSTIC METHODOLOGY INCLUDED EXTENSIVE USE OF INDUSTRY SPECIALISTS

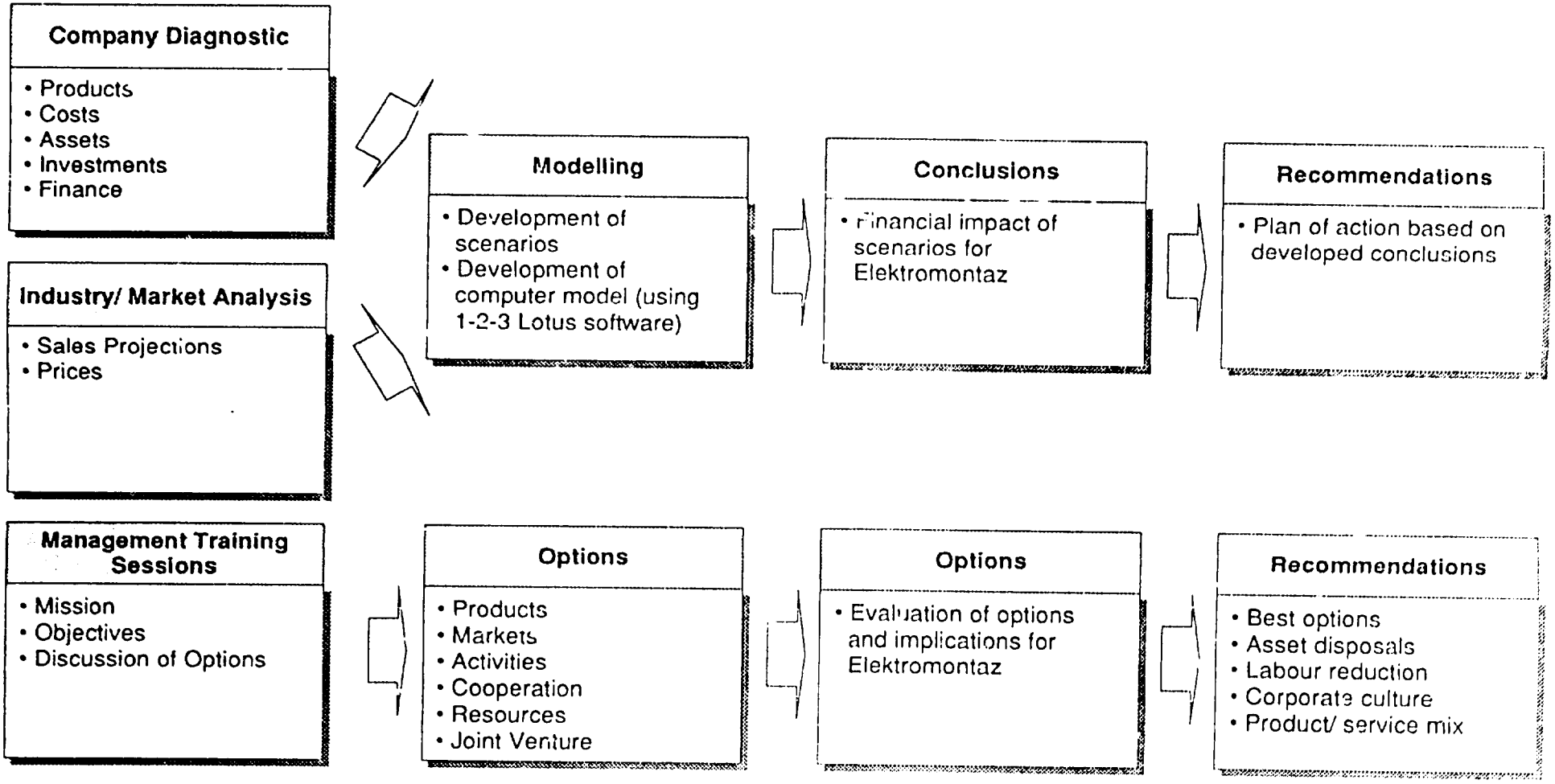
Summary of Methodology: Company Diagnostic



Introduction...

VARIOUS BUSINESS PLAN OPTIONS WERE DEVELOPED WITH ACTIVE COOPERATION OF ELEKTROMONTAZ'S MANAGEMENT

Summary of Methodology: Business Plan



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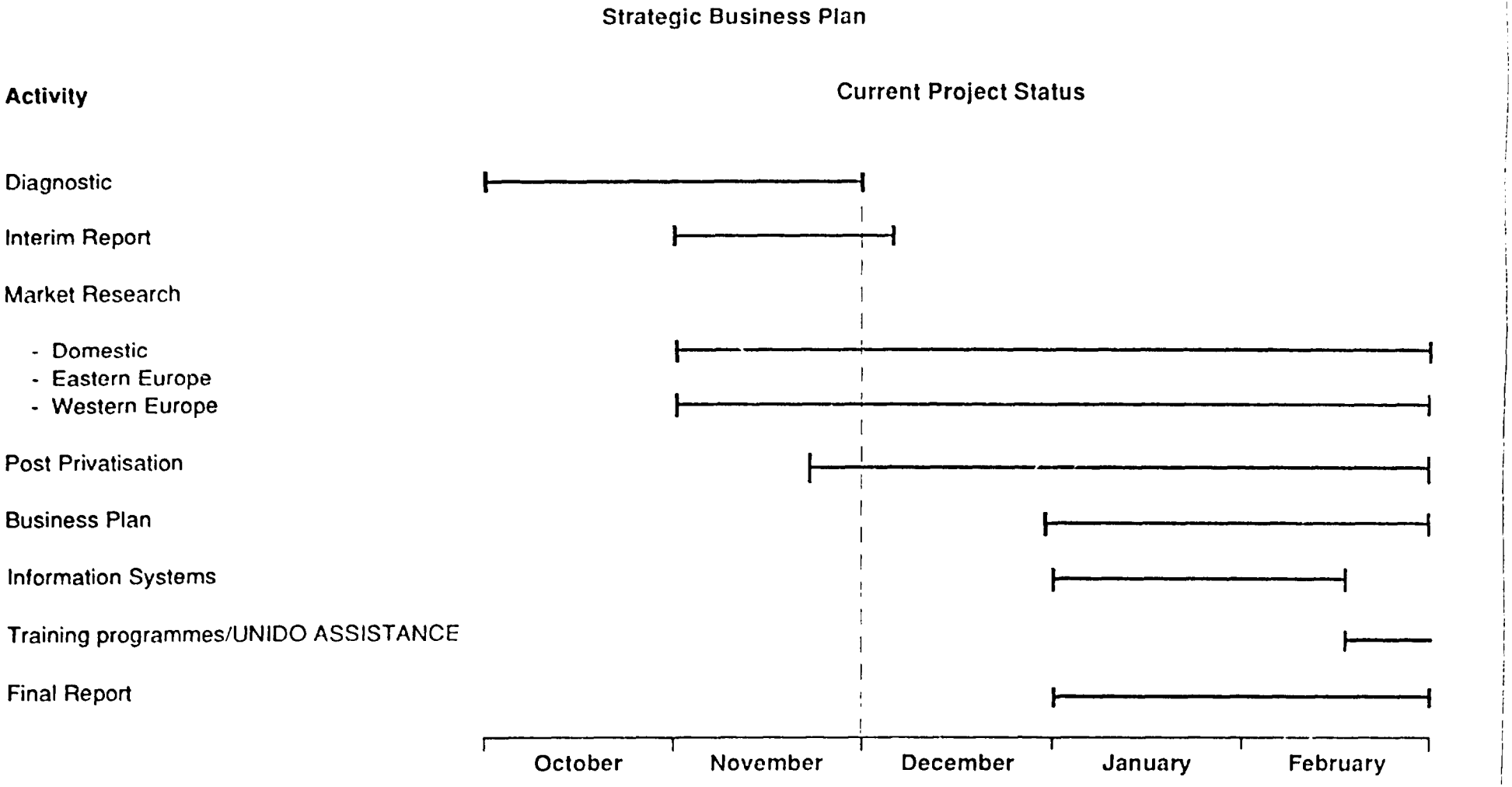
CENTRAL EUROPE TRUST

CENTRAL EUROPE TRUST HAS COMPLETED THE DRAFT FINAL PHASE OF THE PROJECT



CENTRAL EUROPE TRUST

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GIVEN THE UNCERTAIN FUTURE FACING ELEKTROMONTAŻ, MANAGEMENT MUST FOCUS ON THE FOLLOWING:

- ADDRESS THE KEY ISSUES
- EVALUATE OPTIONS
- TAKE RISKS MATCHED TO POTENTIAL RETURNS
- MANAGE
- SELL
- WORK

Source: CET Analysis

Executive Summary...

ELEKTROMONTAZ AIMS TO BE A MEDIUM SIZED PRIVATE COMPANY PRODUCING UP TO DATE INDUSTRIAL ELECTRICAL GOODS FOR INTERNATIONAL MARKETS AND OFFERING COMPETITIVE CONSTRUCTION/ INSTALLATION SERVICES

- Elektromontaz's management has to concentrate on the following objectives:
  - To update the technological level of Elektromontaz's product offering to world class levels
  - To locate new products utilising surplus capacity in the short term in order to generate cashflow
  - To find a growing investment segment within the construction industry for the construction/ installation division and services. By not finding new sources of cash flow in the short term, there is a danger that plans for new products will not come to fruition

- The 1991 soviet contract for transformer stations has alleviated the short-term cash position. This market is likely to remain unstable and could disappear within a short period of time

- Given that Elektromontaz management is reluctant to withdraw from its traditional markets, the following actions need to be taken:
  - Development of a clear strategy for each product/ service which identifies:
    - markets to be served
    - product development strategy i.e. joint venture, cooperation, licensing, or in-house development
    - allocation of responsibility within the organisation

  - Elekromontaz's equipment production and construction/ installation divisions needs to take action to prepare to compete in non-traditional foreign and domestic markets

ELEKTROMONTAZ FACES AN UPHILL STRUGGLE TO SURVIVE IN THE HIGHLY COMPETITIVE ELECTRICAL PRODUCTS MARKETS AND CONSTRUCTION/ INSTALLATION MARKETS

Market:

Elektromontaz's products are at least 15 to 20 years behind Western technology. Elektromontaz lacks the financial and technical resources, and marketing expertise required to sustain a competitive advantage in these markets

The need throughout industry to automate in order to reduce costs and improve customer service levels means that the demand for industrial electric equipment in Europe is likely to rise at 4% to 5% p.a. over the next 3 years. A similar pattern of growth is expected in Poland once economic recovery begins

The industry investment market continues to shrink in Poland offering fewer opportunities for firms selling services to this sector

Company:

Elektromontaz domestic sales have been negatively influenced by falling construction / industrial investment market in Poland. Consequently, the management have not been able to find significant new sources of revenue. Company's totally dependent on the unstable Soviet market for transformer stations

Elektromontaz's extreme reliance on one product for a single market forces the management to consider other products and market options

Elektromontaz is currently using only about one half of its production potential. Given this unused capacity, Elektromontaz could consider producing alternative produces such as security fences, gates, work screens, farm trailer bodies, storage bins and racks

Industry:

Because of the high expenditure required for product and process development, and opportunities for international marketing, industrial electrical and electronic goods sector is dominated by large multinational players such as Siemens, AEG, ABB and GE

The Polish industrial electrical and electronic good industry has traditionally been oriented to produce for the former "socialist" countries. Collapse of these old export markets for technologically dated products, over-capacity among domestic producers, and increasing imports will result in extremely high competition in the Polish industrial electrical / electronic goods sector

Competition in the construction/ installation sector continues to intensify among other Elektromontaz affiliates and newly formed private companies capable of delivering similar services

Executive Summary...

Product/ Service	Price	Place	Promotion
• Elektromontaz's current products are bigger, heavier, less reliable, and aesthetically less appealing than comparable products made by producers from the developed world • Elektromontaz's current product range is technologically obsolete by Western standards and can generally only be sold in the old "Socialist" block and some developing countries • Although having a highly experienced staff, Elektromontaz's construction/installation division faces an uncertain future due to the shrinking investment market in Poland	• Elektromontaz's products and service are price competitive with those of other Polish manufacturers, although this is difficult to assess products given the current lack of competition on the domestic market • Elektromontaz lacks an effective pricing strategy given its inadequate cost accounting system	• Elektromontaz relies on walk-in clients, quotes and repeat orders to sell its products • Elektromontaz sells a large proportion of its products to its own Construction/Installation Division • Elektromontaz sells to the former Soviet Union through Elektromontaz Export and Elektrim, one of the largest foreign trade organisations. Elektromontaz Export is interested in obtaining 20% of shares as Elektromontaz privatises	• Elektromontaz Equipment Production Division relies heavily on repeat orders from existing customers, especially the former USSR markets • Elektromontaz's Construction/ Installation Division also depends on repeat orders from such customers as Bogdanka coal mine and FSC Lublin • Promotional activity is low by Western standards, with heavy reliance on trade fairs, brochures and foreign trade organisations • Elektromontaz's personnel have little experience of direct personal marketing/selling, which is one of the main methods in developed economics for marketing/selling industrial goods

Source: CET Analysis

TO SUSTAIN LONG TERM COMPETITIVE ADVANTAGE, ELEKTROMONTAZ MUST TAKE ACTIVE MEASURES TO ADDRESS THE FOLLOWING ISSUES:

- Gaining closer links with markets and customers and developing the internal sales/marketing function for the equipment and construction/ installation divisions
- Adapting cost structure, employment and asset base to business needs
- Selling off social and other non-core business assets
- Improving organisation and management
- Implementing quality control procedures in line with world class manufacturing standards
- Subcontracting production and/or services when outside suppliers are more cost effective than internal operations
- Reducing levels of manufacturing integration while increasing manufacturing and service focus
- Strengthening competitive standing through partnership agreements, joint ventures with western producers, or through in-house development

BASED ON THE COMPANY DIAGNOSTIC, ELEKTROMONTAZ'S KEY STRENGTH IS ITS FLEXIBILITY TO PRODUCE ALTERNATIVE PRODUCTS AND OFFER SERVICES TO NEW END MARKETS

Strengths

- A 7,200 sq. meter building currently not utilised
- A management team willing to privatise and take necessary risks to explore new products/market options
- Relatively sound financial standing
- Strong relationship with Elektromontaz Export
- Well developed commercial links with the Soviet Union
- Good reputation, particularly on delivery, amongst existing customers for Elektromontaz's products and services.

Opportunities

- To utilise available production capacity to produce new products e.g. fences, gates, work screens etc.
- Some western companies interested in cooperation
- To divide the company into two profit centres. Construction/Installation Centre and Production Equipment Centre
- Spin-off the Transportation Division
- Target Construction/ Installation Division's services into other sectors, such as housing, infrastructure development projects
- Focus on other more industrialised regions in Poland through an intensive marketing / sales programme

Elektromontaz

Threats

- Loss of Soviet market for transformer stations
- Worsening cash-flow problems
- Competition from major world players such as Siemens, AEG
- Long recovery time of domestic industry, particularly of industrial investment
- Competition from other Polish state companies who are capable of producing transformers
- Competition from new small private businesses, especially against the Construction/Installation Division

Weaknesses

- Technologically outdated product range
- Lack of sales and marketing skills within the organisation
- Over-reliance on domestic and USSR markets
- Inadequate cost accounting system
- Poor reputation of East European technical products in developed markets
- Lack of an innovative organisational culture

Source: CET Analysis

CENTRAL EUROPE TRUST HAS IDENTIFIED TWO NEW PRODUCT OPTIONS WHICH COULD BE PRODUCED ON EXISTING MACHINERY OR COULD UTILISE EXISTING TECHNICAL EXPERTISE TO GENERATE ADDITIONAL CASH FLOW

Product	Comments	Value Added	Level of Competition	Fit with Elektromontaz
Steel products	Use existing facility to produce fences, gates, storage bins, security posts and racks. Would absorb capacity in metal forming, welding and paint department			
Water filter units	Considering the environmental contamination, filtration units to enhance water quality in workplaces, offices, and homes represent a growing segment.These can be small or large commercial units which could involve Elekromontaz in incorporating switches, controllers within the current range, body construction, welding etc.			

○ = Low ◔ = High

PRECISELY DEFINED SHORT TERM GOALS WILL BE THE KEY ELEMENT TO ELEKTROMONTAZ'S SUCCESSFUL FUTURE

Short Term

- Immediate investment in powder painting facility
- Investigate the opportunity of moving construction operations to the Polish commercial investment market, e.g. hotel, bank, business centres, supermarkets, other commercial investment
- Spin-off the Transportation Division
- Consider alternative options as to new products, such as security fences, gates, work screens, storage bins and racks
- Write mini business plans for all potential new products
- Fully develop the marketing/ sales department; train the personnel and give sales incentives
- Develop more direct contacts with end users through direct personal marketing/ selling
- Select the most financially advantageous privatisation options that does not drain the company's capital
- Introduce improved production flow methods to the existing process

Medium Term

- Upgrade and replace the metal forming machines and welding area
- Divide Elektromontaz into two separate profit centres
- Set up R & D department in order to improve design section
- Focus technical efforts on upgrading transformer stations
- Design and implement new management information systems
- Get an access to new technology and know-how by making an association of any other form of cooperation with a Western company
- Introduce total quality programme

Long Term

- Take energetic steps to set up own distribution network for domestic and export markets
- Discontinue production of less profitable products, such as measuring/ control devices, solid conductors
- Start to promote Elektromontaz brand name in the West through an aggressive advertising campaign

IN THE SHORT TERM ELEKTROMONTAZ MUST FOCUS ON MAXIMISING SALES AND PROFITABILITY OF EXISTING PRODUCTS AND SERVICES IN ORDER TO COVER COSTS AND IMPROVE PRODUCTS PARAMETERS

- Introduce incentives for sales persons and provide sales training. Ensure tight control of sales management over pricing decisions
- More proactive attitude to selling by establishing a sales force and maintaining other activities (e.g. permanent information about products)
    - Analyse list of current customers for products and send brochure to other enterprises of a similar nature but not on the list, possibly with a low price introductory offer
- Increase promotional efforts in selling products and services in order to raise awareness among potential customers that such products and services are offered by Elektromontaz
    - Give clear responsibility and sales targets to one individual (e.g. for sales representative)
    - Consider extending newspaper advertising
    - Analyse current customers for products and services and contact other enterprises of a similar nature
- Instigate a system of sales call reporting, giving salesmen a monthly target for "cold" calls (new private customers) and calls to existing customers. Use the reports from these visits and order documents as the basis for a marketing database
- Target commercial construction segment in Poland
- Prepare a document outlining Elektromontaz's production/ service capability and circulate to targetted companies in Western Europe
- Revise English product brochure, create company's trademark
- Evaluate new product options which can be manufactured on existing equipment such as:
    - steel products
    - water filtration systems
    - other electrical equipment such as low voltage switchgear
- Conclude the process of company restructuring
- Develop marketing department (introduce paper files and data base systems)

IN THE MEDIUM AND LONG TERM ELEKTROMONTAZ MUST FOCUS ON EXTENDING AND IMPLEMENTING THE DISTRIBUTION NETWORK AS WELL AS DEVELOPING NEW PRODUCTS AND CONSTRUCTION SERVICES

- Develop direct contacts with end users in the former Soviet Union to protect against changes in the distribution system
- Develop new upgraded products in such a way as not to close off markets outside of traditional ones:
  - Avoid market restriction clauses in licensing agreements
  - Ensure products developed in-house meet international standards
- Develop after sales service organisation in Poland
  - Reduce response time to customer call outs
  - Implement a system which ensures that data regarding quality and failures gets back to product design and production
  - Take action to identify and remedy all quality problems
- Extend company representation to other industrial areas in Poland through the network of sales representatives
- Develop and implement a motivation system for the company. Motivate agents to sell Elektromontaz products by appropriate means. For example, by paying them on a commission only basis
- Prior to entering any foreign markets recruit and train personnel with the appropriate language skills. R&D personnel also need to be trained in languages as they will commonly be part of the marketing department
- Focus technical efforts on upgrading low voltage switchgears
- Evaluate potential of diversification into water filtration systems and steel products
- Implement management information systems

ELEKTROMONTAZ MUST IMPLEMENT SYSTEMS WHICH IDENTIFY AND TRACK TRUE PRODUCT COSTS AND IMPROVE OVERALL OPERATING EFFICIENCY

- Implement profit centres around the following products and services:
  - Construction/ installation services
  - Transformers, switchgears and other electrical products
  - Transportation

- Form clear management structures for the different products and services - management by objectives
  - Establish actual material and labour usage for each product and service
  - Establish variable overhead usage for each product and service
  - Establish on an on going basis the variable costs of each new product or service

- Implement manpower reductions particularly amongst indirect labour and administrative staff
  - Train electricians in the equipment production division to perform welding services

- Shop around for supplies and extend supplier base

- Introduce quality improvement programme:
  - Bonus / penalty schemes to motivate operators in all manufacturing departments to maintain quality
  - Written instructions / boards to depict quality requirements
  - Quality control function is to be truly independent and should not instruct workers but should record / report bad workmanship to the managing director

- Develop computer-based management information system
  - Integrate with financial accounting system

- Communicate restructuring plans to the Workers Council

- Focus on production flow improvements
  - Reverse the production flow sequence
  - Extend welding stations
  - Use in-house storage
  - Replace and reorganise paint area

Revenues

- Due to the shrinking Polish investment market the Equipment Production Division is playing a major role in Elektromontaz's revenue in 1991
- Vast majority of the Equipment Production Division's revenue derives from the sale of transformer stations
- Elektromontaz's exports are completely dependent upon uncertain and totally unstable Soviet market
- By having only one distribution channel, the enterprise is subject to Elektromontaz Export's and Elektrim's contractual decision
- Elektromontaz has not yet been able to find alternative sources of revenue

Finance

- Although Elektromontaz made a profit in 1990 and during the nine months of this year, its financial position is susceptible to dramatic changes in 1992 due to very uncertain political situation in the former USSR

- Elektromontaz does not have dependable relationships with Polish or foreign banks in order to receive lower interest loans

- Currently obtained financial ratios are well above similar UK companies. This equation is likely to be altered as competition on the Polish market increases.

- Commercial receivables are well matched with payables. Some debtors delay payments due to their poor cash situation, especially in the state sector

Management and Organisation

- Elektromontaz has a top heavy organisational structure which needs to be streamlined in order to function more efficiently.
- Elektromontaz has a well developed engineering department staffed by well qualified electrical engineers. However, these engineers lack experience and exposure to modern product manufacturing technologies and production systems.
- Elektromontaz's management team is made up of enthusiastic individuals who through privatisation are willing to transform the organisation capably functioning in a free market economy.
- Elektromontaz lacks experienced personnel with training and knowledge in marketing/promotion/sales. Consequently Elektromontaz is very dependent on foreign trade organisations such as Elektromontaz Export and Elektrim.
- Elektromontaz does not have the innovation - driven organisational culture necessary to compete successfully against leading world manufacturers of electrical equipment.
- Steps should be taken to eliminate or reduce in size the following sections in the current organisational structure. Investment Section, Recreational Resort Section, Civil Defence Section, Organisational Affair Section, Legal Advisor, Labour Affair Department.

Costs

- Materials account for over 50 per cent of Elektromontaz's total costs, and are the most significant element of the cost structure.
- Margins currently being obtained on particular product groups are high due to the lack of competition on the Polish industrial goods market.
- The rising maintenance costs and depreciation level are the major indicators of the general obsolescence of Elektromontaz's assets.
- Management have not yet taken any steps to reduce the energy consumption.
- The increasing costs of doing businesses through intermediaries is having a negative impact on the Equipment Production Division.
- Elektromontaz's inventories, especially materials, are high due to the lack of a proper policy regarding inventory control.

Production and Assets

- Elektromontaz's machinery is approaching full depreciation. For this reason, the enterprise needs to make significant expenditure to upgrade its technological level.
- The enterprise has never realised its production capabilities.
- The plant layout is not adequate to efficient workflow and has to be altered to improve material movement.
- Work methods employed are totally dated, especially preparation and plan where present bottlenecks exist.
- Lead times are not acceptable and are one of the weaknesses responsible for making the enterprise less competitive.
- Quality control procedures need improvement in order to meet the International Standard Organisation requirements.

CET HAS BEGUN TO DEVELOP A CORPORATE TRAINING PROGRAMME WHICH IS A KEY ELEMENT OF THE RESTRUCTURING PROCESS

Corporate Training Programme

Management Training	Structural Change	Study "Tours"
• Corporate turnaround	• Sales force and training	• Manufacturer/ R and D
• Managing change	• Human resources management	• Distributor
• Selling and distribution	• MIS	• Customers
• Product development	• Financial Control	• ACCA
• Capital issues	• Manufacturing strategy	

ELEKTROMONTAZ MUST CONCENTRATE ON IMPROVING MARKETING, SALES, COST ACCOUNTING AND QUALITY CONTROL PROCEDURES THROUGH INTENSIVE TRAINING

Marketing and Sales

Marketing:

- Market research and analysis
- Segmentation
- Market Databases
- New product marketing
- New service marketing

Sales:

- Selling to the industrial sector
- Selling to the construction sector
- Negotiating skills

Production

Costing:

- Variable/ fixed cost analysis
- Overhead absorption
- Make/ buy decisions
- Cost centres/ profit centres
- Budgeting
- Variance analysis
- Inventory control

Quality:

- Total quality training

CONTENTS

CENTRAL EUROPE TRUST

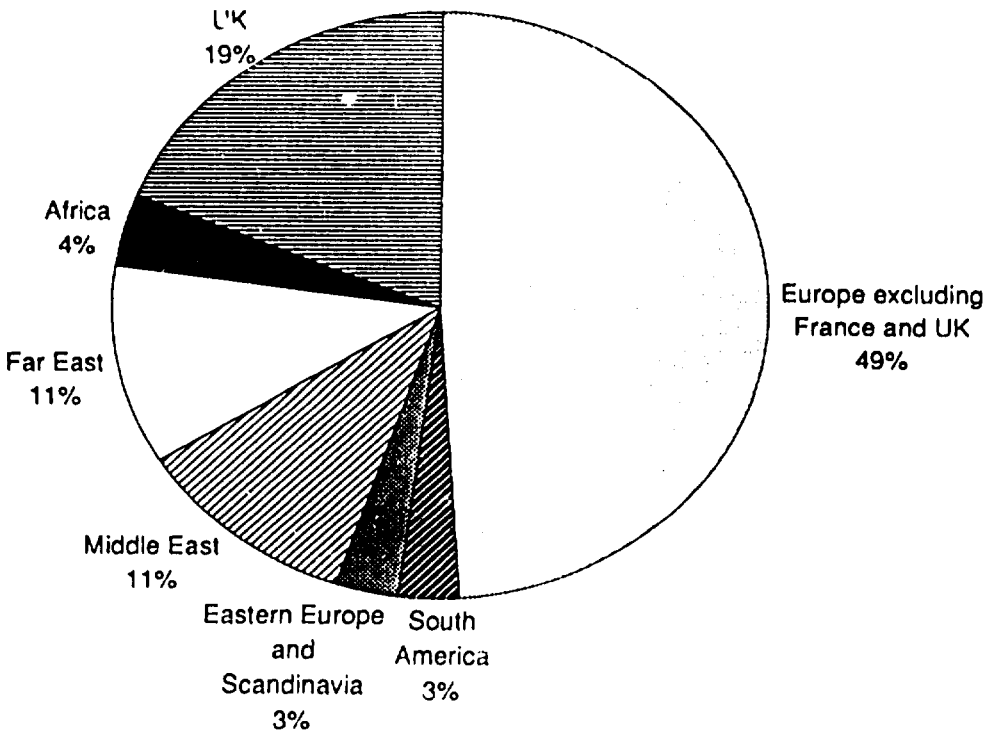
THIS CHAPTER PRESENTS...

- An evaluation of world markets in the electrical equipment industry
- A thorough analysis of transformers and switchgears' markets
- An outlook and possible trends of the Polish economy
- Polish construction sector in the near future
- Potential investments in the commercial construction sector in the Warsaw and Lublin regions
- Market study in Slask - the most industrialised region in Poland
- Market research on the current state of the Polish natural environment (water filtration systems)

DUE TO THE UNSTABLE NATURE OF MARKETS FOR INDUSTRIAL INVESTMENT GOODS, MOST WESTERN FIRMS OPERATING IN THE SECTOR TRY TO BALANCE THEIR EXPORT SALES BETWEEN SEVERAL GEOGRAPHICAL AREAS IN ORDER TO SPREAD RISKS AND MAINTAIN STEADY CASH FLOWS

Geographic Structure of Export Sales

Merlin Gerin



Source: Annual Report - CET Analysis

WESTERN MANUFACTURERS REGARD THE ASIAN AND EAST EUROPEAN MARKETS AS THE MOST PROMISING IN THE COMING YEARS

Markets	Trend	Key Features
Asia		• Already represents approximately 25% of world electrical equipment market • Rapid economic growth • Increased political stability
Eastern Europe		• High potential demand • Proximity of Western Europe • High investment requirements in infrastructural and industrial projects • Availability of multilateral finance
Western Europe		• Production capacity superior to demand • Most market segments already captured by major players • Some sectors still open to new entrants, automation, production control...
North America		• Captive markets, difficult for new entrants • Entry only possible through acquisitions. (exp: acquisition of Square 1 by Schneider)

Source: Goulden Report/ CET Analysis

EXPECTATIONS OF DYNAMIC MARKETS IN EAST GERMANY, EASTERN EUROPE AND THE SOVIET UNION HAVE DRIVEN WESTERN PRODUCERS TO NEGOTIATE A SERIES OF JOINT VENTURES AND ACQUISITIONS IN THE REGION

Electric Power equipment Markets
Eastern Europe, Selected Countries

Country	Market $m		
	1991	1995	1991 - 95
Poland	1700	2100	25%
CSFR	87	1200	1280%
Romania	99	860	770%
Bulgaria	40	450	1030%

Total annual sales of electric power equipment in eastern Europe is expected to reach $4.4 bn in 1991 and could double if foreign exchange barriers can be broken down

Direct Investments by Major Western Manufacturers

Western Investors	Target (country)	Result
ABB	Zamech (Poland)	JV
	Dolmel (Poland)	JV
	Lang Gyepgyar (Hungary)	JV
	Bergmain Bursig (E. Germany)	Take over
	A.C. (E. Germany)	Take over
	Energiebam Dresden (E. Germany)	Take over
ABB - Siemens	Turbine Producers (USSR)	Negotiation JVs
ABB - Siemens Weslingbene - GE	Skoda Plzen (CSFR)	Negotiation Partnership
Siemens	Electrical equipment (E. Germany)	4 take overs

Source: Frost & Sullivan, FT, CET Analysis

GIVEN THE SPECIFITY OF WESTERN MARKETS AND THE STRUCTURE OF THE INDUSTRY, IT IS EXTREMELY DIFFICULT FOR FOREIGN PLAYERS TO GAIN A FOOTHOLD ON THOSE MARKETS

Barriers to Entry

- Specific national technical requirements and standards, testing procedures
- Transportation costs, import duties, storage costs
- Traditional preference of local investors for known brands and products with proven reliability
- For major investment projects, equipment suppliers are usually domestic companies for national industrial policy reasons
- Market entry can be extremely capital intensive, taking into account costs of establishing a distribution network, marketing effort and servicing
- Distance, as delivery time is increasingly a key success factor
- Most industrial markets already suffer of a production over capacity

Source: *CET Analysis/Elektromontaz*

NONETHELESS ENTERING HIGHLY DEVELOPED MARKETS IS POSSIBLE UNDER CERTAIN CONDITIONS

Gaining access to these markets is possible

- Extreme price competitiveness
- Existence of bilateral Governmental agreements on trade, industrial cooperation...
- Weakness of competition on wide markets, for highly specific products
- Entry through "Trade Markets" recognised on the targeted market
- Partial production/assembly of product in buyer's country
- High proportion of induced local subcontracting
- Gaining access to existing local distribution networks

Source: *CET Analysis/ Elektromontaz*

THE LOW VOLTAGE SWITCH MARKET IS DOMINATED BY MANY OF THE SAME MAJOR MULTI-NATIONAL COMPANIES

Major Players : Low Voltage Switches

Company Name	Country of Origin	Product Group			
		Case Circuit Breakers	Miniaturised Circuit Breakers	Contractors / Overload Relays	Switches / Motor Isolators
Siemens	Germany	●	●	●	●
ABB	Sweden	●		●	●
Dorman - Smith	Germany	●	●	●	
Federal Electric	USA	●	●		
Mitsubishi	Japan	●			
Toshiba	Japan	●			●
Merlin Gerin	France	●	●		
Telemecanique	France			●	●
Klockner - Moeller	Germany	●		●	●
Crabtree	UK		●	●	●
Square D	UK	●	●	●	●
Vickers	UK			●	●
Sprecher & Schuh	Germany			●	●
AEG	Germany	●		●	●

Source: Industrial Market Research Report/ CET Analysis

DUE TO THE HIGH LEVELS OF EXPENDITURE REQUIRED FOR TECHNOLOGICAL PRODUCT AND PROCESS DEVELOPMENT, LOW VOLTAGE DRIVE CONTROLLERS IS A GLOBALLY COMPETITIVE SECTOR DOMINATED BY THE BIG NAMES FROM THE QUALITY ENGINEERING AND ELECTRICAL SECTORS...

Major Players: Low Voltage Drive Control Equipment

Company	Estimated Sales of Low Voltage Control Equipment * (£m)
Siemens	900
Telemecanique	800
Omron	700
ABB	700
Westinghouse	650
Allen Bradley	600
GE	500
Square D	500
Eaton	450
Mitsubishi	400
Fuji	400
AEG	300
Yaskawa	300
Toshiba	300
Klockner-Moeller	250
Sprecher & Schuh	180

* 1988 Sales

Source: Goulden Report

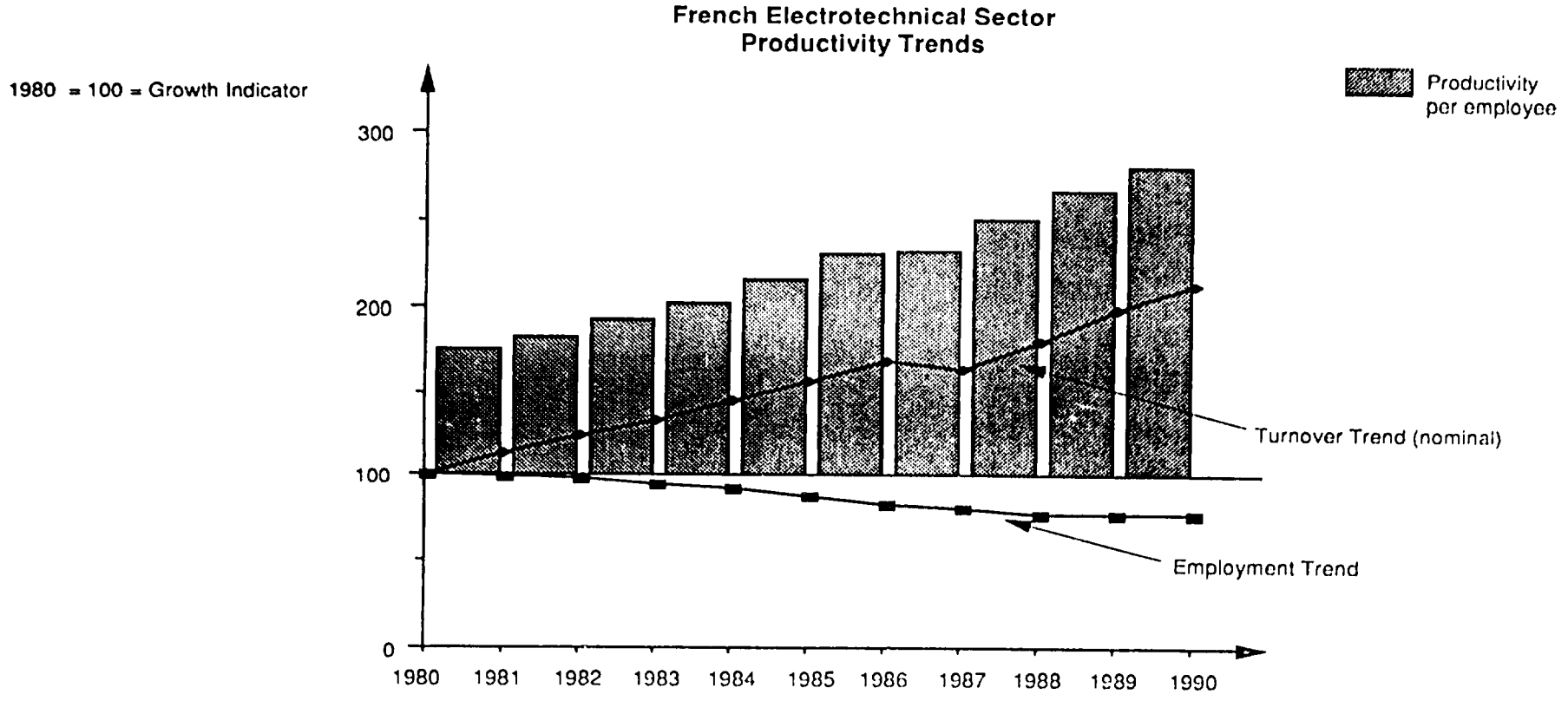
TYPICALLY, THESE LARGE FIRMS ARE ORGANISED INTO BUSINESS UNITS WHICH CONCENTRATE ON THE PRODUCTION OF A DISCRETE RANGE OF PRODUCTS FOR SPECIFIC MARKETS.

Merlin Gerin - Company Structure (France)

Subsidiary	Activity
April S.A.	Programmable logic controllers
Construction Electrique	Uninterruptible power supplies
Egic S.A.	High voltage disconnecting switches
France Transfo S.A.	Distribution transformers
Imunelec S.A.	Uninterruptible power supplies
Jeumont Schneider Transformateurs S.A.	High voltage transformers
Merlin Gerin Ales S.A.	Low voltage circuit breakers
Merlin Gerin Apes S.A.	Low voltage switchboards
Merlin Gerin Bretagne S.A.	Low voltage switchboards
Merlin Gerin Loire S.A.	High voltage switchboards
Prodipact S.A.	Low voltage circuit breakers
SAEM S.A.	Low and medium voltage transformer stations
Sarel S.A.	Low voltage enclosures
SFCME S.A.	Medium/ low voltage transformer stations
Societe Electrique d' Aubenas S.A.	Medium voltage circuit breakers
Varilec S.A.	Capacitors

Source: 1990 Company Accounts

DESPITE SUCCESSIVE YEARS OF GROWTH IN THE FRENCH ELECTROTECHNICAL SECTOR, THE NUMBER OF PEOPLE EMPLOYED HAS DROPPED. THIS ILLUSTRATES THE DRAMATIC IMPROVEMENTS MADE IN PRODUCTIVITY IN THE SECTOR OVER THE LAST DECADE



Source: CET Analysis

ALTHOUGH DEMAND IN THE USSR FOR TRANSFORMER STATIONS IS LIKELY TO REMAIN, THE MARKET'S PERSPECTIVES ARE GENERALLY UNATTRACTIVE BECAUSE OF PRODUCT SPECIFICATION AND THE LIKELIHOOD THAT BOTH WESTERN AND SOVIET PRODUCERS WILL ENTER THE MARKET

Market Attractiveness: Transformers Stations

Market Issue/Trend	Implications	Market Attractiveness
80% of Elektromontaz's Soviet end customers are in the oil and gas industry. A crucial source of hard currency for the SU and a priority target for Western FDI	• A strong demand is likely to remain for transformer stations given the Soviet Union's estimated market size: 100 Bln Zl p.a.) but competition will intensify as Russian and Western producers enter the market	
• Orders are for large volume on a contract basis • USSR's problems with finding financial resources are likely to continue	Large financing costs for Elektromontaz raised by stock builders requirements and uncertainty of payment	
• Product is specific to the USSR	Very difficult to sell the product in other markets	
Current situation in the USSR is likely to be altered radically and the Soviet Union will most likely be broken up into separate countries	Current contacts and agreements may become unrealisable due to the disappearance of existing Soviet institutions, for example Gosbank	
	Overall Market Attractiveness	Low

Source: CET Analysis

THE WORLD MARKET FOR TRANSFORMERS IS ESTIMATED TO TOTAL USD $6.781 MILLION PER ANNUM

Breakdown of Demand by Product

	USD $ mln	%
Generator Transformers	749	11.1
System Transformers	2,270	33.5
Distribution Transformers	3,755	55.4
Total	6,781	100

Source: Goulden Report 1991

REGIONAL DEMAND PATTERNS FOR TRANSFORMERS VARY AS THE OVERALL MARKET SHARES OF INDUSTRIALISED AREAS ARE FALLING

Regional Market Shares, Evolution

	1989		1991		Trend	Comment
	USD $ mln	%	USD $ mln	%		
Western Europe	896	17.6	1129	16.6		• Falling overall market share reflecting the trend set in the 70's • Reduced relative consumption • Reduced new demand
North America	942	18.5	1102	15		
Eastern Europe	933	18.3	838	12.4		• Demand restricted by poor economic condition • Market should grow at least to replace unreliable and unsafe material
Far East	1144	28.3	2393	35.3		• Largest market share, growing at the fastest rate. Increase in population and continuing demand from industry keeps these markets buoyant
Middle East	244	4.8	356	5.2		• Demand has increased after Iran - Iraq war • The entire capacity of Iraq and Kuwait have to be replaced
Latin America	390	7.7	617	9.1		• Growth still hampered by continuing economic problems but industrial demand will grow steadily

Source: Goulden Report

THESE CHANGING PATTERNS OF DEMAND HAVE AFFECTED TRANSFORMER MANUFACTURERS. RECENT YEARS HAVE SEEN CONSIDERABLE RE-ORGANISATION AFTER YEARS OF OVER-CAPACITY, UNREALISTIC CONTRACT PRICES, AND LOSSES

Transformer World leading manufactures	Recent Acquisitions, Mergers and JVs	
Asea Brown Bovery		
Toshiba		
Mitsubishi		
Siemens	**Europe**	• Formation of ABB • JV ABB - Ansaldo • Merger GEC (UK) and CGE (France) • Acquisition of France - Transfo and JS Transformers by Merlin Gerin • Acquisition of Tranfo-union by Siemens
GEC-Alsthom		
Hitachi		
Merlin Gerin		
Pauwels	**Europe/ USA**	• ABB took full control of its JV with Westinghouse
Elin		
Hawker Siddeley	**Japan**	• The big 3 are less active in acquisition, relying instead on a number of JVs and high export

Clearly, the industry has been very dynamic over the last few years and rationalisation and streamlining look certain to continue into the future while demand in the developed nations (home to the manufacturing giants) remains low

Source: CET Analysis - Goulden Report 1991

THE ANALYSIS OF EASTERN EUROPEAN MARKETS SHOWS THAT MOST COUNTRIES ARE TOTALLY SELF-SUFFICIENT AS FAR AS TRANSFORMERS ARE CONCERNED. IMPORTS REPRESENT A VERY SMALL PORTION OF THEIR MARKETS

Selected Eastern European Markets

Country	Market	Comments
EX - USSR	Distribution transformers: USD $320m	• Imports are small representing only 2% of the overall transformer market • Main suppliers: Yugoslavia, Finland and Japan • Exports are insignificant. The country limits production to domestic requirements and imports any short fall that may occur
Romania	Distribution transformers: USD $28m	• Very few imports are recorded with only Canada reporting exports in excess of USD $1 (Special transformers) • Romania is reported as producing mainly three times it's annual requirement of transformers, indicated exports around USD $100 mln p.a. (destination unknown)
Yugoslavia	Distribution transformers: USD $22m	• Imports now account for only 6% of the total market, France used to be an important source for the largest sizes • Exports constitute 45-50% of production. Destinations include countries in Eastern Europe, North Africa, Middle East, Far East and Latin America
Czechoslovakia	Distribution transformers: USD $17m	• Czechoslovakia has a largely self-sufficient market although around 20% of distribution transformers are imported from Yugoslavia • Some special transformers are imported from Germany, Scandinavia and France
Bulgaria	Distribution transformers: USD $15m	• Bulgaria is effectively a self-sufficient market in transformers • Some small imports from Western industrialised nations (Germany, UK, Italy, Japan and Denmark), principally consisting of distribution and special transformers
Hungary	Distribution transformers: USD $9m	• Hungary has a good electrical manufacturing background and largely satisfies its own market for transformers, with some also exported • Import represent only a small percentage of the market, and are largely restricted to special transformers (from Germany, Denmark, Austria and France)

Source: CET Analysis, Goulden Report 1991

THE ANALYSIS OF OTHER REGIONS OF THE WORLD INDICATES THAT DEVELOPING NATIONS ARE EQUIPPED WITH HIGH-TECH TRANSFORMERS SUPPLIED BY THE WEST

Rest of the World, Selected Markets

Country	Market	Comments
Egypt	Distribution transformers: USD $830m	• Distribution transformers are produced in Egypt by "El Maco" who have upwards of 50% of the market • Of import, 40% are supplied by the USA, France and Japan supply 20% of imports each. Minor importers are Germany, Austria, Netherlands, Belgium and Canada
Nigeria	Distribution transformers: USD $15m	• Industrial activity grew dramatically during the oil boom, and many large companies installed their own generators to ensure a reasonable quality of supply for continuous process plants as the Nation Electric Power Plant Authority could not expand fast • Imported distribution transformers are supplied by Japan (40%), Spain, UK, Germany, Canada, Yugoslavia and Belgium
Iraq	Distribution transformers: USD $8m	• The recent gulf conflict has obviously severely affected the market both in terms of physical destruction and economic blockade, all exact consequences are still unclear • Pre-war statistics indicate that all transformers are imported. Main suppliers of distribution transformers are Yugoslavia, Germany, Italy and several other minor producers
Iran	Distribution transformers: USD $6m*	• Because of the political situation, this star market of the 70's is now difficult to assess • Iran transformers presumably has maintained a good share of the much reduced market, though this cannot be confirmed • Main suppliers are Japan (USD $5 mln in 1990), UK, Germany and Yugoslavia

Source: CET Analysis, Goulden Report 1991

SELECTED WESTERN EUROPEAN MARKETS... GERMANY

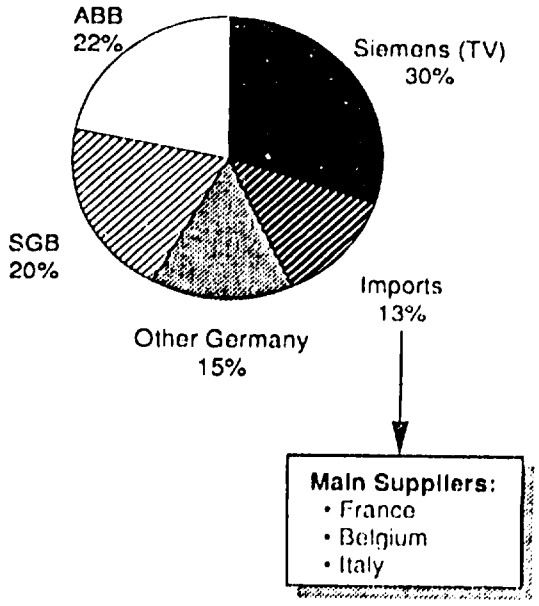
Market:

- Distribution transformers: USD $148m

Comments:

- Due to the necessary replacement of "East" German installations to bring them up to Western standards, and the requirement to link the two transmission and distribution networks, the market for transformers is likely to be buoyant for a considerable time in the newly reunified Germany
- There are no single phase transformers used now. Very few below 100 KVA
- Around 35% of distribution transformers production is exported. Half to Western European countries. Other significant export markets include Eastern Europe, Canada and USA, Nigeria, Iran and Saudi Arabia

Market Shares:



Source: CET Analysis, Goulden Report 1991

SELECTED WESTERN EUROPEAN MARKETS... FRANCE

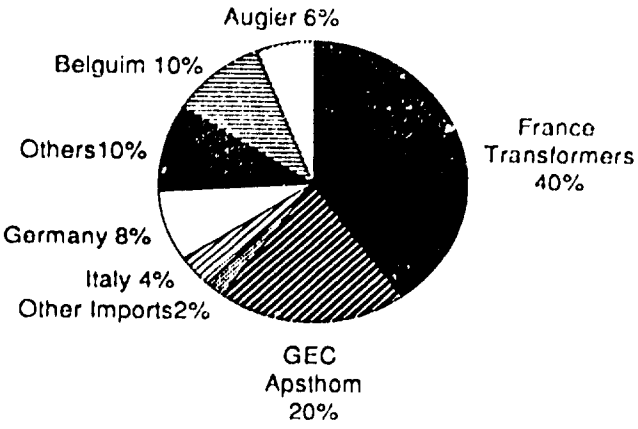
Market:

- Distribution transformers: USD $67m

Comments:

- Around 30% production exported. Principal markets include Saudi Arabia, Algeria, Nigeria and Egypt. Belgium and Germany together account for nearly one quarter of trade

Market Shares: *



* Estimated

Source: CET Analysis, Goulden Report 1991

SELECTED WESTERN EUROPEAN MARKETS... UNITED KINGDOM

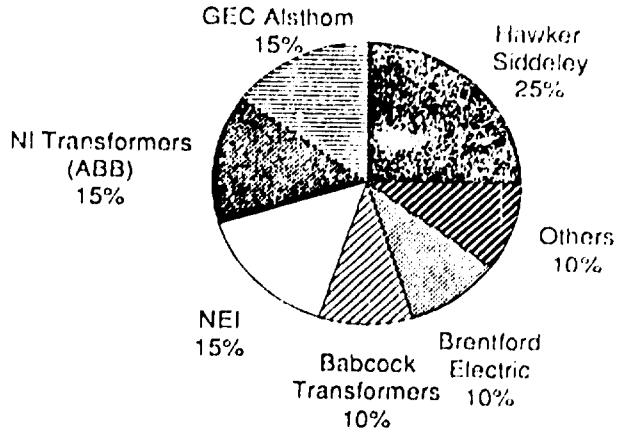
Market:

- Distribution transformers: USD $60m

Comments:

- Imports and exports of distribution transformers largely equate
- There are two or three new companies in the sector, which shows that the contraction from over 50 companies making transformers to KLA in 19 down to the half dozen survivors of 1970 has not prevented new aspirants ing the market

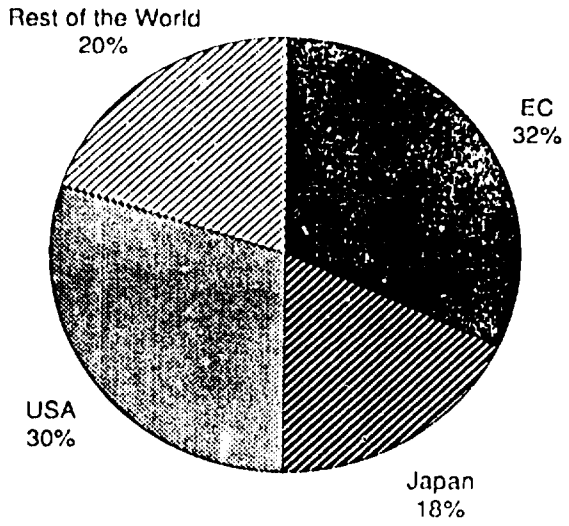
Market Shares:



Source: CET Analysis, Goulden Report 1991

SPECIALISING IN THIS TYPE OF PRODUCTS, THE EUROPEAN COMMUNITY IS THE WORLD'S LEADING PRODUCER OF LOW TENSION SWITCHGEARS. THIS STRUCTURE SHOULD BE FURTHER CONSOLIDATED WITH THE OPENING OF THE SINGLE MARKET

Composition of World Production
Low-Tension Switchgears, 1989

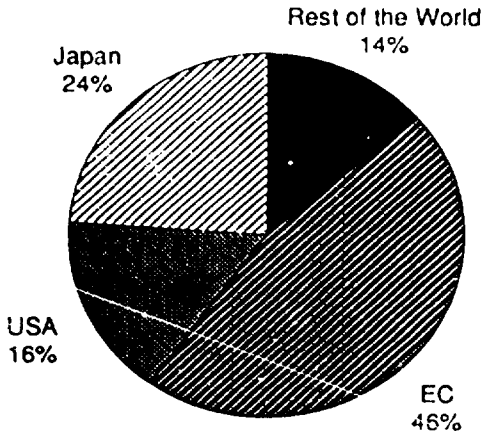


Total World Production 1989: ECU 15.9 bln

Source: Capiel

OVERALL EXPORTS OF LOW TENSION SWITCHGEARS THROUGHOUT THE WORLD AMOUNTED TO ECU 4.4 BLN IN 1989, EQUIVALENT TO 28% OF THE PRODUCTION

World Major Producers, Respective Shares



Total World Exports 1989:
ECU 4.4 bln

World major Producers, Export Rate
(Export/ Production)

EC	40.2%
Japan	37.3%
USA	14.9%
Rest of World	19.6%

Source: Capiel

INSIDE THE COMMUNITY ITSELF, THE PRODUCTION AND TRADE IS REGULARLY DOMINATED BY FOUR COUNTRIES, NAMELY GERMANY, FRANCE, THE UNITED KINGDOM AND ITALY, WITH A NOTABLE DOMINANCE OF GERMANY

Production and Trade, EC Producers, 1980 - 1989

Country	Production %		Extra EC Exports %
	1980	1989	1989
Germany	40.3	44.5	44.5
France	21	14.7	14.7
Italy	11.6	10	10
UK	15.8	8.5	8.5
Others	11.3	12.3	12.3
EC	100	100	100

Source: Capiel

COUNTRY ANALYSIS... GERMANY

Industry Structure	• A few big corporations and about 100 medium sized companies, managing to keep their market share very stable
Employment	47 500 people
Comments	• This production relies on a very dense industrial fabric, particularly a very powerful mechanical engineering sector which requires sustained levels of investment • Productivity: 30% higher than EC average • Most dynamic R & D (7% of turnover)

Products	Production	Market
	1988, $ mln	1990, $ mln
Relays	264	256
Connectors	876	808
Switches	133	161

Source: CET Analysis, Capiel, Panorama of EC Industry

COUNTRY ANALYSIS... FRANCE

Industry Structure	• 30 companies including 5 or 6 leading players
Employment	• 20 500 people
Comments	• Production growth cannot rely on a mechanical industry that is losing ground • The steady performance of the modernisation market is partially offsetting the lack of recovery in the new construction sector • Productivity slightly above European average

Products	**Production**	**Market**
	1988, $ mln	1990, $ mln
Relays	69	91
Connectors	417	371
Switches	72	73

Source: CET Analysis, Capiel, Panorama of EC Industry

COUNTRY ANALYSIS... UNITED KINGDOM

Industry Structure	• Around 20 companies including 3 big players
Employment	• 9 - 10 000 people
Comments	• The shrinkage of the national market should not continue as productive investment should stabilise in 1992 • The recovery of the oil sector is partially offsetting the downturn in the construction industry • FDI should increase, as big American and Japanese companies have chosen the UK as entry point in the EC • Overall productivity reaches EC average

Products	Production	Market
	1988, $ mln	1990, $ mln
Relays	63	113
Connectors	551	826
Switches	105	116

Source: CET Analysis, Capiel, Panorama of EC Industry

MARKETING STRATEGIES HAVE TO INTEGRATE THE PARTICULAR CHARACTERISTICS OF THE INDUSTRIAL EQUIPMENT MARKETS

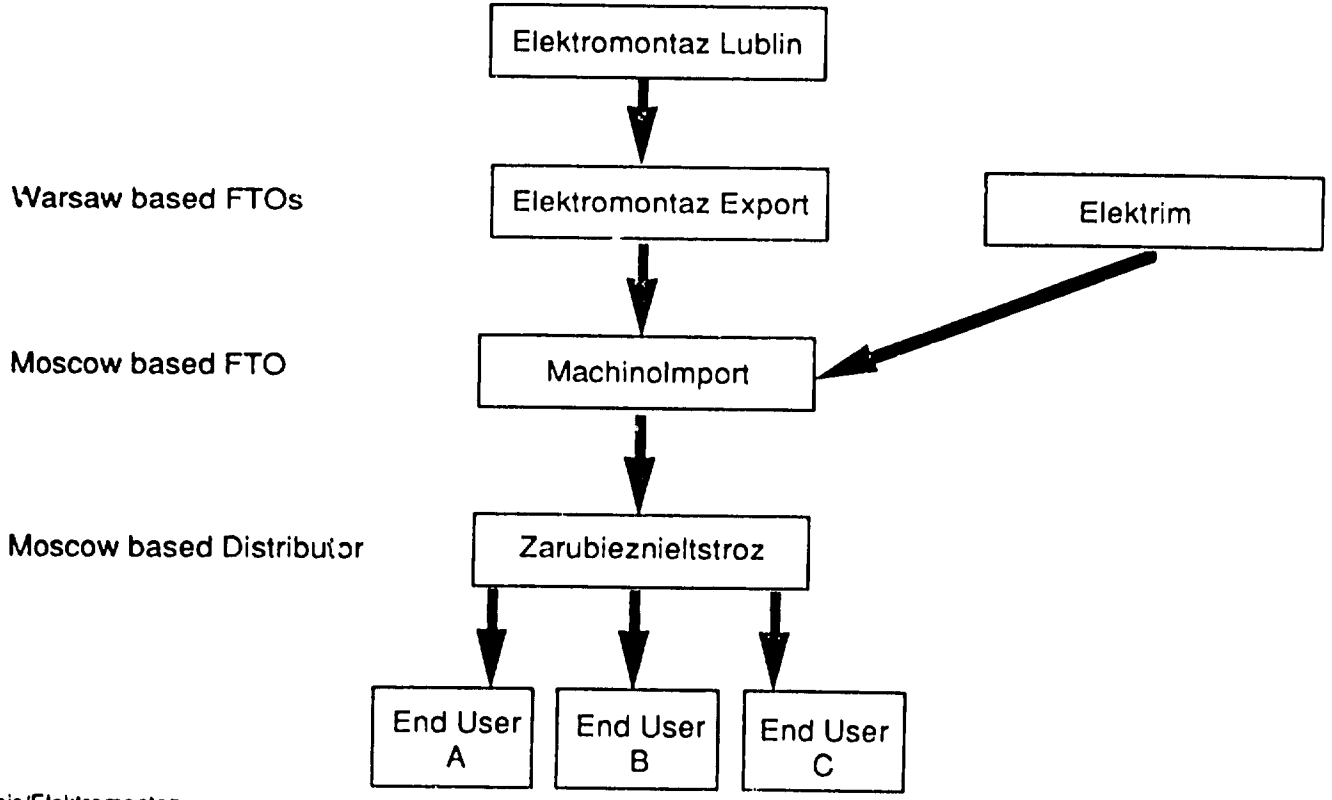
Industrial Equipment Market, Key Factors

- Total sales supervisor to total sales of consumer products
- Concentrated market, limited number of buyers
- Geographical markets concentrated around industrial areas
- Low price elasticity compared to consumer goods
- Purchase decision made by several individuals
- Manufacturers deal with professional buyers
- Usual absence of intermediaries

Source: CET Analysis

COMPETITIVENESS IN THE SOVIET UNION IS IMPEDED BY A CUMBERSOME DISTRIBUTION NETWORK, IMTERMEDIARIES ARE INVOLVED. THIS MULTIPLIES THE RISKS OF DISRUPTION AND INCREASES THE COST OF ELEKTRMONTAZ'S PRODUCTS TO THE END-USER

Soviet Market, Export Distribution Network



SOURCE: CET Analysis/Elektromontaz

ELEKTROMONTAZ IS TOTALLY DEPENDANT UPON ELEKTROMONTAZ EXPORT, A PRIVATE WARSAW BASED FTO WITH WHICH IT SIGNED AN EXCLUSIVITY AGREEMENT

Contractual Relation Elektromontaz/Elektromontaz Export

- Exclusivity Agreement signed with Elektromontaz Export in May 1991
  - Elektromontaz Export is the sole intermediary for Elektromontaz's foreign sales
  - Commission of 12-15%
  - Elektromontaz can sell directly but must pay 15% of transformer stations' contract to Elektromontaz Export
  - Possible Elektromontaz contract development: Agreement in the USSR with 12 months notice

Source: Elektromontaz Sales Report

A MORE DIRECT ACCESS TO INFORMATION ON POTENTIAL OPPORTUNITIES ON EXPORT MARKETS IS CRUCIAL TO THE DEVELOPMENT OF ELEKTROMONTAZ'S CLIENT BASE AS OF TODAY, VERY FEW ATTEMPTS WERE MADE TO ADVERTISE, MARKET OR SELL DIRECTLY TO THE END CUSTOMER

Elektromontaz's Marketing Effort

Advertise	- Advertises in an Electrical Engineering Catalogue distributed throughout the Soviet Union - Stated attending international trade fairs
Contact End Customer	- When knows, systematically send technical documentation, but poor follow up
Collect Information On Export Markets	- May cooperate with info-consult which would provide information on contact opportunities on the German, Russian and Middle Eastern Markets

Source: CET Analysis/Elektromontaz

BASED ON THE PREDICTIONS MADE BY EXPERTS IN THE CENTRAL PLANNING OFFICE, TWO POSSIBLE OPTIONS ARE POSSIBLE FOR THE POLISH ECONOMY IN 1992

Potential Economic Trends: 1992 - 1993

Option I: Further recession of the economy

Option II: Possible restrain of the slump and slight development already in 1992

Economic Indicators	1990	1991	1992		1993	
			I	II	I	II
Gross Domestic Product	606.7	547,0	520,2	555,4	510,8	576,0
	88,4	90,3	95,1	101,5	93,2	103,7
Consumption	372,3	376,0	359,4	390,6	367,0	387,5
	88,3	101,0	95,6	103,9	102,1	99,2
Accumulation	184,4	164,8	154,6	159,0	139,6	172,2
	75,2	89,4	93,8	96,5	90,3	108,3

in trillion Pzl previous year = 100

Source: Central Planning Office

GIVEN THE PRESENT ECONOMIC SITUATION AND MARKET CONDITIONS AS WELL AS THE STRONG INTERLINKAGE BETWEEN POLISH ECONOMY AND INTERNATIONAL FINANCIAL INSTITUTIONS SUCH AS THE INTERNATIONAL MONETARY FUND AND THE WORLD BANK, POLISH GOVERNMENT WILL HAVE TO TAKE RADICAL ACTIONS TO REDUCE INFLATION IN THE NEAR FUTURE

Projected Inflation Rates* : 1992-1993

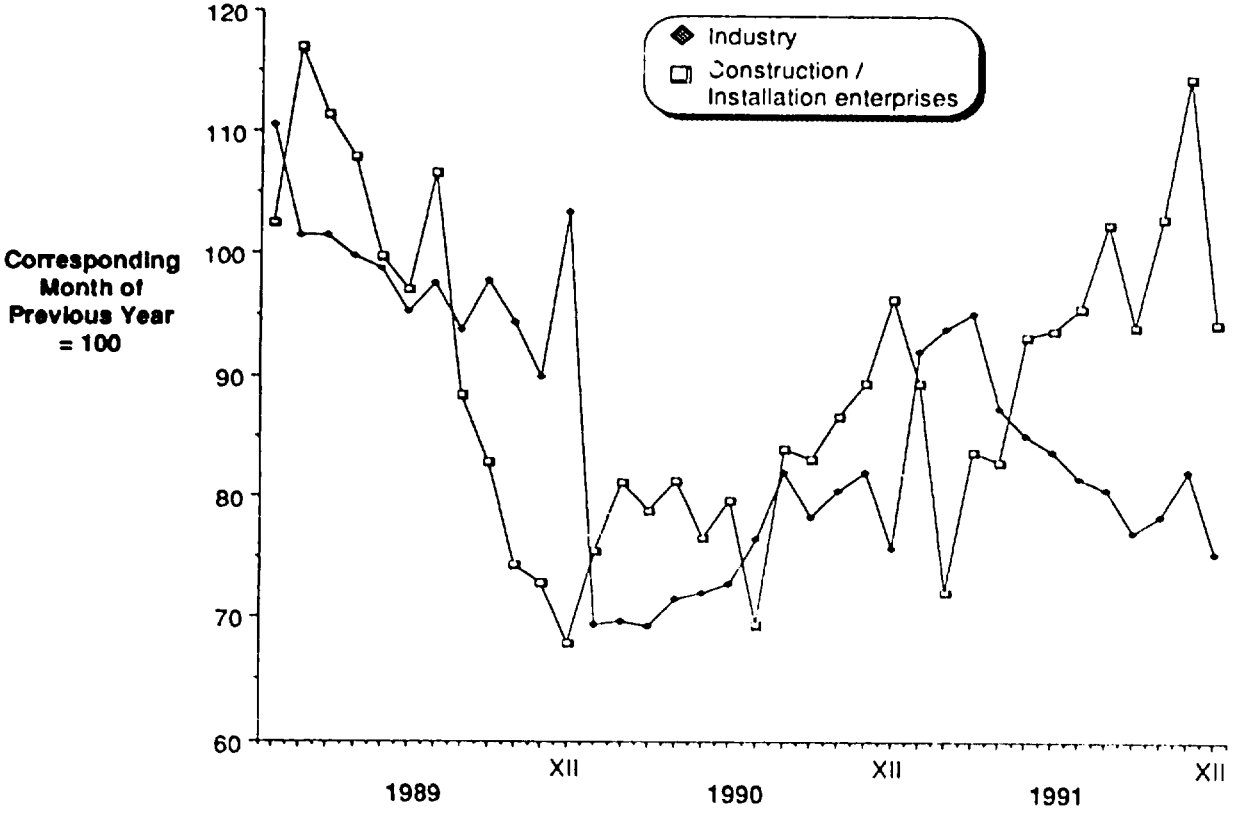
1992	7%	4.5	3%	3.5	3%	3%	2%	1.5%	2.5%	3%	3%	3%	40%
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	
1993	2.5%	2.5%	2%	2%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	2.0%	1.5%	25%
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	

* Error likelyhood is in the order of 0.5%

Source: Central Planning Office

CRISIS STATE OF THE WHOLE ECONOMY HAS INFLUENCED POLISH ENTERPRISES' PERFORMANCE OVER THE LAST TWO YEARS. ECONOMIC SITUATION IN THE COMING YEARS WILL BE DETERMINED BY THESE RECESSION TRENDS

Dynamics of Production in Industry and Construction



Source: CET Polish Construction Market Research

Selected Economic Indicators

	1991 / 1990 Change
Gross National Product	-21%
Money Reserves	-45%
Industrial Output	-37%
Work Yield	-25%

	31.12.1991
Budget Deficit	27.000 bln PZL
Unemployment	2.1 mln

IRRESPECTIVE OF POSSIBLE CHANGES IN BUILDING DEMAND OVER THE NEXT TWO YEARS, PRIVATE SECTOR'S SHARE IN ALL INVESTMENT OUTLAYS IS GOING TO GROW SIGNIFICANTLY

Building Demand Forecast : 1992 - 1993

Variant 1 - pessimistic
• Investment demand falls by 5% in 1992
• Investment outlays drop by further 5% in 1993

Variant 2 - optimistic
• Investment demand grows by 5% in 1992
• Investment outlays rise by further 6% in 1993

Structure of Investment Outlays by Sector
(trillion PZL)

	1990	1991	1992		1993	
Total	116	106	V.1	100	V.1	95
			V.2	111	V.2	128
Private Sector	25	27	V.1	30	V.1	35
			V.2	35	V.2	51

Source: CET Polisn Construction Market Research

AS FAR AS CONSTRUCTION/INSTALLATION OUTPUT IS CONCERNED IT IS ESTIMATED THAT THE POTENTIAL INCREASE IN PRODUCTION WILL REFER MAINLY TO REPAIR WORKS

Construction/ Installation Output Forecast: 1992 - 1993
(trillion Pzl)

	1992		1993	
	V.I	V.2	V.I	V.2
Construction/ installation output	104	111	104	118
• Public sector	65	67	63	68
• Private sector	37	44	41	50

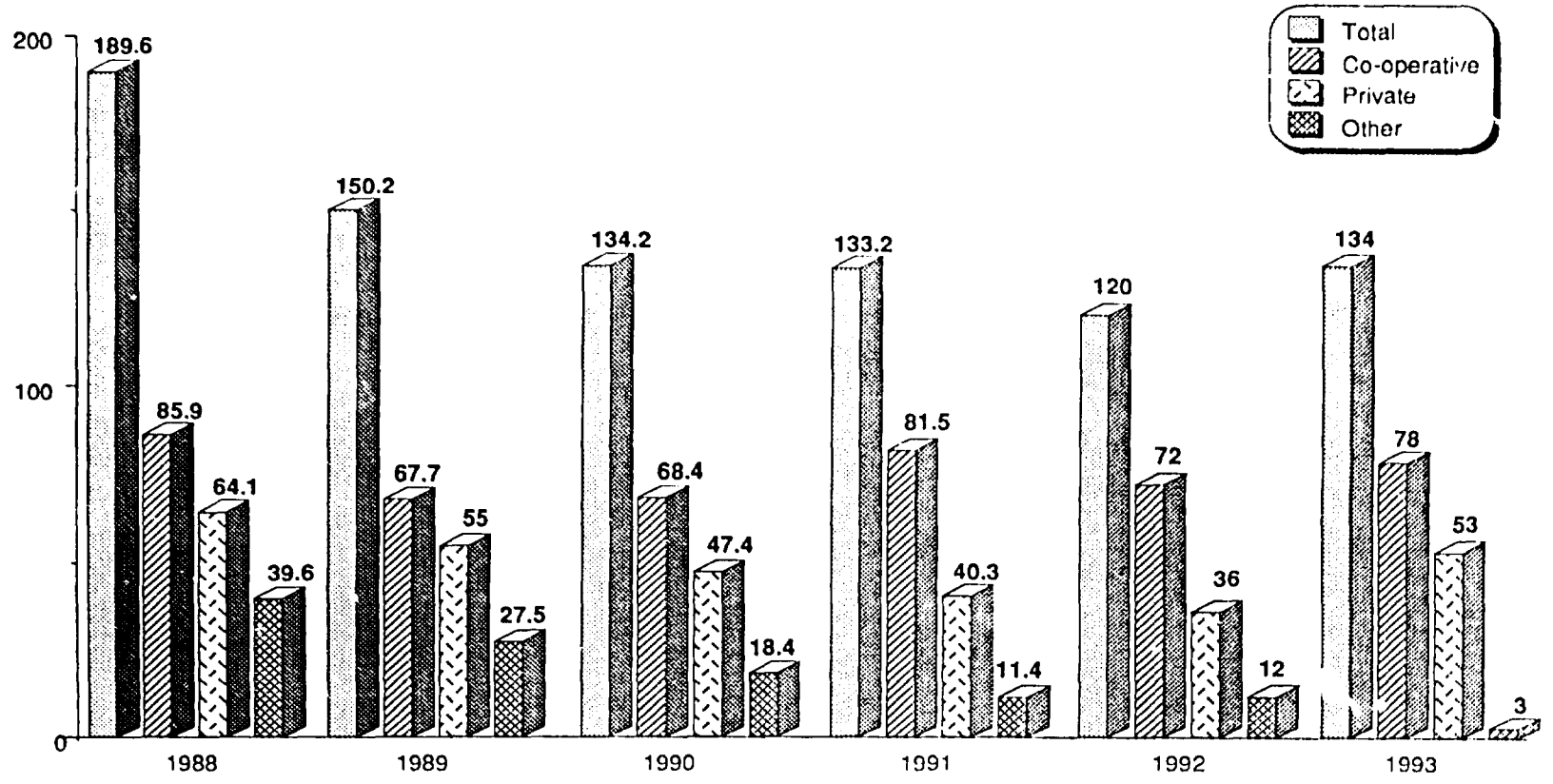
	1992		1993	
	V.I	V.2	V.I	V.2
Investment Works	61	62	58	62
• Public sector	42	42	37	38
• Private sector	19	20	21	24

	1992		1993	
	V.I	V.2	V.I	V.2
Repair Works	43	49	46	56
• Public sector	23	25	26	30
• Private sector	20	24	20	26

Source: CET Polish Construction Market Research

POLISH HOUSING CONSTRUCTION SECTOR IS NOT EXPECTED TO RECOVER VERY SOON. THE NUMBER OF DWELLINGS COMPLETED IS MUCH LOWER THAN THAT ACHIEVED IN THE 1980s. HOWEVER, CERTAIN SIGNS OF RECOVERY WILL BE NOTICEABLE IN 1993, ESPECIALLY AS FAR AS PRIVATE CONSTRUCTION IS CONCERNED

Number of Dwellings Completed : 1988 - 1993*
(in thousands)



* forecast from 1992

Source: CET Polish Construction Market Research

DESPITE THE RECESSION IN THE POLISH INVESTMENT MARKET, THE NUMBER OF COMPETITORS INCREASED SIGNIFICANTLY IN 1991, ESPECIALLY IN THE PRIVATE SECTOR

Construction Economic Units Breakdown by Sector	31.12.1989	31.12.1990	31.12.1991	1991 Corresponding Changes 31.12.90 = 100
Total number	148641	173934	181859	104.6
• Public sector:	1640	1846	1742	94.4
- state-owned enterprises	1455	1595	1430	89.7
- municipal enterprises	4	4	106	2650.0
- one-man treasury-owned companies	61	57	46	80.7
- other state companies	120	190	160	84.2
• Private sector	2002	6547	9517	145.4
- private companies	1500	5646	8187	145.0
- joint ventures	11	71	232	326.8
- building co-operatives	459	732	998	136.3
- building foundations	17	21	18	85.7
- foreign small-scale enterprises	15	77	82	106.5
• Domestic small-scale entrepreneurs and individuals	144999	165541	170600	103.1

Source: General Statistical Office

GOVERNMENT INVESTMENT SUPPORT WILL REFER TO THE MODERNISATION OF SOME BRANCHES OF THE INDUSTRY FINANCED MAINLY BY INTERNATIONAL INSTITUTIONS

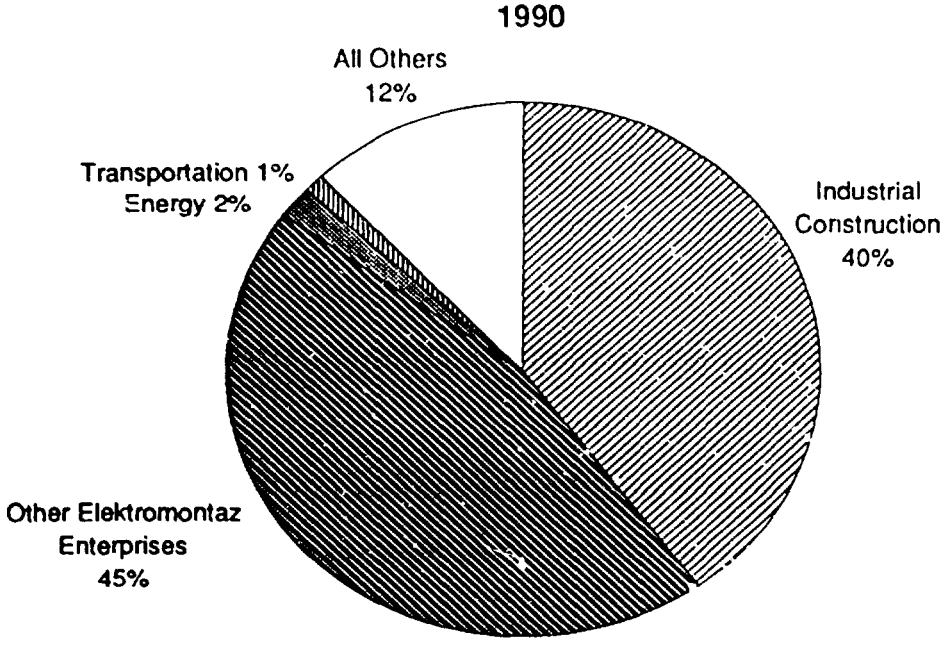
Government Investment Actions: 1992 - 1993

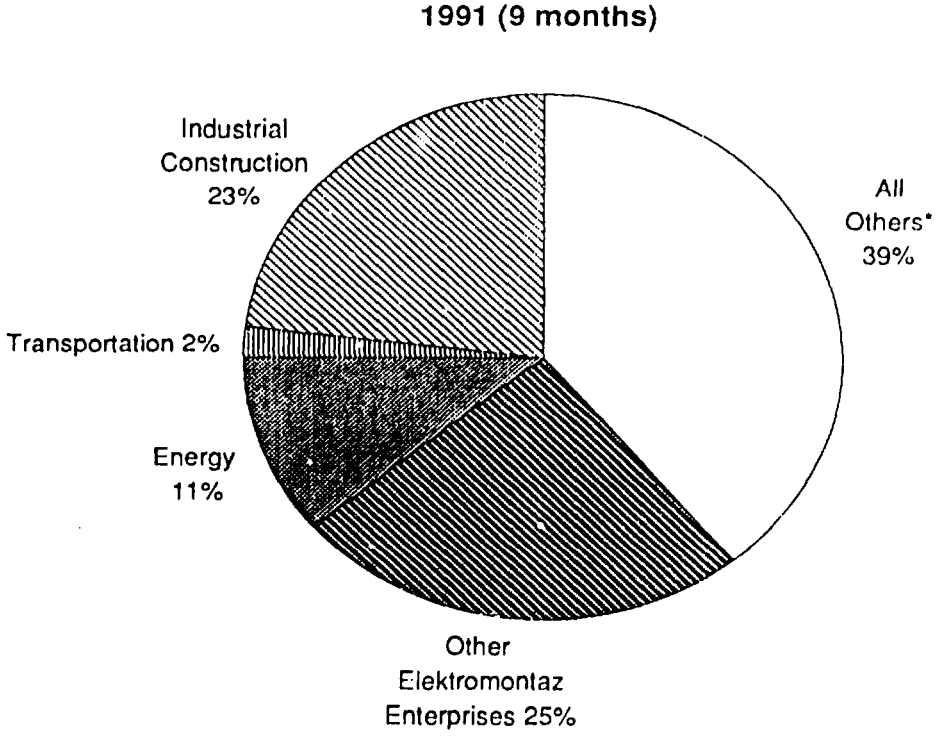
Investment	Comments	Financial Support
Budget Investments	They were to be terminated in 1992 and 1993. But due to the current state of the budget this is not likely to be fulfilled until the end of 1994	At the moment there are negotiations with foreign banks to establish financial consortiums or find any western investor
Reconstruction and modernisation of the Polish transport network	This group of investments includes the Polish railway network modernisation and building of international highways West-East and North-South	There are the following credits granted by: The World Bank, the Investment European Bank and the European Bank for Reconstruction and Development
Infra-structural investments of the Polish power industry	This investment puts special emphasis on environmental protection in Poland and the extraction industry, e.g. gas, oil and energy	This will be also supported by western credits and loans as well as potential participation of international investors

Source: CET Polish Construction Market Research

Domestic Market...

IN 1991, ELEKTROMONTAZ'S PRODUCTS AND SERVICES ARE OFFERED TO A MORE DIVERSE DOMESTIC CLIENT BASE





* Other - Include various industrial sectors and private businesses

Source: CET Analysis/Elektromontaz

Domestic Markets...

ALTHOUGH THE MARKET FOR SWITCHES IS LIKELY TO GROW IN THE MEDIUM TERM, IT IS RELATIVELY SMALL AND LIKELY TO BE COMPETITIVE AS OTHER POLISH ENTERPRISES AND IMPORTS ENTER

Market Attractiveness: Low Voltage Switchgears

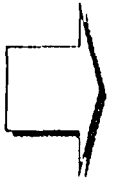
Market Issue/Trend	Implication for Elektromontaz	Market Attractiveness
• Very wide customer base throughout all sectors of Polish industry	• Demand has held up best during the recession and is likely to rise fastest on economic recovery	+
• Estimated future growth opportunities are limited	• Relatively small market for standard products implying low margins	−
• Many Polish enterprises capable of competing with Elektromontaz e.g. Elester, Elta, other Elektromontaz Enterprises	• Competition is likely to erode profit margins	−
• Demand patterns from month to month are very steady. Small purchases mean that cash payment is common and credit is not an important criteria for most customers	• Good potential source of cash flow	+
• Elektromontaz's product technology is 15 to 20 years out of date	• Very limited export potential of current product range	−
• Customers in Poland are soon likely to place more value on product quality, reliability and aesthetics and pay less attention to price • Entry barriers posed by transport costs, tariffs, and technical standards are low	• High threat from imported switchgear • Costs associated with modernising product range are high	−
	Overall Market Attractiveness	Low

Source: CET Analysis

Domestic Markets...

ELEKTROMONTAZ HAS THE OPPORTUNITY TO BECOME A MAJOR PLAYER IN THE POLISH COMMERCIAL INVESTMENT MARKET. A SIGNIFICANT NUMBER OF NEW INVESTMENTS ARE TO BEGIN IN THE NEAR FUTURE CREATING A LARGE SOURCE OF CASH FOR POTENTIAL PARTICIPANTS SUCH AS THE CONSTRUCTION / INSTALLATION DIVISION

Commercial Investment in the Warsaw Region	Amount (mln USD)
Hotel with office centre located in the Western part of Warsaw 250.000 sqm	300
Business Centre	80 - 90
3-Star Hotel	70 - 80
4 & 5-Star Hotel	90 - 110
Cargo Modlin	2000



Comment

Given current Polish conditions, investment in the East vary from the West due to the following

- lower labour costs
- higher costs of infrastructure investments, such as power lines, water supply systems, wiring systems, liquid wastes

Western Example:
Cost of 3-Star hotel in Vienna amounts to 50 - 60 mln USD

Source: CET Warsaw Market Research

DUE TO THE SHRINKING INDUSTRIAL INVESTMENT MARKET, ELEKTROMONTAZ MUST EXPLORE OTHER SECTORS, SUCH AS COMMERCIAL INVESTMENT IN THE WARSAW REGION

1993 - 1996 Perspectives

Potential investments:

- Development of Praga District
- Investment in Ochota District, Filtrowa Street
- Development of Skocznia na Mokotowie Area
- Development of Stadion Dziesięciolecia Area
- Investment in Zoliborz District, Marymoncka Street
- Development of Gdansk Station Area

Source: CET Warsaw Market Research

NEW COMMERCIAL INVESTMENT IN WARSAW ARE OFFERING GROWTH OPPORTUNITIES FOR THE CONSTRUCTION / INSTALLATION DIVISION

1992 Potential Investments

Investment	Place	Investor
Hotel	Srodmiescie District	Gromada
Bank and Business Centre	Srodmiescie District	NBP - Epstein (USA)
Hotel	Srodmiescie District	Hayatt
Hotel	Srodmiescie District	Holding Wars - Altea (France)
US Business Centre	Srodmiescie District	USA
Hotel	Ochota District	Australia
Opera Hotel	Mokotow District	USA
Hotel	Srodmiescie District	Warimpex
Hotel	Srodmiescie District	Holding Wars - Pullman
Trade and Business Centre	Central Warsaw Station Area	—
Business Centre	Mokotow District	Curtis (USA)
Trade Centre	Culture and Science Palace Area	—
Store Chain	Teatralny Square	—

Source: CET Warsaw Market Research

NEW COMMERCIAL INVESTMENT IN WARSAW... RENOVATIONS

Owner	Action
ORBIS	• Renovations of existing facilities • In the near future the following hotels will be renovated: Grand, Europejski, Victoria, Solec, Vera, Holiday Inn
GROMADA	• The Near Airport Hotel will be completed next year • Dom Chlopa Hotel has to be renewed immediately
SYRENA	• There are 3 signed agreements on the renovation of the following hotels: Polonia, Saski, MDM • The Warszawa Hotel is likely to be renewed in a few months

It is estimated that the cost of each renovation is in the order of 30 mln USD

Source: CET Warsaw Market Research

Domestic Market...

THE PROXIMITY OF THE LUBLIN REGION TO THE COUNTRIES OF THE COMMONWEALTH OF INDEPENDENT STATES GIVES POLISH COMPANIES OPERATING HERE A REAL ADVANTAGE OVER OTHERS. THE LUBLIN CONSTRUCTION MARKET WILL BE GROWING FAST DUE TO THIS LOCATION, ATTRACTING FOREIGN INVESTORS

Potential Investments in the Lublin Region*

Lublin Voivodship	Lublin Town
Krasnystaw Elevator	Down Town Office Building
Zamosc Water Processing Plant	Old Town Renovation
Wrotkow Heat and Power Plant - Phase II	Unia Hotel - Renovation and building a new one of international standard
Dumping Ground Investment - North of Lublin	Readaptation of Rury District
Strzeszkowice Water Intake	One-family Housing Estates
	Waste Material Utilisation Investment
	Ursus Foundry
	Multi -level car parks

* precise schedule is not specified yet, but these plans are for the near future (1-2 year period)

Source: CET Lublin Market Research

Domestic Markets...

IN ORDER TO ASSESS THE DOMESTIC MARKETS WITH MOST POTENTIAL FOR ELEKTROMONTAZ, CET PERFORMED A MARKET STUDY IN SLASK - THE MOST INDUSTRIALISED PART OF POLAND

Interviewed / Questioned

Enterprises

- 134 firms
- 7 branches of industry
- 5 Voivodships

Public Authorities

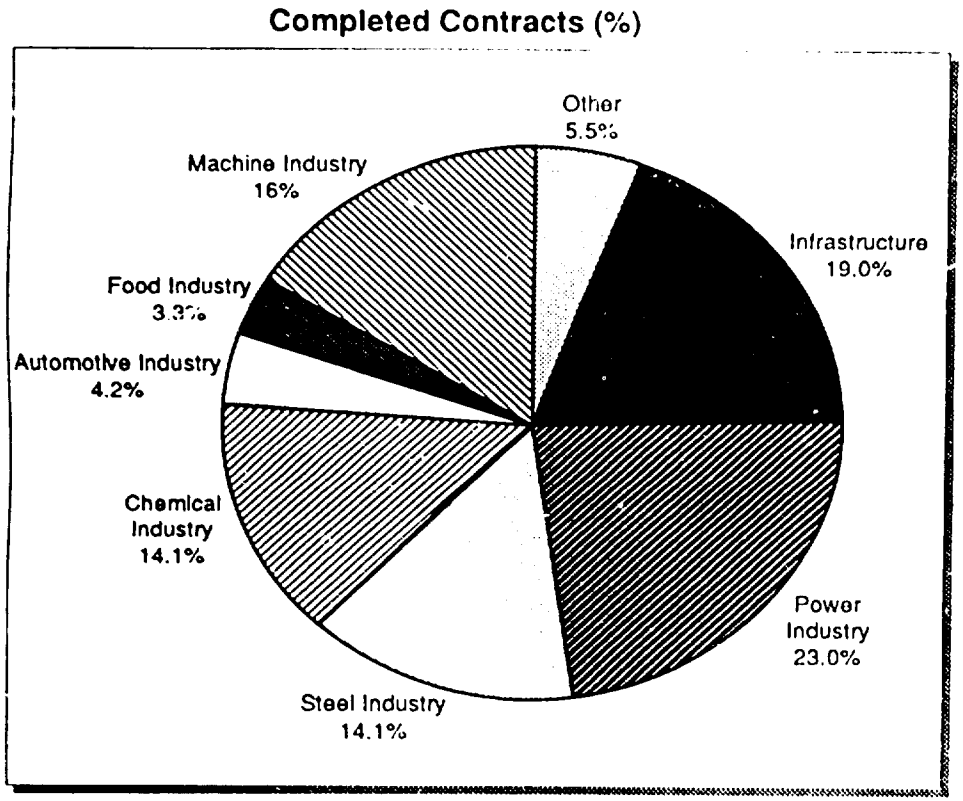
- Katowice - Public Development Dept.
- Czestochowa - Economic Development Dept.
- Bielsko Biala - Economic Development Policy Dept.
- Opole - Economic Development Dept.

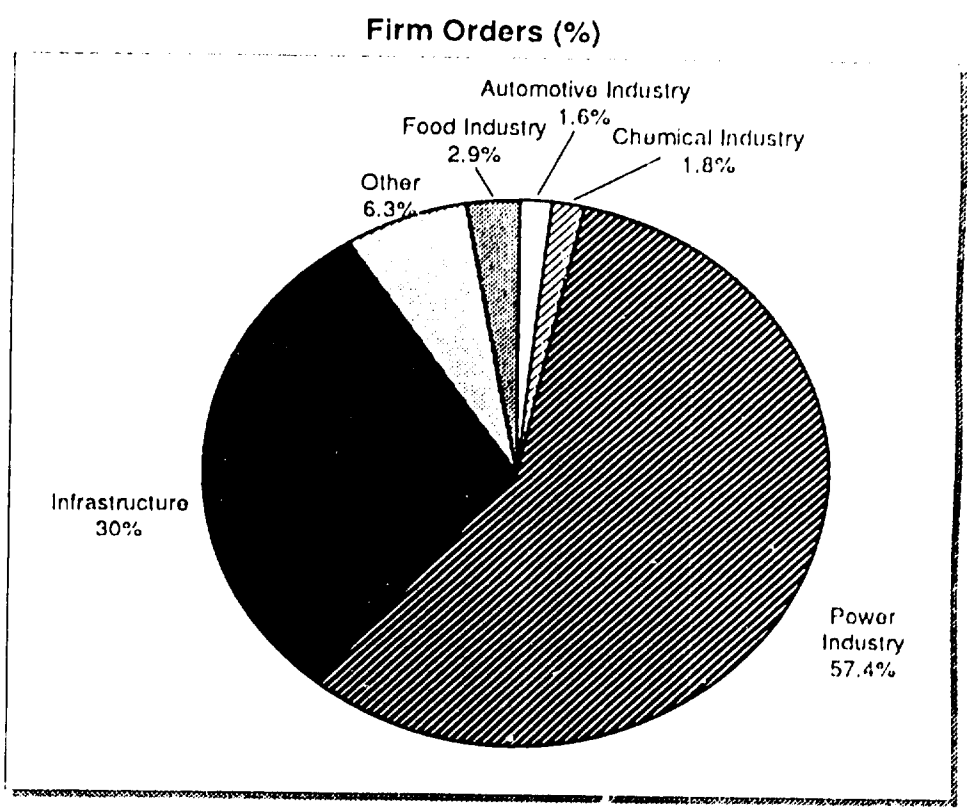
Others

- GUS
- Economic Academy in Katowice

AN ANALYSIS OF THE ORDER POSITION OF ELECTRICAL CONTRACTORS IN THE REGION SHOWS THAT INFRASTRUCTURE PROJECTS AND PROJECTS IN THE POWER SECTOR HOLD THE MOST SHORT TERM POTENTIAL

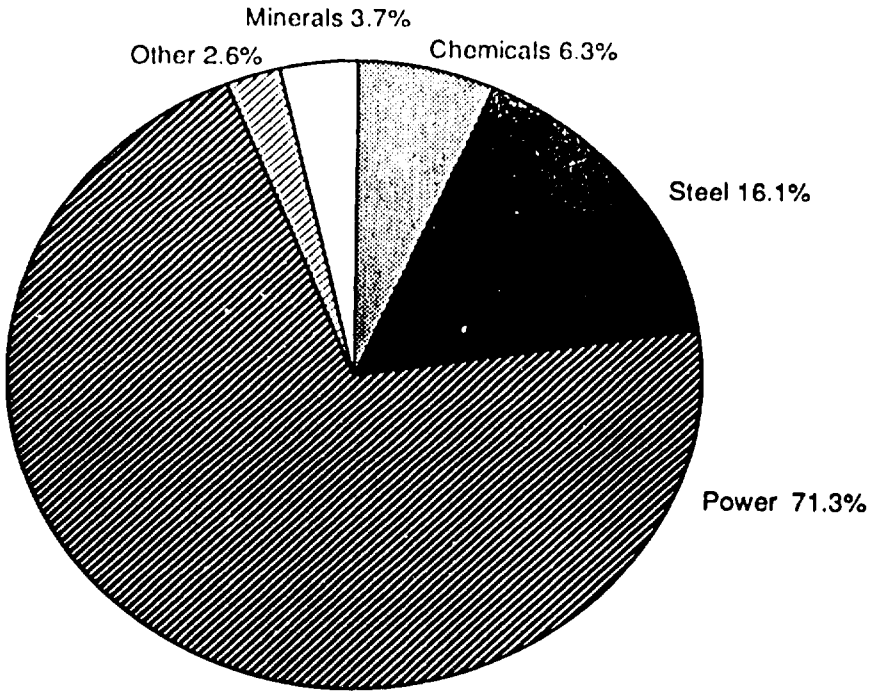
Electrical Contractors: Order Position 1991





Source: CET Market Survey

INTERVIEWS WTIH 34 FIRMS IN THE REGION SHOW THAT THE LARGEST POTENTIAL INDUSTRIAL MARKETS ARE POWER AND STEEL

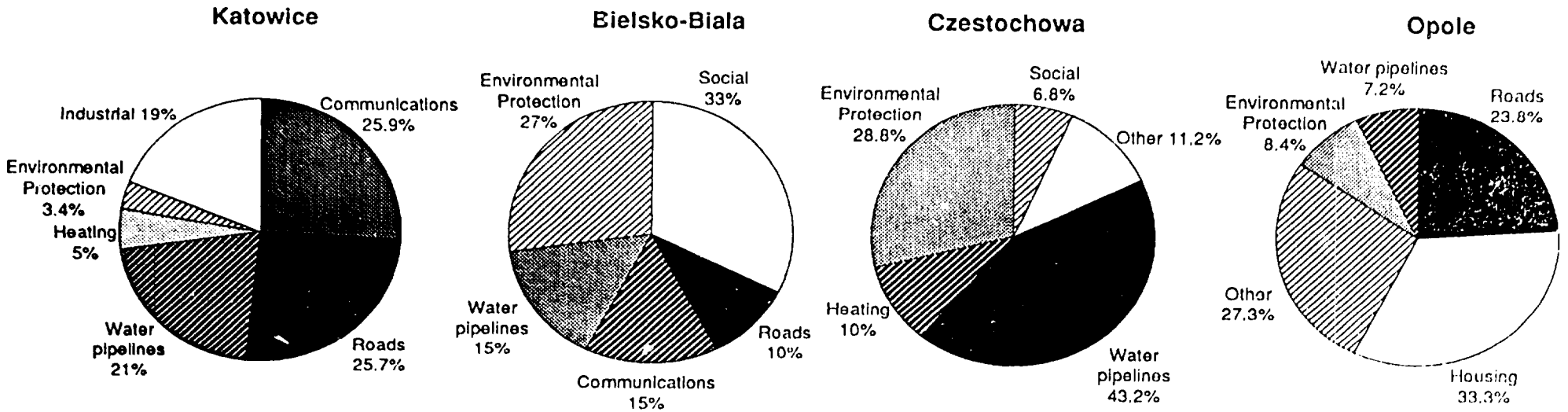


Potential Market Capacity
54,3 bln zl

Source: CET Market Survey

AMONG INFRASTRUCTURE PROJECTS, WORK IN THE ENVIRONMENTAL PROTECTION AREA HAS THE MOST POTENTIAL OVER THE NEXT FEW YEARS

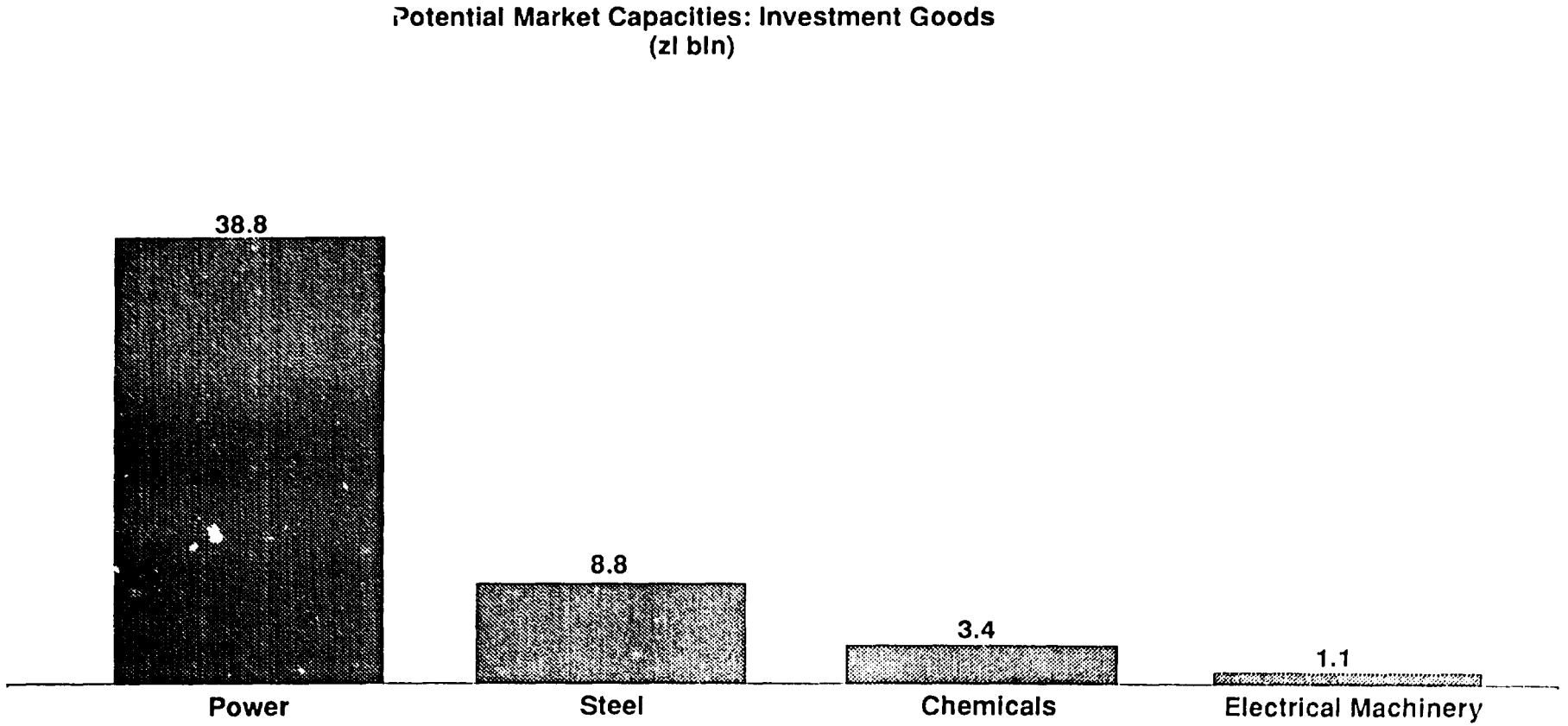
Infrastructure Investments: Breakdown (%)



Source: CET Market Survey

Domestic Markets...

THE BIGGEST INVESTORS IN THE NEAR FUTURE ARE LIKELY TO BE THE POWER, STEEL AND CHEMICALS SECTOR



Source: CET Market Survey

DUE TO THE HEAVY CONTAMINATION OF DRINKING WATER SUPPLY, DEMAND FOR WATER FILTERS IS EXPECTED TO INCREASE SHARPLY

Sources of Surface Water Contamination

Bad quality of surface water is caused by pollutants introduced to waterways through municipal and industrial wastewaters, saline waters discharged into rivers, agricultural pollutants deriving from surface outflow, municipal and rural discharges, transportation routes, as well as air pollution desposits

According to the 1987 statistics, water of quality class I accounted for 0.9% of the total river length, water of class II for 1.9% and water of quality class III for 18.4%. Substandard waters represented 78.8% of the length of the rivers examined amounting to 11.400 km.

Lakes are also seriously threated. Water of class I quality amounts to 2.4%, and substandard lake waters constituted 16% of the lakes during the period 1984-88.

In 1987, 12.7 km3 of municipal and industrial wastewater was produced, of which 65% resulted from power station cooling water. Of the 4.5km3 wastewater requiring treatment, 34% subjected to mechanical, 5.6% to chemical and 21.9% to biological treatment.

The low percentage of wastewater under full treatment is caused by an insufficient number of wastewater treatment plants and by the poorly functioning existing treatment plants. Out of the 2953 large industrial plants disposing wastewater directly into surface waters, only 2508 possess water treatment equipment, most of which is of sub-standard quality

Source: Ministry of Environmental Protection

CURRENT LEVEL OF SERIAL EQUIPMENT PRODUCTION FOR WASTEWATER TREATMENT PLANTS MEETS APPROXIMATELY 50% OF THE POLISH NEEDS. GIVEN THIS INADEQUACY, OBTAINING CLEAN DRINKING WATER WILL REMAIN A PROBLEM FOR THE POPULATION

Wastewater Treatment Installations

Production of installations for mechanical treatment of wastewater is the most advanced, but low quality of the equipment for the biological part of the treatment plant often causes break-downs. Regarding sludge processing equipment, the outlook is the worst due to lack of serial fermentations installations production. The same is true for mechanical sludge dewatering and for biogas utilisation.

To improve current conditions, it is necessary to introduce better management levels and increase production capacity of companies specialising in this field. Production of such equipment as rotary pumps for wastewater and sludge, transmission gears, compressors and fans is insufficient to meet demand. Production of non-manufactured equipment should commence, including plunger pumps, sedimentations centrifuges, belt-vacuum or low-pressure presses, blowers of compression 6m water column and equipment for fermentation chambers.

Simultaneously with modernisation of mechanical sludge dewatering, it is indispensable to carry out research and implementation work on chemical agents, polyelectrolyte process, equipment for production of pure oxygen by the absorption method, and equipment for sludge treatment by the pyrolosis method.

There are plans to import equipment for thermal processing and incineration of sludge deposit, fan burners, blowers and diffusers, and facilities for sludge dewatering.

Source: Ministry of Environmental Protection

DUE TO OUTDATED TECHNOLOGY, SEWAGE TREATMENT PLANTS ARE NOT CAPABLE OF MEETING CURRENT DEMAND. THIS FACTOR CONTRIBUTES SIGNIFICANTLY TO THE EXISTING POLLUTION PROBLEM

Sewage Treatment Equipment Production in Poland

Until the mid-seventies only individual designs of sewage treatment plant equipment were used in Poland due to the lack of specialised producers.

In order to address the problem of sewage treatment plant equipment, work was undertaken to create a unified technological and construction system for sewage treatment plants under the name UNIKLAR. The main objective of the unified system was to create a sewage treatment plant construction industry in Poland and rationalise production of equipment by specialised production plants. The UNIKLAR system, launched 1975-85, focused on sewage treatment plants from 10 m3 to 100 000 m3/d. This has allowed some plants in Poland to produce equipment and devices for unified sewage treatment plants in the UNIKLAR system.

In addition, some factories produce sewage treatment plant equipment and devices different from the UNIKLAR system. This equipment is connected with new technologies based on multi-functional reactors, for example hydropropellers type "HSE". It also contains devices not designed for the UNIKLAR system and often used instead of the UNIKLAR system, for example: bio-gas burners type JK-350 Gas Flama, submersible pump type RPX, RPZ.

Today, there are four groups of treatment plant equipment in Poland:

1. devices manufactured in complete series;
2. devices produced in incomplete series;
3. devices which are to be produced soon;
4. devices proposed for future manufacturing

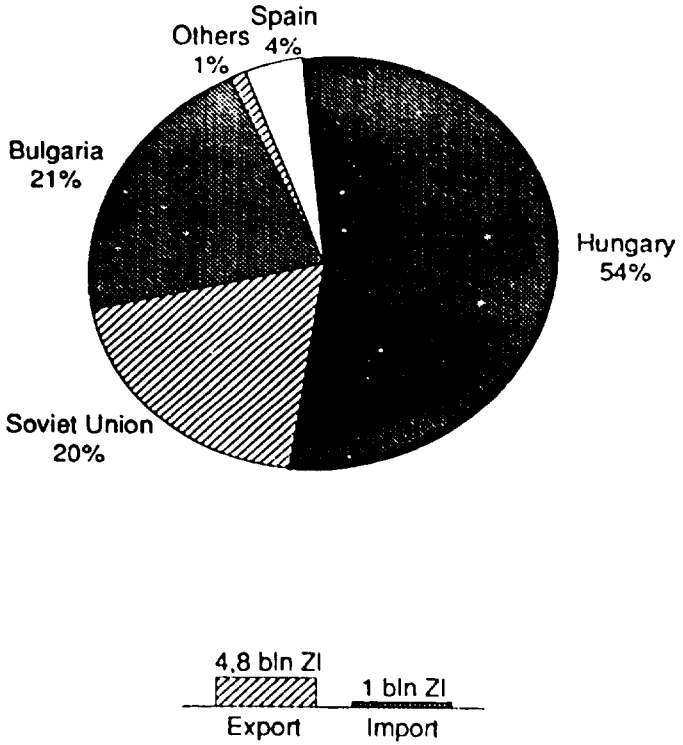
The problem of the equipment for sludge treatment and dewatering is far from being solved. There are shortages of such installations as rotary air blowers, good submersible pumps, aerator transmissions etc. Some installations are still customised, while others are not produced in complete series or lack high quality

Source: Ministry of Environmental Protection

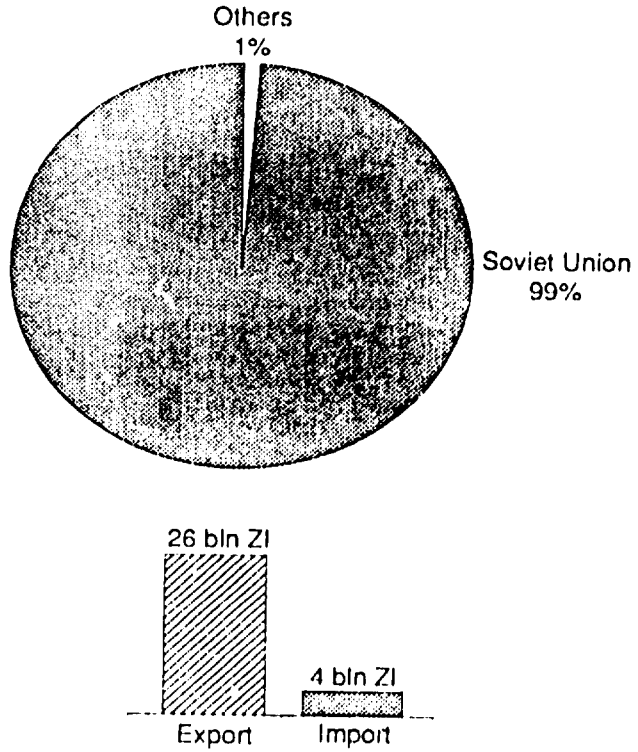
TRADITIONALLY THE MAJORITY OF POLISH INDUSTRIAL ELECTRICAL/ELECTRONIC EXPORTS WERE TO FORMER SOCIALIST COUNTRIES. PROBLEMS WITH HARD CURRENCY TRANSACTIONS AND THE LACK OF COMPETITIVE PRESSURE WITHIN POLISH INDUSTRY KEPT IMPORTS AT A NON-SIGNIFICANT LEVEL

Poland's Industrial Electrical and Electronic Sector Imports/Exports : 1990

Polish Exports in 1990 of Low Voltage Switchgears



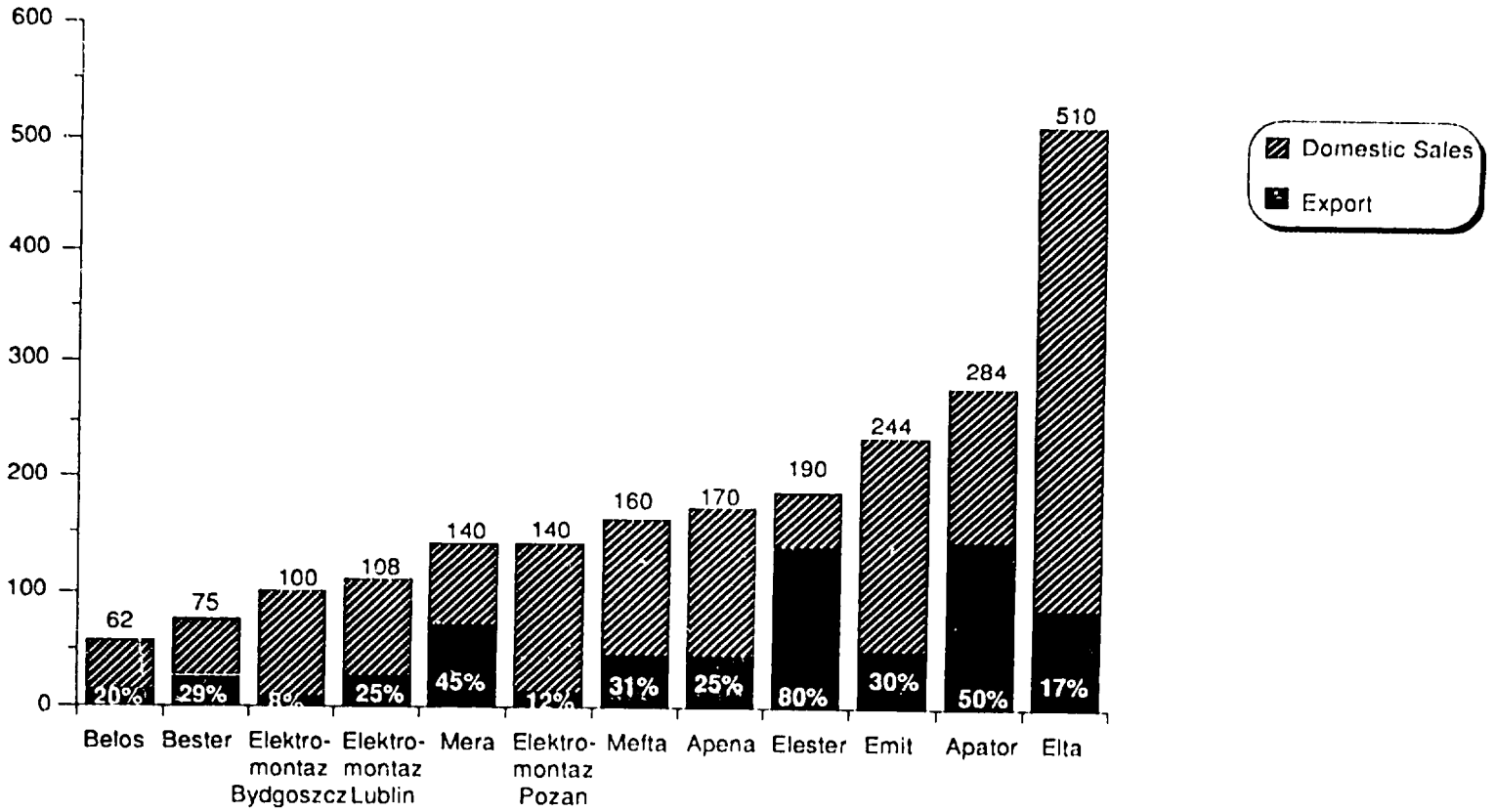
Polish Exports in 1990 of Control and Distribution Cabinets



Source: Glowny Urzad Statystyczny

COMPETITION IS INCREASING AMONG THE POLISH ELECTRICAL / ELECTRONIC PRODUCERS SINCE THEY ALL HAVE SIMILAR PRODUCTION CAPABILITIES AND CAN EASILY ENTER EACH OTHERS MARKETS. IN THIS CONTEXT, THE BIGGEST PLAYERS STAND A BETTER CHANCE OF SURVIVAL

Polish Industrial Electrical / Electronic Goods Sector : 1990 Sales of Major Enterprises
(Zl bn)



Source: CET Analysis / Elektromontaz

COMPETITION IN THE POLISH INDUSTRIAL ELECTRICAL AND ELECTRONIC SECTOR IS LIKELY TO BECOME INTENSE AS THE LARGE NUMBER OF EXISTING DOMESTIC PRODUCERS COMPETE FOR THE MARKET WITH IMPORTERS AND NEW SMALL BUSINESSES

Barriers to Entry

- Polski Komitet Normalizacyjny is brining Polish standards into line with IEC, ISO, "Euronorms"
- Old restrictions by developed countries on the export of high technology products are being removed
- Tariff barriers on electronic products are not significant, imports are therefore likely to grow significantly

Suppliers

- Breakdown in tradition "monopoly" supply structure with greater competition between domestic component suppliers
- Increased requirements for higher quality and reliability leading to increased imports of western components
- Distribution will become a key to success as assemblers start to require short lead time deliveries
- Polish component suppliers will be forced to lower their costs as buyers start to shop around more

Competition

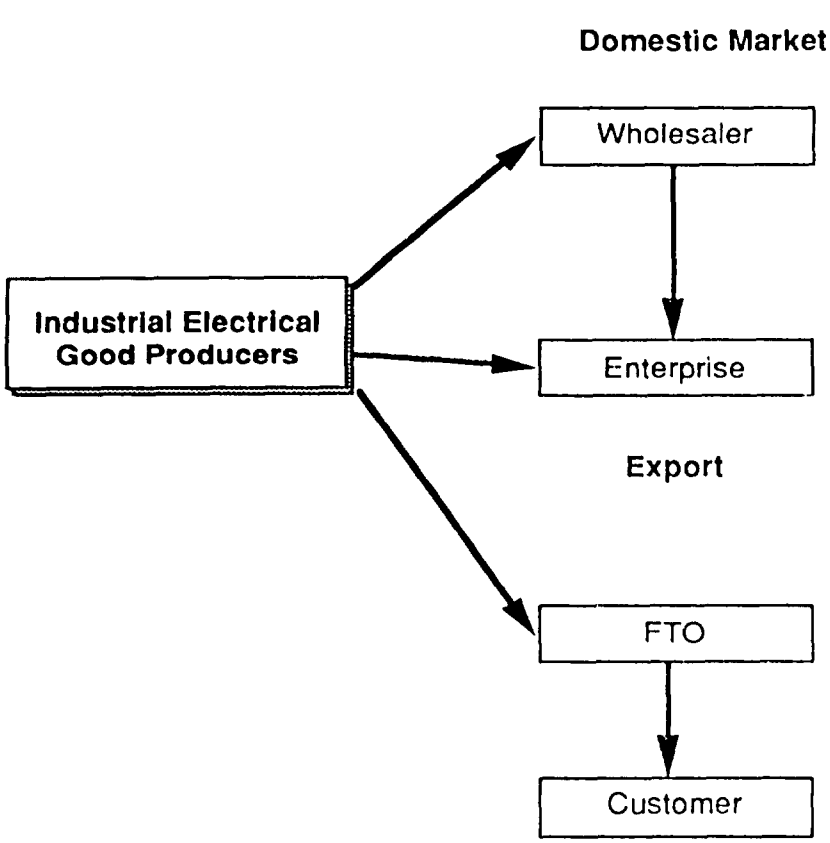
- Increased competition between existing domestic producers many of whom have similar production capabilities e.g. Elektromontaz, Apena, Apator
- Increased entry of foreign manufacturers to take advantage of low cost labour and to position themselves for future market growth e.g. ABB
- Increased competition from small private businesses with low overheads for non standard (specialised products) and in niche markets
- Competition on the basis of price will force assemblers to:
  - Focus on standardised products
  - Run at the lowest possible inventory levels
  - Buy components as cheaply as possible

Buyers

- Market forces will gradually push buyers towards valuing quality and reliability over price which will cause them to switch from traditional suppliers
- Engineering contractors will play an increasing role in the purchase of industrial goods on large projects increasing the incidence of competitive tendering
- Buyers will require shorter delivery lead times to meet project schedules
- Markets are likely to grow as needs for increased industrial efficiency stimulate demand for electronic and electrical products

Source: CET Analysis

THE RESPONSE OF THE DISTRIBUTION SYSTEM FOR INDUSTRIAL ELECTRICAL GOODS TO THE INTRODUCTION OF THE MARKET ECONOMY HAS BEEN SLOW. SALES CONTINUE TO BE TO CAPTIVE CUSTOMERS USUALLY THROUGH STATE OWNED WHOLESALERS



Comments

- State owned wholesalers are under financial pressure and are occasionally being bypassed
- Little incentive for private distributors of Polish goods at present due to lack of demand from Polish industry
- Trend towards more direct sales particularly to smaller customers
- Competition is emerging from small private firms serving small niche markets

- Passive attitude of FTOs towards new foreign markets, especially in the West
- State owned FTOs on the way to being privatised

Factories finding difficulties in exporting directly due to lack of sales contacts and outdated nature of product offering

Source: CET Analysis

Industry/Competitive Positioning...

THE POLISH PRODUCERS OF INDUSTRIAL ELECTRICAL AND ELECTRONIC GOODS WITH THEIR OUT OF DATE FACILITIES AND TECHNOLOGICALLY DATED PRODUCTS HAVE NOT ATTRACTED MUCH DIRECT FOREIGN INVESTMENT TO DATE. WESTERN COMPANIES ARE ENTERING THE MARKET THROUGH AGENTS OR BY SETTING UP REPRESENTATIVE OFFICES. AS A SMALL INDEPENDENT PLAYER, ELEKTROMONTAZ DOES NOT REPRESENT THE MOST ATTRACTIVE OPTION TO A WESTERN INVESTOR

Foreign Investment Activity in Poland: Industrial Electrical/Electronic Sector

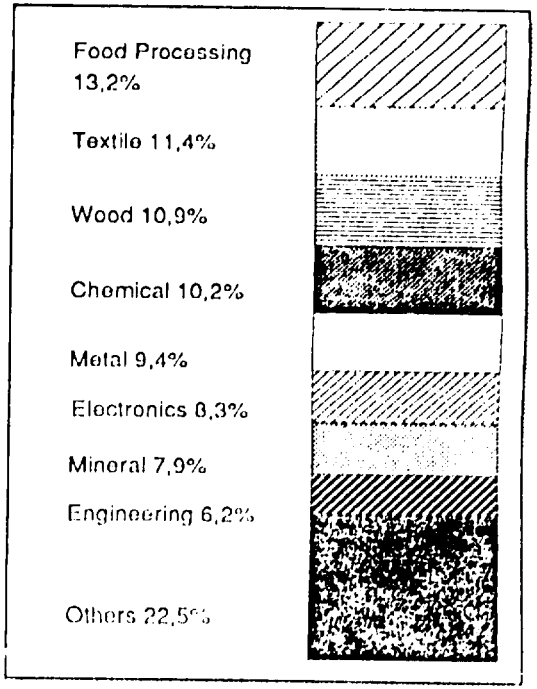
Foreign Companies Established Representative Offices Or Agents In Poland

- ABB
- AEG
- Siemens
- Westinghouse
- Beckman
- General Electric
- Alfa Laval
- Bosch
- Beloit
- Philips
- Indramat

Direct Foreign Investments in the Polish Industrial Electrical and Electronics Sector to Date

- ABB - Zamech (Turbines)
- ABB - Dolmel (Engines)
- Siemens - Telkom Zwut (Telecommunication Exchanges)
- Beloit - Fampa (Printing Machines)
- Philips - Polam (Lighting Equipment)

Foreign Direct Investment: Breakdown by Industry Sector



Source: The Economist, September 21st 1991

Industry/Competitive Positioning...

NOW ELEKTROMONTAZ IS CARRYING ON DISCUSSIONS WITH THREE WESTERN MANUFACTURERS, WESTINGHOUSE, HAZEMEYER (A MEMBER OF THE DUTCH HOLEC GROUP), AND ELEK (GERMAN PRODUCER) ON A POTENTIAL COOPERATION AND/OR PURCHASING A LICENSE FROM THEM

	Issues	Advantages	Disadvantages	Status
Westinghouse	Assembly of Low Voltage Electrical Equipment - Switchgears	- Westinghouse intends to build a strong presence in Poland - Possibility of long term cooperation - Transfer of technology - Possible training in • Management and organisation • Inventory management • Marketing	• Assembly operations only • Cost of finished product including top Western components • Move up market will need to develop a new client base • Relatively weak distribution network of Westinghouse in Western Europe - would not open those markets to Elektromontaz	• Westinghouse presented offer, it is now for Elektromontaz to decide • Visit in UK plant in December • Elektromontaz has already signed a letter of intent to assemble medium voltage equipment
Hazemeyer	Purchase of license to manufacturer - Dry transformer - Switchgears for distribution and control systems	- Low cost strategy (license: less than $500,000 - Products may fit better in existing product mix and client base - Actual main facturing operations	• "One off" cooperation with a manufacturer absent from these markets • Limited transfer of technology and know-how	• Offer sent to purchase license, awaiting response
Elek	Purchase of license - Assembly of new type of low voltage switchgears	- Low cost of license - Possibility of long term co-operation - Access to all markets - no restriction from Elek	• Only assembly operations • Limited transfer of technology • Poor Elek image in Western Europe	• In the course of negotiation

Source: *CET Analysis/Elektromontaz*

CONTENTS

CENTRAL EUROPE TRUST

Diagnostic...

CET'S STANDARD APPROACH TO THE COMPANY DIAGNOSTIC INCLUDES SEEKING ANSWERS TO THE FOLLOWING QUESTIONS:

Revenue

- What is the biggest source of revenues?
- Does the enterprise have a clearly defined product portfolio?
- Is the company's method of distribution effective?

Finances

- What is the current cash position of the company?
- What is the company's level of debt? Is it too high?
- How effective is the company's method of exacting its receivables from its debtors?

Management

- How is the company organised and is its structure appropriate?
- What are the capabilities of the company's management?
- What are the company's workforce strengths and weaknesses?

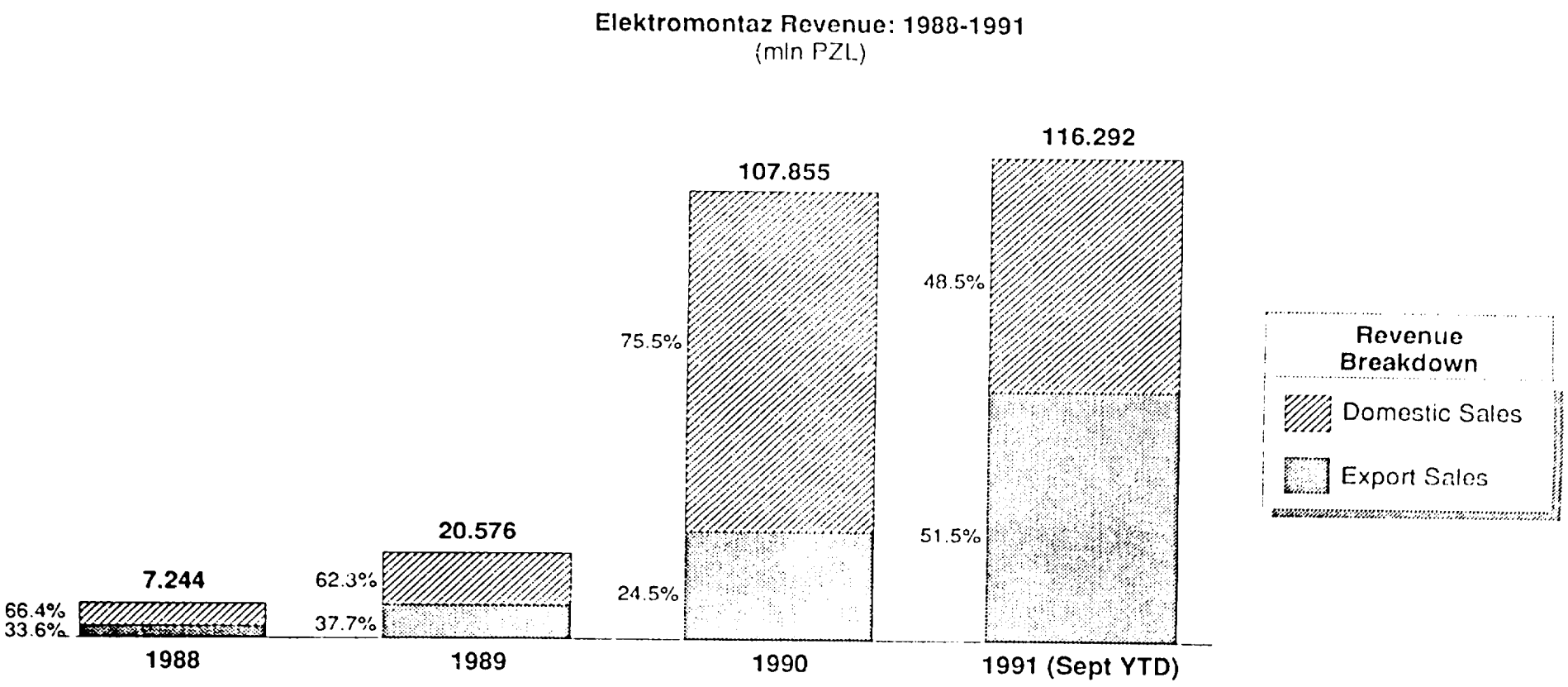
Cost

- How effectively does the company control its costs?
- What steps are being taken to reduce costs?
- What does the company do to keep a rational level of stocks?

Production and Assets

- Does the enterprise utilise its assets well?
- Are there any redundant fixed assets which may be disposed of?
- Are the work methods employed effective?

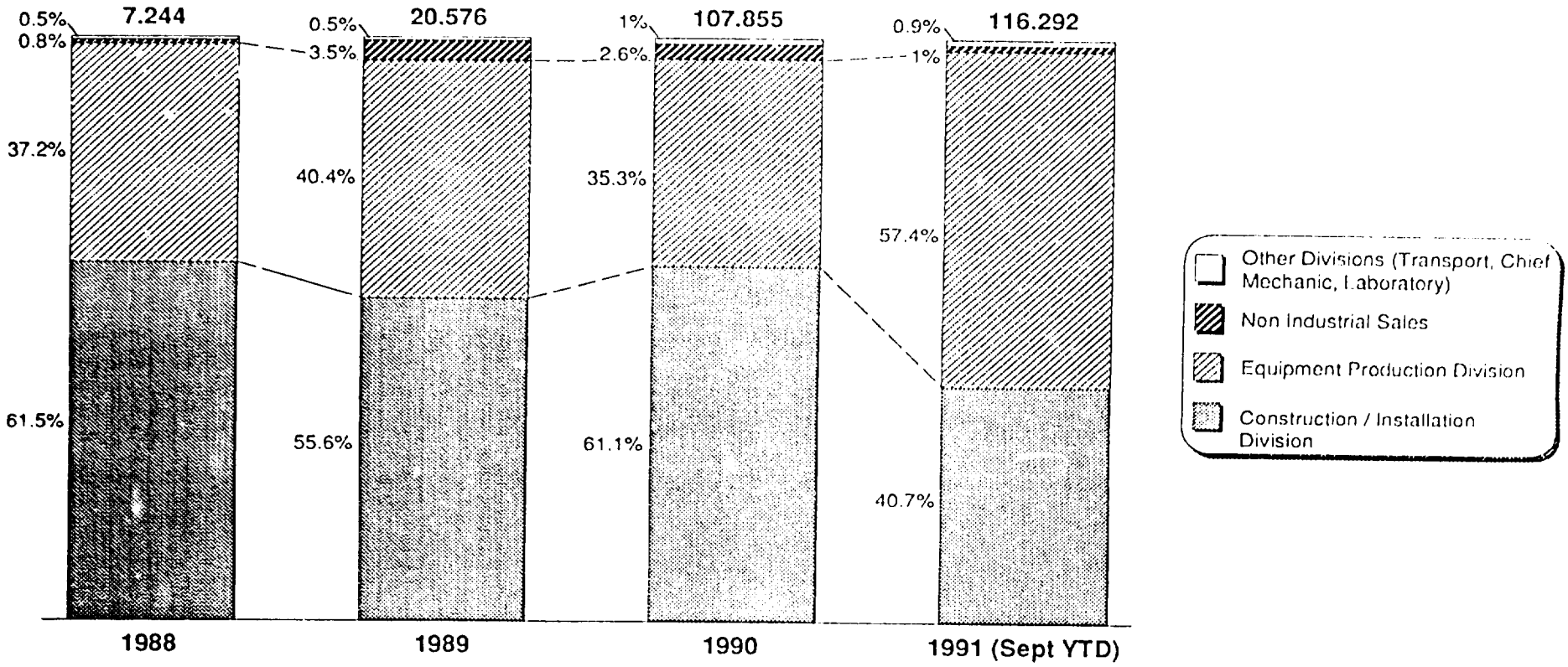
THE DEPRESSED POLISH ECONOMIC CLIMATE HAS INFLUENCED ELEKTROMONTAZ'S PERFORMANCE IN 1991. THE APPARENT GROWTH IN REVENUE STEMS FROM A SINGLE RUSSIAN CONTRACT WHICH ENDS AT THE END OF 1991



Source: *CET Analysis/Elektromontaz*

POLAND'S COLLAPSING INVESTMENT MARKET IS RESPONSIBLE FOR DECLINING SALES OF THE CONSTRUCTION / INSTALLATION DIVISION IN 1991

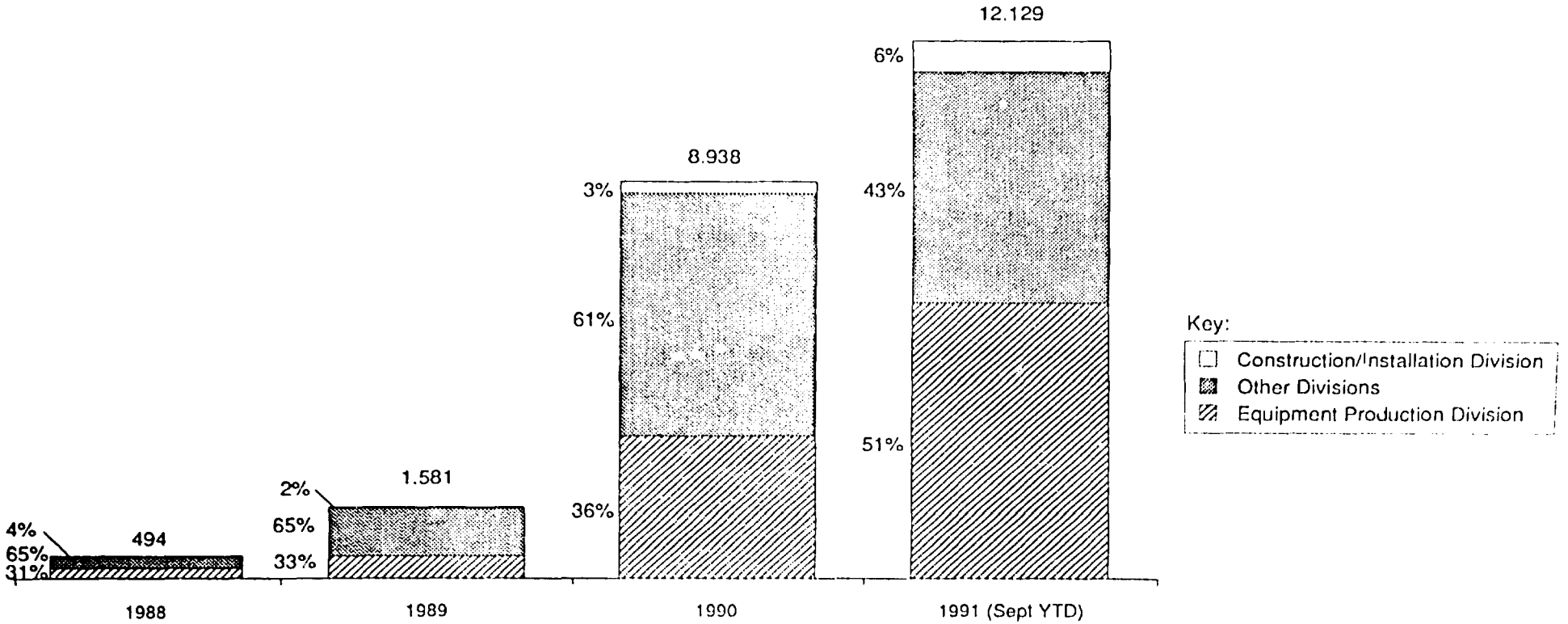
Elektromontaz Sales by Division: 1988 - 1991
(mln PZL)



Source: CET Analysis / Elektromontaz

EACH ELEKTROMONTAZ'S DIVISION PROVIDES ITS PRODUCTS TO OTHER DIVISIONS. INTERNAL SALES BETWEEN THE EQUIPMENT PRODUCTION DIVISION AND THE CONSTRUCTION/ INSTALLATION DIVISION HAVE INCREASED IN 1991

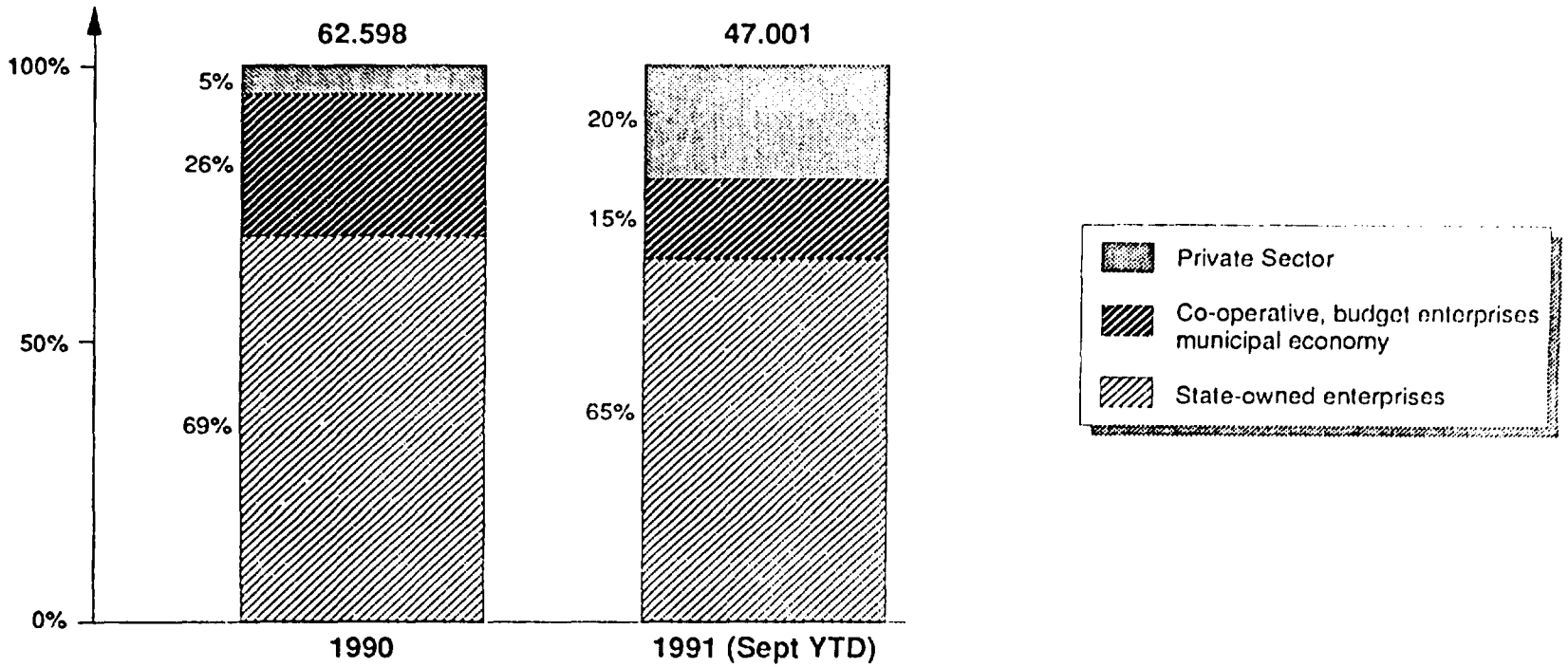
Elektromontaz Internal Sales: 1988 - 1991
Based on Sales by Division
(mln PZL)



Source: *CET Analysis/Elektromontaz*

WHILST STATE-OWNED ENTERPRISES WERE STILL THE MOST SIGNIFICANT SOURCE OF REVENUE OVER THE LAST TWO YEARS, PRIVATE SECTOR BUYERS HAVE BEGUN TO PLAY A MAJOR ROLE IN THE CONSTRUCTION/ INSTALLATION DIVISION'S SALES IN 1991

Construction/ Installation Division Sales: 1990 - 1991*
Based on Category of Buyer
(mln PZL)

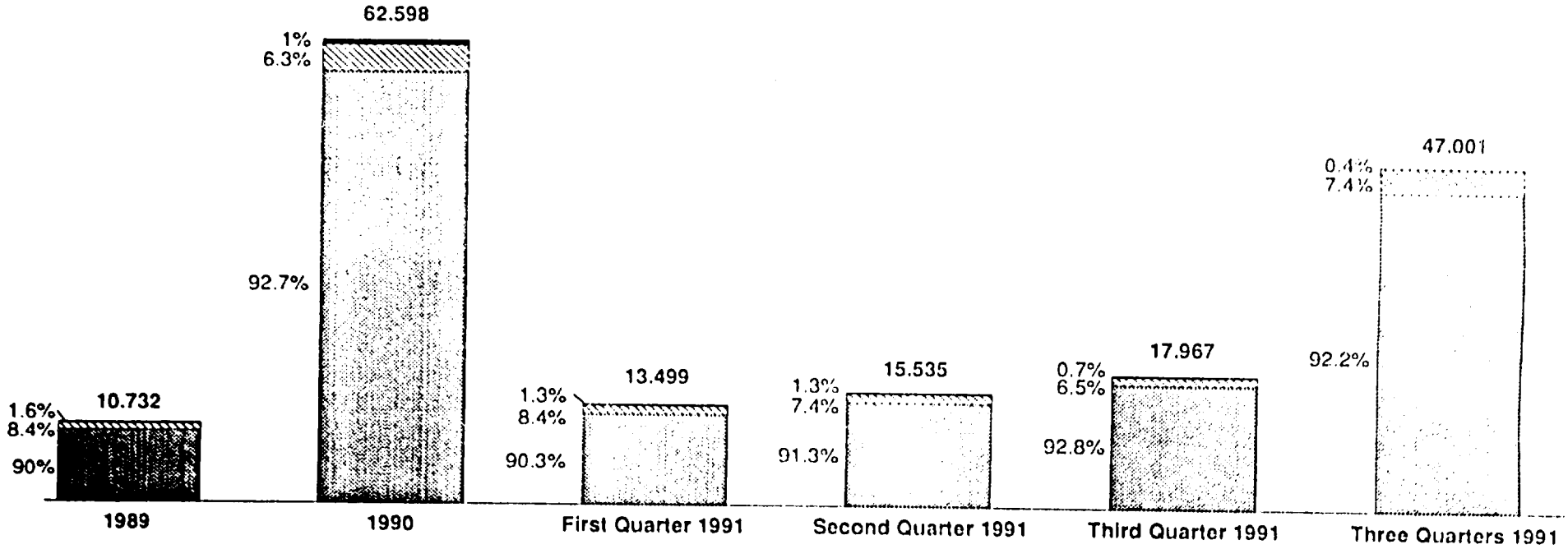


* No previous data available

Source: CET Analysis/Elektromontaz

DOMESTIC INSTALLATION SERVICES NOW ACCOUNT FOR VAST MAJORITY OF THE CONSTRUCTION/ INSTALLATION DIVISION REVENUES

Construction/Installation Division Domestic Revenue*: 1989 - 1991
Based On Sales By Service Mix
(mln PZL)

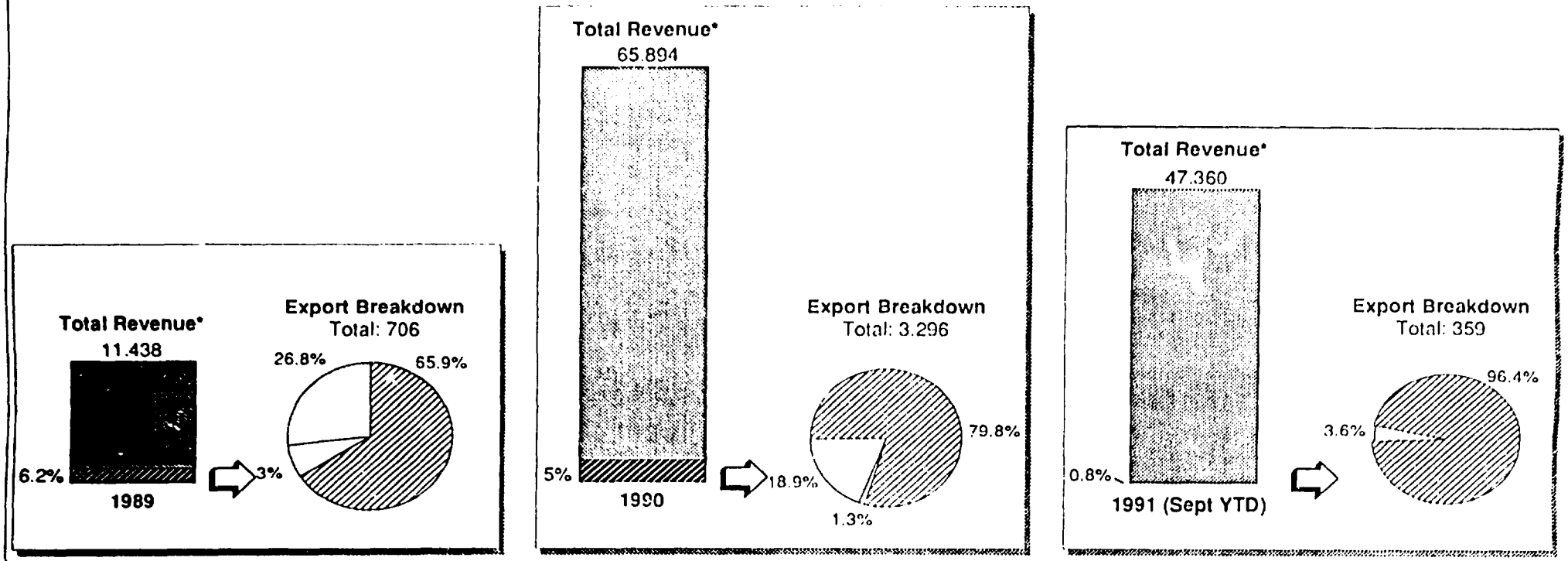


* Not including internal sales

Source: *CET Analysis/Elektromontaz*

THE CONSTRUCTION/INSTALLATION DIVISION FACES DECLINING GROWTH DUE TO SHRINKING DOMESTIC AND EXPORT MARKETS

Construction/Installation Division Revenue: 1989 - 1991
Based on Sales by Value
(mln PZL)



Key:
- Domestic Construction Sites
- Export Construction Sites

Export Key:
- Construction Sites in Poland for foreign companies
- Germany
- Other Countries (Austria, USSR, Czechoslovakia)

* Excluding non internal sales
Source: CET Analysis/Elektromontaz

CONSTRUCTION/ INSTALLATION DIVISION'S ESTIMATED REVENUE FOR 1992 MAY REACH 1991's LEVELS. HOWEVER, AS THE PRIVATE SECTOR EXPANDS, THIS FIGURE SHOULD INCREASE

1992 Orders for the Construction/ Installation Division*

Total Estimated Revenue: 52 bln zl

Type of Buyer	% of Total Revenue
State owned enterprises	64
Municipal government, co-operatives, budget enterprises	19
Private sector buyers	17

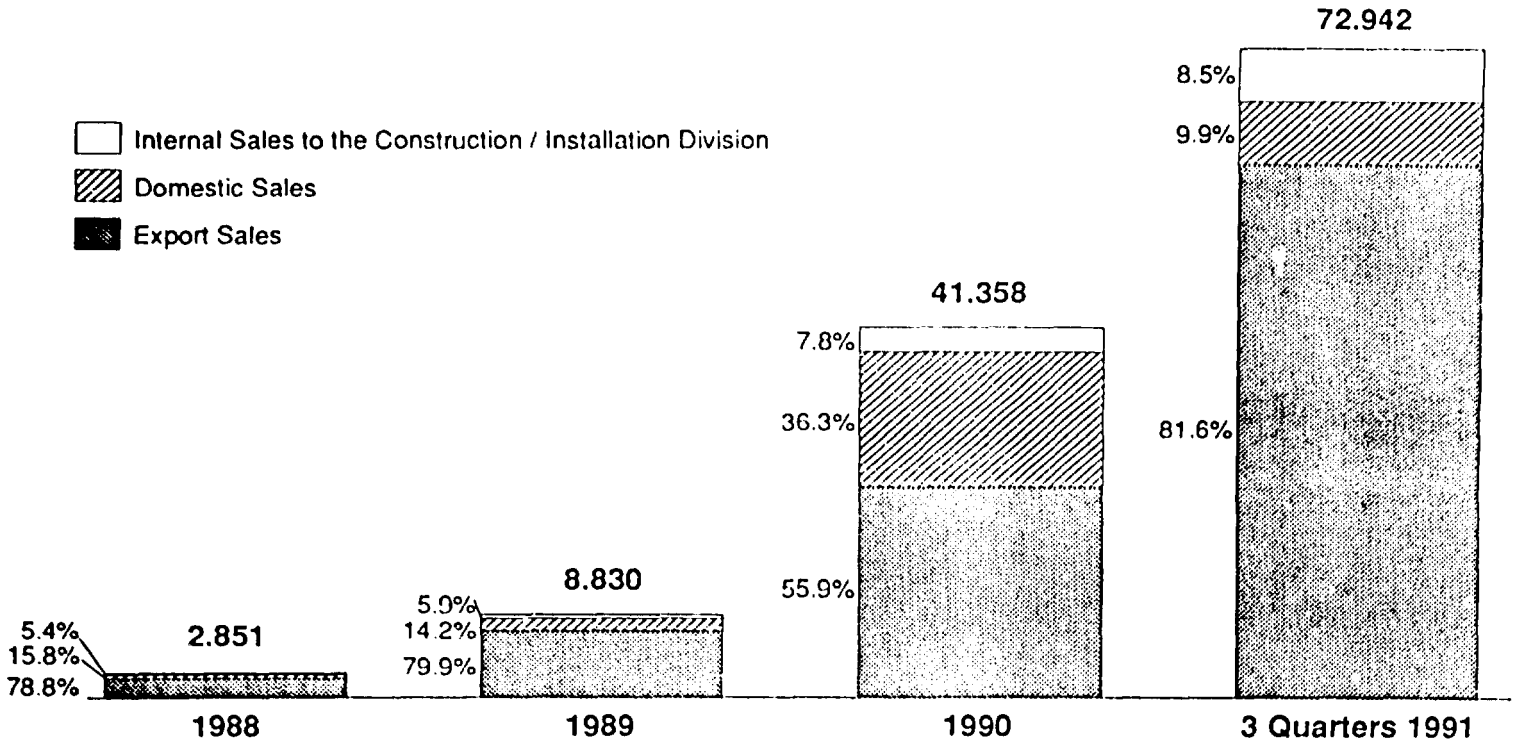
Type of Buyer	Value (bln zl)
Bagdanka Coal Mine	7
Chelm Cement Plant III	5
CPN Malaszewicze	3.5
Chelm Cement Plant	3.07
Lublin Truck Factory	3
Wlodawa Water Processing Plant	2
ZPT Bodaczów	2
ZPG Holowczyce	1.6
WSK Swidnik	1.5
Zamosc Meat Plant	1.5
Przemysl - Zurawica Power Line	1.3
Ursus Metallurgical Factory	1
WDOKP Hrubieszow	1
Malaszewicze Railway Plant	1

* As of 31.01.1992

Source: CET Analysis/ Elektromontaz

EXPORTS ARE PLAYING A GROWING ROLE OF ELEKTROMONTAZ'S EQUIPMENT PRODUCTION DIVISION. THE COLLAPSING DOMESTIC SALES HAVE LED TO EXCESSIVE DEPENDENCE ON EXPORT REVENUES

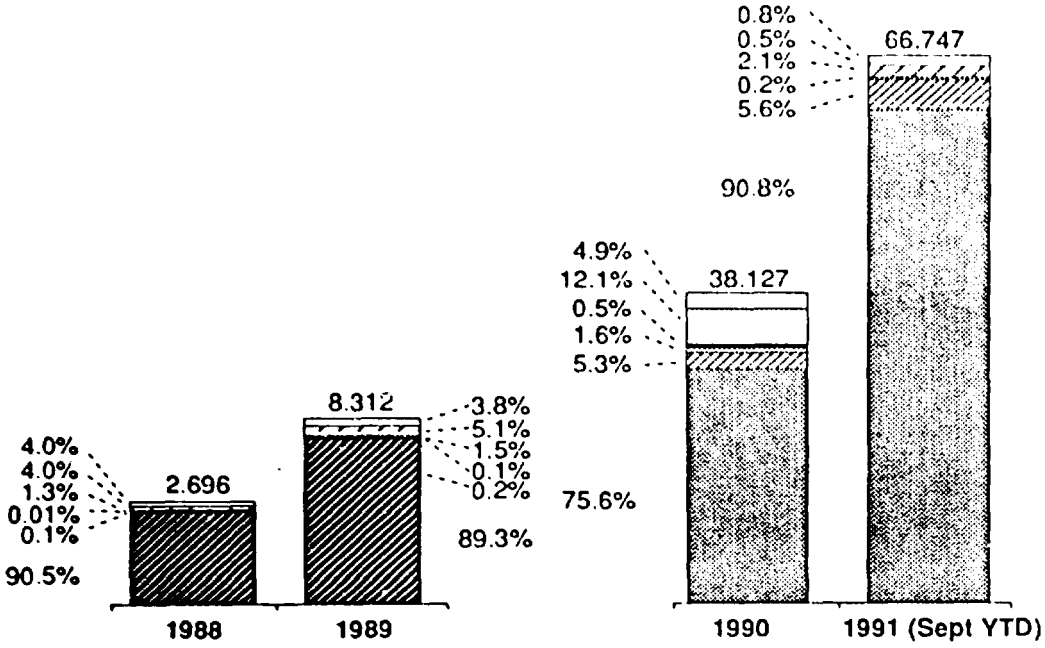
Equipment Production Division Revenue: 1988 - 1991
Sales by Value
(mln PZL)



Source: CET Analysis/Elektromontaz

TOTAL REVENUE OF THE EQUIPMENT PRODUCTION DIVISION HAS RAPIDLY INCREASED DURING THE FIRST THREE QUARTERS OF 1991. MOST OF THE REVENUE IS GENERATED BY THE SALE OF TRANSFORMER STATIONS

Equipment Production Division Product Of Mix: 1988 - 1991
Total Revenue*
(mln PZL)



Key	Product Mix (units)	1988	1989
	Transformer Stations	1009	941
	Low Voltage Switchgears	Not available	
	Measuring/Control Devices	Not available	
	Disconnectors	Not available	
	Solid Conductors (m)	Not available	
	Miscellaneous Installation Equipment (Kg)	Not available	

Key	Product Mix (units)	1990	1991 (Sept YTD)
	Transformer Stations	579	367
	Low Voltage Switchgears	357	330
	Measuring/Control Devices	66	22
	Disconnectors	5000	1100
	Solid Conductors (m)	5266	450
	Miscellaneous Installation Equipment (Kg)	69400	30200

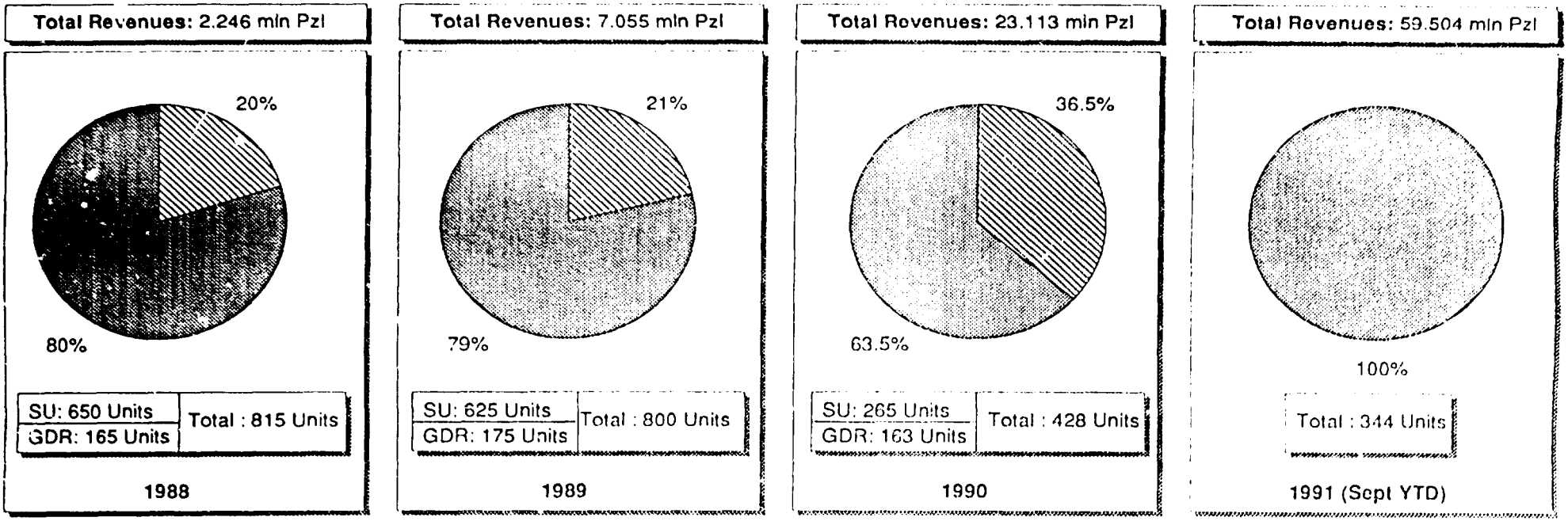
* Not including internal sales

Source: CET Analysis/Elektromontaz

TRANSFORMER STATIONS ACCOUNT FOR 100 PERCENT OF THE EQUIPMENT PRODUCTION DIVISION'S EXPORTS. FOR THE FIRST TIME, THE TOTALITY OF ELEKTROMONTAZ'S EXPORTS ARE DIRECTED TOWARDS THE HIGHLY UNSTABLE SOVIET MARKET

Equipment Production Division Exports: 1988 - 1991
Based on Sales by Unit and Value

Key:
- Soviet Union
- Eastern Germany



Source: CET Analysis/Elektromontaz

CENTRAL EUROPE TRUST

IN 1992, EXPORT SALES WILL MOST PROBABLY RELY ON THE SAME SOVIET CONTRACTS, THOUGH THEIR EXTENSION IS NOT GUARANTEED AS OF NOVEMBER 1991

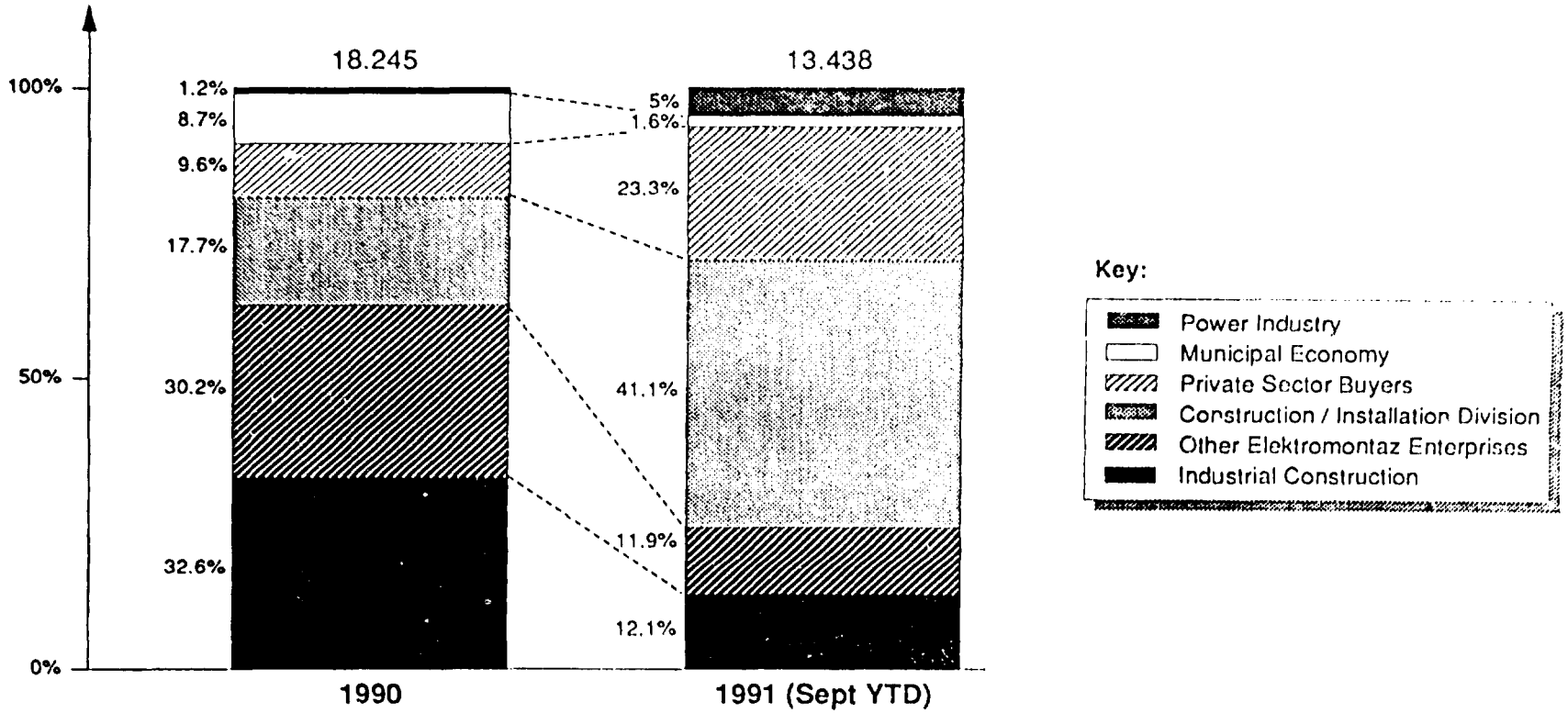
1992 Exports, Potential Contracts

Markets	Products	Units	Value	Status	Contracts
Soviet Union	400 KV Transformer Stations	500 - 600	—	Due to be signed by early December	Could be completed by May 1992
Soviet Union	630 KV Transformer Stations	95	—	Signed	Split with Apator
Yemen	Equipment For Electrical Networks		—	Waiting for answer, main proposal sent December 1991	
Sweden	Electrical Equipment For Steel Mill		—	Waiting for answer	
UK	Metallic Fence Posts	1M	—	Waiting for answer	

Source: *CET Analysis/Elektromontaz*

APPROXIMATELY ONE HALF OF THE EQUIPMENT PRODUCTION DIVISION'S DOMESTIC SALES ARE RELIANT ON THE CONSTRUCTION/INSTALLATION DIVISION'S DECLINING ACTIVITIES

Equipment Production Division Domestic Sales: 1990 - 1991*
(mln PZL)



* No previous data available

Source: CET Analysis/Elektromontaz

ALTHOUGH THE EQUIPMENT PRODUCTION DIVISION AND THE CONSTRUCTION/ INSTALLATION DIVISION HAVE RELATIVELY HIGH LEVEL OF INDEPENDENCE, THERE ARE SOME FACTORS THAT MAKE THE TWO DIVISIONS RELIANT ON EACH OTHER

Assessment of the Dependence/ Interlinkage between the Equipment Production Division and the Construction/ Installation Division

Division	Comments and Observations
In the view of the C/ID	• The EPD gives financial support to the C/ID in the case of seasonal and economic fluctuations on the installation works market • Good formal and informal relations and cooperation with the EPD during negotiations with clients • Thanks to direct contacts between the two divisions there is an opportunity of response to clients requirements and incorporating all technological changes needed. However the EPD is often not able to redesign the existing products and meet specific customer requirement. This is because the EPD is not enough flexible to quick reacting on changes in demand in the market. As a result, the C/ID's potential offers are sometimes lost • There is a limited influence on the prices given by the EPD • Sometimes the C/ID is forced to abandon maximising its economic results for the sake of Elektromontaz • Low quality of the EPD's finished products makes the C/ID's offers less competitive • The practice of expanding lead and delivery times by the EPD lessens the C/ID's ability to sustain upcoming competition

Source: CET Analysis/Elektromontaz

ASSESSMENT OF THE DEPENDENCE/ INTERLINKAGE... CONT'D

Division	Comments and Observations
In the view of the EPD	• Having a great number of construction sites throughout Poland the C/ID can carry on marketing activity as far as the EPD and the C/ID activities are concerned • The C/ID's employees know strengths and weaknesses of investors and customers taking part in negotiations with them • The C/ID possesses a young dynamic group of workers on its construction sites, having a good reputation in customers view • Present information flow between the two divisions is not adequate and should be improved • The EPD does not have any specifications of construction sites of the highest priority and importance • Order planning system is not adequate. Quarterly plans are not defined on time what is the cause of delays

Source: CET Analysis/Elektromontaz

ALTHOUGH NEARLY A DEBT FREE COMPANY, THE FINANCIAL POSITION OF ELEKTROMONTAZ IS LIKELY TO DETERIORATE IN 1992 DUE TO OVER DEPENDENCE ON UNCERTAIN MARKETS

Balance Sheet : 1989 - 1991
(mln PZL)

	31.12.1989	31.12.1990	30.09.1991
Assets			
Fixed Assets:			
Tangible	1.281	31.539	29.883
Intangible	7	7	7
Investment	778	3.881	4.695
Shares in Others	32	32	32
Current Assets:			
Inventories	4.151	15.455	31.544
Accounts Receivable	6.430	13.136	32.770
Cash	651	678	1.846
Prepaid Charges	252	5	23
Total Assets	13.582	64.773	100.800
Liabilities			
Accounts Payable	4.146	7.362	17.892
Short Term Debt	2.394	2.890	5.080
Overdraft	-	-	-
Long Term Debt	240	160	80
Reserves and Deferred Charges	98	1.975	6.483
Equity			
Founding Fund	527	1.236	2.790
Enterprise Own Fund	3.097	45.220	56.349
Employee Fund	285	1.940	2.522
Non distributed Income	2.795	3.950	9.604*
Total Liabilities and Equity	13.582	64.773	100.800

* includes 1990 non distributed income not allocated until 30 September, 1991

Source: CET Analysis/Elektromontaz

Income Statement : 1989 - 1991
(mln PZL)

	1989	1990	1991 (Sept YTD)
Sales	19.890	105.236	115.543
Sales tax	(190)	(247)	(88)
Cost of sales	(13.204)	(68.549)	(76.516)
Gross profit	6.496	36.440	38.939
Less depreciation	(75)	(992)	(1.773)
Operating income	6.421	35.448	37.166
Less interest paid	(1.110)	(3.698)	(1.087)
Other incomes/losses	1.194	736	(102)
Profit before tax	6.505	32.486	35.977
State Dividend	(232)	(522)	(460)
Income tax	(2009)	(13.266)	(14.583)
Profit after tax	4.264	18.698	20.934
Profit appropriations	(1.469)	(14.748)	(15.280)
Non distributed income	2.795	3.950	5.654

Source: *CET Analysis/Elektromontaz*

Cash Flow Statement : 1989 - 1991
(mln PZL)

	1989	1990	1991 (3 Quarters)
Cash Inflows			
Internal Sources:			
Profit after tax	4.264	18.698	20.934
Depreciation	75	992	1.773
Other items	—	—	—
External Sources:			
Loans	—	—	—
Other Items	—	—	—
Total Cash Inflows	4.339	19.690	22.707
Cash Outflows			
Application of Funds:			
Profit payments for workers	(254)	(3.050)	(1.669)
Investment expenditure	(934)	(4.359)	(1.191)
Repayment of long term debt	(30)	(80)	(80)
Other items	(11)	-	(86)
Changes in:			
Inventories	(2.341)	(11.304)	(16.089)
Accounts receivable	(5.392)	(6.706)	(19.634)
Accounts payable	3.650	3.216	10.530
Cash	(615)	(27)	(1.168)
Short term debt	1.728	496	2.190
Deferred charges	(140)	2.124	4.490
Total Cash Outflows	(4.339)	(19.690)	(22.707)

Source: CET Analysis / Elektromontaż

WHILE STILL SERVING PROTECTED MARKET, ELEKTROMONTAZ'S RATIOS COMPARE FAVOURABLY TO SIMILAR UK COMPANIES. HOWEVER AS COMPETITION INCREASES, MANAGEMENT SHOULD PREPARE TO WORK WITH RATIOS CURRENTLY OBTAINED IN THE WEST

Elektromontaz Ratio Analysis : 1989 - 1991

Ratios	1989	1990	1991
Return on Assets	47.9%	50.1%	35.7%
Profit Margin	32.7%	30.9%	31.1%
Asset Utilisation	1.5	1.6	1.2
Sales to Fixed Assets	9.5	3.0	3.3
Stock Turnover	4.8	6.8	3.7
Credit Period	118	46	103
Export Ratio	38%	25%	52%
Current Ratio	1.7	2.4	2.3
Quick Ratio	1.1	1.1	1.2
Income Gearing	7.3%	10.4%	2.9%
Sales per Employee	3.370£	7.280£	7.630£
Fixed Assets per Employee	336£	2.470£	2.300£

Comparable UK Companies Financial Ratios: 1989

1989
10.5%
8%
1.3
6.0
17.5
88
28.6%
1.5
1.0
8.9%
38.088£
6.302£

Source: *CET Analysis/Elektromontaz*

ELEKTROMONTAZ'S COMMERCIAL RECEIVABLES MAKE-UP FOR APPROXIMATELY 95 PER CENT OF ALL ACCOUNTS RECEIVABLE

Elektromontaz Accounts Receivable : 1989 - 1991
(mln PZL)

Category	31.12.1989	31.12.1990	30.09.1991
Commercial Receivables	6.210	12.419	31.348
Investment Receivables	60	66	106
Stage Budget (Return of Overpayment)	12	10	562
Receivables of Financially Independent Activity	86	335	531
Other Receivables	62	306	223
Total	6.430	13.136	32.770

Source: *CET Analysis/Elektromontaz*

WHILE THE CONSTRUCTION/ INSTALLATION SERVICES CONSTITUTE THE LARGEST PART OF OVER 14-DAY-RECEIVABLES, THIS GROUP OF RECEIVABLES ACCOUNTS FOR 28 PER CENT OF TOTAL ELEKTROMONTAZ'S COMMERCIAL RECEIVABLES

Commercial Receivables Breakdown: 30.09.1991
(mln PZL)

	Receivables due within 14 days	Receivables over 14 days	%	Total Commercial Receivables	%
Finished Products	14.369	610	7	14.979	48
Materials	552	540	6	1.092	3
Construction/ Installation Services	5.854	7.481	87	13.335	43
Other Commercial Receivables	1.942	-	-	1.942	6
Total	22.717	8.631	100	31.348	100

Source: CET Analysis/ Elektromontaz

MAIN DEBTORS OF ELEKTROMONTAZ ARE STATE-OWNED ENTERPRISES. AS A NUMBER OF THEM ARE IN A POOR FINANCIAL SITUATION, A PART OF ELEKTROMONTAZ'S COMMERCIAL RECEIVABLES ARE OVERDUE. THE ENTERPRISE IS UNLIKELY TO RECOVER THESE, ESPECIALLY AS FAR AS CONSTRUCTION/ INSTALLATION SERVICES ARE CONCERNED

Main Debtor Structure*

Category	Debtor	(mln PZL)
Finished Product and Materials	Przemysl Milk Co-operative	369
	Wroclaw Railway Construction Factory	87
Construction/ Installation Services	Foreign Enterprise Sunpol	1.662
	Corn-Milling Industry Enterprise in Lublin	885
	Chelm Cement Plant	728
	WSK Swidnik	675
	Zwolen Milk Co-operative	538
	Mechanical Factory Ursus	337
	ZNTK Gniewczyna	302
	Ostrowiec Steel Plant	267

Construction/ Installation Division's Receivable Structure*
Total: 7.481 mln PZL

	% of Total
Under 30 days	5
30-60 days	51
60-90 days	8
Over 90 days	36

* as of September 30, 1991

Source: *CET Analysis/ Elektromontaz*

ELEKTROMONTAZ'S ACCOUNTS PAYABLE ARE WELL MATCHED WHEN COMPARED TO ITS ACCOUNTS RECEIVABLE

Elektromontaz Accounts Payable : 1989 - 1991
(mln PZL)

Category	31.12.1989	31.12.1990	30.09.1991
Commercial Liabilities	2.134	2.650	2.661
Investment Liabilities	163	94	19
Non invoiced Deliveries	209	1.015	252
State Budget	639	1.973	2.860
Wages	343	625	967
Social Security Liabilities	218	388	584
Liabilities of Financially Independent Activity		4	-
Other Liabilities	440	613	549
Total	4.146	7.362	17.892

Source: *CET Analysis/Elektromontaz*

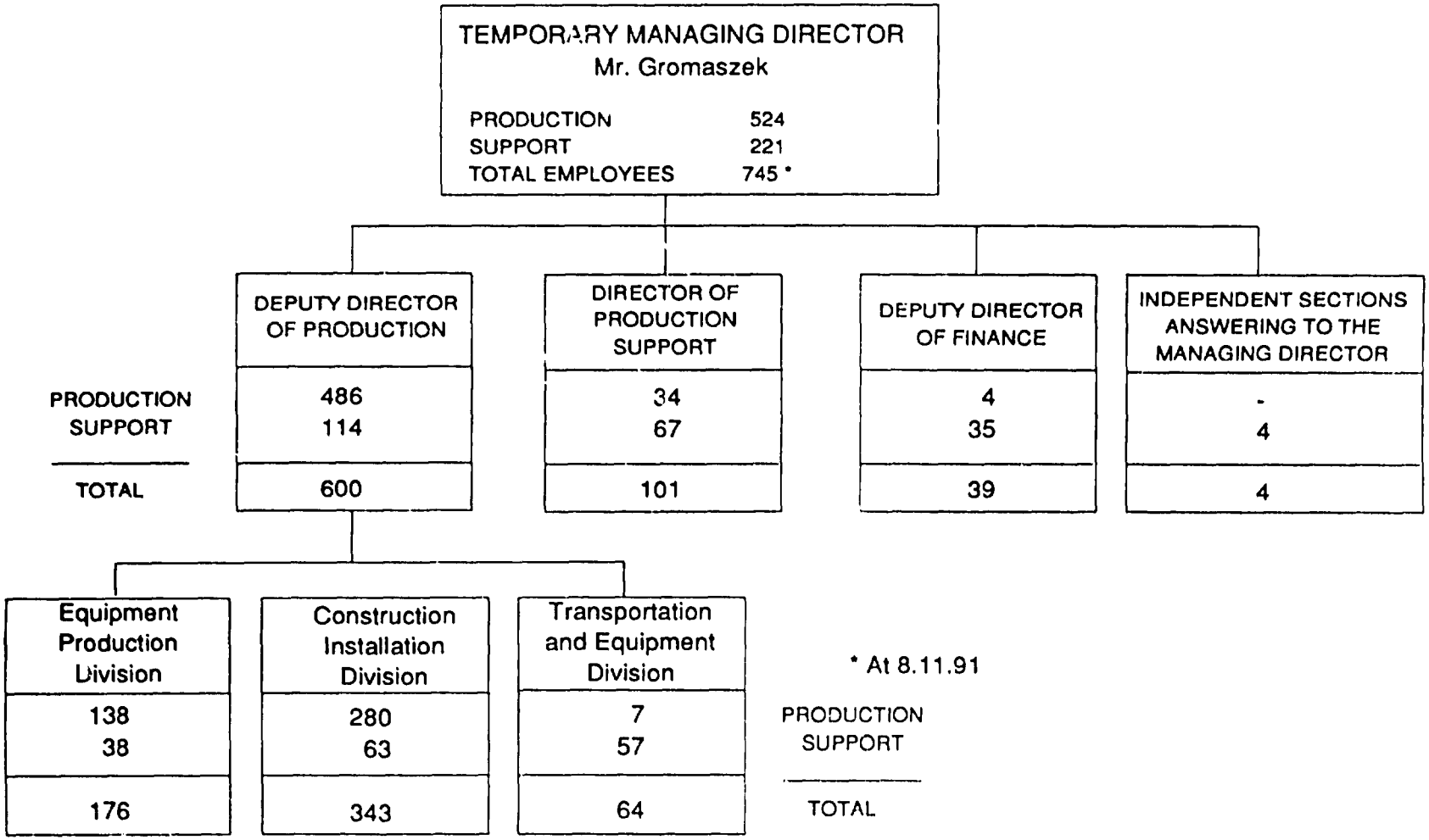
Appropriation of Profit : 1989 - 1991 (9 months)
(mln PZL)

Category	1989	Category	1990	Category	1991
Enterprise Own Fund	1.214	Enterprise Own Fund	10.733	Enterprise Own Fund	13.102
Employee Funds *	244	Social Fund	2.950	Social Fund	275
Export Bureau **	10	Housing Fund	100	Housing Fund	306
Gratis	1	Advanced Premiums	965	Premium Fund	1.088
				Social Insurance	444
				Others	65
Total	1.469	Total	14.748	Total	15.280

* In 1990 Employee Funds were broken up into two funds: Social Fund and Housing Fund
** Export Bureau was eliminated in 1990

Source: *CET Analysis/Elektromontaz*

DESPITE A SIGNIFICANT REDUCTION IN STAFFING IN 1990, ELEKTROMONTAZ MANNING LEVELS REMAIN HIGH



Source: *CET Analysis/Elektromontaz*

TO CREATE A MORE COHESIVE ORGANISATIONAL STRUCTURE, ELEKTROMONTAZ SHOULD ELIMINATE THE FOLLOWING DEPARTMENT EITHER THROUGH MERGER WITH OTHER DEPARTMENT OR LAYOFFS

Investment Section	Eliminate through lay-offs
Recreational Resort Section	Eliminate through lay-offs
Civil Defense Section	Eliminate through lay-offs
Labor Affairs Department	Reduce in size and merge with Organisational Affairs, Legal Advisor, and Labour Affairs Departments
Organisational Affairs Section	Reduce in size and merge with Organisational Affairs, Legal Advisor, and Labour Affairs Sections. Rely more on legal subcontractors
Legal Advisor	Reduce in size and merge with a new department consisting Legal Advisor, Organisational Affairs Section, and Labor Affairs Department

Source: *CET Analysis*

IN ORDER TO GAIN MORE CREDIBILITY AND INDEPENDENCE, THE FOLLOWING DEPARTMENTS MUST ANSWER TO NEW AUTHORITIES

Department of Quality Control →	Should not answer to the Deputy Director of Production. Must be placed under different structure, such as the Managing Director
Health and Safety Inspection →	Should not answer to the Deputy Director of Production. Must be accountable directly to the Managing Director
Laboratory for Technical Support →	Should be incorporated into the Equipment Production Division and the Construction/ Installation Division

Source: *CET Analysis*

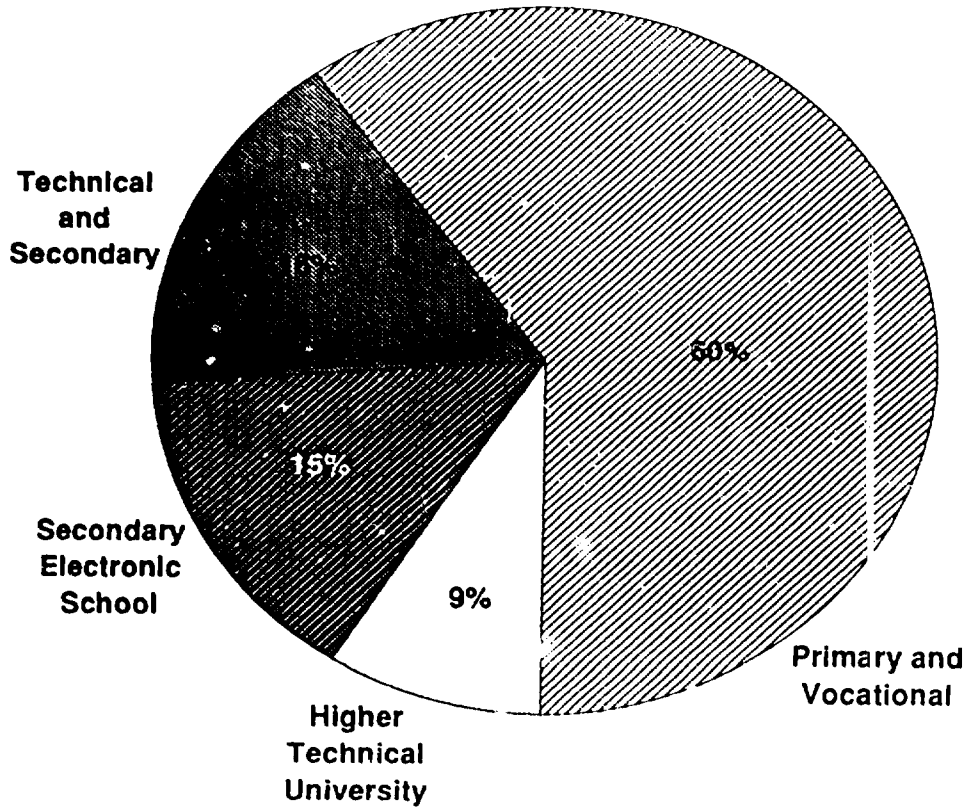
VAST MAJORITY OF ELEKTROMONTAZ'S TOP MANAGEMENT TEAM POSSESSES ENGINEERING TRAINING AND LACKS EXPERTISE AND EXPERIENCE IN WESTERN SALES AND MARKETING PRACTICES

Mr Marek Gromaszek - Temporary Managing Director	• Master in Electrical Engineering - Lubelska Politechnical University • Temporary Managing Director since November, 1991 • Deputy Director of Production from September 1990 to November, 1991 • With Elektromontaz since 1985 • 31 years old
Mr Mieczyslaw Borkowski - Deputy Director of Production Support	• Electrical Engineer - Higher School of Engineering in Lublin • Deputy Director of Production Support since October, 1989 • Manager of the Electrical Section in the Equipment Production Division from June, 1984 to October, 1989 • With Elektromontaz since 1974 • 44 years old
Ms Irena Kacprzak - Deputy Director of Finance	• Master of Economics - Marie Curie Sklodowska University in Lublin • Deputy Director of Finance since December, 1990 • Manager of the Economic Section from February 1982 to December 1990 • With Elektromontaz since 1982 • 42 years old
Mr Wieslaw Palka - Manager of Sales and Marketing in the Equipment Production Division	• Master in Electrical Engineering - Wroclaw Politechnical University • Manager of Sales and Marketing since April, 1991 • Chief Specialist for Exports from April, 1985 to March, 1991 • With Elektromontaz since 1970 • 48 years old
Mr Wieslaw Pozdzik - Manager of Sales in the Construction/Installation Division	• Electrical Engineer - Higher School of Engineering in Lublin • Manager of Sales since April, 1991 • Manager of Production Preparation Section from May, 1988 to March, 1991 • With Elektromontaz since 1972 • 41 years old

Source: *CET Analysis/ Elektomontaz*

ELEKTROMONTAZ HAS A WELL EDUCATED AND YOUNG WORKFORCE

Elektromontaz Employees Educational and Age Structure



Elektromontaz Age Structure

Age	%
0 - 20	1%
20 - 30	17%
30 - 40	38%
40 - 50	33%
50 - 60	10%
60 - 70	1%

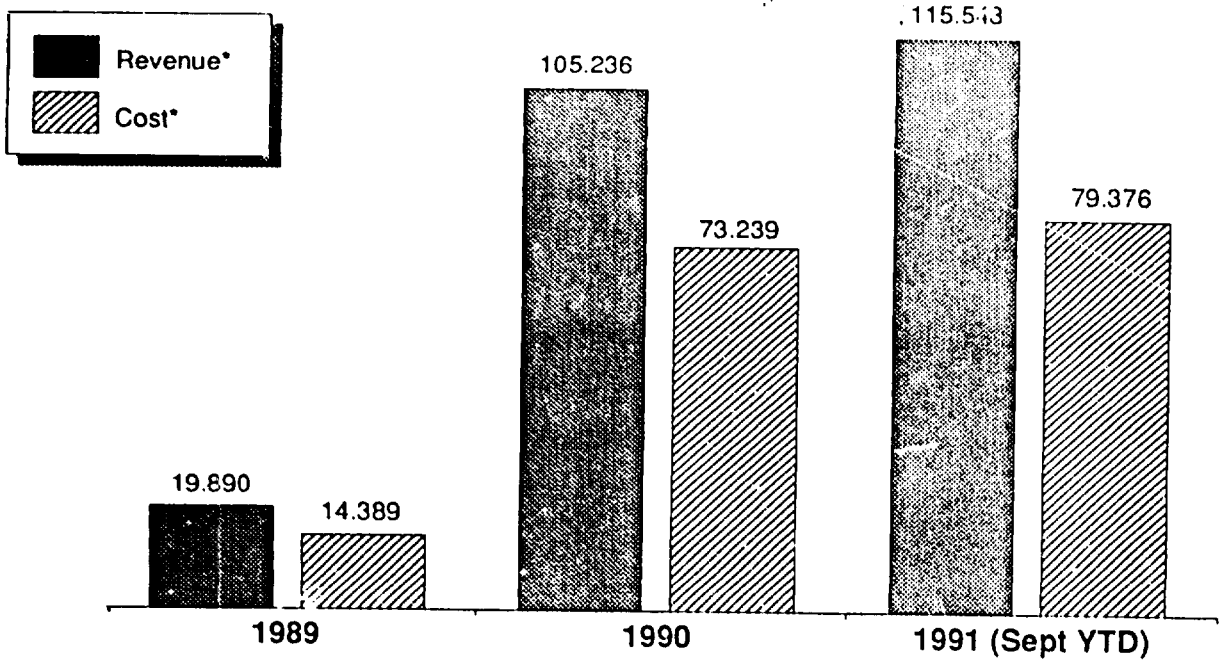
Elektromontaz Employees Gender

MALE 86%
FEMALE 14%

Source: *CET Analysis/ Elektromontaz*

EVEN THOUGH THE COST/REVENUE EQUATION REMAINED STABLE OVER THE PAST TWO YEARS, MANAGEMENT MUST IMPROVE THIS RATIO TO REMAIN COMPETITIVE IN 1992

Revenue/Cost Comparison : 1989 - 1991
(mln PZL)



Corresponding Changes
previous period = 100
(inflation adjusted)

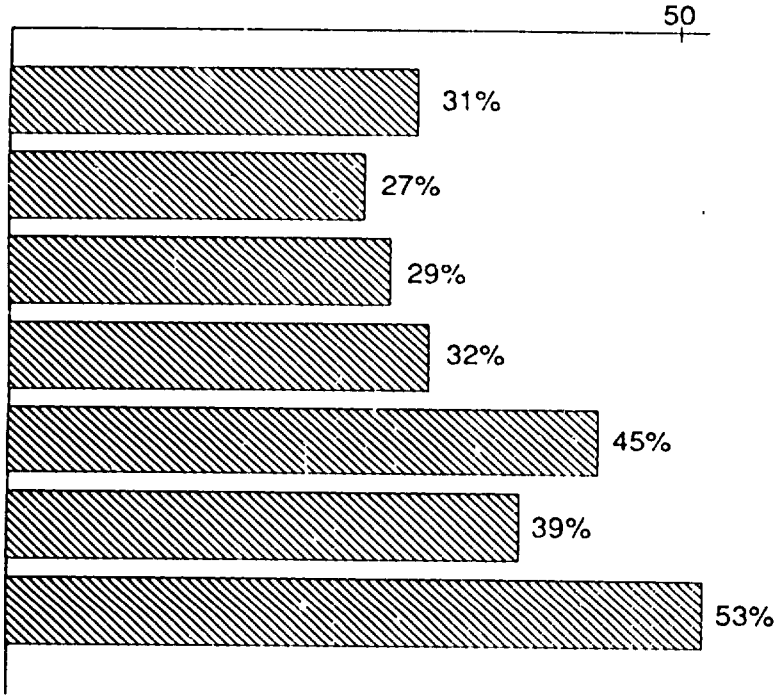
Category	1989	1990	1991
Revenue	-	77%	84%
Cost	-	74%	83%
Cost/Revenue	72%	70%	69%

* Non industrial sales not included

Source: *CET Analysis/Elektromontaz*

UNREALISTICALLY HIGH PROFIT MARGIN ON EXPORTED TRANSFORMER STATIONS CONSTITUTES THE LARGEST SOURCE OF CASH FLOW FOR THE EQUIPMENT PRODUCTION DIVISION

Gross Profit Margin of Particular Product Groups : 1991 (Sept YTD)

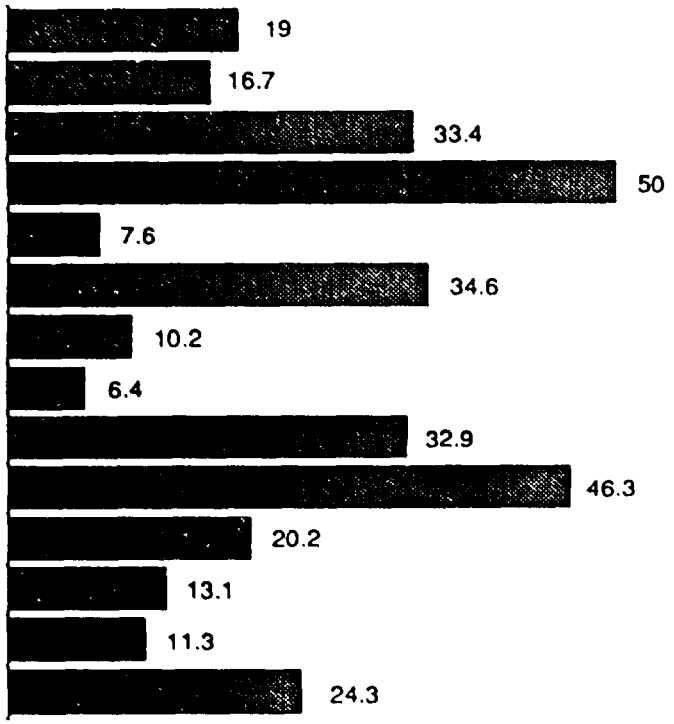


	Profits (mln PZL)
Export Transformer Stations	18.657
Domestic Transformer Stations	294
Low Voltage Switchgears	2.328
Measuring/Controlling Devices	164
Disconnectors	648
Solid Conductors	220
Miscellaneous Installation Equipment	788

Source: *CET Analysis/Elektromontaz*

CONSTRUCTION/ INSTALLATION DIVISION'S SERVICES ARE CHARACTERISED BY SIGNIFICANT VARIATIONS IN PROFITABILITY OF PARTICULAR CONSTRUCTION SITES

Profitability of Particular Construction Sites: 1991 (Nov. YTD)
(in per cent)

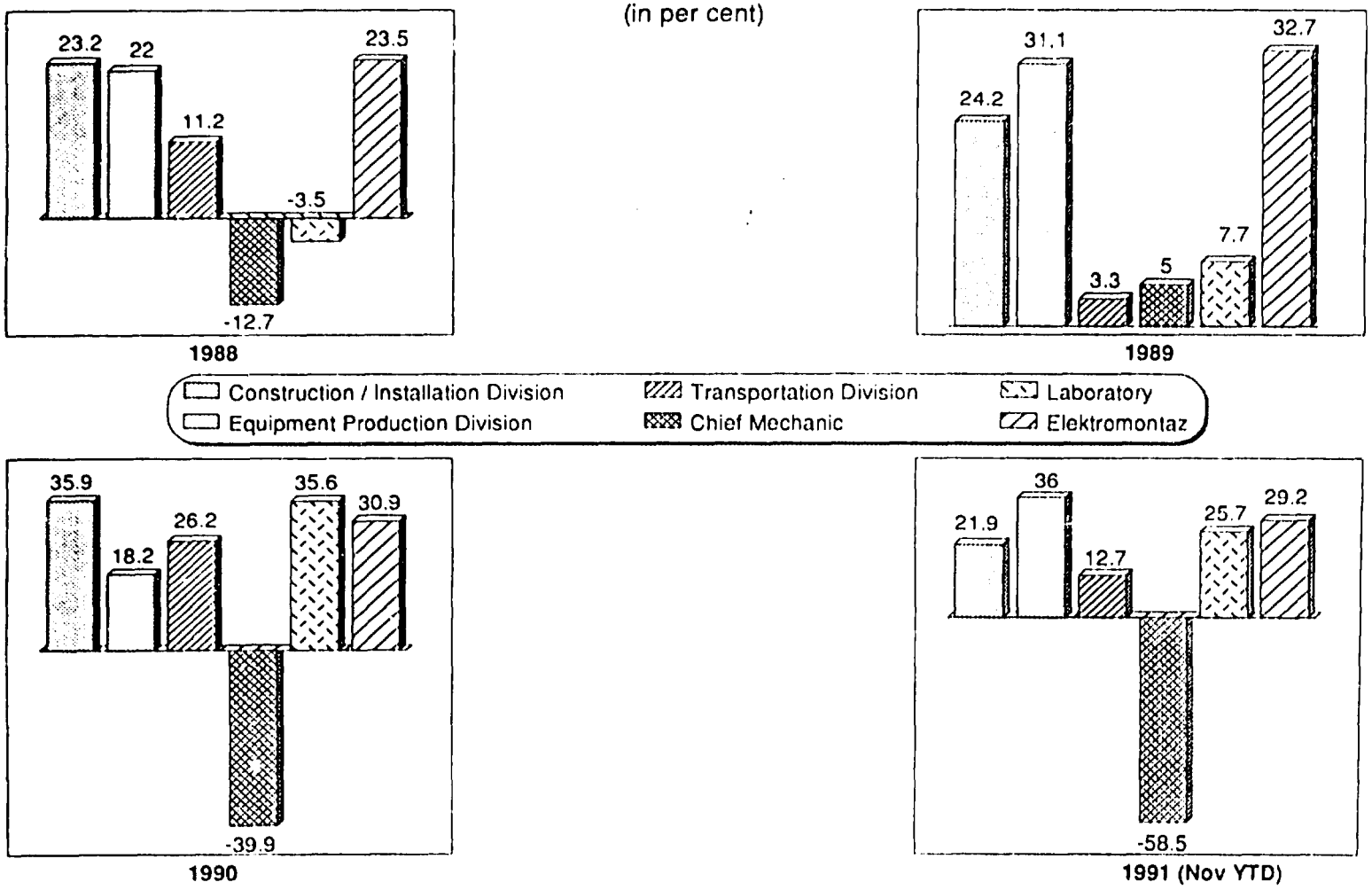


	Profits (mln Pzl)
Lublin Foundry Construction Site	933
WSK Swidnik Construction Site	1.757
Lublin Sugar Factory Construction Site	1.026
Wrotkow Heat and Power Plant Construction Site	1.374
Radom Construction Site	476
Krasnik Construction Site	999
Pulawy Construction Site	354
Chelm Construction Site	202
Biala Podlaska Construction Site	1.052
Siedlce Construction Site	1.448
Zamosc Construction Site	1.633
Jaroslaw Construction Site	316
Ostrowiec Construction Site	219
Measuring/ Regulating Services Group	722

Source: CET Analysis/ Elektromontaz

WHILE PROFITABILITY OF PARTICULAR ELEKTROMONTAZ'S DIVISIONS FLUCTUATED CONSIDERABLY REFLECTING UNSTABLE NATURE OF THE POLISH ECONOMY, PROFITABILITY OF TWO MAIN DIVISIONS REMAINED HIGH OVER THE LAST FOUR YEARS

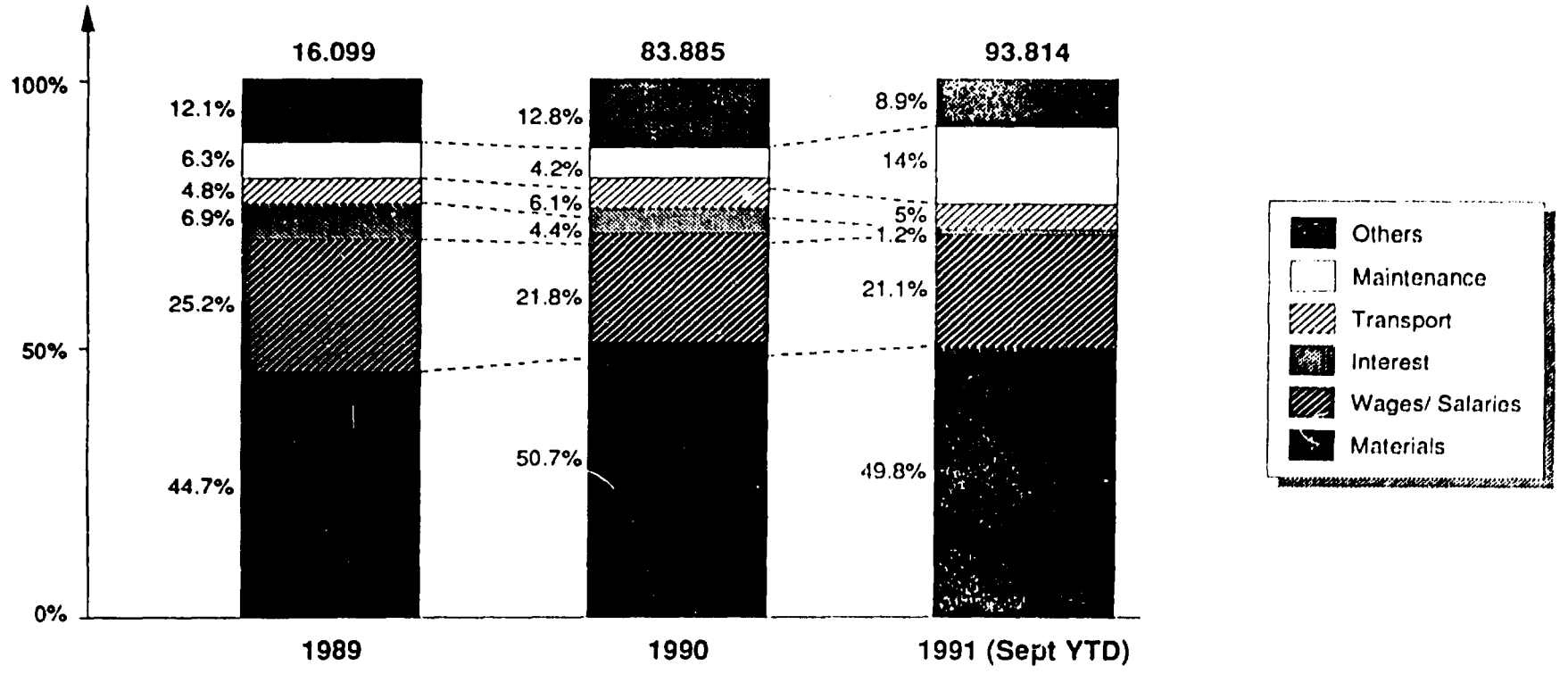
Profitability of Elektromontaz's Divisions : 1988 - 1991
(in per cent)



Source: CET Analysis / Elektromontaz

WHILE MATERIAL COSTS REPRESENT OVER 50 PER CENT OF ELEKTROMONTAZ TOTAL COSTS, THE RISING MAINTENANCE COSTS REFLECT THE GENERAL OBSOLESCENCE OF EXISTING ASSETS

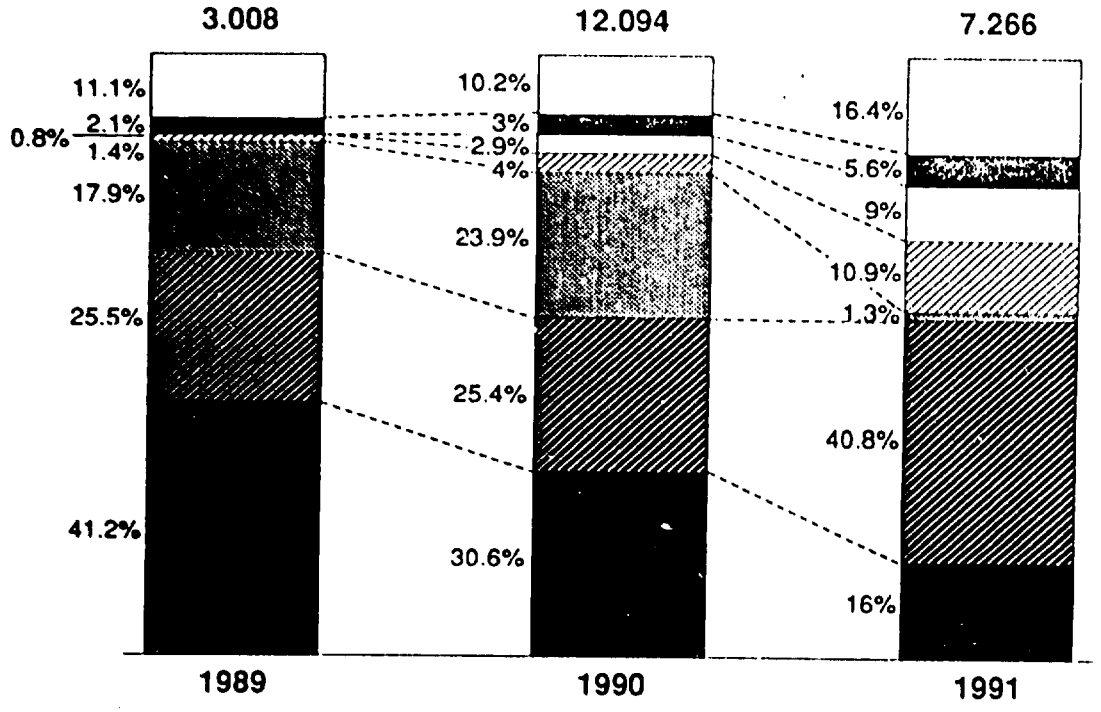
Elektromontaz Overall Cost Structure : 1989 - 1991
(mln PZL)



Source: *CET Analysis/Elektromontaz*

DESPITE THE DECREASING OVERHEADS IN 1991 DUE TO LOWER BANK CHARGES, INCREASING SALARIES MAY BECOME A PROBLEM IN THE FUTURE

Elektromontaz Overheads: 1989 - 1991
(mln PZL)



Overheads Breakdown:	Category	1990/1991
	Others	+29%
	Materials	+49%
	Depreciation	+150% *
	Energy	+114%
	Taxes	-96%
	Salaries	+29%
	Interest and Bank Charges	-58%
	Total	-20%

* affected by asset revaluation

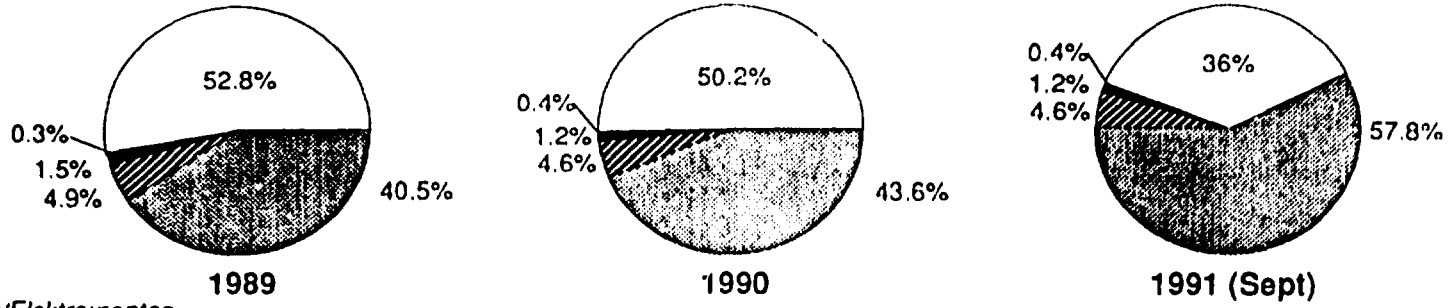
Source: *CET Analysis/Elektromontaz*

THE SHIFTING COST INDICATES A GROWING ROLE OF THE EQUIPMENT PRODUCTION DIVISION AS THE CONSTRUCTION/INSTALLATION DIVISION SUFFERS FROM THE SHRINKING INDUSTRIAL INVESTMENT MARKET

Elektromontaz Total Cost Table : 1989 - 1991
(mln PZL)

Key	Division \ Year	1989	1990	1991 (Sept YTD)
■	Equipment Production	5.308	31.317	50.017
□	Construction/Installation	6.915	36.044	31.130
▨	Transportation	634	3.272	3.939
▨	Laboratory	40	266	339
■	Chief Mechanic	194	892	1.123
	Overheads	3.008	12.094	7.266
	Total Cost	16.099	83.885	93.814

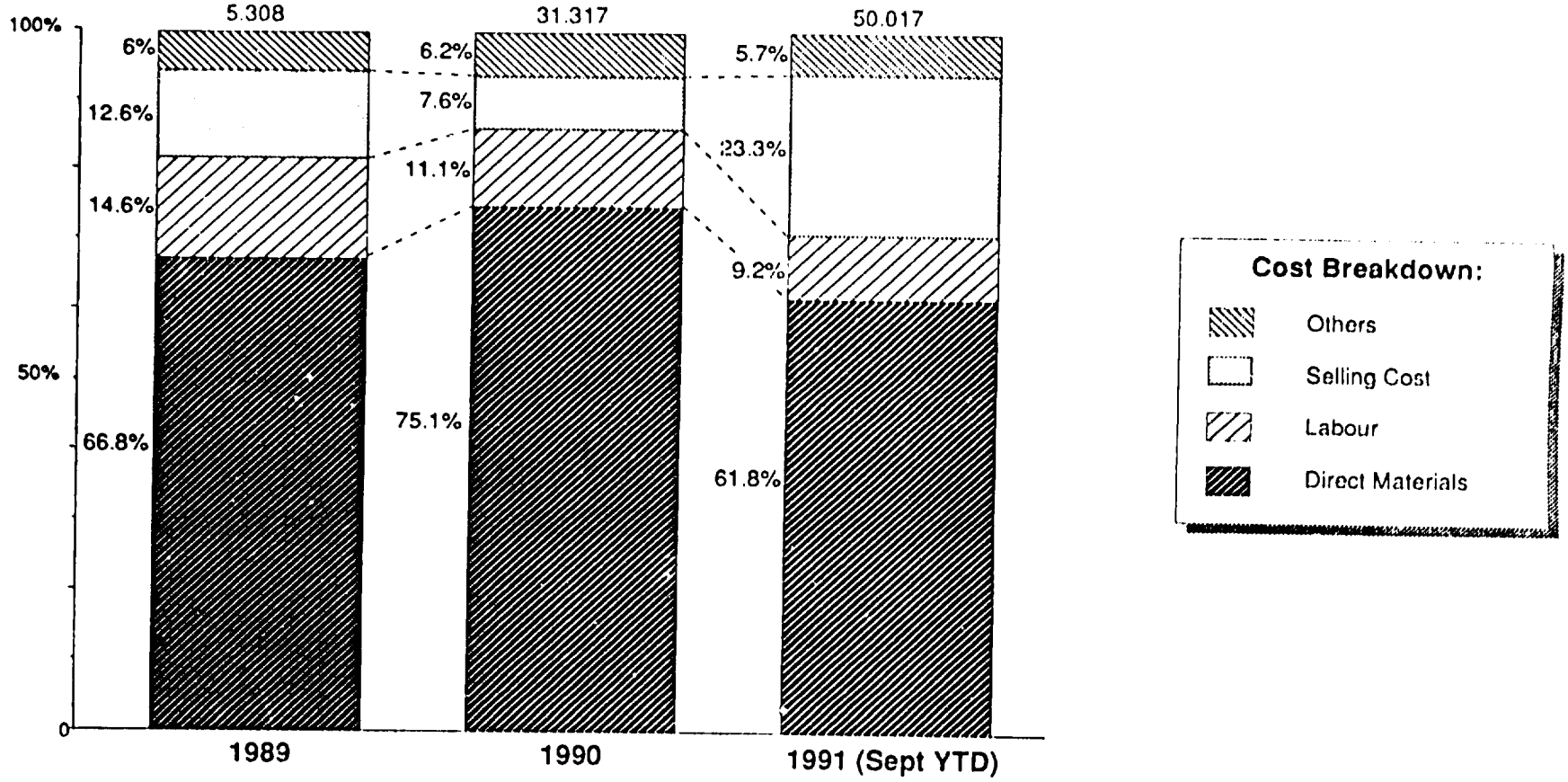
Each Division's Participation in Elektromontaz Production Cost
(% of Total Production Cost)



Source: *CET Analysis/Elektromontaz*

THE RISING COST OF DOING BUSINESS THROUGH INTERMEDIARIES NEGATIVELY INFLUENCED THE EQUIPMENT PRODUCTION DIVISION COSTS

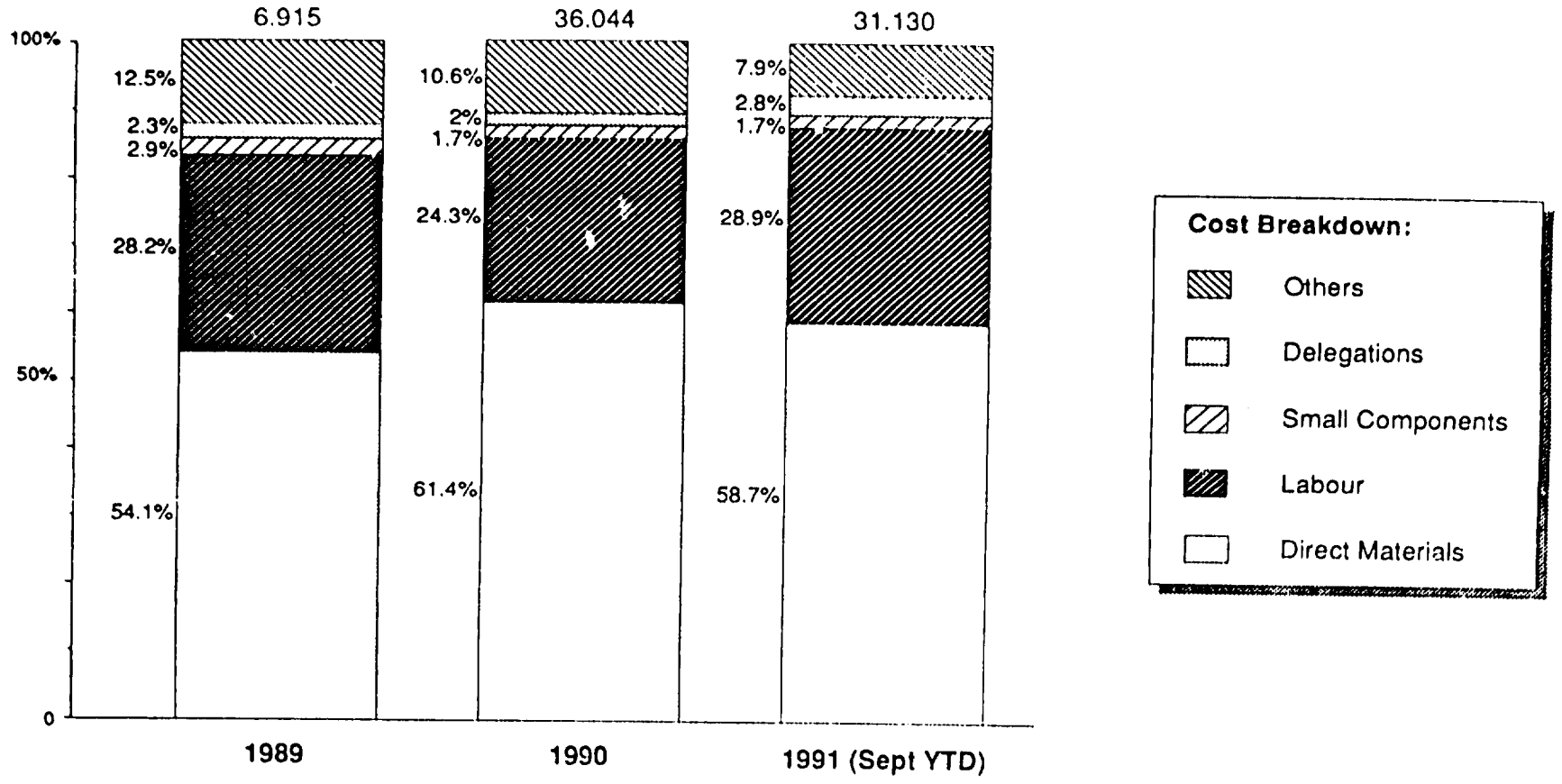
Equipment Production Division Cost Structure : 1989 - 1991
(mln PZL)



Source: *CET Analysis/Elektromontaz*

DIRECT MATERIALS, WHILE STABLE, REPRESENT THE LARGEST PART OF CONSTRUCTION/INSTALLATION DIVISION'S COSTS

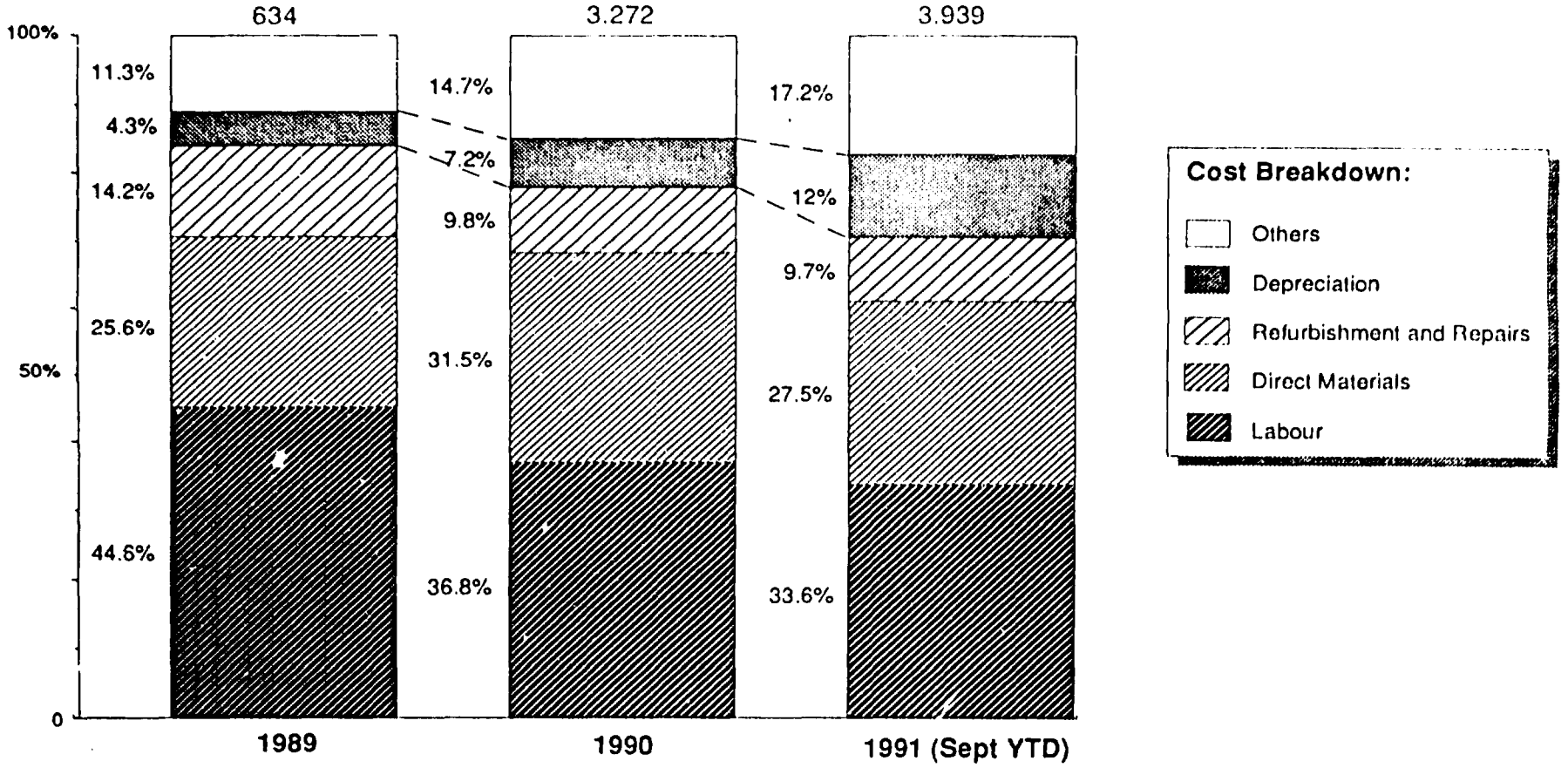
Construction/Installation Division Cost Structure : 1989 - 1991
(mln PZL)



Source: *CET Analysis/Elektromontaz*

THE GROWING COSTS, ESPECIALLY HIGH LEVEL OF DEPRECIATION, MAKES THE TRANSPORTATION DIVISION LESS ATTRACTIVE TO RETAIN

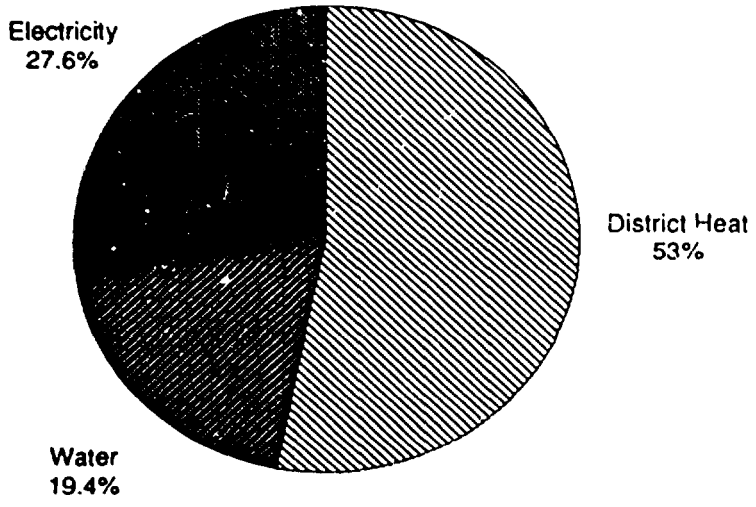
Transportation Division Cost Structure : 1989 - 1991
(mln PZL)



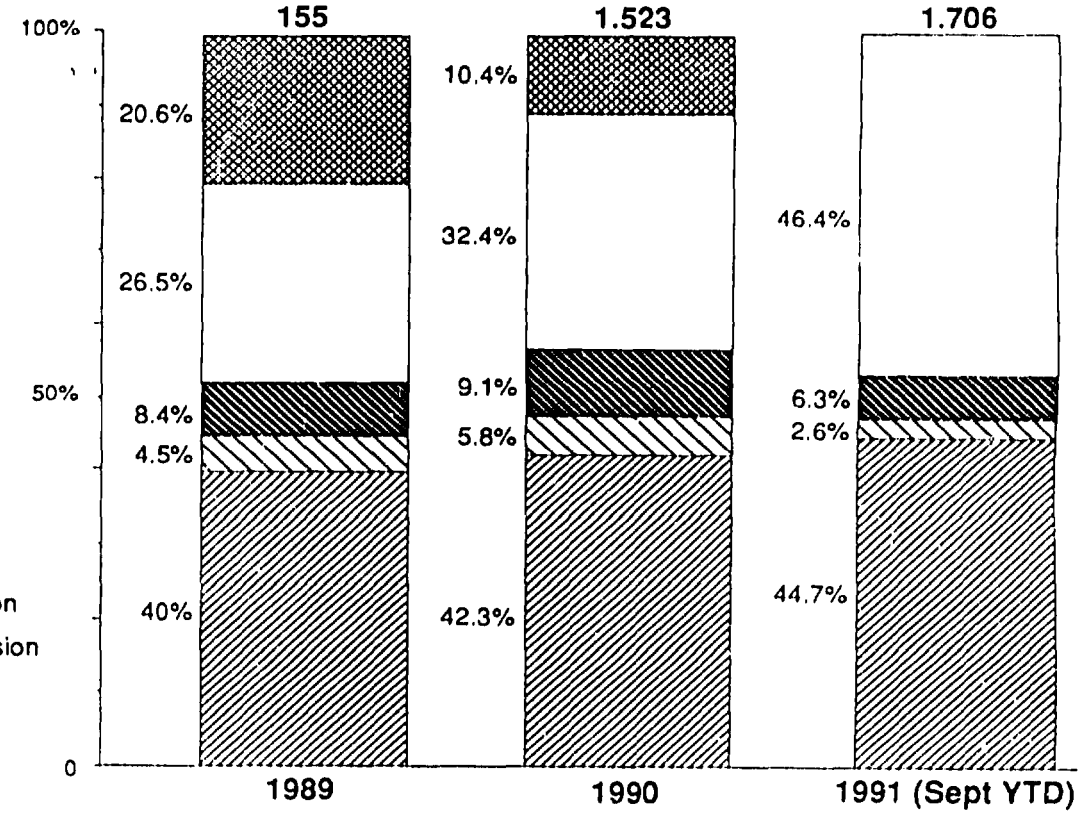
Source: *CET Analysis/Elektromontaz*

GIVEN THE CONTINUING INCREASES OF ENERGY COSTS IN POLAND, ELEKTROMONTAZ HAS TO INVESTIGATE OPTIONS TO REDUCE THE OVERALL ENERGY CONSUMPTION

Energy Source Breakdown: 1991 (Sept YTD)
Total : 1.706 mln PZL



Energy Usage: 1989 - 1991
(% of Total Energy)
Total Cost (mln PZL)



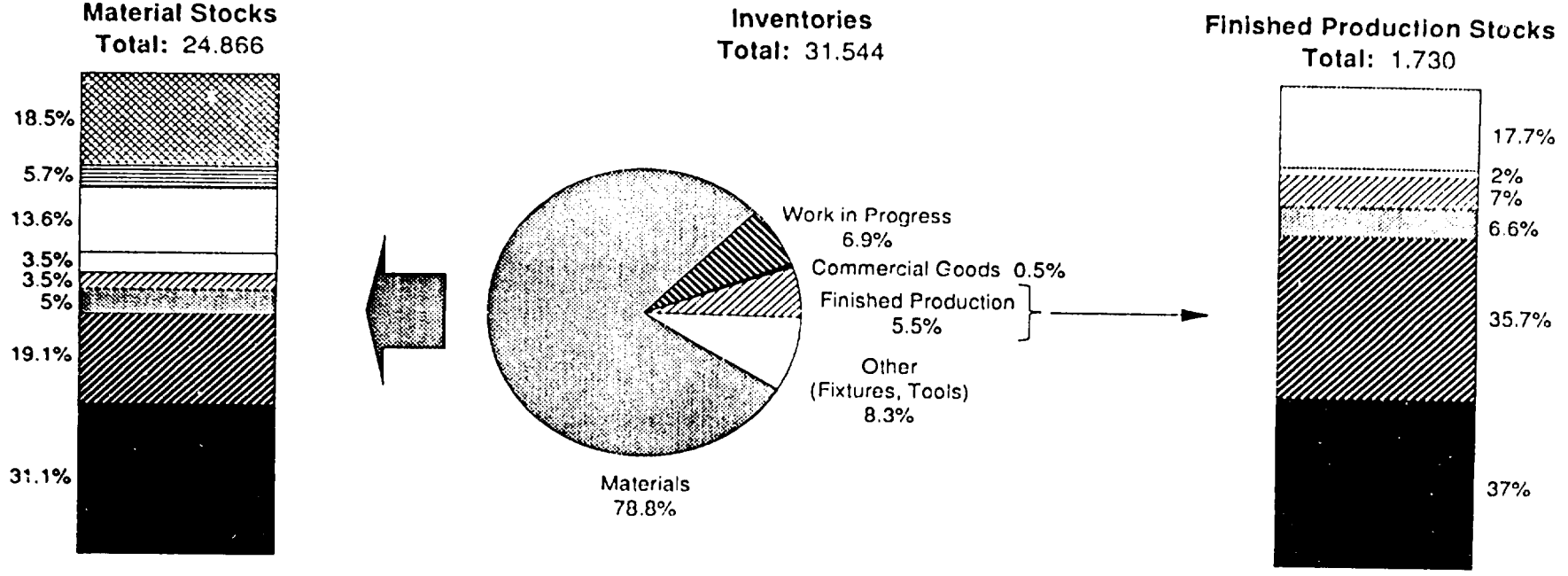
Key:

- Equipment Production Division
- Construction/Installation Division
- Transportation Division
- Administration
- Elektromontaz's School

Source: *CET Analysis/Elektromontaz*

ELEKTROMONTAZ SHOULD IMPLEMENT A SELF REGULATING PERPETUAL INVENTORY CONTROL SYSTEM IN ORDER THAT STOCK LEVEL PROPERLY CORRESPONDS TO ONGOING PRODUCTION

Elektromontaz Inventory Structure: September 30, 1991
(mln ZLP)



Source: CET Analysis/ Elektromontaz

ELEKTROMONTAZ KEEPS HIGH LEVEL OF MATERIAL INVENTORIES DUE TO UNCERTAIN DELIVERIES FROM ITS SUPPLIERS

Stock Days for Main Material Groups : 1991 (Oct YTD)

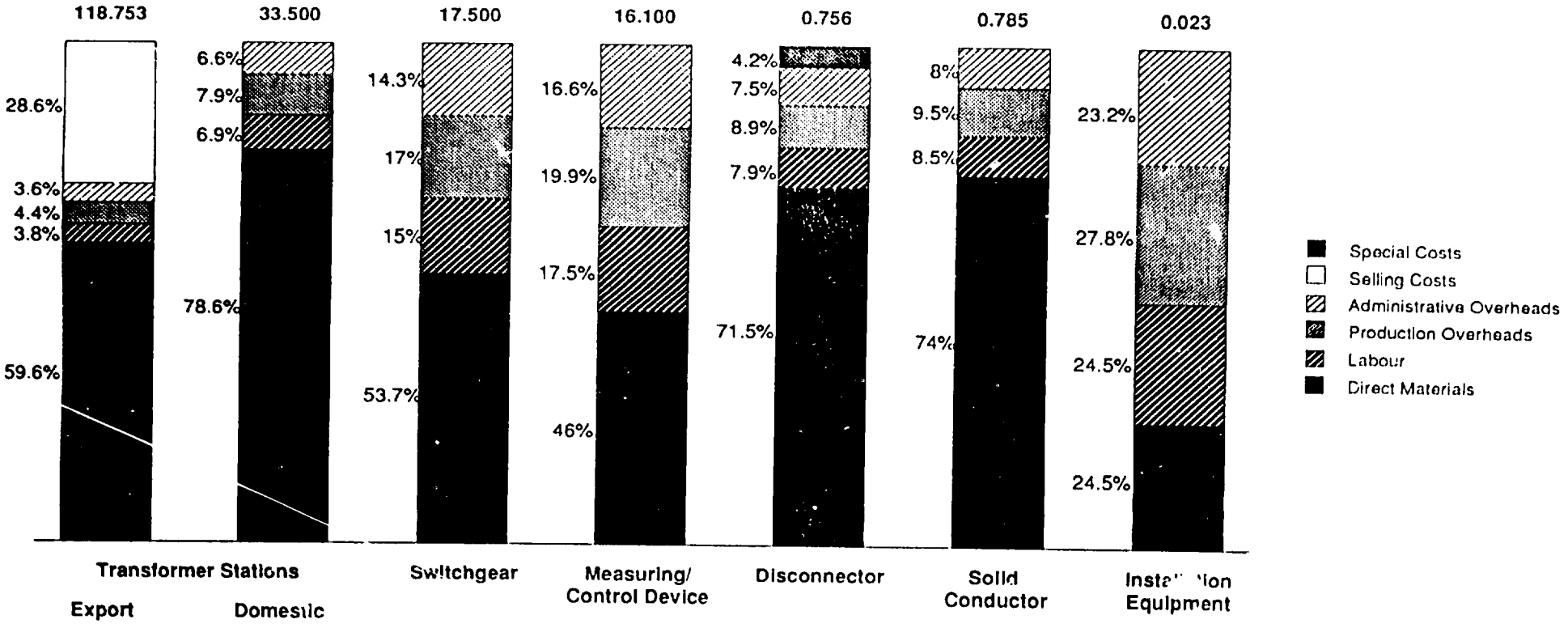
	Comment	Stock Days*
Transformers, Rectifiers	Used in transformer stations	90
Low and Medium Voltage Apparatuses	Used in measuring/control devices and on construction sites	90
Connectors, Switches, Cast Iron Boxes	Used in switchgears and on construction sites	60
Cables, Conductors, Cords	———————	21
Low Voltage Circuit - Breakers	Used in transformer stations, switchgears and on construction sites	60

* Based on average usage in 1991 (Oct YTD)

Source: *CET Analysis/Elektromontaz*

THE MAIN PRODUCT, TRANSFORMER STATION, HAS A VERY LOW VALUE ADDED BY ELEKROMONTAZ

Equipment Production Division's Product Group Cost Structure: 1991
Unit Cost Calculation (mln PZL)



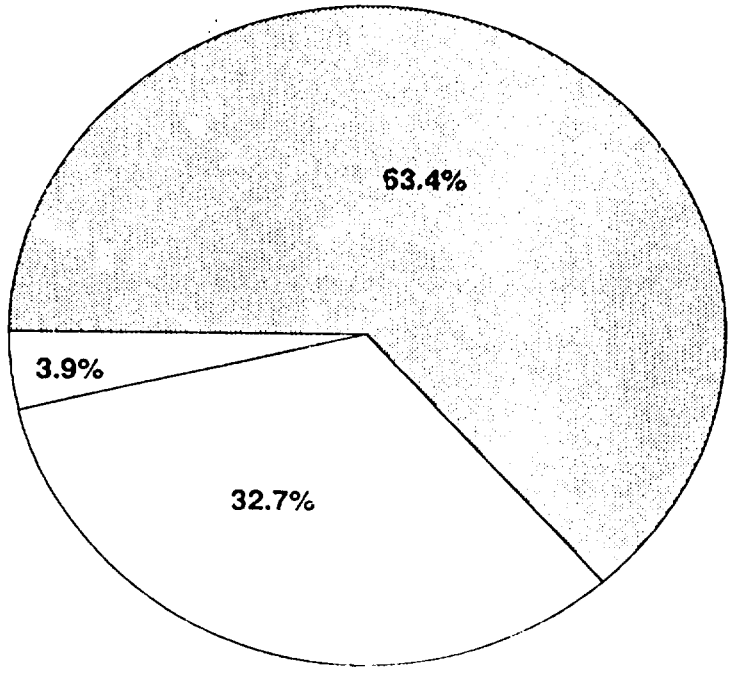
Source: CET Analysis/ Elektromontaz

ELEK/12/91

NON PRODUCTIVE AND NON CORE ASSETS CONSTITUTE OVER ONE THIRD OF TOTAL VALUE OF ELEKTROMONTAZ'S ASSETS. ADMINISTRATION ACCOUNTS FOR ONE HUNDRED PERCENT OF NON PRODUCTIVE ASSETS

Elektromontaz Fixed Assets Value : Sept 30, 1991

Net Book Value: 29.883 mln PZL

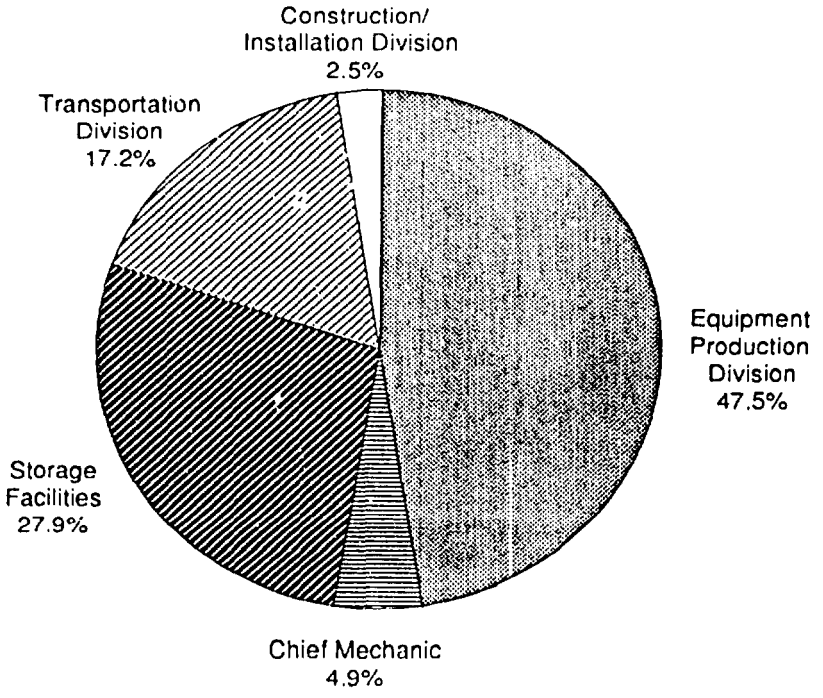


Source: *CET Analysis/Elektromontaz*

ALMOST A HALF OF ELEKTROMONTAZ'S PRODUCTIVE ASSETS IS LOCATED IN THE EQUIPMENT PRODUCTION DIVISION

Fixed Assets by Division*

Productive Assets Net Book Value: 18.525 mln Pzl**



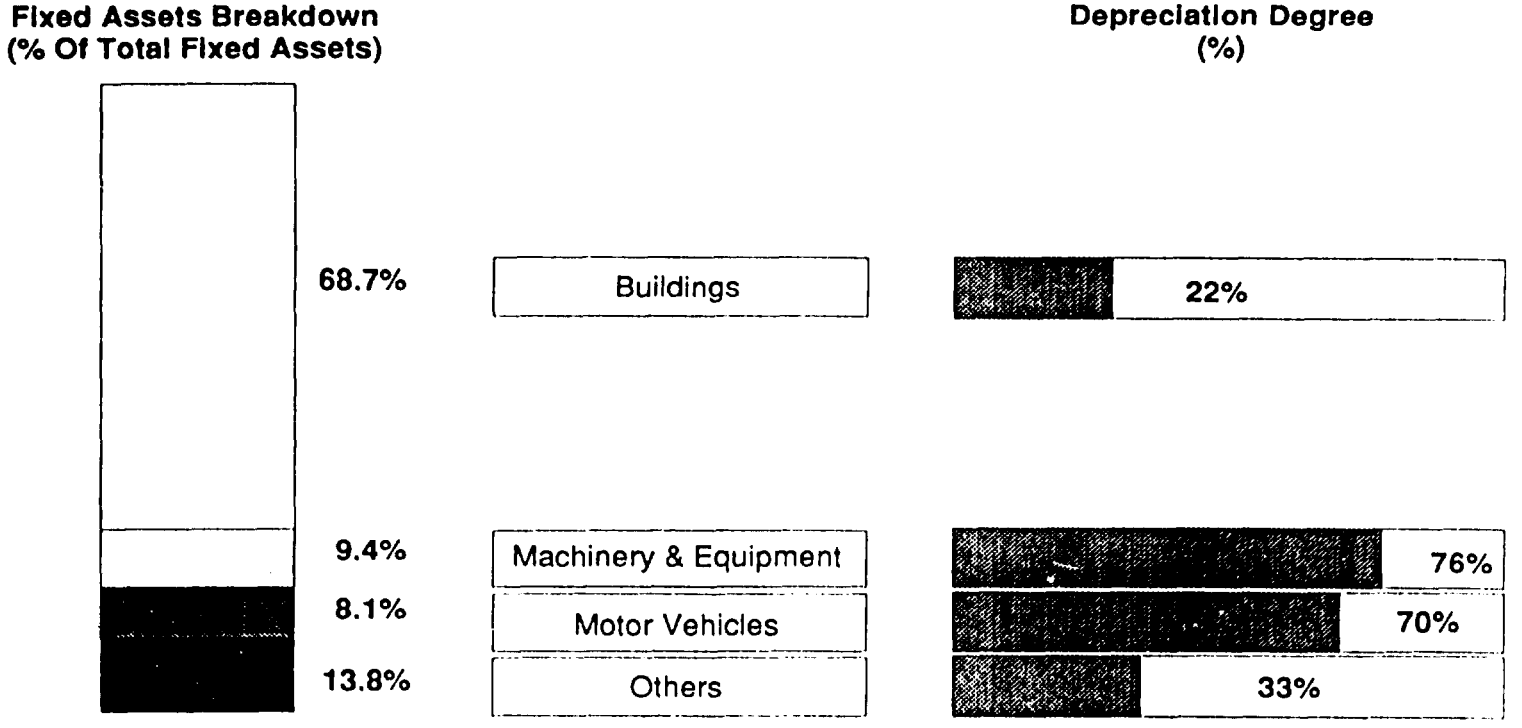
* as of January 31, 1992

** in comparison to September 31, 1991 Elektromontaz has disposed some of its other assets from the Construction/ Installation Division

Source: CET Analysis/ Elektromontaz

INCREASING OBSOLESCENCE OF MACHINERY AND EQUIPMENT AS WELL AS MOTOR VEHICLE IS REDUCING ELEKTROMONTAZ'S COMPETITIVE POSITION

Fixed Assets By Groups*



* As of 30 November 1991

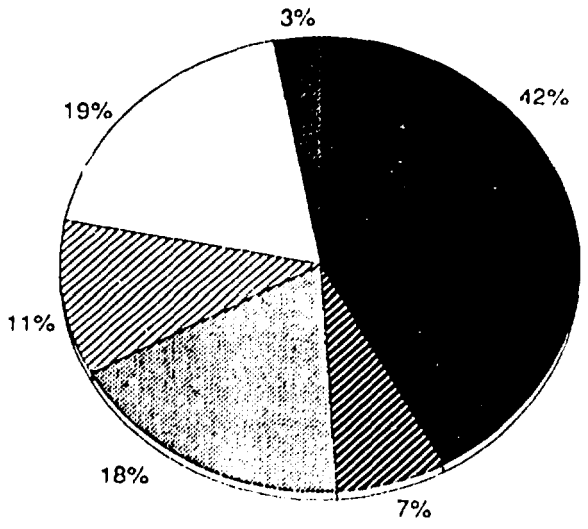
Source: CET Analysis/Elektromontaz

WHILE APPROXIMATELY HALF OF EQUIPMENT INCLUDING MACHINERY AND MOTOR VEHICLES IS LOCATED IN THE TRANSPORTATION DIVISION, VAST MAJORITY OF FIXED ASSETS OF BEST EQUIPPED ELEKTROMONTAZ'S DIVISIONS, SUCH AS THE EQUIPMENT PRODUCTION DIVISION, STORAGE FACILITIES, AND ADMINISTRATION CONSISTS OF BUILDINGS AND OTHER ASSETS

Fixed Assets Breakdown by Each Division*

Key	Division	Assets**	%	Depreciation Degree
▨	Equipment Production Division	Buildings	90%	26%
		Equipment	10%	84%
▨	Construction/Installation Division	Buildings	23.5%	42%
		Equipment	76.5%	67%
■	Transportation Division	Buildings	35.3%	37%
		Equipment	64.7%	69%
■	Storage Facilities	Buildings	97%	23%
		Equipment	3%	72%
□	Administration	Buildings	91.5%	21%
		Equipment	8.5%	54%
▨	Chief Mechanic	Buildings	40.6%	23%
		Equipment	59.4%	47%

Equipment Breakdown*



* as of January 31, 1992

** buildings include other assets, equipment consists of machinery and vehicles

Source: CET Analysis / Elektromontaz

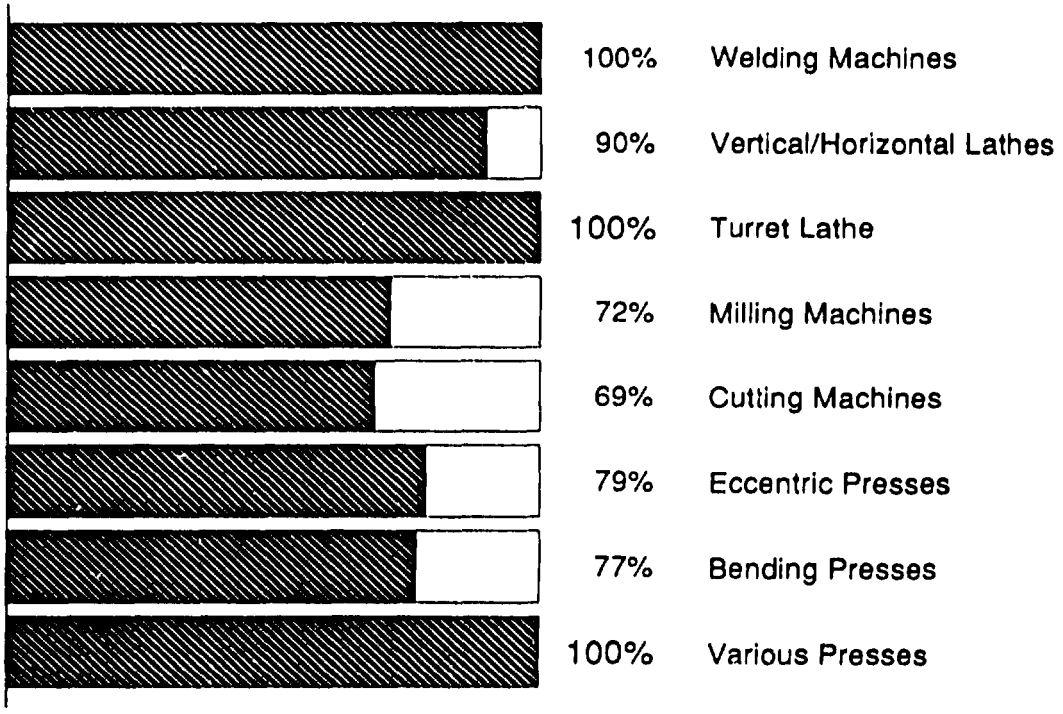
MACHINERY PARC IS COMPLETELY DATED. IT IS ON AVERAGE 15 YEARS OLD AND PRIMARILY OF POLISH ORIGIN. ELEKTROMONTAZ WILL HAVE TO INVEST HEAVILY AND URGENTLY TO UPGRADE ITS TECHNOLOGICAL LEVEL

Machines	Number	Year of Manufacture	Country of Origin
Welding machines	2	1971	Poland
Vertical/Horizontal lathes	5	1975	Poland
Turret lathes	1	1972	Poland
Milling machines	4	1978	Poland, Czechoslovakia
Cutting machines	6	1978	Poland
Eccentric presses	21	1976	Poland, Italy
Bending presses	3	1982	Poland, GDR
Various presses	2	1976	Poland, Bulgaria

Source: *CET Analysis/Elektromontaz*

70 PER CENT OF ALL EXISTING MACHINES IS FULLY DEPRECIATED

Machinery Depreciation Degree: Oct 31, 1991



Source: *CET Analysis/Elektromontaz*

ELEKTROMONTAZ'S MACHINERY PARC HAS BEEN CONSIDERABLY UNDERUTILISED OVER THE PAST THREE YEARS

Production Capability Utilisation : 1989 - 1991

Equipment Production Division
(% of Maximum Capacity)

Product Range	1989	1990	1991 (Nov YTD)	Current Maximum Capacity*
Export Transformer Stations	64.6%	42.4%	71.6%	790
Domestic Transformer Stations	8.9%	5.5%	0.4%	790
Low Voltage Switchgears	15.4%	23.2%	33.4%	2200
Measuring/Control Devices	2.2%	3.1%	1.6%	1650
Disconnectors	4.9%	4.9%	4.1%	79320
Solid Conductors	4.6%	9.4%	1.9%	44070 m
Miscellaneous Installation Equipment	14.7%	13.7%	8.8%	396600 kg

* Based on 1 shift per day annually

Source: *CET Analysis/Elektromontaz*

AS OF JANUARY 1992 ELEKTROMONTAZ HAS DISPOSED OF A VERY FEW ASSETS. A MORE EXACT AND PRECISE DISPOSAL PROGRAMME WILL BE PREPARED LATER IN THIS YEAR

List of Machinery and Equipment Disposed*

Name	Number
Underslung hook crane	1
Anti-fire tank	1
Water terminal	1
Compressor	1
Painting facility KREMLIN	1
Compressed unit	2

* as of January 31.1992

Source: CET Analysis/ Elektromontaz

Diagnostic...Production and Assets...

THE EXISTING PLAN LAYOUT IS NOT CONDUCIVE TO A RATIONAL AND EFFICIENT WORK FLOW. ELEKTROMONTAZ SHOULD EXPLORE THE OPPORTUNITY OF AN ALTERNATIVE MOVEMENT OF MATERIAL, WHICH IMPLIES SOME EXPENDITURE FOR BUILDING CONSTRUCTION AND ALTERATION

Plan layout and material movement:

- At present raw materials are stored in the remote open air storage facility, which is a cause of oxidisation
- The material flow crosses three times to access different operations
- The current arrangement of machinery splits machines of the same type into different locations
- There is a lack of good material handling and simple support members and work catchers

Methods/work environment:

- Welding methods are not appropriate to achieving and maintaining an equitable standard
- Hand preparation prior to paint is inefficient and a Health & Safety hazard
- Paint and store drying is completely unacceptable, resulting in a substandard finish together with insufficient protective treatment to withstand degradation during the lifecycle of the equipment
- As far as assembly methods employed are concerned with the practice of allocating a two man team to assemble a complete transformer is fraught with problems
- Poor lighting and the use of simple work aids do not meet environmental requirements

Source: *CET Analysis*

WHEN COMPARED TO WESTERN STANDARDS THE TECHNOLOGICAL LEVEL OF MACHINERY IS ON AVERAGE 15 YEARS OUT OF DATE

Machinery Status:

- The machine tools are substandard in 60% of components viewed
- Dated plant, requiring man handling, increases the reject levels and the material wastage due to obtaining the minimum product from a steel sheet
- 78 out of 503 items of machine tools, plant and equipment, should be removed and scrapped
- In the metal forming sections 25% of the capital plant has a medium term life
- The welding facility needs a comprehensive review to replace 80% of the welding sets within one year, technological gap is 10 years out of date
- The use of inert gases to obviate oxidisation has not been considered
- The area of electrical assembly needs expenditure to upgrade the assembly operations reducing the effect of human error as currently all is done by hand tools

Source: *CET Analysis*

LEAD TIMES IN ELEKTROMONTAZ ARE EXCEPTIONALLY LONG AND LESSEN ITS ABILITY TO BECOME COMPETITIVE WITHIN THE INDUSTRY

- Production lead times can only be affected by supplier's lead time for raw material or bought out components until the available capacity is fully absorbed

Lead Time	Number of Weeks	Comments
Raw material	4	-
Process time	3	-
B/out supply	6	Running concurrent with raw material and process time
Up to assembly	7	
Assembly	2 ÷ 4/6	Varies from 2 weeks for switchgear to 4 to 6 weeks for a typical transformer station
Minimum lead time	9 ÷ 13	Depending on the category of supply

- Lead times in the Construction/Installation Division can not be analysed in detail. Installation lead times are very much influenced by site preparation and the complexity of installation, therefore no meaningful lead time can be apportioned to the sector

Source: *CET Analysis*

ELEKTROMONTAZ'S PRODUCTION PLANNING AND INVENTORY CONTROL HAVE TO BE IMPROVED TO REMAIN COMPETITIVE

Production Planning:

- Is based on actual orders plus a contingency where the batch size for manufacture has to be increased to achieve a meaningful set to run time on the machine
- The start dates are identified which results in the correct prioritisation for loading

Inventory Control:

- Based on actual orders with an allowance built in for opportunity business
- Stock levels are not subject to periodic checks and corrective action needed to increase or reduce stock as appropriate
- Stockholding was showing surplus when compared with the production/sales plan
- The manual stock management system is incomplete in that the issue recordings do not reflect what sales order is being satisifed, or if the allocation is for O.E.M. or spares use
- In most instances, there is a record of receipt and a quantative record of stock movement and no further recordings
- Under I.S.O. standards the records of stock movement have to be substantially more detailed to satisfy the inspectorate that traceability could be supported

Source: *CET Analysis*

ALTHOUGH OFFICIALLY RECORDED QUALITY FAULTS LEVEL IS LOW, THERE ARE MANY HIDDEN PROBLEMS DUE TO THE LACK OF A QUALITY CULTURE

Elektromontaz Quality Faults : 1989 - 1991 (Sept YTD)

	Internal Quality Control	Customer Claims
1989	-	Failure of one exported transformer station
1990	Failure of one domestic transformer station	-
1991 (Sept YTD)	Slight bending cracks in processed steel sheets for switchgears	Lack of spare parts and documentation in 4 exported transformer stations Failure of one switchgear

Source: *CET Analysis/Elektromontaz*

ELEKTROMONTAZ'S QUALITY CONTROL PROCEDURES AND PLANT MAINTENANCE HAVE WEAKNESSES THAT MUST BE ADDRESSED

Quality Control:

- A full schedule of comprehensive quality control procedures are available that in certain cases would pass I.S.O. scrutiny However, problems remain
- Confirming evidence that the procedures being used is not available creating problems with I.S.O.
- An example of problems with confirming evidence is provided:

    - Drawing for a transformer enclosure was issued to manufacture, the issue number was 3 (meaning there were three design or specification changes from the original issue). The enclosure had been made to issue 2 and had reached the assembly stage with no record of a concession being requested to use at issue 2 and no record of an inspection stamp during its processing

- No test certificates are issued with finished goods. This alone under the !.S.O. authority would have resulted in a complete hold on any shipment of goods

Plant Maintenance:

- Although the plant and machinery is of an age that spares are increasingly difficult to obtain plant maintenance is non-existent
- There is no planned maintenance programme
- Lack of proper maintenance is evident in the service plant i.e. compressors, stand-by generators, together with the buildings and access roadways
- New addition

Source: *CET Analysis*

Conclusions

- Elektromontaz is currently over-reliant on only one product, transformer stations exported to the Soviet Union
- The enterprise depends too heavily upon Elektromontaz Export, its intermediary, and as a result is isolated from the export market and end users
- If 1992 contracts are not signed and radical steps are not taken to reduce cost, Elektromontaz will start to run into serious cash flow problems
- Existing machinery parc is out-of-date and is not sufficient even for basic manufacturing operations
- Current production capacities are considerably underutilised. Plant utilisation is in the order of 50%
- Elektromontaz keeps high level of material stocks and no steps have been taken to adjust them to ongoing production
- The enterprise's cost accounting systems are inadequate
- Elektromontaz lacks R&D experience, because of no design culture in the organisation
- Existing organisational structure of the company is inadequate and has to be streamlined
- Elektromontaz has a strong core of engineers with good technical background. However they lack experience in the marketing and sales area

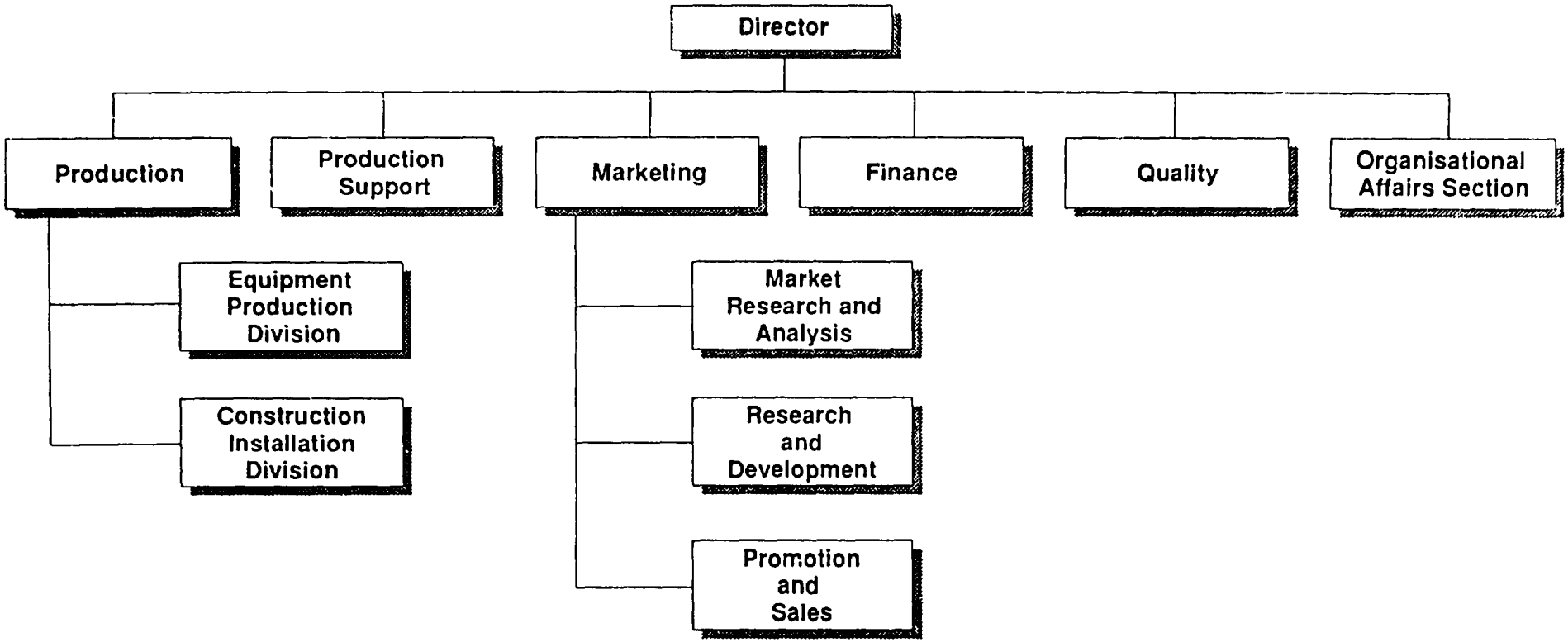
CONTENTS

CENTRAL EUROPE TRUST

Corporate Mission

Elektromontaz Lublin tends to be a medium-sized private company manufacturing modern and up to date industrial electrical goods for both domestic and international markets and offering highly competitive construction/ installation services meeting international standards and requirements

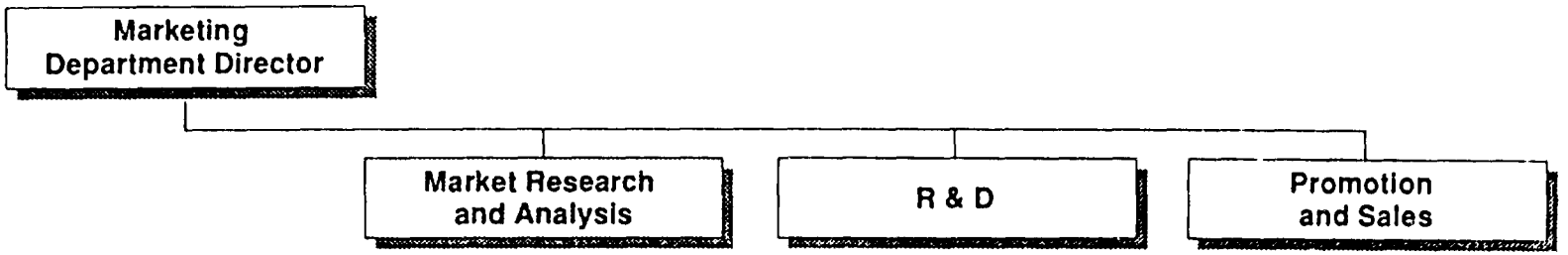
NEW ORGANISATIONAL STRUCTURE MUST REFLECT THE INFLUENTIAL ROLE OF MARKETING DEPARTMENT IN A MARKET ORIENTED COMPANY



To achieve maximum benefit, the marketing department should coordinate efforts for Equipment Production and Construction/ Installation Division

Source: CET Analysis

PRECISE DATA COLLECTED BY THE MARKET RESEARCH AND ANALYSIS DEPARTMENT IS THE KEY TO AN EFFECTIVE STRATEGY CRUCIAL FOR THE FUTURE SUCCESS OF THE COMPANY



The department must focus on creating files (or data base systems in the original term) in three areas:

1. **Real and potential competitors** How many? what is their advantage?, what type of marketing instruments do they use?, what are their main customers?, will they improve their products in the future?. The information can be gathered from domestic and foreign newspapers, mass media publications, formal and informal meetings with customers and competitors, government sources

2. **General environment** Information about different factors influencing company's progress such as - government policy, new regulations, taxes, agreements, latest technologies, new sources of materials, world prices for raw materials and comparable finished goods. Data can be obtained from newspapers, magazines, radio, television, official documents, competitor's brochures and catalogues etc.

Source: CET Analysis

MARKET RESEARCH AND ANALYSIS DEPARTMENT CONT'D...

3. **Company's current and future customers** Information about customers' financial position, investment plans, opinions and proposals about Elektromontaz products and services, customers' claims and remarks etc. The necessary information can be collected by permanent contacts with customers through interviews, adding questionnaires to sold products or periodic activities such as surveys of customers' opinions

The Market Research and Analysis Department must create a multifaceted information base:

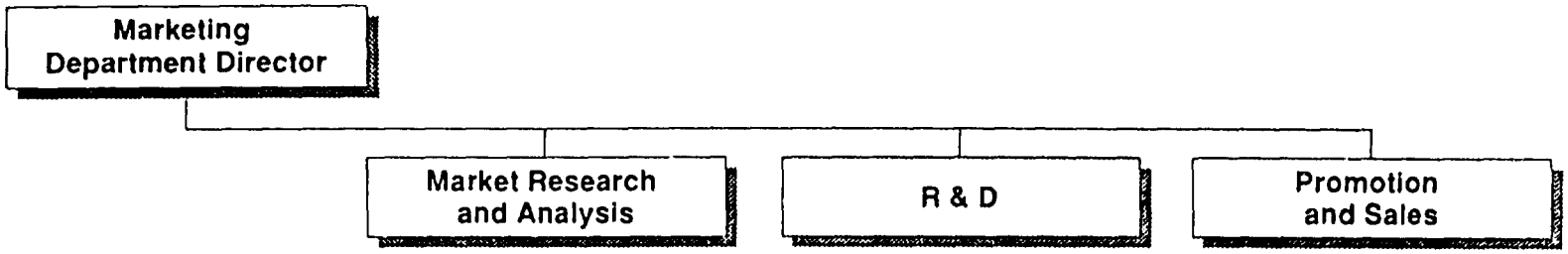
- domestic market that includes all major regions of Poland
- foreign markets with special emphasis given to the former Soviet Union market

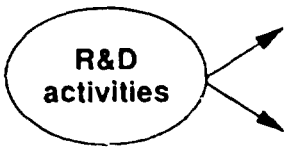
Its task is to:

- gather as much information as possible and necessary
- follow and evaluate trends
- provide leads for the R&D and Promotion and Sales Departments

Source: CET Analysis

PROVIDED WITH INFORMATION BY MARKET RESEARCH AND ANALYSIS DEPARTMENT, THE RESEARCH AND DEVELOPMENT (R&D) MUST SELECT AND DEVELOP PRODUCTS OFFERING BEST SALES OPPORTUNITIES





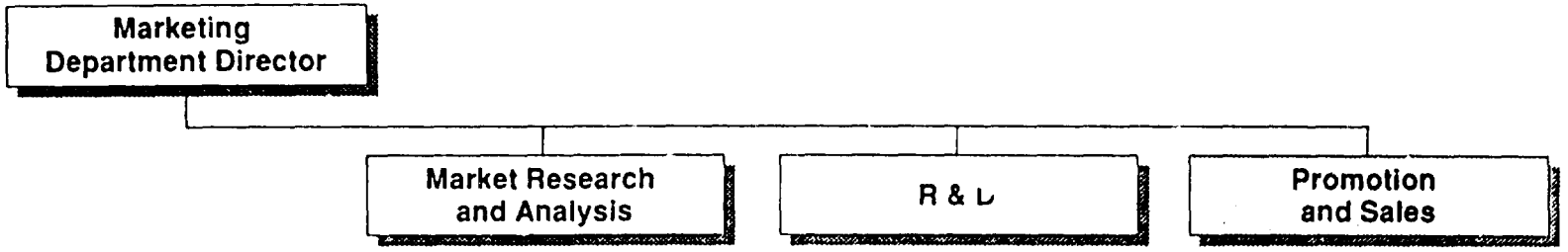
Improvements in existing products (increasing production range, introducing technical, design and technological changes)

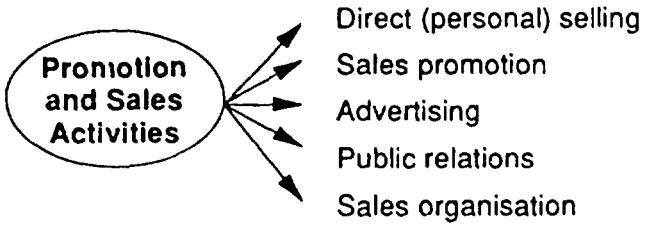
Development of complete new products (inventions, building prototypes - it is important to know that only 20-30% of new products are successful in the market)

The R&D department will most likely expand at a fast pace due to increasing competition and greater market needs. The management must remember that despite high expenses associated with R&D, results are not certain

Source: CET Analysis

THE LAST STAGE OF A SOPHISTICATED MARKETING APPROACH IS THE CREATION OF A DYNAMIC PROMOTION AND SALES DEPARTMENT





Specific attention should be given to developing direct marketing/ sales which is the most important component in promotion of industrial goods

Source: CET Analysis

PROMOTION AND SALES DEPARTMENT CONT'D...

- **Direct Selling:**

  - significant increase in sales can be obtained by creating a network of sales representatives for both divisions. Although more expensive than mail offers, this method of sales is much more effective. The direct distribution option can be considered also for foreign markets (e.g. emerging markets of Russia, Ukraine and Belorus)
  - the main task of sales representatives is to sign a contract (i.e. to sell products). However they must also advertise products and obtain information about customer's needs
  - sales representatives must be active and dynamic in locating Elektromontaz customers and thus must be properly motivated through high bonuses (or commission) from the value or the number of sold products/ services
  - it is profitable for each sales representative to develop a steady and reliable group of clients resulting in the establishment of stronger relationships and the ability to reach decision making groups in each company. Through regular contact and offers, the sales representative should identify and influence such groups

- **Sales Promotion:** There are a number of schemes which can be used to attract Elektromontaz customers:

  - pro-quality and pro-cash (quickness and payment) discounts
  - flexible profit margins
  - promotion of permanent buyers by offering convenient methods of payment, longer periods of payment, credits, discounts, quicker realisation of orders
  - participation in fairs, exhibitions, lectures
  - after-sales services such as favourable guarantee period, broad range, quickness and effectiveness of guarantee services, spare parts
  - pretesting i.e. offering products for free exploitation for given period (e.g. 10 days) to convince potential buyers
  - provide free products in specific cases (e.g. for schools, hospitals. etc.) that produce favourable public relation

Sales promotion features should always be used temporarily and for specifically targeted customers

Source: CET Analysis

PROMOTION AND SALES DEPARTMENT CONT'D...

- **Advertising:**

  - create company's trade mark that differs Elektromontaz Lublin from other Elektromontaz enterprises and emphasises joint stock company status
  - prepare company's souvenirs such as calendars, pens, bags etc. which can be used by sales representatives
  - design new, more attractive brochures stressing not only company's experience and tradition but also ambitions and coherent plans for future. More graphics, drawing examples should be used
  - arrange promotion videos about Elektromontaz and its products they should be short- approx 5-10 minutes and in at least three languages
  - consider the possibility of advertising in local and national newspapers. Decide on the type of advertising - prints vs TV, intensive vs extensive - depending on characteristics of the product and advertising budget. "Rzeczpospolita" and "Gazeta Wyborcza" newspapers are particularly recommended

- **Public Relations:** These activities should improve company's image and awareness among the customers and public. This policy could incorporate the following:

  - "open door policy" i.e. frequent meetings with customers and journalists in order to inform them about company's progress Information can be also sent to "Rzeczpospolita and Enterprises " department
  - redesigning of some parts of company's offices (e.g. directors office)
  - buying high-quality representative car for the management
  - organising conferences, banquets for customers and journalists

- **Sales organisation:** The promotion and sales department must carry on activities directly connected with sales e.g.:

  - creating agreement forms
  - preparing and signing invoices
  - maintaining cooperation with FTOs (Elektromontaz Export and Elektrim)

Source: CET Analysis

MARKETING DEPARTMENT'S STAFF WILL GRADUALLY INCREASE DUE TO GROWING COMPETITION. INITIALLY, THE STAFF SHOULD CONSIST OF APPROXIMATELY 30 EMPLOYEES

Proposal for the number and main tasks of employees in different sections of the Marketing Department

	Number of Employees	Main Tasks
Director of the Marketing Department	1	• Coordination of all department's activities • Cooperation with managers of other departments • Budget allocation • Motivating incentives
Market Research and Analysis	5	1. • Creating/maintaining competitors file for Equipment Production Division (EPD) 2. • Creating/maintaining competitors file for Construction/ Installation Division (CID) 3. • Evaluation and analysis of market trends for EPD 4. • Evaluation and analysis of market trends for CID 5. • Commencing/maintaining permanent contacts with both divisions' customers
Research and Development	6	• Keeping current with the latest technological trends • Improving current products • Developing completely new products
Promotion and Sales	15	1-5 • Direct sell for EPD (sales representatives) 6-9 • Direct selling for CID (sales representatives) 10-12 • Sales promotion, advertising and public relations activities for both divisions 13-15 • Sales organisation consisting of 2 workers for EPD and one for CID

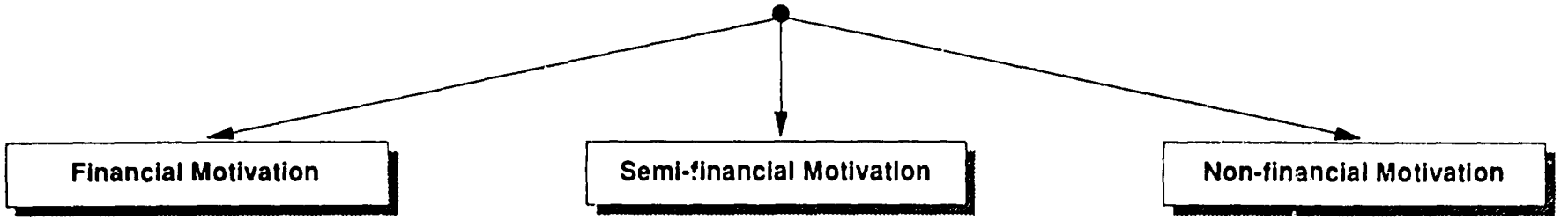
Additional Remarks:

1. Specific activities of each employee are presented in the section devoted to the organisational structure of Marketing Department
2. Two additional R&D employees should be hired from the outside such as two young constructors just after studies with many ideas
3. Elektromontaz's management must develop its Marketing Department by either selecting new workers or employing current workers from other departments
4. The size and responsibilities of the Marketing Department must be flexible due to existing and potential challengers
5. Accountants who worked in Sales Departments should be moved to the Finance Department

Source: CET Analysis

IN ORDER TO ESTABLISH A SUCCESSFUL MARKETING DEPARTMENT, ELEKTROMONTAZ MUST PREPARE CLEAR AND PRECISE MOTIVATION SYSTEM FOR ITS EMPLOYEES. SUCH A SYSTEM COULD ATTRACT YOUNG AND DYNAMIC PEOPLE MEETING DEMANDING REQUIREMENTS

Proposed Structure of the Motivation System



Financial Motivation

- Basic salary paid monthly
- Bonus connected with value of the contract
- Periodical compensation package

Semi-financial Motivation

- Professional business courses
- Languages courses
- Additional payment for car use
- Coverage of business trip expenses
- Lower interest loans
- Use of business cars

Non-financial Motivation

- Official and private meetings between management and employees
- Logical promotion system
- Availability of internal information about Marketing Department activities
- Corporate culture

Source: CET Analysis

THE MARKETING DEPARTMENT'S DOMINANT ROLE IN IMPROVING ELEKTROMONTAZ'S COMPETITIVE POSITION DEMANDS THAT ITS EMPLOYEES BE MOTIVATED BY FINANCIAL AND SEMI-FINANCIAL INCENTIVES

1. Market Research and Analysis Department employees

Besides the basic salary, bonuses paid every 3 or 6 months should be offered. Periodic financial rewards for particular important information are also possible. Semifinancial incentives can consist of languages courses (to increase the amount and quality of collected information) and professional courses (to improve employees' theoretical and practical skills)

2. Research and Development Department (R&D) employees

In this department high bonuses paid quarterly are recommended rewarding new ideas and product improvements. Technical or technological changes which reduce costs of production must be noticed and rewarded. Semifinancial incentives should include the covering of all expenses connected with R&D activities such as: purchase of technical books, participation in conferences, lectures and meetings

3. Sales representatives

Since sales representatives' work is a key element of Elektromontaz's success, motivation system must be precisely worked out by the company's management. It is suggested that earnings of sales representative be linked to the value (or amount) of signed contracts. The basic salary should be average but the variable element, e.g. commission, derived from each contract should become a source of reasonable additional income.

Source: CET Analysis

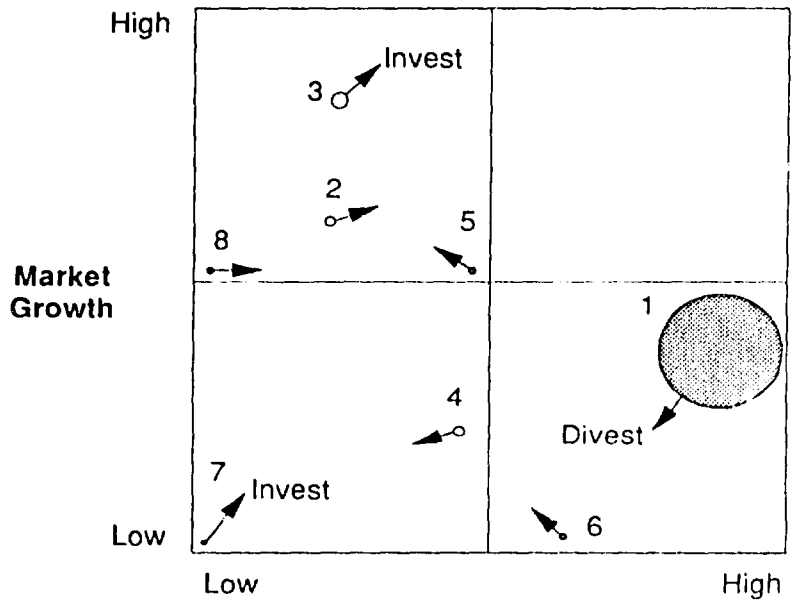
FURTHER REDUCTIONS IN PERSONNEL SHOULD BE CARRIED OUT THROUGH ATTRITION AS FAR AS POSSIBLE. POTENTIAL EXISTS FOR REDEPLOYMENT OF SOME REDUNDANT STAFF TO THE MARKETING DEPARTMENT

Division / Department	Estimated Overmanning	Timing	Options	Comments
Equipment Production Division	15	Third quarter 1992	• Train electricians to become welders • Attrition / redundancy	• Arrange training sessions for electricians • Allows for quick deployment e.g. workers to those areas experiencing most work
Construction/ Installation Division	35	First quarter 1992	• Attrition / redundancy • Seek more sub-contracting work • Redeploy to sales	• Profit centre status removes redundancy burden from the management • Allows for seasonal job fluctuations
Production Support Department	5	Second quarter 1992	• Attrition / redundancy • Some work available in the area of quality control	• Elimination of recreational assets will reduce the staff
Finance Department	4	As soon as improved MIS is introduced	• Attrition or redundancy	• Improved computerisation will reduce workforce
Independent Sections	4	Immediately	• Redundancy	• Increased use of sub-contractors
Transportation Division	5	First quarter 1992	• Attrition / redundancy • Potential to deploy some workers as sales representatives	• Transport is a very poor fit with Elektromontaz's core business • Profit centre status removes redundancy burden from the management

Source: CET Analysis/ Elektromontaz

GIVEN THE DETERIORATING MARKET FOR TRANSFORMER STATIONS IN THE FORMER SOVIET UNION, ELEKTROMONTAZ SHOULD UNDERTAKE THE DEVELOPMENT OF NEW PROMISING PRODUCTS, SUCH AS LOW VOLTAGE SWITCHGEARS AND WATER FILTRATIONS SYSTEMS

CET Competitive Position Matrix



Circle diameters are proportional to Elektromontaz revenue

1. Transformer stations SU
2. Transformer stations Compact
3. Low voltage switchgears
4. Other switchgears
5. Disconnectors
6. Miscellaneous installation equipment
7. Water filtration systems
8. Steel products

Export market

Domestic market

Market trend

Source: CET Analysis

SWOT ANALYSIS SHOULD ENABLE ELEKTROMONTAZ'S MANAGEMENT TO IDENTIFY THE BEST OPTIONS WHEN PREPARING DEVELOPMENT STRATEGY

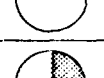
	Transformer Stations	Switchgears	Disconnectors	Miscellaneous Installation Equipment
Strengths	Good reputation and trade experience with the Soviet Union. Development of new model - "Compact"	Strong relations with customers. Good technical expertise and product technology	Good relations with current customers developed over a long period of time	Dominant position in the Polish market, especially the southeast region of Poland
Weaknesses	Complex distribution channel. Obsolete and low quality SU product	Lack of export activities	Relatively high technological gap	Low value added equipment
Opportunities	High profits in the short term period. Long term prospects are not very promising	Investment in new type of switchgears. Possible cooperation options with well known western producers	Extension of voltage range. Immediate investment in R&D. More active marketing efforts	Possible future demand from medium sized investors, especially from glass plants
Threats	Dependence on one uncertain market of the former Soviet Union. Increasing competition from other Polish producers	Strong competition from Polish producers e.g. other Elekromontaz enterprises and western giants - Siemens, Hazemeyer, Westinghouse, ABB	Domestic competitors both private and state owned (Apator, Apena). Low entry barriers	Slow recovery of Polish investment market

Source: CET Analysis

Strategic Business Plan...

PRODUCT/ MARKET ATTRACTIVENESS ANALYSIS REVEALS EXISTING AND POTENTIAL PRODUCTS OFFERING THE MOST GROWTH POTENTIAL FOR ELEKTROMONTAZ

Long-Term Perspective of Product/ Market Attractiveness

Criterium	Transformer Stations "SU"	Transformer Stations "Compact"	Low Voltage Switchgears	Other Switchgears	Disconnectors	Miscellaneous Installation Equipment	Water Filtration Systems	Steel Products	Criterium Importance
Market potential									
Competition									
Technological level									
Investment required									
Marketing expenditures									
Profits in the long-term									
Quality of human resources									

 High Attractiveness

 Low Attractiveness

Source: CET Analysis

CENTRAL EUROPE TRUST

ELEK/02/92

Strategic Business Plan...

IN ORDER TO ATTRACT WESTERN MANUFACTURERS, ELEKTROMONTAZ SHOULD CONSIDER VARIOUS CO-OPERATION OPTIONS

	License	In-house	Joint Venture
Advantages	• Technology usually proven • Quick technology transfer possible	• Company has full control over the innovation process • Firm fully understands technology and develops its own know-how • Opens revenue possibilities through licensing own products • No restrictions on markets	• Possible capital input by partner • Possible access to partner's markets, distribution chain, and marketing skills • Partner may bring management skills and training
Disadvantages	• Usually large lump-sum payment up front • Royalties reduce margins • Notoriously difficult to implement • Licences usually only available for dated technology • Licensor often imposes restrictive market conditions	• Costs can be very large unless development is clearly market driven • Introduction of new technology products is notoriously problematic • Company has to develop its own markets which may prove costly	• Restricts options for cooperation with other partners • Loss of control • Partner will gain access to your markets • Costly to pull out once formed

MARKETING ACTIVITIES FOR TRANSFORMER STATIONS "SU" SHOULD AIM TO RETAIN EXISTING ORDERS SINCE THE PRODUCT LIFE CYCLE IS IN THE DECLINING STAGE

Transformer Stations "SU": Key Actions

Market Trend	The product is expected to be a useful source of cash flow in the short term period but its importance will be decreasing. Elektromontaz expects to sell approximately 400-500 units of this product this year but the sales will most likely decline in the coming years
Market Segment	Transformer stations "SU" are sold only to the market of the former Soviet Union. The main buyers come for oil, mining industries and agriculture
Competition	Currently, Apator seems to be the sole competitor of Elektromontaz. There are, however, other potential Polish competitors capable of entering the market
Marketing	- Maintain current distribution channel - Negotiate lower commission which is paid to FTOs - Facilitate payments by proposing barter (fuel, cars, wood etc.) - Send brochures or more frequently engage in direct customer contact - Participate in foreign trade fairs

Source: CET Analysis

GIVEN THE EXPECTED MARKET GROWTH IN POLAND AND EASTERN EUROPE, ELEKTROMONTAZ PLANS TO INCREASE THE PRODUCTION OF NEW TRANSFORMER STATIONS CALLED "COMPACT"

Transformer Stations "Compact": Key Actions

Market Trend	Domestic market potential is estimated to be approx. 200 units by 1993-1994. Elektromontaz market share will constitute probably 40% (i.e. 70-80 units). The company is likely to sell also 30-50 units a year in the foreign markets
Market Segment	Mining, housing and agriculture sectors are the most likely Polish buyers. New transformer stations are expected to be sold in Africa (e.g. Egypt, South Africa), Southern Europe (e.g. Cyprus) and in the East (e.g. Ukraine, Belorus, Russia, Kazakhstan)
Competition	Competition consists of such producers as: Nowa Sol and Czestochowa Power Plants, Elektromontaz Wroclaw (potential competitor in the Southern markets), Apator (especially in the former Soviet Union markets)
Marketing	- Develop direct sales in Poland - Build up direct contacts with foreign customers (e.g. in Ukraine) - Offer competitive prices (price is the most important factor in many cases) - Design attractive brochure - Improve product's technical characteristics (e.g. anti-corrosion protection) - Emphasise product's multipurpose design features

Source: CET Analysis

LOW VOLTAGE SWITCHGEARS ARE EXPECTED TO REPLACE TRANSFORMER STATIONS "SU" AS THE MAIN SOURCE OF ELEKTROMONTAZ REVENUE

Low Voltage Switchgears: Key Actions

Market Trend	Currently produced low voltage switchgears ("ZUR") are to be changed into new model (module one) in 1993. New model currently considered: (license from Hazemeyer, Westinghouse or Elek or Elektromontaz design - "ZMR") will become company's basic product. In the future it should generate majority of Elektromontaz revenue
Market Segment	The product is and will be sold mainly in Poland to the power industry, coal mines, sugar plants, water supply plants, cement plants, food processing industry etc. The new type is also planned to be sold abroad, mainly in Russia
Competition	Domestically: Other Elecktromontaz enterprises. International companies - Siemens, Westinghouse, ABB
Marketing	- Direct distribution - sales representatives - Search for customers throughout Poland. Current efforts are limited only to Eastern Poland - Inform current and potential customers about new products advantages (e.g. safe, modern, smaller and easy maintenance product) - Locate foreign distribution channels

Source: CET Analysis

DEMAND FOR OTHER TYPES OF SWITCHGEARS IS LIKELY TO BE STABLE OVER THE NEXT FEW YEARS. NORMAL EXPENDITURES ON MARKETING ARE NEEDED TO MAINTAIN COMPETITIVE POSITION

Other Switchgears: Key Actions

Market Trend	Sales will not change significantly in the coming years. The product does not contribute greatly to Elektromontaz revenue
Market Segment	The main buyer is Construction/ Installation Division in Elektromontaz (approximately 80%). Other customers consist of municipal enterprises, private firms, power industry, sugar and cement plants mainly from Eastern Poland. This product is for domestic market only
Competition	Lublin Power Plant
Marketing	Because of internal sales to the Construction/ Installation Division marketing activities can be considerably reduced. They should be focused on maintaining current customers through a direct mail campaign (e.g. brochures)

In the long-term, Elektromontaz's management should consider phasing out the production of these types of switchgears

Source: CET Analysis

IN ORDER TO SURVIVE IN GROWING COMPETITION ELEKTROMONTAZ SHOULD TAKE STEPS TO IMPROVE DISCONNECTORS QUALITY AND TECHNICAL CAPABILITIES

Disconnectors: Key Actions

Market Trend	Although the market will grow, it will be extremely difficult for Elektromontaz to improve its competitive position however, the product will be important for the company because of its use as a component in a new model of low voltage switchgears, "ZMR" and transformer stations "Compact"
Market Segment	Power plants and private firms. Disconnectors are also exported as spare parts for low voltage switchgears
Competition	There are two main domestic competitors - Apator and Apena. Potential western competitors exist
Marketing	Focus on R&D activities in order to eliminate competitor's advantage. Apator produces not only 400 KV but also 630 V model. Introduce more effective sales promotion instruments such as: discounts, fairs. Emphasise product's features - functional, reliable and price competitive. Implement sophisticated distribution using direct sales

Source: CET Analysis

INSTALLATION EQUIPMENT SALES ARE HIGHLY DEPENDED UPON THE GROWTH OF POLISH INVESTMENT SECTOR

Installation Equipment: Key Actions

Market Trend	The trend is very difficult to estimate because of investment market's slow and uncertain recovery. Sales are likely to increase in the long-term
Market Segment	Domestic investments (e.g. glass plants) Elektromontaz's Construction/ Installation Division
Competition	There are no comparable competitors
Marketing	Marketing activities sh ,uld be limited to informing current and potential customers about company's products and presenting technical solutions to them

Source: CET Analysis

GIVEN THE PRESENT WATER QUALITY IN POLAND THERE IS A HUGE MARKET POTENTIAL AND GROWING INTEREST IN WATER FILTRATION SYSTEMS AMONGST THE PUBLIC

Water Treatment Devices

Distiller

This device produces distilled water, which is used extensively to top up car batteries, and also in the preparation of drugs, and for many other applications where high purity water is required

Water Softeners

The primary purpose of these devices is to reduce the hardness of water. Most water softeners use sodium chloride to regenerate the ion exchange resin

On-tap Filters

These filters are directly attached to the mains cold water tap. It is usual for them to contain activated carbon, which may be silverised to reduce bacterial growth in the filter

In-Line Filters

These filters are plumbed into the main water supply and contain carbion and sometimes ion exchange resin. They usually take the form of cartridges. Depending on their formulation, these filters can significantly reduce temporary or carbonate hardness, chlorine, lead, aluminium, organic compounds and discolouration in water

WATER TREATMENT DEVICES...CONT'D

Jug Filters

These filters consist of a funnel, a filter cartridge and a jug to receive the filtered water. The cartridge usually contains a mixture of activated carbon and ion exchange resin, and fits into the funnel

Ultra-Violet Radiation

The primary purpose of this method is disinfection, i.e. it is intended to kill or damage bacteria in drinking water

Reverse Osmosis

This method was originally used to make drinkable water from the highly saline water sources often found in desert areas of the world. Now this new technology provides a simple solution to worries about drinking water quality. Using R.D. membrane technology, it is possible to remove suspended solids, up to 98% of all dissolved solids, as well as virtually all bacteria, pesticides, insecticides and viruses. Specific elements that are controlled include: aluminium, nitrate, sodium, lead

REVERSE OSMOSIS SYSTEM APPEARS TO BE THE BEST WATER TREATMENT SYSTEM BECAUSE OF ITS EFFECTIVENESS AND EFFICIENCY IN REDUCING DRINKING WATER IMPURITIES

Effectiveness of Particular Water Treatment Methods

X Drinking water impurities effectively reduced

O Growth of drinking water impurities inhibited

Contaminants or Dissolved Solids		Activated Carbon Filtration	Silver Impregnated Activated Carbon Filtration	Dual Filtration System	Distiller	Reverse Osmosis System
Particulates	Sand	X	X	X	X	X
	Silt	X	X	X	X	X
	Rust particles	X	X	X	X	X
Inorganics	Aluminium				X	X
	Arsenic				X	X
	Barium				X	X
	Cadmium				X	X
	Chromium				X	X
	Copper				X	X
	Iron				X	X
	Lead				X	X
	Magnesium				X	X
	Mercury				X	X
	Selenium,				X	X
	Sodium				X	X
	Strontium				X	X
	Zinc					X
	Chlorine	X	X	X	X	X
	Fluroides				X	X
	Nitrates				X	X
Organics	Benzene	X	X	X	X	X
	Petroleum	X	X	X	X	X
	Pesticides	X	X	X	X	X
	Odours	X	X	X	X	X
	Swampy Taste	X	X	X	X	X
Biological	Algae				X	X
	Bacteria		O		X	X
	Viruses				X	X

ENTERING THE MARKET ELEKTROMONTAZ WILL HAVE TO SERVE MANY MARKET SEGMENTS DUE TO UNSATISFIED DEMAND FOR WATER FILTRATION SYSTEMS

Water Filters : Key Actions

Market Trend	Domestic market potential is currently in the order of 50 - 100 small systems for private individuals per day, and approximately 100 big systems for companies and institutions per month. Using proper market stimulating strategies and lowering costs by assembling systems in Poland (customs-free), market demand is estimated to be as much as twice than at the moment. The numbers are going to increase further after establishing Elektromontaz's network in Poland
Market Segment	Potential segments include almost all sectors of the economy. The buyers are expected to be: hospitals, drugstores, pharmaceutical companies, Polish trade companies and foreign trade organisations and fast growing sector - foreign companies, such as: representative offices, banks, other financial and non-financial institutions and many others. Private individuals are also potential buyers, especially entrepreneurs, top and middle-level managers, students, white-collar workers, tradesmen and others. There is an opportunity to sell the water filtration systems to other countries in Eastern Europe, i.e. Czechoslovakia, Hungary, the former Soviet Union. The number of Western investors is growing there, and drinking water quality is not better than in Poland. It could be done with the assistance of Elektromontaz Export

Source: CET Analysis

TAKING QUICK AND ACTIVE MEASURES ELEKTROMONTAZ HAS AN OPPORTUNITY TO PENETRATE THE MARKET AND TAKE A DOMINANT POSITION ON IT

Water Filters : Key Actions

COMPETITION	There are two small entrepreneurs in Warsaw and Poznan, but quality of their products is not acceptable. Furthermore there is one importer of filtration systems from the U.S. These products are of the highest standard. CET suggests Elektromontaz to co-operate with the importer. The task of Elektromontaz would be to make casings, and assemble the whole systems in Poland. The importer, who signed the exclusivety agreement (on Eastern Europe) with a well-known American producer Cuno Company Ltd, possess 5 retail outlets throughout Poland. Mutual co-operation between both parties would be beneficial and profitable for them. In fact, a first meeting has been held recently
MARKETING	- Prepare brochures and booklets according to Western standards - Give a first batch of systems to customers for pre-testing - Elektromontaz should deliver one or two systems free of charge to a famous Polish institution, e.g. "Centrum Zdrowia Dziecka" Hospital and announce it to the public - Set up its own distribution and after sales service network, initially in major cities, than in other towns - A group of sales representatives should deliver brochures and information directly to companies and institutions throughout Poland (direct selling) - Use proper mass media to advertise products and the company, two newspapers are especially recommended: "Rzeczpospolita" and "Gazeta Wyborcza" - Prepare sophisticated television campaign, emphasizing health benefits to people

Source: CET Analysis

GIVEN ELEKTROMONTAZ'S SHORTAGE OF CAPITAL, IT IS ESSENTIAL TO FIND A LENDER IN ORDER TO FINANCE THE PRODUCTION OF WATER FILTRATION SYSTEMS. CET HAS IDENTIFIED THE SOURCE OF CAPITAL, WHICH IS THE POLISH-AMERICAN ENTERPRISE FUND

Conditions that Elektromontaz can get from PAEF, are much better than in Polish banks

- The amount of loan is up to 500.000 USD and has to be repaid in dollars as well
- Loans can be granted only to private companies and entrepreneurs. So Elektromontaz is acceptable as it is going to be a private company on April 1, 1992
- Loan may be used only to an investment purpose, e.g. buying machinery and / or equipment all over the world
- The interest rate is fixed over the whole period and equals to 12-16% annually
- Repayment period should not exceed 5 years, and extension period cannot exceed 1 year
- Loans are given in a non-cash form, e.g. PAEF pays for all invoices and bills
- There are some collaterals required:
  - bills of exchange in blanco
  - insurance policy
  - banking guarantee
  - mortgage
  - pledge

Source: CET Analysis

ELEKTROMONTAZ SHOULD EXPLORE OPPORTUNITIES OF PRODUCING VARIOUS STEEL PRODUCTS SUCH AS SECURITY FENCING, GATES, WORK SCREENS, STORAGE BINS, AND RACKS. DEMAND FOR THIS GROUP OF PRODUCERS IS EXPECTED TO INCREASE BETWEEN 1992 AND 1994 IN THE UNITED KINGDOM

UK Deliveries of All Steel Products : 1980 - 1994*
(mln tons)

Year	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Number	10.4	12.7	11.8	12.3	12.6	13.1	13.1	15.0	16.7	16.6	15.4	15.1	16.3	18.1	18.7
% Change	-37.5	22.1	-6.7	3.6	2.5	4.1	0.5	14.1	11.2	-0.4	-7.0	-2.1	7.7	11.1	3.2

UK Consumption of Finished Steel : 1980 -1994*
(mln tons)

Year	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Number	11.8	11.5	11.5	11.2	11.4	11.4	11.6	12.5	14.7	15.0	13.9	13.5	14.5	16.0	16.4
% Change	-25.3	-3.1	0.8	-2.9	1.8	0.2	1.7	7.9	17.5	1.7	-7.4	-2.7	7.0	10.4	2.6

* Forecast from 1989
Source: IISI, EIU

COMPARISON OF EC IMPORTS OF WIRE PRODUCTS FROM POLAND AND THE WORLD (SHADED) IN 1990. VALUES IN ECU 000

	EC12	Bel-Lux	Denmark	France	Germany	Greece	Holland	Ireland	Italy	Portugal	Spain	UK
Grill 1	2182	23	-	1518	641	-	-	-	-	-	-	-
	212436	35871	5128	73941	62387	4396	23731	913	2402	254	366	3047
Grill 2	33	-	-	-	33	-	-	-	-	-	-	-
	33681	1019	723	6969	9272	10	8171	147	3448	140	992	2790
Grill 3	145	11	-	-	-	-	131	-	-	-	-	-
	47349	2730	1862	17843	6218	1716	5176	679	8007	188	470	2442
Netting 4	-	-	-	-	-	-	-	-	-	-	-	-
	19656	566	499	5135	2621	86	3030	544	2554	380	480	3772
Grill 5	3	-	-	3	-	-	-	-	-	-	-	-
	40073	8391	1509	5600	10341	287	2039	1598	4181	1170	972	3985
Netting 6	-	-	-	-	-	-	-	-	-	-	-	-
	4181	112	116	479	1010	-	159	85	27	11	95	2087
Grill 7	111	-	13	-	98	-	-	-	-	-	-	-
	20580	1076	576	4015	3231	353	2085	1605	2576	108	672	4283
Barbed Wire 8	496	-	-	-	166	-	-	232	-	-	-	98
	22740	4629	354	2603	3889	97	1345	2652	412	316	852	5591
Wire 9	-	-	-	-	-	-	-	-	-	-	-	-
	13235	1722	311	1362	435	119	841	51	5505	464	251	2174
Filters 10	180	-	-	-	126	-	2	-	-	3	-	49
	284645	22300	11737	61056	42800	9115	27591	3045	36979	8414	15311	43297

Grill 1: grill, netting and fencing, welded at the intersection, of wire with a maximum cross-sectional dimension of 3mm and having a mesh size >100cm2, of iron or steel
Grill 2: grill, netting and fencing, welded at the inter-section, plated or coated with zinc (excl. grill 1)
Grill 3: grill, netting and fencing, welded at the inter-section, of iron or steel (excl. zinc or plated)
Netting 4: hexagonal netting (excl. welded at the inter-section), plated or coated with zinc
Grill 5: grill, netting and fencing (excl. welded at the inter-section), plated or coated with zinc (excl. hexagonal netting)
Netting 6: hexagonal netting (excl. welded at the inter-section), plastic coated of iron or steel
Grill 7: grill, netting and fencing (excl. welded at the inter-section), (excl. 4 and 5)
Barbed Wire 8: barbed wire or iron or steel; twisted loop or single flat wire, barbed or not, and loosely twisted double wire, or a kind used for fencing, of iron or steel
Wire 9: endless bands of stainless steel wire , for machinery
Filters 10: machinery and apparatus for filtering or purifying water, (excl for civil aircraft)

Source: DTI

ELEKTROMONTAZ SHOULD INVESTIGATE THE POSSIBILITY OF COOPERATING WITH U.K. COMPANIES PRODUCING VARIOUS STEEL PRODUCTS FOR DIVERSE END MARKETS

Key Players in the Wire and Wire Products Sector*: 1989
Quoted Companies

Player	Turnover (mln £)	Pre-Tax Profit (mln £)	Activity
BICC plc	3.792	201	Civil, electrical, mechnical and construction engineers, manufacturer of cables and cable systems, and housebuilders and property developer
BBA Group plc	1.012	64	A diversified multinational, industrial group serving automotive, industrial and aviation markets
TI Group plc	959	85	A holding company for an international engineering group engaged in specialist engineering, automotive and specialised tube products
Smiths Industries plc	705	112	The development and manufacture of control systems and instrumentation for aerospace, marine as well as general industrial applications and health care products
Delta plc	656	74	An international group manufacturing electrical equipment and cables, plumbing, flow control products and providing industrial services
ASW Holding plc	393	31	The manufacture of steel billets, wire and nails
Thomas Locker plc	36	2	Engineering, including the manufacture of specialised mechanical handling equipment, filtration equipment, woven wire, wire products and perforated metal products

* The wire and wire products sub-sector includes a wide range of products such as: steel billets, wire, nails, cable and netting, twisted and woven products, industrial furniture, spring assemblies, steelbars, steel linters, gardening equipment, lifting gear, ship rigging equipment, sea ring components

Source: IISI, EIU

KEY PLAYERS IN THE WIRE SECTOR... CONT'D

Unquoted Companies

Player	Turnover ('000 £)	Pre-Tax Profit ('000 £)	Activity
Associated Electrical Industries Ltd	321.386	29.576	The manufacturer of electrical equipment in the fields of machines, switchgear, traction build cables
Associated Perforators and Weaners	6.925	86	The manufacture of perforated and expanded metals and heavy duty wire screens
Begg Cousland Holdings Ltd	2.284	306	Knitting wire, wire working and the manufacture of specialised filtration systems, mainly for the control of atmosphere pollution
Fairmile Fencing Ltd	3.220	192	The manufacture and supply of fencing and fencing products
A.J. Bins Northern Ltd	79	19	The manufacture and erection of all types of fencing and gates
Chestnut Products Ltd	1.029	71	The supply and erection of fencing and fencing materials
Welded Mesh Ltd	1.446	85	The fabrication and distribution of welded mesh and cut and bent steel bars and the supply and erection of fencing

Source: IISI, EIU

CONSTRUCTION/ INSTALLATION DIVISION SHOULD ENTER NEW MARKET SEGMENTS AND DEVELOP MULTI-SERVICE STRATEGY IN ORDER TO OBTAIN GREATER NUMBER OF CONTRACTS

Multi-service strategy for existing and potential customers:

- Industrial construction (food, electrical, mining industries)
- Housing (mainly state owned but also private investors)
- Municipal construction (especially for environment protection - e.g. water treatment plants)
- Commerial construction (banks, supermarkets, hotels)

Given current economic conditions, the division must seek opportunities not only in the investment sectors but also in major and routine repairs/ maintenance segments

The Structure of Orders (%)

	Industrial Construction	Housing	Municipal Construction	Commercial Construction	Repairs
Current - 1992	80	5	5	8	2
Expected - 1993	65	15	8	10	2
Expected - 1994	50	20	10	15	5

Source: CET Analysis

CERTAIN MARKET SEGMENTS OFFER GROWTH OPPORTUNITIES FOR THE CONSTRUCTION/ INSTALLATION DIVISION

Construction/ Installation Division: Key Actions

Housing Construction:

- Co-operate with investors involved in large private housing developments
- Negotiate contracts with Ukraine and Belorus that can pay in raw materials or food products
- Consider taking part in rebuilding of war damaged ex-Yugoslavia
- In case of undertaking production of water filtration systems and steel products advertise, sell and insert them when providing services
- Offer services even for small customers such as private house owners

Elektromontaz is competitive in comparison with other firms due to possession of modern tools, such as "HILTI", and flexibility to create working groups of various size. This can be from 2-3 workers for small and easy jobs to large groups of 100-200 workers for industrial buildings. The equipment can be also bought from alternative sources - e.g. from Polish or foreign producers, since Elektromontaz has the capability to install it in its products

Industrial Construction:

- Improve market research activities to increase the number of bids/ quotations
- Develop direct sales methods by sales representatives
- Reduce costs to be more competitive during auctions (e.g overheads, costs of transport)
- Focus on repairs and power generating sectors

Source: CET Analysis

INVESTMENT IN MUNICIPAL AND COMMERCIAL SECTORS IS GROWING CREATING POTENTIAL DEMAND FOR ELEKTROMONTAZ SERVICES

Construction/ Installation Division: Key Actions

Municipal Construction:

- Seek opportunities in environment protection projects such as water processing plants, water supply system, sewage systems etc.
- Increase awareness of the firm among investors
- Develop working relationships with government organisations allocating funds for such investments

Municipal construction is going to be financed by low-interest credits from international organisations such as: The International Monetary Fund, The World Bank, The European Bank for Reconstruction and Development etc. Their number is likely to increase rapidly due to the high level of environmental pollution

Commercial Construction:

- Satisfy the needs of various customers in the private, state owned, foreign sectors
- Develop and maintain relationships with banks, hotels, supermarkets, business centres etc.
- Intensify market research in large urban areas such as Warsaw
- Explore opportunities to participate in negotiations and auctions in the South-East of Poland. The Lublin region is getting more attractive market for foreign investors because of its proximity to the former SU countries
- Be more active in seeking for investors, trying to reach them in their own countries in order to present possible investment options
- Address the following issues in potential offers: technical quality, price, production lead times, seller's references, after sales services, payment terms and conditions

Source: CET Analysis

ELEKTROMONTAZ SHOULD STRENGTHEN ITS COMPETITIVE POSITION THROUGH A BALANCED USE OF TECHNICAL KNOW-HOW, HUMAN RESOURCES AND DYNAMIC MARKETING ACTIVITIES

- Current competitors - other Elektromontaz enterprises, LPIE SA, private firms
- Services are rendered mainly in Eastern Poland, and export contracts happen rarely and through FTOs
- **Marketing:** in order to increase the number of signed contracts, Elektromontaz should build up the sales representatives force who will search for customers throughout the country. They should emphasise company's strengths such as:
  - modern equipment and tools ("HILTI")
  - experience and good reputation providing examples of past achievements
  - high quality of services
  - flexibility in human resources allowing Elektromontaz to quickly satisfying customers' needs
  - possibility of installing equipment other than that produced by Elektromontaz, such as sophisticated western products

Additional ways of reaching customers include: auctions and huge investors, invitations to bid from investors

The Marketing Department should also gather data about market trends, potential investment, company's competition and overall business environment

Source: CET Analysis

ELEKTROMONTAZ LACKS TOP MANAGEMENT SKILLS IN MARKETING AND SALES AND ADEQUATE MIDDLE-LEVEL MANAGEMENT SUPPORT. THIS SHORTCOMING NEEDS TO BE ADDRESSED AS SOON AS POSSIBLE

Elektromontaz employs a highly-qualified technical staff - e.g. quality control specialists and equipment production managers with expertise in electrical equipment production. This is viewed as an advantage due to in-depth knowledge of competition and markets. However it is also a disadvantage due to narrow specialisation - in one sector, reluctance to change and enter new branches and markets. At the moment the firm believes the future success depends on better utilisation of existing workforce and not on additional hiring of personnel

Elektromontaz's competitive advantage can be strengthened by:

- Superior skills (workforce - driven company) and/or:
- Superior resources (technology - driven company)

Top management's task is to decide which element the company is able to enhance

Improving management skills is possible through three different ways:

1. **Periodic training sessions for top management that includes the Managing Director and department managers**

   This type of sessions are offered by CET specialists, however, the company should also seek other possibilities. Although this may involve only top management taking part in such sessions, it is recommended that special internal meetings be organised for employees from other departments - e.g. Marketing and Finance Departments. Alternative ways of improving employee skills is to hold general seminars for larger groups to discuss such economic problems as e.g.:

   - new accounting rules - basic ideas and terminology
   - company's status - principles and consequences
   - strategic planning - advantages of a long-term approach
   - marketing - necessity for company's survival and growth
   - market trends - impact on company's activities, opportunities, and threats etc.

2. **Proper information flow between top and lower levels of management**

   Clear organisational structure of Elektromontaz and precisely defined personal responsibility should facilitate improved information flow. Top management should consider delegating more authority to the lower ranks. Such an approach can relieve top management, especially the Managing Director, from being involved in decisions which should be solved by middle - or low-level managers

3. **Permanent consultancy between top managers and the Managing Director - "team-work" approach**

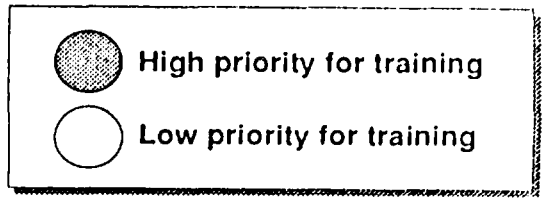
   "Team-work" approach can be achieved by introducing regular meetings between the two parties. They can be held every two weeks for an hour or two on particular week-day e.g. on Monday. Existing and potential problems along with new ideas and opportunities should be the main subject of these meetings

   The concept of internal marketing should also be discussed by opening up channels of communication with the workforce when new services are rendered

Source: CET Analysis

TO REMAIN COMPETITIVE, ELEKTROMONTAZ MUST GIVE TOP PRIORITY TO TRAINING NEEDS OF VARIOUS DEPARTMENTS

Managers/ Departments	Training Needs
Managing Director	
Deputy Director of Production Support	
Construction/ Installation Deputy Director	
Equipment Production Deputy Director	
Marketing Manager	
Market Research and Analysis	
Research and Development	
Promotion and Sales	
Deputy Director of Finance	
Quality Control Manager	
Transportation Manager	



Source: CET Analysis

ONCE ELEKTROMONTAZ REORGANISES INTO PROFIT AND COST CENTRES IT WILL BE POSSIBLE TO IMPLEMENT A COMPUTER-BASED MANAGEMENT INFORMATION SYSTEM

MANAGEMENT INFORMATION SYSTEMS: OUTLINE SYSTEM SPECIFICATION

Data Collection
Production Equipment - Labour & Materials - at shop floor Construction/ installation - Labour & Materials - at regional construction sites Production Overhead - allocated by relevant ratio at shop floor, regional construction sites or centrally Overheads - allocated by central accounts department

Systems
ETOB Lodz solutions if applicable using shop floor, regional construction sites and accounts department terminals - IBM compatible

Reporting
Simplified and customised to management needs allowing for daily tracking of costs by the managing director Information overload must be avoided

Source: CET Analysis

ELEKTROMONTAZ'S FINANCIAL ACCOUNTING SYSTEM SHOULD BE REDESIGNED IN ACCORDANCE WITH INTERNAL REPORTING REQUIREMENTS WHEN MINIMUM EXTERNAL REPORTING STANDARDS ARE MET

Management Information Systems: Key Points

System of data capture to be completely re-organised:

- Materials to be costed at standard cost with a program module monitoring price variance and updating standards once price variation exceeds say 5%. Stores requisition to be source document

- Direct labour to be allocated on basis of actual hours/rates. Variance reports to be produced automatically based on standard hours. Time records to source document

- Overhead to be allocated on actual cost basis using relevant ratios. Input via account departments

Fully integrated with financial accounting system

Real time processing

Powerful report generating package to ensure relevant reports can be produced

Formalised management structure of each department to include review of performance measures

Profit centres to be evaluated on profit as measured by both controllable and total departmental costs

Transfer prices between departments to be established

Appropriate costing system to be used according to type of procedure (ie. batch, one-off or continuous processing)

Source: CET Analysis

ELEKTROMONTAZ NEEDS TO MAKE GATHERING OF INFORMATION ON THEIR ENVIRONMENT MORE SYSTEMATIC AND DOCUMENTED PRIOR TO IMPLEMENTING COMPUTER DATABASES

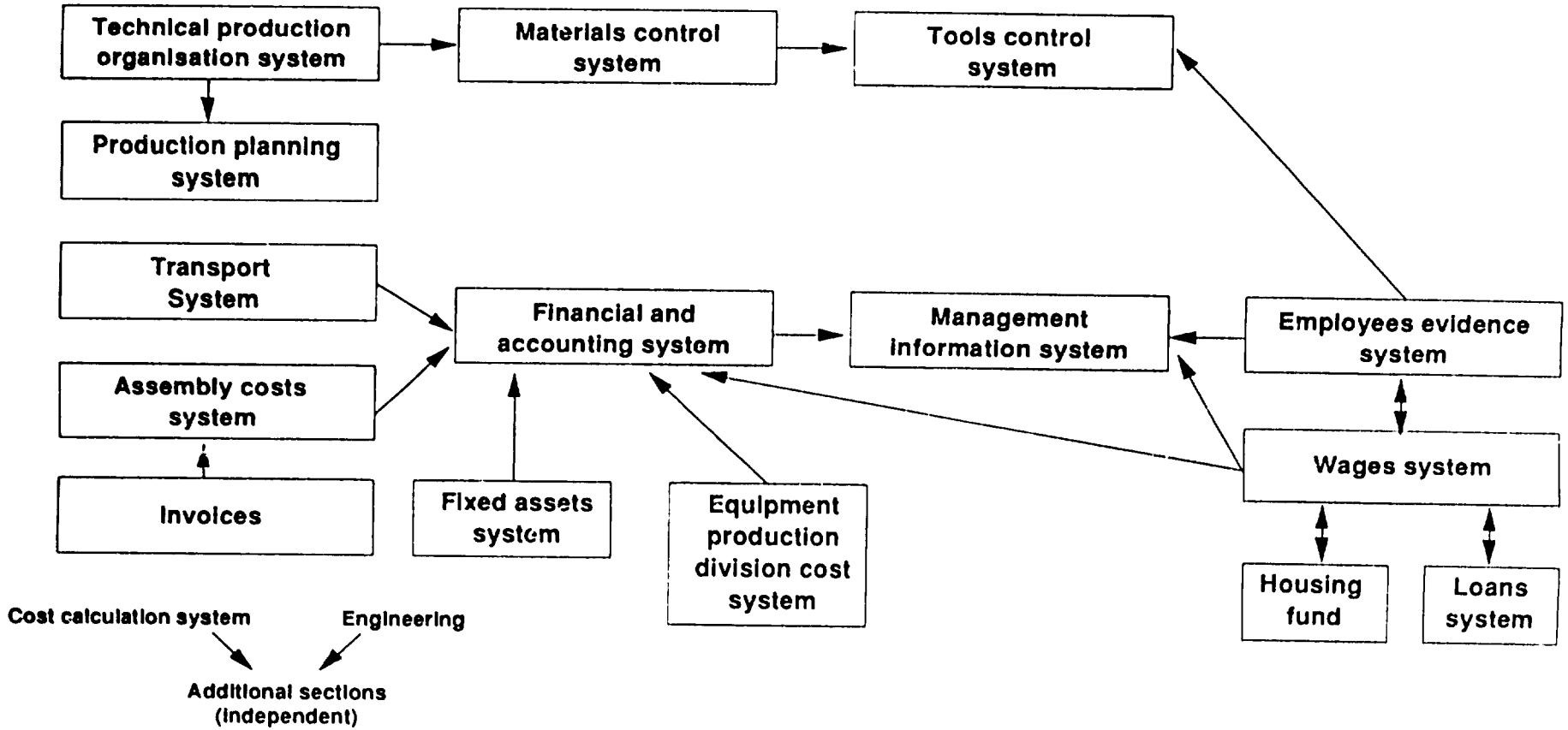
Information Gathering: External

Information	Product	Market	Competition	Environment
What?	New developments Patents Technical Information Up-to-date technologies	Currently and potential customers (segmentation) • which are most important • their financial position • opinion on Elektromontaz • opinion on competitors • distribution channels • marketing	Products Customers Competitor's financial standing Strategies Prices Distribution channels Promotion activities	State regulations Financing Industrial policy Relevant legislation Economy
Who collects it?	Information Bureau Technical personnel Market Research and Analysis Department R&D	Directors Sales representatives Accountant Market Research and Analysis Department	Chief Accountant Market Research and Anaysis Department Directors Sales representatives	Managing Director Legal Advisor Chief Accountant Market Research and Analysis Department
How is it gathered?	Technical publications Mass media Direct visits Purchases Files in Market Research and Analysis Department	Visit reports File notes Fact sheets Questionnaires Paper information Customer Database created by the Marketing Department	File notes Fact sheets Meetings Interviews Research Paper Information Competitor Database created by the Marketing Department	Publications Direct enquiries Interviews Meetings Conferences Files in the Administrative and Marketing Departments

Source: CET Analysis

ELEKTROMONTAZ COMMENCED ESTABLISHING AN INFORMATION SYSTEMS NETWORK, THESE EFFORTS SHOULD BE ACCELERATED TO PROVIDE MANAGEMENT WITH TIMELY DATA

Planned network of Information Systems



Source: CET Analysis/ Elektromontaz

ALTHOUGH ACTIVITIES CONNECTED WITH CREATING INFORMATION SYSTEMS ARE PRECISELY PLANNED, MOST OF THEM MUST BE REALISED EARLIER (E.G FINANCIAL AND ACCOUNTING SYSTEM, MANAGEMENT INFORMING SYSTEM, PRODUCTION PLANNING SYSTEM)

The Schedule of Creating Information Systems

No.	System Name	1991				1992				1993				1994				1995			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
1	Fixed assets	X	X																		
2	Workers wages	X	X																		
3	Materials control		X	X	X	X															
4	Engineering		X	X	X	X	X	X	X												
5	Agreements					X	X														
6	Transport						X	X	X												
7	Financial-accounting					X	X	X	X	X											
8	Management informing									X	X	X									
9	Network organisation			X	X	X	X	X	X	X	X	X	X	X	X	X					
10	Technical production organisation												X	X	X	X	X	X	X		
11	Production planning															X	X	X	X	X	X

Source: CET Analysis/ Elektromontaz

Strategic Business Plan... Management/ MIS

ELEKTROMONTAZ MUST EXPLORE THE POSSIBILITY OF PURCHASING A SOFTWARE PROGRAMME THAT ALLOWS QUICK AND RELIABLE ESTIMATION OF COSTS ASSOCIATED WITH NEW PROJECTS

Software Products

PEFAC:

1. Is a suite of estimating and process planning software which covers manufacturing. It comes with ready made modules in certain areas (e.g. machining) and a powerful expert shell (called Ancillaries) in which a client can build and manipulate his own data. This area of PEFAC is used to cover estimating and quotation work in a wide variety of activities. Some examples include Fabrication, Electrical Assembly, Mechanical Assembly, Wiring, Looms, Harnesses, PCBs, Welding, Sheet Metal and many others

2. PEFAC can be used at various levels. It can provide very detailed estimates which can be used as a basis for ship loading and production planning. It can give estimates at a higher level which can form the basis of a quotation. In addition with certain types of product parametric estimating can also be used

MANTRAC:

3. Is a suite of production control programmes. These include Scheduling, Bills of Materials, Inventory management, Documentation, Works Costing and Purchase and Sales Order. The programmes are in modular form and can be introduced at a pace that will suit an inexperienced user. Mantrac is fully integrated with PEFAC

GENERAL:

4. The combination of MANTRAC and PEFAC will provide a user with a comprehensive suite of manufacturing software. Used in conjunction with PEFAC the Bill of Materials module from MANTRAC will provide a user with a complete build standard for any engineering project and will transfer all this information to the Works Costing module. Detailed costs can then be produced which take account of raw materials, stock items and stop floor and site activity

5. All the programmes will run in single or multi user form and will operate on IBM compatible PCs

Point of Contact: Mr. Chris Church
APL Manufacturing Ltd, Jubilee House, Chapel Road,
Hounslow, Middlesex TW3 1XT
Tel: 081 577 3541 • Fax: 081 572 8516

Source: APL Manufacturing/ CET Analysis

Strategic Business Plan... Management / MIS.....

ELEKTROMONTAZ HAS SEVERAL DIVISIONS AND DEPARTMENTS WHICH ARE CAPABLE OF SELLING THEIR SERVICES AND PRODUCT OUTSIDE OF THE COMPANY. IN ORDER TO MOTIVATE MANAGEMENT OF THESE DIVISIONS / DEPARTMENTS AND TO CLARIFY THEIR COSTS TO ELEKTROMONTAZ, IT IS SUGGESTED THAT PROFIT CENTRES BE FORMED

Divisions / Departments	Potential to Sell External Services	Possibility of Buying External Service	Proposed Form
Equipment Production Division	○	○	Temporary Profit Centre
Construction / Installation Division	●	●	Temporary Profit Centre
Transportation Division	◑	◑	Temporary Profit Cent
Laboratory for Technical Support Department	◑	○	Cost Centre
Painting Facility	○	○	Cost Centre
Information Systems Department	○	○	Cost Centre
Civil Defense Section	○	○	Cost Centre
Labour Affairs Department	○	○	Cost Centre
Health and Safety Inspection Department	○	○	Cost Centre
Investment Section	○	●	Cost Centre
Quality Control	○	○	Cost Centre
Organisational Affairs Section	○	○	Cost Centre
Legal Advisor	○	●	Cost Centre
Administration Economic Department	○	○	Cost Centre
Chief Mechanic Department	○	◑	Cost Centre
Supply Department	○	○	Cost Centre
Sales and Marketing Department	○	○	Cost Centre
Financial Department	○	◑	Cost Centre
Accounting Department	○	◑	Cost Centre
Internal Audit	○	◑	Cost Centre
Recreational Resort Section	○	○	Cost Centre

● High
◑ Medium
○ Low

Issues

- Precedence of internal requirements over outside client work in temporary profit centres
- Internal transfer prices to be determined on the basis of cost to the purchasing department of buying outside

OPERATING EQUIPMENT PRODUCTION AND CONSTRUCTION/INSTALLATION DIVISIONS AS INDEPENDENT PROFIT CENTRES ENTAILS MORE INVOLVEMENT IN THE DECISION MAKING PROCESS BY THE CURRENT MANAGEMENT

Preliminary Actions
• Pre-organisation of managerial hierarchy
• Determination of clear areas of responsibility and limitations
• Analysis of current utilisation of existing machinery parc
• Improved technology management
• Preparation of technical documentation flow
• Development of better staff information and proper employment programme
• Intensified management training
• Implementation of new information systems

Implications
• More freedom of action
• Profit maximisation
• Cost reduction
• Productivity and work yield improvement
• Delegation of responsibility
• Improved human resources management
• Better machinery and equipment utilisation
• Independence in selecting suppliers, subcontractors, external services
• Improved customer service

Source: CET Analysis/ Elektromontaz

CREATING TWO PROFIT CENTRES WILL IMPROVE ELEKTROMONTAZ'S LONG TERM PERFORMANCE

Equipment Production Division	
Advantages	+ Freedom to make decisions regarding volume and range of products + Better organisation of technological processes and more efficient utilisation of fixed assets + Ability to select subcontractors, suppliers external services + Creating a more effective sales network + Improved customer service and quicker response to changing demand + Total quality control through the improvement of work organisation, technology and human resources, and management + Reducing material waste + Cost reduction
Disadvantages	- Higher operational risk - Higher professional requirements - No financial support from other divisions during difficult economic moments

Construction/ Installation Division	
Advantages	+ Improved bidding process + More price flexibility + Purchasing materials at lower prices + Rationalisation of the procurement process + Improved allocation of human resources + Quicker and more frequently implementation of newer technology + Cost reduction + Freedom to select subcontractors, and suppliers + Improved quality of customer service
Disadvantages	- Higher uncertainty of operations - No financial support from other division - Higher professional requirements and standards

Source: CET Analysis/ Elektromontaz

DEVELOPING ELEKTROMONTAZ

In order to maximise existing assets, drastic measures will have to be taken. Consideration must be given to the following points:

1. Age and condition of production plant and machinery
2. The need to create space for in-house material storage
3. Quality control procedures to be implemented and controlled
4. Attention to design detail, encourage change to standard sections
5. Review stock levels and stocking policy

The proposal to maximise existing assets with consideration to the five items listed above, is to convert the Elektromontaz operation to an assembly facility only by incorporating the following steps:

- Subcontract the manufacture and supply of all the current in-house production
- De-commission obsolete and high down time plant and machinery and where possible, and subject to asset value, dispose of this category of equipment. Rearrange the plant and services that are remaining to allow for a better work flow and looking to the future when hopefully reinvestment can take place, plan the layout to accept new machinery
- Subcontractors should supply their own materials when producing a finished item
- Ensure that the preparation and paint subcontractor supply their own consumables, i.e. cleaning media, paint etc. this would have an immediate effect on cashflow. The components to be supplied on a scheduled basis to meet the production programme
- Develop quality control to carry out a vendor assessment and agree the quality standards. this would reduce the need for 100% inspection in goods receiving. Sample check to be made, rate the vendor 1 to 5, with 1 being highest rating then if supplies were downgraded to 4 and 5 reject the supplier for replacement or rectification
- Through these steps, immediate savings on main power, energy, stock, space, quality and maintenance support could be made. There would be a reallocation of labour (minimal) to control the subcontract programme. Lublin region has a range of subcontract capacity available, including SIGMA, a company for preparation and paint

DEVELOPING ELEKTROMONTAZ... CONT'D

Subject to the market potential being able to support a reinvestment programme, the following investment and priority should be considered:

1. Replace and reorganise the complete preparation and paint area
   - update the technology to an electrostatic process, this controls paint usage and has the ability to reclaim surplus and recycle. The paint application will be to controlled thickness and density to maximise the drying cycle. The preparation is in a controlled environment with reduced material handling to ensure a superior paint finish. this must be the first priority for investment to obviate bottleneck, maximise the use of space, assist workflow, reduce energy consumption and reduce running costs

2. Review designs to change standard sections rather than the time consuming an costly 'special' section manufacture
   - The majority of the metal forming machines need replacement and upgrading. The guillotine could be a lower priority. The first priority in this area would be to invest in a CNC controlled blank and pierce machine. This will enhance throughout of various shapes and hold patterns particularly if the machine has a tool carousel that would give the flexibility of various hole and shaped patterns in one set up
   - The welding area should be upgraded to the MIG process (this is currently available but the welding sets are old technology). This process would cover 95% of the current welding requirements. Consumables used, i.e. welding wire, gas, zips, shrouds would be substantially reduced. A common inventory would cover the major part of the consumable inventory. This in turn would present a greater flexibility, higher standard of quality welds
   - For a relatively minimum investment power tooling aids for assembly is a must. This will standardise the production quality, and assist the repeatability. The stage by stage process can be organised. This in turn will assist the measurement of time to complete a particular operation

3. Alternatives for the current capacity
   - The marketable element of Elektromontaz production facility is metal forming and welding. NB-preparation and paint - are oversubscribed so could not be made available except by reinvestment. A number of options could be identified, i.e. security fencing, gates, work screens, storage bins and racks. However, in the present economic climate the market is oversubscribed and there must be some question of the ability of the Sales and Marketing Departments to explore and develop the potential

DEVELOPING ELEKTROMONTAZ... CONT'D

Overall conclusions are presented below:

1. Elektromontaz would require a substantial investment programme in plant, machinery and buildings to be able to compete with domestic and foreign competition. This presupposes the design levels can be updated to meet the competition. Technological advance in both design requirement and production methods would have to be condensed into a six to twelve months time date. To achieve this, some form of Joint Venture or association with a company that wishes to divest itself of a particular product range suitable for Elektromontaz'a capabilities. Hopefully, a technology transfer would take place which may preciptate some thought to other products and markets

2. The company structure must be reviewed to reduce the duplication of effort and to identify specific responsibilities. Emphasis must be placed on production manning to redress the direct / indirect ratio in favour of direct quality control which presently plays a token presence without any measurable control. This is completely unacceptable when compared with the current thinking within the industry

3. Elektromontaz should explore options and opportunities to amalgamate with other Elektromontaz operations in Poland in order to rationalise both or more companies product range

4. Slim down the operation to a manageable size even to the point where Elektromontaz is a satellite for a larger operation and is used as an assembly plant relying on subcontractors for its component supply

ELEKTROMONTAZ MUST IMPLEMENT A STRATEGIC PLAN TO IMPROVE WORK METHODS AND TECHNIQUES. IT SHOULD CONSIST OF THE FOLLOWING ELEMENTS:

1. Approximately 10% to 15% of lost of manufacture could be saved by combining operations i.e. cut and fold instead of guilloting (op. 1) fold (op. 2). This could be achieved in the present set up by modifying the cutting blade and introducing back stops to move the material for folding

   Implementation
   A. Given current technology, emphasis should be first placed on improving punch operations with the capability to create multiple openings, instead of single ones. Cut and fold operations should follow
   B. Expected modernisation by Elektromontaz : end of 1994. Costs involved: 500 mln Pzl
   C. Suggested modernisation : end of 1993

2. Review design and if there is a requirement for an angle section of box form, purchase standard sections and amend design to incorporate these standards. There were many instances where sheet steel was being formed in three operations where a standard section could be used with a little attention to the design requirements

   Implementation
   A. Review of standard sections of box form currently available
   B. Review of proposals from various producers
   C. Selection of the best option
   D. Expected modernisation by Elektromontaz : middle of 1992. Costs involved : 250 mln Pzl
   E. Suggested modernisation : as soon as possible

3. Incorporate more M.I.G. welding process into the fabrication of frames, chassis etc. this reduces the weld deposit, increases penetration and presents a superior weld. The facilities are there and therefore could be developed. There is no need to grind off welds if a weld is sound and applied correctly

   Implementation
   A. Purchase approximately 20 to 30 jigs. Costs involved : 300 mln Pzl
   B. Purchase 10 "Migomat" welding machines. Costs involved: 200 mln Pzl
   C. Training of welders. Costs involved : 5 mln Pzl
   D. Expected modernisation by Elektromontaz : end of 1992. Costs involved : 505 mln Pzl
   E. Suggested modernisation : as soon as possible

4. Improve degreasing and cleaning prior to paint in the interim period by making a tank to totally submerge the fabrication and by the simple adoptation of an electric motor (enclosed for safety) with an agitator, the process can be speeded up and be more effective than the hand cleaning now employed

Implementation

A. Complete overhaul of the paint shop
B. Select one of five offers involving the following equipment
   - Eisenman - Germany
   - Tepron - Wielun, Poland
   - Zugil - Wielun, Poland
   - Protech - Lodz, Poland
   - Brennensthul - Germany
C. Expressed modernisation by Elektromontaz : middle of 1992. Costs involved : 10 - 12 billion Pzl
D. Suggested modernisation: as soon as possible

Ways and means to Improve product quality:

- Ensure raw material presentation is maintained at the highest standard
- Use standard sections even if this means amending designs to accommodate this
- Store components during W.I.P. cycle to better effect. There is evidence of handling damage which can never be satisfactorily recovered
- Stop the practice of grinding off welds. Use M.I.G. technique to improve quality and presentation
- The quality trail to monitor quality should consist of eight steps. Elektromontaz intends to incorporate these procedures by January, 1993. It is recommended that an accelerated implementation program be launched as soon as possible

1. A drawing and process documents issued with the work to be produced should at each stage of manufacture have a first off checked to ensure the piece complies with the drawing requirements
2. The process should be signed by an authorised signature which allows that operation to continue
3. Subject to size of batch a 10% check should be carried out. This procedure should follow for every subsequent operation
4. A batch of work cannot be moved to the store until there is a final signature indicating that the piece meets the required standard
5. Subsequent to issue from stores for an assembly, each assembly or subassembly should have the same discipline applied as component manufacture
6. Each stage signed off by authorised signature before next assembly operation is carried out
7. When the build is completed a test sheet appropriate to the assembly issued by design to quality control should be the final check prior to dispatch. This document should cover functional tests, torque settings, wiring identification and coding, meter readings, finish standard identification, label accuracy etc.
8. Create a three part document, one to the customer, one for quality file, one for production file

Strategic Business Plan...

ALTHOUGH GENERAL PROCEDURES AND DOCUMENTATION TO ENSURE EFFECTIVE PRODUCTION PLANNING AND CONTROL ARE AVAILABLE, THEY ARE USED ONLY IN PART BY ELEKTROMONTAZ

Production Planning and Control

- Is based on actual orders plus a contingency where the batch size for manufacture has to be increased to achieve a meaningful set to run time on the machine
- The start dates are identified which results in the correct prioritisation for loading. However, the overall effect is reduced by the poor discipline to ensure the progressive actions are taken

1. The system is principally a manual one and this has the effect of extending the process time to ensure the sequence of events from receipt of order to issuing the appropriate drawing, specification and process planning, together with the material to produce the components. This can then be traced back to the ordering of bought out components either too late or too early. In one instance because materials were ordered too late, allocations for another order were diverted to satisfy the order in question. This in itself extends production planning and control due to the fact that the original production plan has to be rearranged to cover the reallocations

2. An in-depth investigation should be carried out by Elektromontaz to expand further the full systems and controls. This could be achieved by raising a dummy order and taking the order step by step through the procedure collecting the control documentation as the progression was followed through to the conclusion which should be the dispatch paperwork

Source: CET Analysis

A PROPERLY FUNCTIONING SELF REGULATING PERPETUAL INVENTORY CONTROL SYSTEM WILL LOWER COSTS ASSOCIATED WITH CURRENT STOCK LEVEL

1. The value of Elektromontaz's inventory increased significantly between 1990 and 1991

   A. Value of inventory as of 30.11.90 - 14,741,000 thousand Pzl
   B. Value of inventory as of 30.11.91 - 24,163,000 thousand Pzl

2. Although average stock turnover was lowered from 60 days in 1990 to 52 days in 1991, turnover for electrical components remained above average

   A. Electrical components - 65 days in 1991
   B. Accessories - 39 days in 1991
   C. Cables - 41 days in 1991
   D. Steel - 40 days in 1991
   E. Others - 50 days in 1991

3. Elektromontaz does not calculate costs associated with the inventory such as average capital tied down in inventory or cost of inventory control. Instead, Elektromontaz calculates costs involved with the direct purchase of a given product or part. this includes transportation costs and wages of employees working in storage facilities. Elektromontaz must design an improved system correctly tracking costs arising from its inventory policy

4. Elektromontaz must take active measures to reduce surplus stock either through radical discounts or barter trade

   A. Value of obsolete stock - 454,192 thousand Pzl
   B. Value of stock discounted 50% - 859,924 thousand Pzl
   C. Value of surplus stock not discounted - 28,622 thousand Pzl

5. Immediate short-term action should be taken to reduce inventory costs consisting of the following steps:

   A. Accurate calculation of inventory needed to support current production
   B. Destruction of obsolete materials for which there is no demand
   C. Organisation of a massive sale of unnecessary materials that are in relatively good condition
   D. Elektromontaz should operate as a wholesaler using practices and techniques common to that branch of industry
   E. Elimination of regional storage facilities to achieve the following:
      - Improvements in documentation flow
      - More accurate record keeping
      - Prevention of hoarding by regional construction/ installation managers
      - Lowering of costs through a streamlined operation

Source: CET Analysis

ELEKTROMONTAZ NEEDS TO TAKE URGENT STEPS TO IMPROVE ITS INVENTORY PROCEDURES BY PHASING IN A SELF REGULATING PERPETUAL INVENTORY CONTROL SYSTEM

The controlling elements of this type of monitoring consist of the following

1. Value
2. Stock turnover
3. Supplier lead times
4. Wear parts
5. Stock for warranty and spares
6. Shelf life

Elektromontaz must organise a full stock-take. From this stock-take analysis, the inventory should be divided into three basic categories: (A) good (i.e. current), (B) slow moving, (C) obsolete. Each of these categories is to be valued and matched against the actual and projected sales programme. This sales plan will be for both O.E.M. and spares requirements. From this the stock turn can be established. The stock obsorption can also be determined which will in turn suggest a run out frequency

The overall observation is that stock control in the full sense was not being exercised and the manual card index system was simply a recording of goods received and then supplied to the assembly department or to satisfy a spares and warranty requirement. The control of stock purchases to match the forward sales programme is also deficient. This is an additional reason to carry out a full stock-check

Due to a number of separate storage areas there is an evidence of duplication. This suggests that there was inadequate overall control of inventory and re-ordering was not fully related to requirements

Source: CET Analysis

Strategic Business Plan...

SELF REGULATING PERPETUAL INVENTORY SYSTEM... CONTINUED

Storage and handling is not satisfactory and the ability to transfer stock the build area is not controlled. To solve this problem, it is necessary to issue a formal B.O.M. or Parts List with an accompanying requisition stating supporting information e.g. works or customer order number, quantity of units to be assembled. This compilation of piece parts could then be transferred as a kit of parts for build

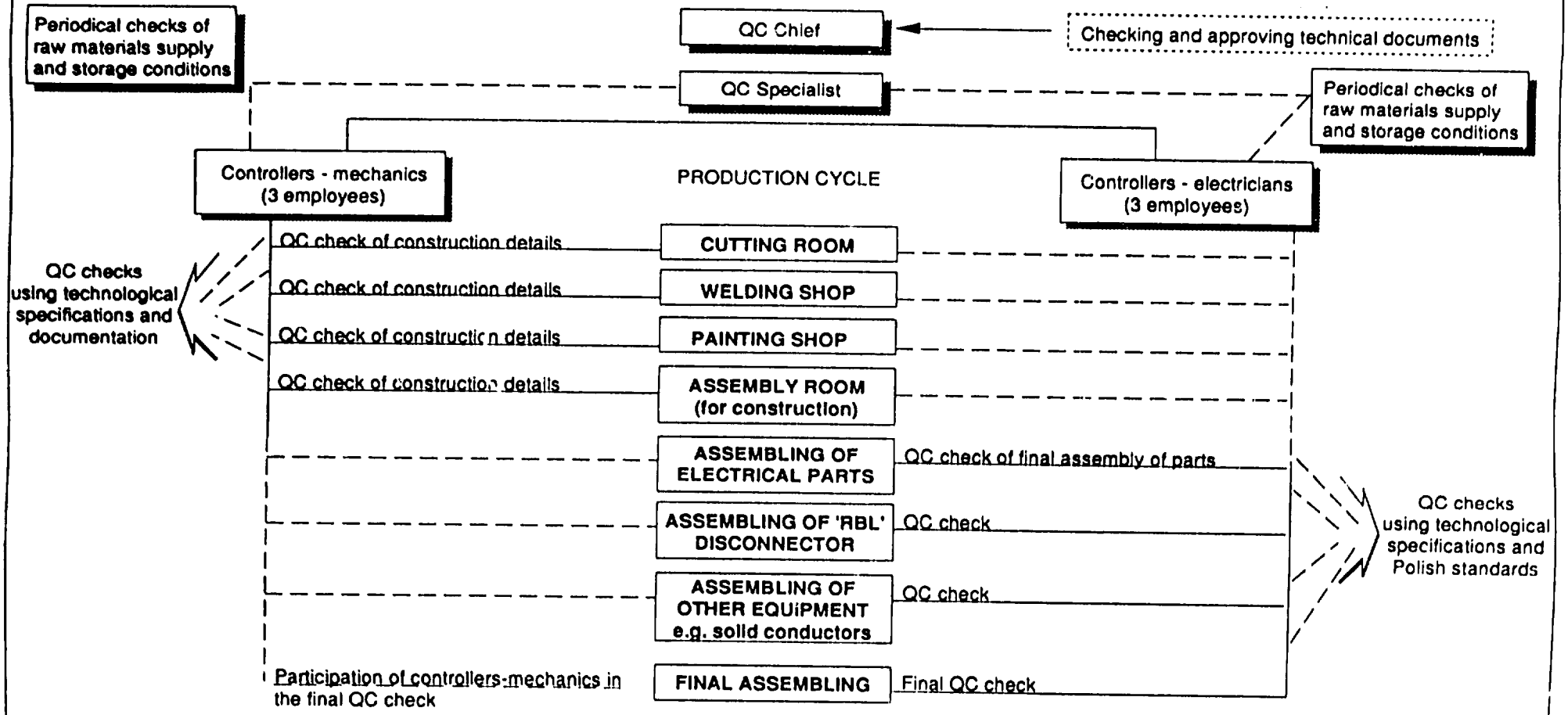
Raw material stocks can be significantly reduced if the simple discipline of relating stock holding to the forward sales/ production plan. Even if a speculative order was actioned this control would suffice. It is apparent that in Elektromontaz the relationship of material purchase to meet the sales/ production programme was at a different level and this resulted in a stock increase incompatible with the forward sales potential

Overall summary of current inventory control reveals series of inadequacies. This includes the following:

- Stock levels are not subject to constant checks and corrective action needed to increase or reduce stock as appropriate
- Stockholding showed surplus when compared with the production/ sales plan
- The manual stock management system is incomplete in that the issue recordings do not reflect what sales order is being satisfied, or if the allocation is for O.E.M. or spares use
- In most instances, there is a record of receipt and a quantative record of stock movement and no further recordings
- Under I.S.O. standards the records of stock movement have to be substantially more detailed to satisfy the inspectorate that traceability could be supported

Source: CET Analysis

HEAVY EMPHASIS MUST BE PLACED ON QUALITY CONTROL DURING THE PRODUCTION CYCLE. IN ADDITION TO THE FINAL QUALITY CONTROL (QC) CHECK, IT IS NECESSARY TO DEVELOP COHERENT QUALITY TRAIL FOR EACH STAGE OF THE MANUFACTURING PROCESS



Source: CET Analysis

QUALITY CONTROL SYSTEM SHOULD BE ADOPTED TO MEET ISO SPECIFICATIONS AND MUST BE INCLUDED IN ALL STAGES OF ELEKTROMONTAZ ACTIVITIES (I.E. DESIGNING, CONSTRUCTING, PRODUCING, INSTALLING, SERVICES)

Elektromontaz will follow ISO 9001 norms which control quality from the initial marketing stage to final installation and servicing.

These procedures should consist of the following steps:

- market research
- design and product development
- production support
- planning and development
- production
- control and final QC check
- packaging and storage
- sales and distirbution
- installation and service attendance

To have an immediate short term impact on quality control, the QC department should focus on the following

- design and implementation of internal auditing
- create a record of suppliers and quality of their supplies
- issue test certificates with finished products
- create a "quality book" for the company
- register the QC system in the Central Office of Products Quality (CBJW)
- consider creating one continuous system of documentary flow for all stages

Source: CET Analysis

Strategic Business Plan... Summary of Actions...

ELEKTROMONTAZ HAS TO INTRODUCE A PROGRAMME TO IMPLEMENT NECESSARY CHANGES

	Actions	Objectives	Drawbacks	Who	When
Profit and Cost Centres	• Break up the company into temporary profit centres • Workforce training	• Organisational improvements • Cost reductions • Better accountability	• Higher operational risks for separate centres	• Board of Directors	• 1-12 months
MIS	• Develop a modern information system network • Introduce new computer accounting software	• Provide management with accurate and timely data • Improved decision making process	• Increased costs in purchasing the system and training the staff	• Chief Accountant and Financial Director	• According to the schedule
Human Resources	• Redeployment/ lay-offs/ attrition	• Lower costs • Adjust employees' numbers to production needs • Productivity improvement	• Social tension	• Board of Directors	• As suggested in the staff reduction programme
Technical Improvements	• Incorporate a new M.I.G. welding process • Upgrade preparation and paint section • Set up a self regulating perpetual inventory control system • Introduce new quality control procedures • Change material flow and storage methods	• Better quality of finished products • Less material wastage • Cost reductions	• Costly initial outlays for better equipment	• Managing Director, Director of Production, Quality Control Department Director	• 1-12 months

Source: CET Analysis

Strategic Business Plan... Summary of Actions...

	Actions	Objectives	Drawbacks	Who	When
Social Assets	• Sell/ lease	• Raise cashflow	• Insignificant	• Board of Directors	• 3-6 months
Productive Assets	• Sell/ lease/ dispose	• Raise cashflow • Lower break-even point	• Insignificant	• Managing Director and Director of Production	• 1-6 months
Marketing Department	• Employ and train personnel • Prepare an adequate motivational system • Develop market research and analysis • Determine overall marketing strategy • Establish distribution and after sales service network	• Improve company's competitive position • Increase sales volume • Improve customer service	• Increased initial outlays for the new department	• Managing Director and Marketing Director	• 1-6 months
Investment Plan	• Prepare investment needs • Purchase necessary equipment • Acquire necessary technological licenses	• New product development • Better quality of finished products	• Need to locate necessary capital	• Managing Director and Director of Production	• 1-3 months once a strategy product mix is agreed upon

Source: CET Analysis

IMPROVED PRODUCTION FLOW WILL LOWER ELEKTROMONTAZ'S PRODUCTION COSTS

Production Flow Improvements:

As seen in the flowchart (Diagram 1A), following steps should be adopted to improve production flow and reduce costs:

- Reverse the sequence by introducing the store and first operations in proximity to the goods receiving area
- Extend the welding stations, etc.. as described to simplify the flow and increase the compatibility with the operational sequence
- Reduce cost particularly by storing material under cover
- In-house storage would reduce substantially the need to reject materials for oxidisation (currently 10%), plus the on cost to rework materials before processing
- No matter how much time is spent on reclaiming material there is always some flaw left. This reduces tool life of guillotine blades, punches, dies, etc. In addition, the quality of welds is impaired
- Any additional work absorbs energy plus if tool life is affected by substandard materials being processed the energy required to work the materials, i.e. guillotine, punch, fold, is increased.

Subject to Elektromontaz being unable to invest in replacement plant, following steps should be taken to improve current production facility:

- Measures will have to be taken to introduce a marking out facility to maximise the product from a steel sheet.
- Presently, no real attempt is made to obtain the maximum products. During a spot check observation, three sheets used to produce supports strip ended up with a 20% wastage.
- Current material flow being extended and covering the same route for 1 process only to return a second or even a third time for subsequent operation entails increased costs of labour, space, and energy. These costs can be reduced with attention to layout.

DIAGRAMS ARE PRESENTED FOCUSING ON WAYS TO IMPROVE ELEKTROMONTAZ'S PRODUCTION. THE FOLLOWING ISSUES ARE ADDRESSED

- Present Material Flow - Diagram 1
- Proposed Material Flow - Diagram 1A
- Current Operational Sequence - Diagram 2
- Revised Operational Sequence - Diagram 2A
- Current Construction Shop and Paint Shop Layout - Diagram 3
- Proposed Paint-Shop Layout and Expansion

ELEKTROMONTAZ LUBLIN

PRESENT MATERIAL FLOW

RAW MATERIAL → MANUFACTURE → SUB ASSEMBLY → ASSEMBLY

1. ADMINISTRATION
2. WELDING
3. PREP & PAINT
4. SUB ASSEMBLY & ASSEMBLY
5.} VARIOUS
6.} STORES
7.} FACILITIES
8. TRANSPORT
9. PROPOSED FACTORY EXTENSION 42° m²
10. OPEN STORAGE STEEL SHEET
11. W.I.P. HOLDING RACKS

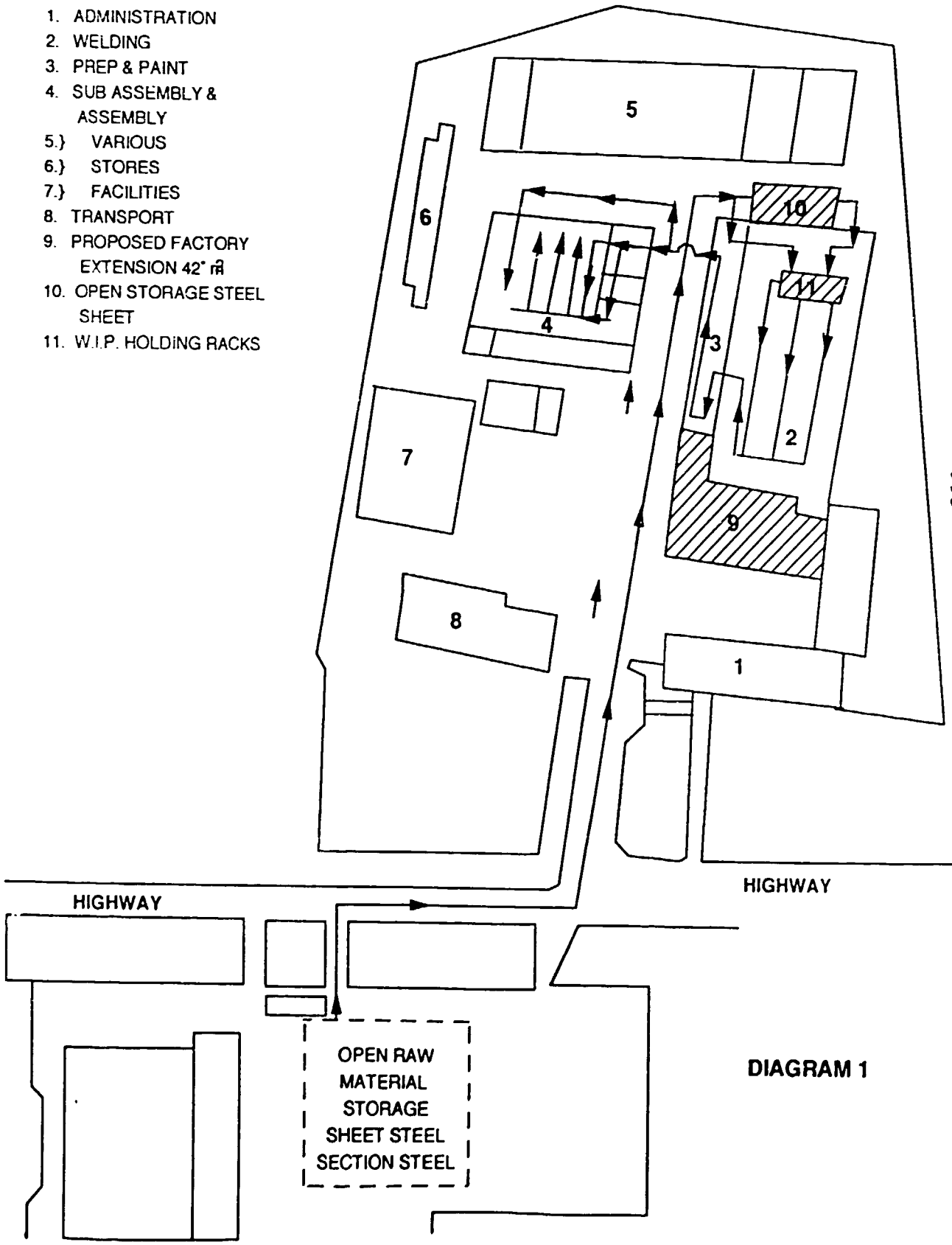


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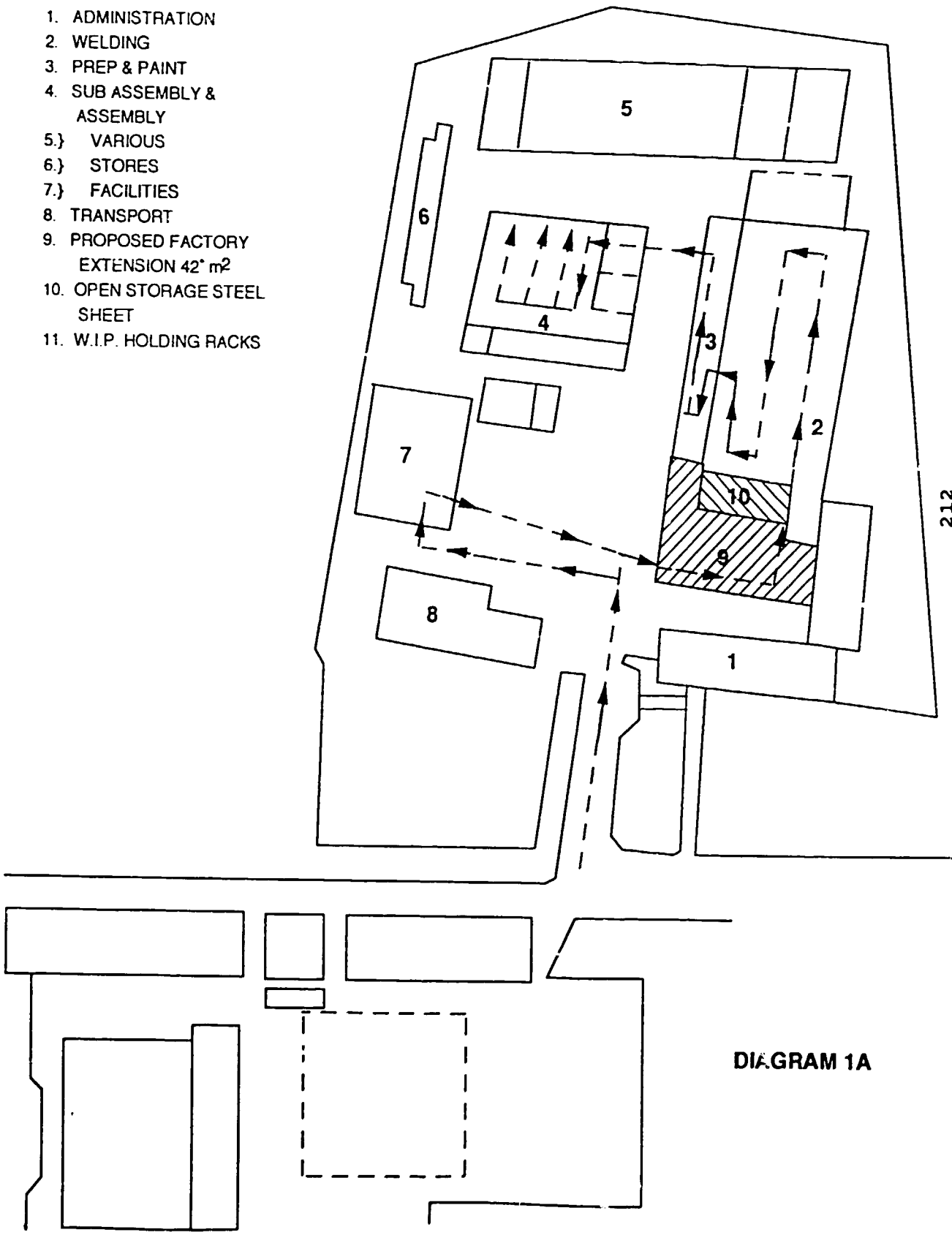
DIAGRAM 1

SOURCE: CET ANALYSIS

ELEKTROMONTAZ LUBLIN

PROPOSED MATERIAL FLOW

1. ADMINISTRATION
2. WELDING
3. PREP & PAINT
4. SUB ASSEMBLY & ASSEMBLY
5.} VARIOUS
6.} STORES
7.} FACILITIES
8. TRANSPORT
9. PROPOSED FACTORY EXTENSION 42° m^2
10. OPEN STORAGE STEEL SHEET
11. W.I.P. HOLDING RACKS



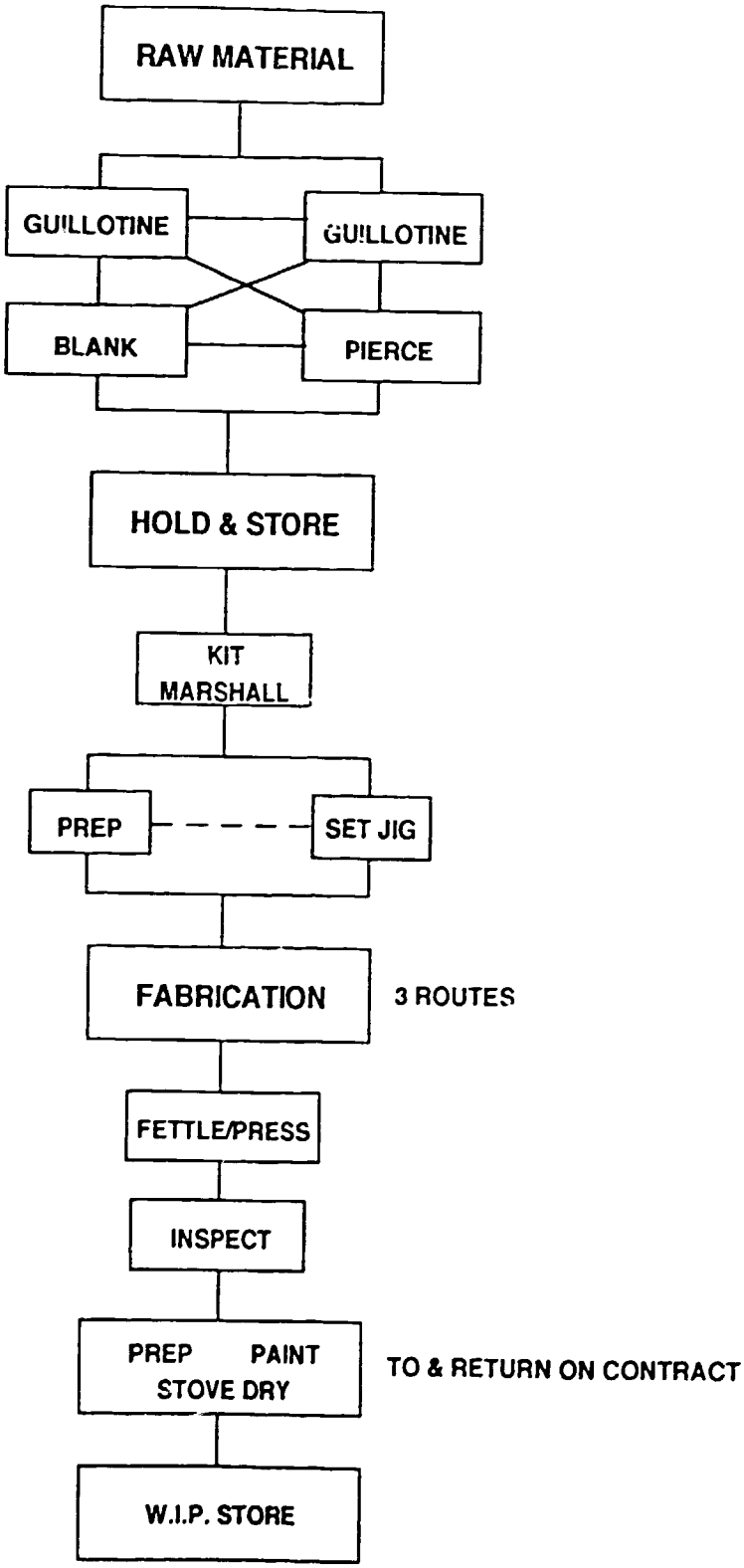
SOURCE: CET ANALYSIS

DIAGRAM 1A

ELEKTROMONTAZ LUBLIN

CURRENT OPERATIONAL SEQUENCE

DIAGRAM 2

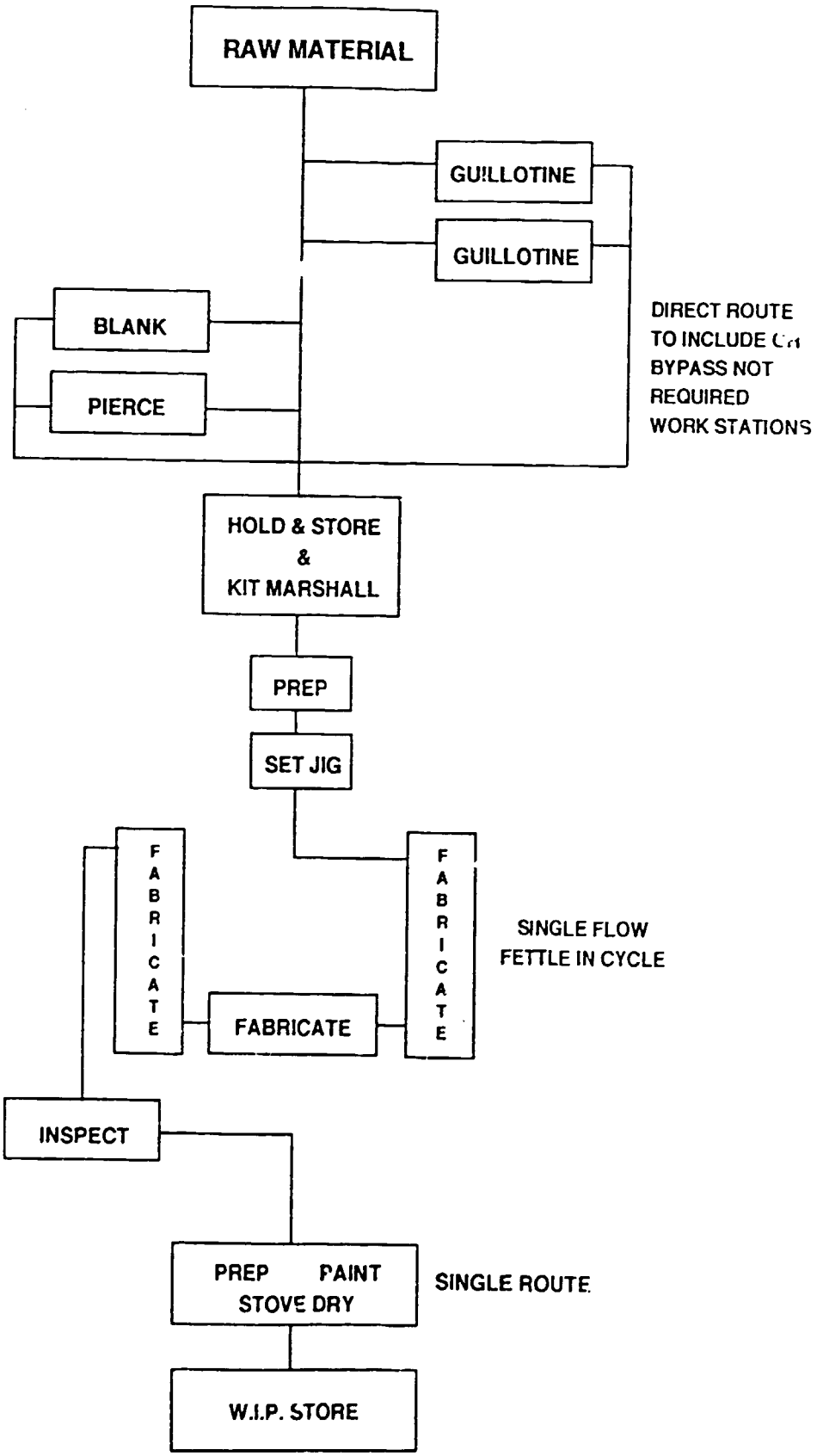


SOURCE: CET ANALYSIS

ELEKTROMONTAZ LUBLIN

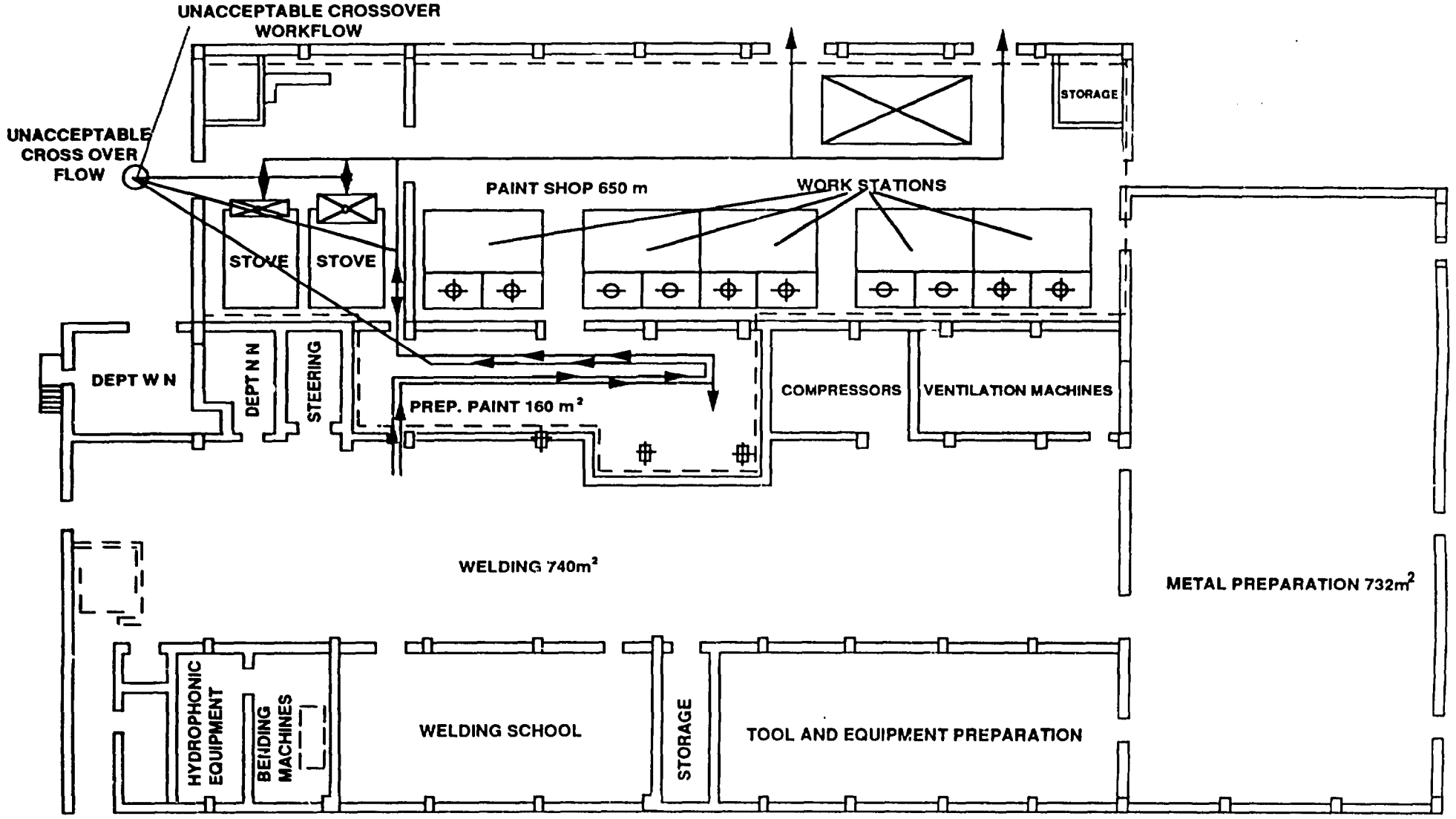
REVISED OPERATIONAL SEQUENCE

DIAGRAM 2A



SOURCE: CET ANALYSIS

DIAGRAM 3 :CURRENT CONSTRUCTION SHOP AND PAINT SHOP LAYOUT

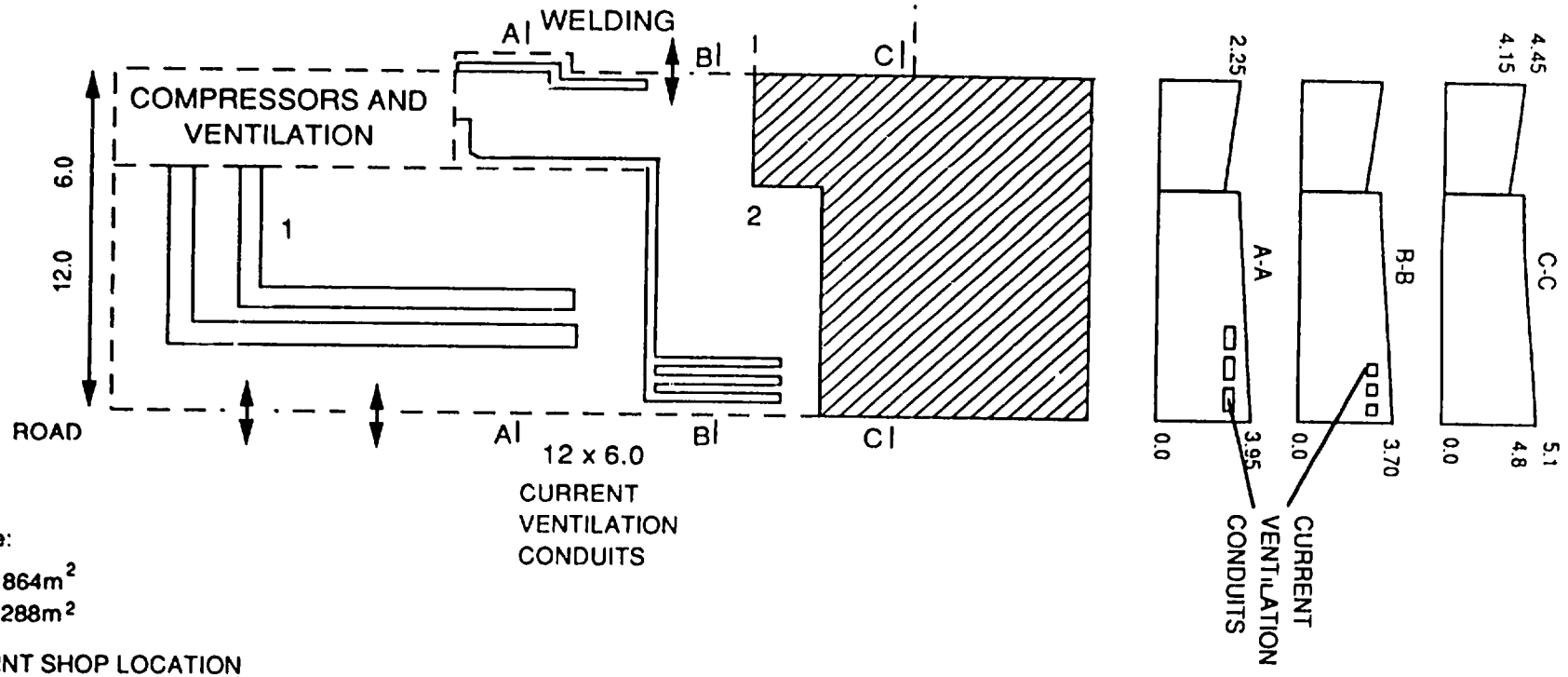


Source: CET Analysis

DIAGRAM 3A : PROPOSED PAINT SHOP LAYOUT AND EXPANSION

SCALE 1:500

POWDER AND WET PAINT SHOP
AFTER EXPANSION



Space:

Width 12m - 864m^2
6m - 288m^2

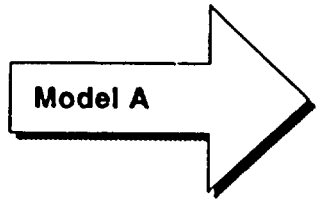
① WET PAINT SHOP LOCATION
② POWDER PAINT SHOP LOCATION

SEQUENTIAL FLOW WITH MINIMAL CROSSOVER

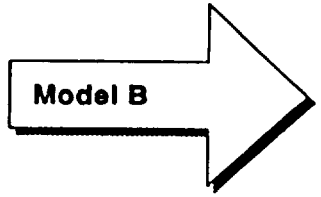
Source: CET Analysis

Financial Business Plan

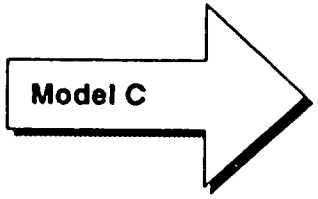
Financial Business Plan...



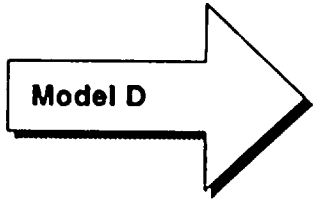
SU Transformer Stations are sold over the whole described period
ZMR Low Voltage Switchgears sales are not meaningful
No Water Filtration Systems sales



SU Transformer Stations are not sold from 1994
ZMR Low Voltage Switchgears sales constitute the largest part of Elektromontaz's revenue in 1994
No Water Filtration Systems sales



SU Transformer Stations sales are materialised only in 1992
ZMR Low Voltage Switchgears sales increase in 1994
No Water Filtration System sales
Largely negative cash flows in successive years



Based on Model C with financial projections for Water Filtration Systems

MODEL A ASSUMPTIONS

No inflation
Transformer Stations orders from the former Soviet Union come in at the level achieved in 1991
Elektromontaz will not receive any state subsidies
Low Voltage Switchgears will not be produced from the third quarter of 1993, and will be replaced by the new type-ZMR Switchgears
Water filtration Systems sales are not included
Other Elektromontaz's divisions sales are not meaningful
Projected cost structure based on actual costs achieved in 1991, and Elektromontaz's cost estimates after 1991
No administration costs increase
No other revaluation of assets
Elektromontaz becomes a private company in 1992, state dividend is not paid
Sales tax is not paid in 1992 and thereafter, it is replaced by VAT
Excessive wage tax is not paid in 1992 and thereafter
No cost/salary increase above inflation
Labour costs include both direct and indirect labour
Depreciation includes all divisions' depreciations
Inventories constant
Liabilities are paid to the level of accounts receivable
US Dollar - 11500 PZL
Elektromontaz disposal programme consists of the following actions: 1491 mln PZL in 1992, 940 mln PZL in 1993, 980 mln PZL in 1994
Assets disposed of are fully depreciated
Net extra income equals to assets disposal revenue
Assets disposal revenue is assigned to investment in machinery and equipment, and is not included into tax basis
Marketing expenditures comprise commissions paid to FTOs, and additional 700 mln PZL in 1992, 1100 mln PZL in 1993, 1700 mln PZL in 1994
Marketing expenditure does not refer to Water Filtration Systems
Financial costs include short term credit interest, fixed assets fee paid to the State Treasury, and powder painting facility leasing fee
Elektromontaz will invest to maintain production and to acquire manufacturing facilities 10.143 mln PZL in 1992, 8340 mln PZL in 1993, 5380 mln PZL in 1994
New investments depreciated at 10 per cent annually
Additional shares will be issued at the beginning of 1993
No dividend paid to shareholders
No significant changes in working capital
Sales projections provided by Elektromontaz management

Financial Business Plan...Model A...

Sales by Products (units)	Quarters 1	2	3	4	1992	Quarters 1	2	3	4	1993	Quarters 1	2	3	4	1994
EPD's Products:															
SU Transformer Stations	125	125	125	125	500	100	100	100	100	400	100	100	100	100	400
Compact Transformer Stations	10	10	0	20	40	15	15	10	10	50	15	15	15	15	60
Low Voltage Switchgears ZUR	100	100	100	100	400	100	100	0	0	200	0	0	0	0	0
Low Voltage Switchgears ZMR	0	0	0	0	0	0	0	40	40	80	50	50	50	50	200
Other Switchgears	60	90	80	70	300	60	90	80	70	300	60	90	80	70	300
Disconnectors	300	300	300	300	1200	300	300	300	300	1200	400	400	400	400	1600
Miscellaneous Installation Equipment(Kg)	20000	20000	20000	20000	80000	25000	25000	25000	25000	100000	30000	30000	30000	30000	120000
Steel Products	0	50	75	75	200	70	80	70	80	300	100	100	100	100	400
Small Electronic Equipment	0	0	50	50	100	50	50	50	50	200	70	80	70	80	300

Financial Business Plan...Model A...

Revenues (in million PZL)	Quarters 1	2	3	4	1992	Quarters 1	2	3	4	1993	Quarters 1	2	3	4	1994
EPD's Products:															
SU Transformer Stations	23750	23750	23750	23750	95000	19000	19000	19000	19000	76000	19000	19000	19000	19000	76000
Compact Transformer Stations	900	900	0	1800	3600	1500	1500	1000	1000	5000	1500	1500	1500	1500	6000
Low Voltage Switchgears ZUR	2000	2000	2000	2000	8000	2000	2000	0	0	4000	0	0	0	0	0
Low Voltage Switchgears ZMR	0	0	0	0	0	0	0	1000	1000	2000	1250	1250	1250	1250	5000
Other Switchgears	1320	1980	1760	1540	6600	1320	1980	1760	1540	6600	1320	1980	1760	1540	6600
Disconnectors	450	450	450	450	1800	510	510	510	510	2040	680	680	680	680	2720
Miscellaneous Installation Equipment	500	500	500	500	2000	625	625	625	625	2500	750	750	750	750	3000
Steel Products	0	475	712.5	712.5	1900	665	760	665	760	2850	950	950	950	950	3800
Small Electronic Equipment	0	0	30	30	60	30	30	30	30	120	42	48	42	48	180
Total EPD Sales	28920	30055	29202	30782	118960	25650	26405	24590	24465	101110	25492	26158	25932	25718	103300
C/ID's Services:															
Industrial Construction	10560	12000	12000	13440	48000	8775	10010	10010	11180	39975	7400	8000	8000	8600	32000
Housing Construction	660	750	750	840	3000	2025	2310	2310	2580	9225	2960	3200	3200	3440	12800
Municipal Construction	660	750	750	840	3000	1080	1232	1232	1376	4920	1480	1600	1600	1720	6400
Commercial Construction	1056	1200	1200	1344	4800	1350	1540	1540	1720	6150	2220	2400	2400	2580	9600
Repair Works	264	300	300	336	1200	270	308	308	344	1230	740	800	800	860	3200
Total C/ID Sales	13200	15000	15000	16800	60000	13500	15400	15400	17200	61500	14800	16000	16000	17200	64000
Total Sales	42120	45055	44202	47582	178960	39150	41805	39990	41665	162610	40292	42158	41932	42918	167300
Assets Disposal	421	350	360	360	1491	235	235	235	235	940	245	245	245	245	980
Total Revenues	42541	45405	44562	47942	180451	39385	42040	40225	41900	163550	40537	42403	42177	43163	168280

Financial Business Plan...Model A...

Financial Forecast (in million PZL)	Quarters 1	2	3	4	1992	Quarters 1	2	3	4	1993	Quarters 1	2	3	4	1994
Revenues:	42120	45055	44202	47582	178960	39150	41805	39990	41665	162610	40292	42158	41932	42918	167300
EPD Sales	28920	30055	29202	30782	118960	25650	26405	24590	24465	101110	25492	26158	25932	25718	103300
C/ID Sales	13200	15000	15000	16800	60000	13500	15400	15400	17200	61500	14800	16000	16000	17200	64000
Sales Tax	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Costs:	37793	40279	39628	43778	161478	35642	37589	36190	37511	146932	37402	38794	38653	39466	154315
Direct Materials	19580	20878	20407	23376	84241	18611	19790	18815	19609	76825	19318	20162	20080	20600	80160
Energy	588	602	590	610	2390	553	563	538	536	2190	544	551	549	546	2190
Labour	6881	7912	7787	8787	31367	7278	7908	7596	8046	30828	7820	8267	8218	8471	32776
Marketing	4127	4139	4135	4149	16550	3435	3452	3441	3451	13779	3580	3598	3597	3605	14380
Depreciation	863	863	863	863	3452	975	975	975	975	3900	1100	1100	1100	1100	4400
Administration	600	600	600	600	2400	413	413	413	413	1652	413	413	413	413	1652
Interest	3337	3337	3337	3337	13348	2712	2712	2712	2712	10848	2962	2962	2962	2962	11848
Other	1817	1948	1909	2056	7730	1665	1776	1700	1769	6910	1665	1741	1734	1769	6909
Net Extra Incomes/Losses	421	350	360	360	1491	235	235	235	235	940	245	245	245	245	980
Profit Before Tax	4327	4776	4575	3805	17482	3508	4216	3800	4154	15678	2890	3364	3279	3452	12985
Income Tax	1731	1910	1830	1522	6993	1403	1686	1520	1662	6271	1156	1346	1312	1381	5194
Dividend	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Taxes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Profit After Tax	2596	2866	2745	2283	10489	2105	2530	2280	2492	9407	1734	2018	1967	2071	7791

Financial Business Plan...Model A...

Cash Flows (in million PZL)	1992	1993	1994
Cash Receipts:	15432	30247	19171
Profit After Tax	10489	9407	7791
Back Depreciation	3452	3900	4400
Assets Disposal Revenue	1491	940	980
Investment Credit	0	6000	6000
Additional Shares Issue	0	10000	0
Other Items	0	0	0
Cash Disbursements:	15043	14840	33880
Investment Expenditures	10143	8340	5380
Loan Capital Repayments	0	0	1200
Capital Instalment Repayments	4900	6500	27300
Dividend Paid To Shareholders	0	0	0
Increase in Working Capital	0	0	0
Total Cash Flows	389	15407	-14709

MODEL B ASSUMPTIONS

No inflation
Transformer Stations sales materialise in 1992 and 1993
Elektromontaz will not receive any state subsidies
Low Voltage Switchgears will not be produced from the third quarter of 1993, and will be replaced by the new type-ZMR Switchgears
Water filtration Systems sales are not included
Other Elektromontaz's divisions sales are not meaningful
Projected cost structure based on actual costs achieved in 1991, and Elektromontaz's cost estimates after 1991
No administration costs increase
No other revaluation of assets
Elektromontaz becomes a private company in 1992, state dividend is not paid
Sales tax is not paid in 1992 and thereafter, it is replaced by VAT
Excessive wage tax is not paid in 1992 and thereafter
No cost/salary increase above inflation
Labour costs include both direct and indirect labour
Depreciation includes all divisions' depreciations
Inventories constant
Liabilities are paid to the level of accounts receivable
US Dollar - 11500 PZL
Elektromontaz disposal programme consists of the following actions: 1491 mln PZL in 1992, 940 mln PZL in 1993, 980 mln PZL in 1994
Assets disposed of are fully depreciated
Net extra income equals to assets disposal revenue
Assets disposal revenue is assigned to investment in machinery and equipment, and is not included into tax basis
Marketing expenditures comprise commissions paid to FTOs, and additional 700 mln PZL in 1992, 1100 mln PZL in 1993, 1700 mln PZL in 1994
Marketing expenditure does not refer to Water Filtration Systems
Financial costs include short term credit interest, fixed assets fee paid to the State Treasury, and powder painting facility leasing fee
Elektromontaz will invest to maintain production and to acquire manufacturing facilities 10.143 mln PZL in 1992, 8340 mln PZL in 1993, 5380 mln PZL in 1994
New investments depreciated at 10 per cent annually
Additional shares will be issued at the beginning of 1993
No dividend paid to shareholders
No significant changes in working capital
Sales projections provided by Elektromontaz management

Financial Business Plan...Model B...

Sales by Products (units)	Quarters 1	2	3	4	1992	Quarters 1	2	3	4	1993	Quarters 1	2	3	4	1994
EPD's Products:															
SU Transformer Stations	125	125	125	125	500	100	100	100	100	400	0	0	0	0	0
Compact Transformer Stations	10	10	0	10	30	10	10	10	10	40	10	15	10	15	50
Low Voltage Switchgears ZUR	100	100	100	100	400	100	100	0	0	200	0	0	0	0	0
Low Voltage Switchgears ZMR	0	0	0	0	0	0	0	30	30	60	250	250	250	250	1000
Other Switchgears	60	90	80	70	300	60	90	80	70	300	160	240	210	190	800
Disconnectors	300	300	300	300	1200	300	300	300	300	1200	400	400	400	400	1600
Miscellaneous Installation Equipment(Kg)	20000	20000	20000	20000	80000	35000	35000	35000	35000	140000	50000	50000	50000	50000	200000
Steel Products	0	50	75	75	200	70	80	70	80	300	100	100	100	100	400
Small Electronic Equipment	0	0	50	50	100	50	50	50	50	200	70	80	70	80	300

Financial Business Plan...Model B...

Revenues (in million PZL)	Quarters 1	2	3	4	1992	Quarters 1	2	3	4	1993	Quarters 1	2	3	4	1994
EPD's Products:															
SU Transformer Stations	23750	23750	23750	23750	95000	19000	19000	19000	19000	76000	0	0	0	0	0
Compact Transformer Stations	900	900	0	900	2700	1000	1000	1000	1000	4000	1000	1500	1000	1500	5000
Low Voltage Switchgears ZUR	2000	2000	2000	2000	8000	2000	2000	0	0	4000	0	0	0	0	0
Low Voltage Switchgears ZMR	0	0	0	0	0	0	0	900	900	1800	7500	7500	7500	7500	30000
Other Switchgears	1320	1980	1760	1540	6600	1320	1980	1760	1540	6600	3520	5280	4620	4180	17600
Disconnectors	450	450	450	450	1800	510	510	510	510	2040	680	680	680	680	2720
Miscellaneous Installation Equipment	500	500	500	500	2000	875	875	875	875	3500	1250	1250	1250	1250	5000
Steel Products	0	475	712.5	712.5	1900	665	760	665	760	2850	950	950	950	950	3800
Small Electronic Equipment	0	0	30	30	60	30	30	30	30	120	42	48	42	48	180
Total EPD Sales	28920	30055	29202	29882	118060	25400	26155	24740	24615	100910	14942	17208	16042	16108	64300
C/ID's Services:															
Industrial Construction	10560	12000	12000	13440	48000	8775	10010	10010	11180	39975	7400	8000	8000	8600	32000
Housing Construction	660	750	750	840	3000	2025	2310	2310	2580	9225	2960	3200	3200	3440	12800
Municipal Construction	660	750	750	840	3000	1080	1232	1232	1376	4920	1480	1600	1600	1720	6400
Commercial Construction	1056	1200	1200	1344	4800	1350	1540	1540	1720	6150	2220	2400	2400	2580	9600
Repair Works	264	300	300	336	1200	270	308	308	344	1230	740	800	800	860	3200
Total C/ID Sales	13200	15000	15000	16800	60000	13500	15400	15400	17200	61500	14800	16000	16000	17200	64000
Total Sales	42120	45055	44202	46682	178060	38900	41555	40140	41815	162410	29742	33208	32042	33308	128300
Assets Disposal	421	350	360	360	1491	235	235	235	235	940	245	245	245	245	980
Total Revenues	42541	45405	44562	47042	179551	39135	41790	40375	42050	163350	29987	33453	32287	33553	129280

Financial Business Plan...Model B...

Financial Forecast (in million PZL)	Quarters 1	2	3	4	1992	Quarters 1	2	3	4	1993	Quarters 1	2	3	4	1994
Revenues:	42120	45055	44202	46682	178060	38900	41555	40140	41815	162410	29742	33208	32042	33308	128300
EPD Sales	28920	30055	29202	29882	118060	25400	26155	24740	24615	100910	14942	17208	16042	16108	64300
C/ID Sales	13200	15000	15000	16800	60000	13500	15400	15400	17200	61500	14800	16000	16000	17200	64000
Sales Tax	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Costs:	37818	40295	39645	43111	160869	35411	37354	36163	37489	146417	28106	30713	29851	30923	119593
Direct Materials	19580	20878	20407	22866	83731	18391	19569	18745	19539	76244	13113	14637	14118	14832	56700
Energy	591	604	593	602	2390	550	559	541	540	2190	524	571	546	549	2190
Labour	6887	7917	7792	8672	31268	7278	7905	7628	8082	30893	7996	8800	8560	8837	34193
Marketing	4128	4140	4136	4146	16550	3434	3452	3442	3452	13780	395	440	425	440	1700
Depreciation	863	863	863	863	3452	975	975	975	975	3900	1100	1100	1100	1100	4400
Administration	600	600	600	600	2400	413	413	413	413	1652	413	413	413	413	1652
Interest	3337	3337	3337	3337	13348	2712	2712	2712	2712	10848	2962	2962	2962	2962	11848
Other	1832	1956	1917	2025	7730	1658	1769	1707	1776	6910	1603	1790	1727	1790	6910
Net Extra Incomes/Losses	421	350	360	360	1491	235	235	235	235	940	245	245	245	245	980
Profit Before Tax	4302	4760	4558	3572	17191	3489	4201	3977	4326	1599[illegible]	1636	2495	2191	2385	8707
Income Tax	1721	1904	1823	1429	6876	1396	1680	1591	1730	6397	654	998	876	954	3483
Dividend	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Taxes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Profit After Tax	2581	2856	2735	2143	10315	2093	2521	2386	2596	9596	982	1497	1315	1431	5224

Financial Business Plan...Model B...

Cash Flows (in million PZL)	1992	1993	1994
Cash Receipts:	15258	30436	16604
Profit After Tax	10315	9596	5224
Back Depreciation	3452	3900	4400
Assets Disposal Revenue	1491	940	980
Investment Credit	0	6000	6000
Additional Shares Issue	0	10000	0
Other Items	0	0	0
Cash Disbursements:	15043	14840	33880
Investment Expenditures	10143	8340	5380
Loan Capital Repayments	0	0	1200
Capital Instalment Repayments	4900	6500	27300
Dividend Paid To Shareholders	0	0	0
Increase in Working Capital	0	0	0
Total Cash Flows	215	15596	-17276

MODEL C ASSUMPTIONS

No inflation
Transformer Stations are sold only in 1992
Elektromontaz will not receive any state subsidies
Low Voltage Switchgears will not be produced from the third quarter of 1993, and will be replaced by the new type-ZMR Switchgears
Water filtration Systems sales are not included
Other Elektromontaz's divisions sales are not meaningful
Projected cost structure based on actual costs achieved in 1991, and Elektromontaz's cost estimates after 1991
No administration costs increase
No other revaluation of assets
Elektromontaz becomes a private company in 1992, state dividend is not paid
Sales tax is not paid in 1992 and thereafter, it is replaced by VAT
Excessive wage tax is not paid in 1992 and thereafter
No cost/salary increase above inflation
Labour costs include both direct and indirect labour
Depreciation includes all divisions' depreciations
Inventories constant
Liabilities are paid to the level of accounts receivable
US Dollar - 11500 PZL
Elektromontaz disposal programme consists of the following actions: 1491 mln PZL in 1992, 940 mln PZL in 1993, 980 mln PZL in 1994
Assets disposed of are fully depreciated
Net extra income equals to assets disposal revenue
Assets disposal revenue is assigned to investment in machinery and equipment, and is not included into tax basis
Marketing expenditures comprise commissions paid to FTOs, and additional 700 mln PZL in 1992, 1100 mln PZL in 1993, 1700 mln PZL in 1994
Marketing expenditure does not refer to Water Filtration Systems
Financial costs include short term credit interest, fixed assets fee paid to the State Treasury, and powder painting facility leasing fee
Elektromontaz will invest to maintain production and to acquire manufacturing facilities 10.143 mln PZL in 1992, 8340 mln PZL in 1993, 5380 mln PZL in 1994
New investments depreciated at 10 per cent annually
Additional shares will be issued at the beginning of 1993
No dividend paid to shareholders
No significant changes in working capital
Sales projections provided by Elektromontaz management

Financial Business Plan...Model C...

Sales by Products (units)	Quarters 1	2	3	4	1992	Quarters 1	2	3	4	1993	Quarters 1	2	3	4	1994
EPD's Products:															
SU Transformer Stations	100	100	100	100	400	0	0	0	0	0	0	0	0	0	0
Compact Transformer Stations	10	10	0	10	30	10	10	0	10	30	10	10	0	10	30
Low Voltage Switchgears ZUR	100	100	100	100	400	100	100	0	0	200	0	0	0	0	0
Low Voltage Switchgears ZMR	0	0	0	0	0	0	0	50	50	100	100	100	150	150	500
Other Switchgears	60	90	80	70	300	60	90	80	70	300	60	90	80	70	300
Disconnectors	300	300	300	300	1200	300	300	300	300	1200	400	400	400	400	1600
Miscellaneous Installation Equipment(Kg)	20000	20000	20000	20000	80000	35000	35000	35000	35000	140000	50000	50000	50000	50000	200000
Steel Products	0	50	75	75	200	70	80	70	80	300	100	100	100	100	400
Small Electronic Equipment	0	0	50	50	100	50	50	50	50	200	70	80	70	80	300

Financial Business Plan...Model C...

Revenues (in million PZL)	Quarters 1	2	3	4	1992	Quarters 1	2	3	4	1993	Quarters 1	2	3	4	1994
EPD's Products:															
SU Transformer Stations	19000	19000	19000	19000	76000	0	0	0	0	0	0	0	0	0	0
Compact Transformer Stations	900	900	0	900	2700	1000	1000	0	1000	3000	1000	1000	0	1000	3000
Low Voltage Switchgears ZUR	2000	2000	2000	2000	8000	2000	2000	0	0	4000	0	0	0	0	0
Low Voltage Switchgears ZMR	0	0	0	0	0	0	0	1500	1500	3000	3000	3000	4500	4500	15000
Other Switchgears	1320	1980	1760	1540	6600	1320	1980	1760	1540	6600	1320	1980	1760	1540	6600
Disconnectors	450	450	450	450	1800	510	510	510	510	2040	680	680	680	680	2720
Miscellaneous Installation Equipment	500	500	500	500	2000	875	875	875	875	3500	1250	1250	1250	1250	5000
Steel Products	0	475	712.5	712.5	1900	665	760	665	760	2850	950	950	950	950	3800
Small Electronic Equipment	0	0	30	30	60	30	30	30	30	120	42	48	42	48	180
Total EPD Sales	24170	25305	24452	25132	99060	6400	7155	5340	6215	25110	8242	8908	9182	9968	36300
C/ID's Services:															
Industrial Construction	10560	12000	12000	13440	48000	8775	10010	10010	11180	39975	7400	8000	8000	8600	32000
Housing Construction	660	750	750	840	3000	2025	2310	2310	2580	9225	2960	3200	3200	3440	12800
Municipal Construction	660	750	750	840	3000	1080	1232	1232	1376	4920	1480	1600	1600	1720	6400
Commercial Construction	1056	1200	1200	1344	4800	1350	1540	1540	1720	6150	2220	2400	2400	2580	9600
Repair Works	264	300	300	336	1200	270	308	308	344	1230	740	800	800	860	3200
Total C/ID Sales	13200	15000	15000	16800	60000	13500	15400	15400	17200	61500	14800	16000	16000	17200	64000
Total Sales	37370	40305	39452	41932	159060	19900	22555	20740	23415	86610	23042	24908	25182	27168	100300
Assets Disposal	421	350	360	360	1491	235	235	235	235	940	245	245	245	245	980
Total Revenues	37791	40655	39812	42292	160551	20135	22790	20975	23650	87550	23287	25153	25427	27413	101280

Financial Business Plan...Model C...

Financial Forecast (in million PZL)	Quarters 1	2	3	4	1992	Quarters 1	2	3	4	1993	Quarters 1	2	3	4	1994
Revenues:	37370	40305	39452	41932	159060	19900	22555	20740	23415	86610	23042	24908	25182	27168	100300
EPD Sales	24170	25305	24452	25132	99060	6400	7155	5340	6215	25110	8242	8908	9182	9968	36300
C/ID Sales	13200	15000	15000	16800	60000	13500	15400	15400	17200	61500	14800	16000	16000	17200	64000
Sales Tax	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Costs:	34518	37018	36287	39855	147678	22234	24388	22511	24816	93949	24797	26315	26367	28071	105550
Direct Materials	17330	18628	18076	20616	74650	9391	10569	9443	10787	40190	10771	11626	11603	12673	46673
Energy	589	605	593	603	2390	554	593	498	545	2190	518	541	551	580	2190
Labour	6649	7682	7557	8440	30328	6347	7043	6548	7221	27159	7053	7537	7577	8010	30177
Marketing	3334	3347	3344	3355	13380	253	286	264	297	1100	391	422	427	460	1700
Depreciation	863	863	863	863	3452	975	975	975	975	3900	1100	1100	1100	1100	4400
Administration	600	600	600	600	2400	413	413	413	413	1652	413	413	413	413	1652
Interest	3337	3337	3337	3337	13348	2712	2712	2712	2712	10848	2962	2962	2962	2962	11848
Other	1816	1956	1917	2041	7730	1589	1797	1658	1866	6910	1589	1714	1734	1873	6910
Net Extra Incomes/Losses	421	350	360	360	1491	235	235	235	235	940	245	245	245	245	980
Profit Before Tax	2852	3287	3166	2078	11382	-2334	-1833	-1771	-1401	-7339	-1755	-1407	-1185	-903	-5250
Income Tax	1141	1315	1266	831	4553	0	0	0	0	0	0	0	0	0	0
Dividend	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Taxes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Profit After Tax	1711	1972	1900	1247	6829	-2334	-1833	-1771	-1401	-7339	-1755	-1407	-1185	-903	-5250

Cash Flows (in million PZL)	1992	1993	1994
Cash Receipts:	11772	13501	6130
Profit After Tax	6829	-7339	-5250
Back Depreciation	3452	3900	4400
Assets Disposal Revenue	1491	940	980
Investment Credit	0	6000	6000
Additional Shares Issue	0	10000	0
Other Items	0	0	0
Cash Disbursements:	15043	14840	33880
Investment Expenditures	10143	8340	5380
Loan Capital Repayments	0	0	1200
Capital Instalment Repayments	4900	6500	27300
Dividend Paid To Shareholders	0	0	0
Increase in Working Capital	0	0	0
Total Cash Flows	-3271	-1339	-27750

MODEL D ASSUMPTIONS

No inflation
Transformer Stations are sold only in 1992
Elektromontaz will not receive any state subsidies
Low Voltage Switchgears will not be produced from the third quarter of 1993, and will be replaced by the new type-ZMR Switchgears
Water filtration Systems sales are not included, and are divided into two groups: small units and large units
Other Elektromontaz's divisions sales are not meaningful
Projected cost structure based on actual costs achieved in 1991, and Elektromontaz's cost estimates after 1991
No administration costs increase
No other revaluation of assets
Elektromontaz becomes a private company in 1992, state dividend is not paid
Sales tax is not paid in 1992 and thereafter, it is replaced by VAT
Excessive wage tax is not paid in 1992 and thereafter
No cost/salary increase above inflation
Labour costs include both direct and indirect labour
Depreciation includes all divisions' depreciations
Inventories constant
Liabilities are paid to the level of accounts receivable
US Dollar - 11500 PZL
Elektromontaz disposal programme consists of the following actions: 1491 mln PZL in 1992, 940 mln PZL in 1993, 980 mln PZL in 1994
Assets disposed of are fully depreciated
Net extra income equals to assets disposal revenue
Assets disposal revenue is assigned to investment in machinery and equipment, and is not included into tax basis
Marketing expenditures comprise commissions paid to FTOs, and additional 700 mln PZL in 1992, 1100 mln PZL in 1993, 1700 mln PZL in 1994
Water Filtration Systems marketing expenditures include advertising, sales promotion, establishing distribution and after sales service network, and amount to 1800 mln PZL in 1992, 2000 mln PZL in 1993, 2400 mln PZL in 1994
Financial costs include short term credit interest, fixed assets fee paid to the State Treasury, and powder painting facility leasing fee
Elektromontaz will invest to maintain production and to acquire manufacturing facilities 10,143 mln PZL in 1992, 8340 mln PZL in 1993, 5380 mln PZL in 1994
New investments depreciated at 10 per cent annually
Additional shares will be issued at the beginning of 1993
No dividend paid to shareholders
No significant changes in working capital
Sales projections provided by Elektromontaz management
Water Filtration Systems sales projections made by CET and come from market study

Sales by Products (units)	Quarters 1	2	3	4	1992	Quarters 1	2	3	4	1993	Quarters 1	2	3	4	1994
EPD's Products:															
SU Transformer Stations	100	100	100	100	400	0	0	0	0	0	0	0	0	0	0
Compact Transformer Stations	10	10	0	10	30	10	10	0	10	30	10	10	0	10	30
Low Voltage Switchgears ZUR	100	100	100	100	400	100	100	0	0	200	0	0	0	0	0
Low Voltage Switchgears ZMR	0	0	0	0	0	0	0	50	50	100	100	100	150	150	500
Other Switchgears	60	90	80	70	300	60	90	80	70	300	60	90	80	70	300
Disconnectors	300	300	300	300	1200	300	300	300	300	1200	400	400	400	400	1600
Miscellaneous Installation Equipment(Kg)	20000	20000	20000	20000	80000	35000	35000	35000	35000	140000	50000	50000	50000	50000	200000
Steel Products	0	50	75	75	200	70	80	70	80	300	100	100	100	100	400
Small Electronic Equipment	0	0	50	50	100	50	50	50	50	200	70	80	70	80	300
Water Filtration Systems:															
- Small Systems	0	1000	2000	2000	5000	2500	3000	3000	3500	12000	3500	4000	4500	4500	16500
- Large Systems	0	200	300	400	900	500	650	800	900	2850	1000	1100	1100	1100	4300

Financial Business Plan...Model D...

Revenues (in million PZL)	Quarters 1	2	3	4	1992	Quarters 1	2	3	4	1993	Quarters 1	2	3	4	1994
EPD's Products:															
SU Transformer Stations	19000	19000	19000	19000	76000	0	0	0	0	0	0	0	0	0	0
Compact Transformer Stations	900	900	0	900	2700	1000	1000	0	1000	3000	1000	1000	0	1000	3000
Low Voltage Switchgears ZUR	2000	2000	2000	2000	8000	2000	2000	0	0	4000	0	0	0	0	0
Low Voltage Switchgears ZMR	0	0	0	0	0	0	0	1500	1500	3000	3000	3000	4500	4500	15000
Other Switchgears	1320	1980	1760	1540	6600	1320	1980	1760	1540	6600	1320	1980	1760	1540	6600
Disconnectors	450	450	450	450	1800	510	510	510	510	2040	680	680	680	680	2720
Miscellaneous Installation Equipment	500	500	500	500	2000	875	875	875	875	3500	1250	1250	1250	1250	5000
Steel Products	0	475	712.5	712.5	1900	665	760	665	760	2850	950	950	950	950	3800
Small Electronic Equipment	0	0	30	30	60	30	30	30	30	120	42	48	42	48	180
Small Water Filtration Systems	0	1000	2000	2000	5000	2500	3000	3000	3500	12000	3500	4000	4500	4500	16500
Large Water Filtration Systems	0	1840	2760	3680	8280	4600	5980	7360	8280	26220	9200	10120	10120	10120	39560
Total EPD Sales	24170	28145	29212	30812	112340	13500	16135	15700	17995	63330	20942	23028	23802	24588	92360
C/D's Services:															
Industrial Construction	10560	12000	12000	13440	48000	8775	10010	10010	11180	39975	7400	8000	8000	8600	32000
Housing Construction	660	750	750	840	3000	2025	2310	2310	2580	9225	2960	3200	3200	3440	12800
Municipal Construction	660	750	750	840	3000	1080	1232	1232	1376	4920	1480	1600	1600	1720	6400
Commercial Construction	1056	1200	1200	1344	4800	1350	1540	1540	1720	6150	2220	2400	2400	2580	9600
Repair Works	264	300	300	336	1200	270	308	308	344	1230	740	800	800	860	3200
Total C/D Sales	13200	15000	15000	16800	60000	13500	15400	15400	17200	61500	14800	16000	16000	17200	64000
Total Sales	37370	43145	44212	47612	172340	27000	31535	31100	35195	124830	35742	39028	39802	41788	156360
Assets Disposal	421	350	360	360	1491	235	235	235	235	940	245	245	245	245	980
Total Revenues	37791	43495	44572	47972	173831	27235	31770	31335	35430	125770	35987	39273	40047	42033	157340

Financial Business Plan...Model D...

Financial Forecast (in million PZL)	Quarters 1	2	3	4	1992	Quarters 1	2	3	4	1993	Quarters 1	2	3	4	1994
Revenues:	37370	43145	44212	47612	172340	27000	31535	31100	35195	124830	35742	39028	39802	41788	156360
EPD Sales	24170	28145	29212	30812	112340	13500	16135	15700	17995	63330	20942	23028	23802	24588	92360
C/ID Sales	13200	15000	15000	16800	60000	13500	15400	15400	17200	61500	14800	16000	16000	17200	64000
Sales Tax	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Costs:	34518	39688	40217	44295	158718	27697	31141	30179	33469	122486	34159	36662	37089	38793	146703
Direct Materials	17330	20148	20656	23656	81790	13191	15359	14923	17027	60500	17471	19086	19363	20433	76353
Energy	589	605	593	603	2390	554	593	498	545	2190	518	541	551	580	2190
Labour	6649	8132	8307	9340	32428	7472	8468	8198	9096	33234	9078	9787	9902	10335	39102
Marketing	3334	4047	3944	3855	15180	753	786	764	797	3100	991	1022	1027	1060	4100
Depreciation	863	863	863	863	3452	1013	1013	1013	1013	4052	1137	1137	1137	1137	4548
Administration	600	600	600	600	2400	413	413	413	413	1652	413	413	413	413	1652
Interest	3337	3337	3337	3337	13348	2712	2712	2712	2712	10848	2962	2962	2962	2962	11848
Other	1816	1956	1917	2041	7730	1589	1797	1658	1866	6910	1589	1714	1734	1873	6910
Net Extra Incomes/Losses	421	350	360	360	1491	235	235	235	235	940	245	245	245	245	980
Profit Before Tax	2852	3457	3996	3318	13622	-697	394	921	1726	2344	1583	2366	2713	2995	9657
Income Tax	1141	1383	1598	1327	5449	0	158	368	690	938	633	946	1085	1198	3863
Dividend	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Taxes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Profit After Tax	1711	2074	2398	1991	8173	-697	236	553	1036	1406	950	1420	1628	1797	5794

Cash Flows (in million PZL)	1992	1993	1994
Cash Receipts:	13116	22398	17322
Profit After Tax	8173	1406	5794
Back Depreciation	3452	4052	4548
Assets Disposal Revenue	1491	940	980
Investment Credit	0	6000	6000
Additional Shares Issue	0	10000	0
Other Items	0	0	0
Cash Disbursements:	16543	14840	33880
Investment Expenditures	11643	8340	5380
Loan Capital Repayments	0	0	1200
Capital Instalment Repayments	4900	6500	27300
Dividend Paid To Shareholders	0	0	0
Increase In Working Capital	0	0	0
Total Cash Flows	-3427	7558	-16558

CONTENTS

CENTRAL EUROPE TRUST

MACROECONOMIC ISSUES AND OBJECTIVES DISCUSSED IN THIS SECTION INCLUDE THE FOLLOWING:

A. The world's industrial policy:

1. Reasons behind industrial policy
2. Selection of firms
3. Ways and means of influencing industrial structure
4. Japanese example:
   - Institutional support structure - MITI
   - Mechanisms behind long-term growth strategy
   - Proexport promotion methods
5. Export stimulation in the US:
   - Role of the commercial section in the US embassies
   - Involvement of government agencies

B. Poland's industrial policy:

1. Development of an industrial policy
2. Objectives of an industrial policy
3. Policy of Polish government
4. Assessment of other options

Source: CET Analysis

Appendix... Macroeconomic Factors...

ALTHOUGH A PRECISELY DEFINED NATIONAL INDUSTRIAL POLICY (LONG-TERM GROWTH STRATEGY FOR THE WHOLE ECONOMY), IS NOT PRACTISED WORLD-WIDE, SOME COUNTIES (JAPAN, FRANCE, KOREA) EXPERIENCED SUCCESS USING THIS TYPE OF APPROACH

These counties claim that government must take protectionist steps to increase employment and secure the development of diversified high-quality production in order to be competitive in the domestic and foreign markets. The possession of the latest technologies and methods of production and the ability to compete globally is more important for the country's success than benefits from specialisation in particular production. Industrial policy is aimed at influencing industry structure (promotion of some branches and de-emphasis of others) using different means and methods. The problem exists in selecting promising and declining branches. Following are some commonly used steps:

1. Primary ones:
   - high level of profitability in the domestic and global scale
   - critical role in scientific and technical progress and development
   - importance for competitiveness of the country in world markets

2. Secondary ones:
   - technological maturity
   - capacity to create new employment and improve the balance of payments
   - investment efficiency
   - work productivity
   - linkage with other branches

Offensive government activities also contribute to the overall protectionist policy aiding domestic producers against foreign competitors. Barriers can be raised in such areas as: product or plant safety, product testing, and pollution control. this policy should not consist of radical administrative solutions such as e.g. high customs duty for imports which can cause deviations in international trade.

Source: CET Analysis

JAPAN IS THE MOST SIGNIFICANT AND INTERESTING EXAMPLE OF A COUNTRY WHICH PREPARES AND IMPLEMENTS A DETAILED INDUSTRIAL POLICY PLAN. INSTITUTIONAL STRUCTURES WERE ESTABLISHED IN ORDER TO DEVELOP AND SUPPORT THIS POLICY

The basis of the industrial policy are created by MITI (Ministry of Foreign Trade and Industry). MITI mobilises and allocates resources in the industry through various ways:

1. Direct:
   - A. By export and import controls
   - B. By anti-dumping regulations
   - C. By anti-monopoly laws
   - D. By restrictive state requirements concerning environmental protection

2. Indirect:
   - A. By providing the private sector with data about future industry growth trends. The information is gathered and transferred systematically with long-term development and structural changes analysed periodically. MITI suggests relevant steps to be taken by the affected firms. Such a system is driven the information revolution. Such information is useful for the private sector in developing short and long-term strategic decisions. The government, on the other hand, acts as an supporting instrument in the following manner formulating the principles of a fiscal, monetary policy, credit rates, value of domestic currency, customs regulations and strategic decisions regarding state investment in various industrial sectors and infrastructure projects corresponding to the long-term government policy
   - B. By using financial instruments such as: reductions in taxes and depreciation, lower-interest rate credits, government guaranteed loans
   - C. By offering permanent consultancy and information exchange between MITI and the management of private firms. These contracts are maintained "day by day".

Source: CET Analysis

Appendix... Macroeconomic Factors...

BEHIND THE SUCCESSFUL JAPANESE INDUSTRIAL POLICY IS ITS MULTI FACETED STRATEGY

Key factors:

1. Import of the latest technologies is paid by receipts from licensed goods sales. The application of the latest technologies was possible due to the government support which secured the transfer of licence fees and the existence of highly-qualified staff developed through considerable expenditures on science and staff training

2. Development of domestic technologies as a result of preferential credits, reductions in taxes, strategic government subsidies

3. Anti-monopoly regulations, liberalisation of trade and capital transfer

4. Mergers of companies to improve their international competitive position

5. Liquidation of unprofitable firms after the staff was retrained and qualified for new jobs

6. Introduction of new management system characterised by three aspects:

   A. Capacity of increase employment as a result of improving efficiency
   B. Permanent dialogues and consultations with employees on ways and means to improve productivity
   C. Equal division of additional profits achieved through improvements in work productivity (gains are then divided among employees, management and owners)

7. Proexport promotion consists of the following:

   A. Reductions in taxes and depreciation fro proexport production
   B. Reductions in taxes for promotion of technology export
   C. Credit preferences and insurance system for proexport production
   D. Export discipline through anti-dumping laws
   E. Precise definition of export and import firms status
   F. Development of perpetual international marketing through "JETRO" -government agency does global market research through Japanese embassies

Source: CET Analysis

FOREIGN TRADE IS PERCEIVED AS A MAJOR FORCE BEHIND THE ANTICIPATED U.S. ECONOMIC RECOVERY. TO IMPROVE THE INTERNATIONAL COMPETITIVE POSITION OF AMERICAN FIRMS, THE U.S. GOVERNMENT IS SUPPORTING EXPORTS THROUGH THE FOLLOWING MEANS:

In Japan, the American Embassy is increasing the number of commercial attaches to change unfavourable ratios presented below:

	U.S.	Britain	Germany	France	Italy
Business executives in Japan	3233	999	446	313	90
Number of executives per one commercial attache in Japan	62.17	21.26	9.30	5.80	2.31

Increased commercial staff is necessary to assist and promote American businesses abroad by such means as, among others, low interest government loans or legal advice

American export policy is focusing on the following areas:

A. Budget of every export programme needs to be increased
B. Development and implementation of an overall strategy
C. Formal coordination between the public and private sectors

Export activities are supported by 10 government agencies concentrating on the following:

A. Encouraging exports to less developed nations
B. Constantly searching for new export opportunities
C. Providing export insurance
D. Promoting exports by particular sectors such as agriculture or small business
E. Financing exports through such institutions as the Export-Import Bank of the US which gives favourable loans and loans guarantees to exporters
F. Supporting export efforts through active involvement of government trade advisers and analysts for specific industries

American agriculture benefits greatly from huge export promotion programme. Food accounted for one-tenth of the U.S. exports, but received three-quarters of the government's export assistance outlays

Source: CET Analysis

TO PROMOTE EXPORTS AND PROTECT VULNERABLE DOMESTIC PRODUCERS, THE GOVERNMENT SHOULD DEVELOP A COHERENT INDUSTRIAL POLICY ENCOMPASSING KEY INDUSTRIAL SECTORS

The process of creating a national industrial policy should consist of the following steps:

A. Establishing the main ministry (e.g. the Ministry of Economy or the Ministry of Industry) responsible for providing incentives and coordinating policy with national industry

B. Creating negotiating groups responsible for the nature of this policy. This may include government members, industry experts, trade unions representatives, main parties leaders, local authorities, academic figures etc.

C. Developing foundations of the industrial policy and agreeing on firms to receive promotion efforts and protectionism

D. Development of long-term industrial policy strategy through information gathering and sharing with management of firms

The main objective of a coherent industrial policy is the urgent task of ensuring stability for the whole economic system such as providing market players with information about conditions and requirements for long-range activities.This information should favour lowering of investment risk, gradually increasing production, and encouraging foreign capital investment in Poland. It must be stressed that the basis of a long-term strategy are not only addressed to the market players, but also serve as a benchmark for government. As a result of this policy, the government has an impact on policies concerning fiscal, credit, foreign trade, rate of exchange that influence free market activities and long-term growth of the whole economy. Government's policy should be addressed directly to the firms in particular branches and not to the sectors as the whole. the task is to choose the best and the worst enterprises and use appropriate methods.

Source: CET Analysis

AN EFFECTIVE ECONOMIC POLICY IN POLAND SHOULD INCLUDE A VIBRANT EXPORT SECTOR

Policy proposed by the Olszewski government in February 1992 and rejected by the parliament consisted of the following:

A. Return of turnover tax for exporters
B. Reductions in excessive wages tax for exporters (0.5% for each per cent of exports share in total sales)
C. Easier access to foreign sources of capital with foreign credits guaranteed by the government
D. Decrease in dividend level charged from state owned enterprises to 10% of the enterprise fund
E. Simplifying privatisation procedures and solutions to the reprivatisation problem
F. Restructuring of state owned enterprises' indebtedness involved in export
G. Commercialisation of companies where revenues from exports exceeds 30% of total revenues from sales
H. Reductions in income tax for companies undertaking activities in high unemployment areas
I. Raise turnover taxes on alcohol, tobacco, petrol and luxury items to improve state budget

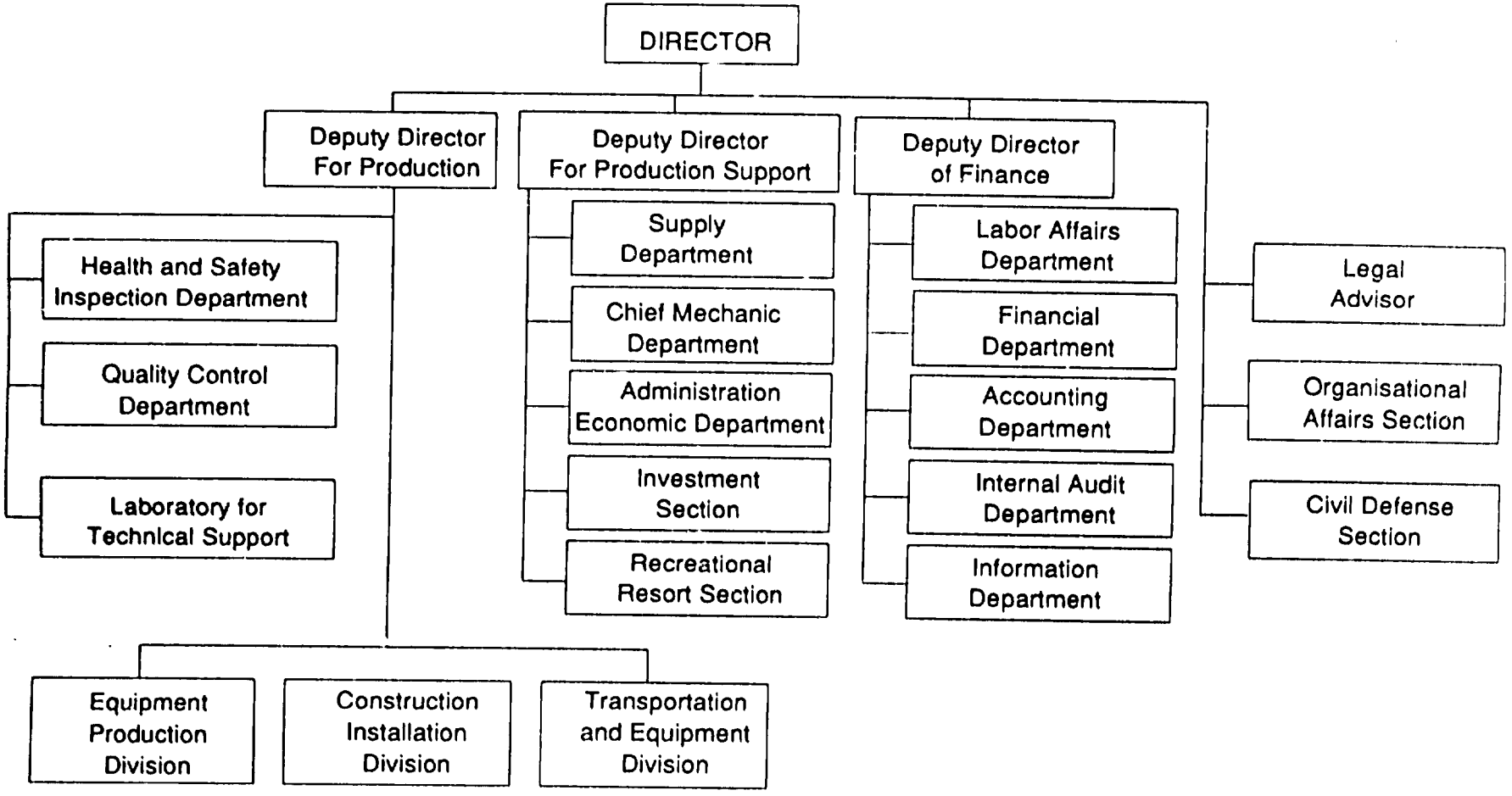
Other possible measures to support export involve:

A. Temporal reductions in custom duties for imported machinery and equipment not produced in Poland with simultaneous increase in duties for consumer goods
B. Monitoring rates of exchange that is crucial to an effective export policy
C. Investment reductions in income taxes for domestic export firms
D. Fiscal equalisation of state owned enterprises and private firms
E. Lowering interest rates for investment credits. Banks' taxes can be reduced to compensate for lower profits from lenders
F. Replacing regulations regarding depreciating useless assets
G. Further reductions in excessive wages tax
H. Preferential interest for loans involving restructuring projects
I. Extension of credit repayment period

Source: CET Analysis

Appendix...

ELEKTROMONTAZ HAS A TOP HEAVY ORGANISATIONAL STRUCTURE WHICH NEEDS TO BE STREAMLINED IN ORDER TO FUNCTION MORE EFFICIENTLY



Source: *CET Analysis/Elektromontaz*

Appendix...

ELEKTROMONTAZ IS NOW GOING THROUGH THE PROCESS OF PRIVATISATION THROUGH LIQUIDATION. AN INDEPENDENT JOINT STOCK COMPANY SHOULD BE CREATED BY EARLY 1992 WITH THE INTENT TO LEASE THE ASSETS OF THE FORMER COMPANY

Privatisation Through Liquidation Process

Application to founding body	Liquidation of SOE	Creation of a One-Man Treasury Owned Company	Creation of a JSC	Possible Re Capitalisation
- Joint resolution of worker council and management agreeing upon the liquidation - Financial Diagnostic and assets valuation - Project status future JSC	• Decided by the company's founding organ with the approval from the Ministry of Privatisation	- Treasury unique shareholders of the company - Negotiation between company's management and MOP upon Assets leasing agreement	- At least 51% of employees must become shareholders of the main Company - Need to provide in cash at least 20% of the capital	- Any outside investor holding more than 20% of the equity has to secure authorisation from the Ministry of Construction

Expected timetable for Elektromontaz

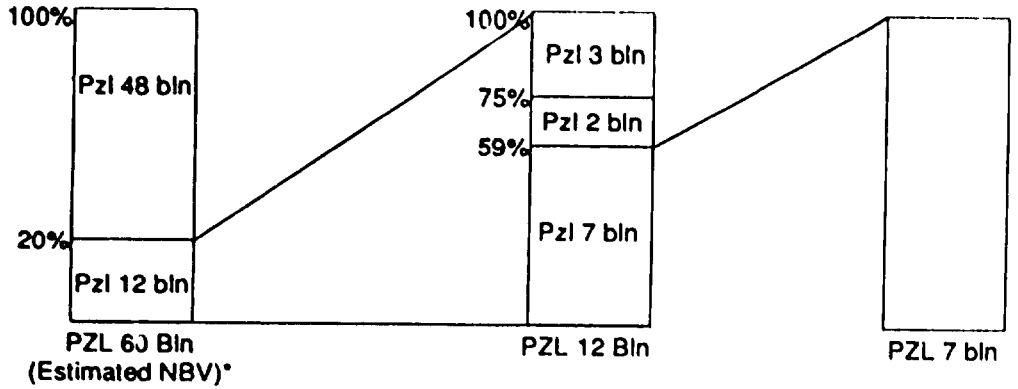
Completed 21 November 1991	End December 1991	Early January 1992	January 1992	1992.....
- Resolution passed - Valuation completed - Project Status ready - Application completed	• Elektromontaz management calls for liquidation before the end of fixed year	- Management places to lease 100% of assets of liquidated company	- A commission was set up to prepare a financing plan, first draft ready	- Elektromontaz Export has secured the Ministry of Privatisation's right to hold more than 20% of the JSC

Source: CET Analysis/MOP/Elektromontaz

Appendix...

ELEKTROMONTAZ'S PRIVATISATION METHOD IS VERY COSTLY SINCE IT ALLOWS EMPLOYEES TO BORROW FUNDS FROM THE COMPANY IN ORDER TO PURCHASE SHARES

Purchase of Equity, Financing Structure



Loans to Employees
Terms/Conditions

- Each employee entitled to a Pzl 10mln loan
- Then entitled to a pzl 3 mln loan for each million paid cash
- Maximum loan of pzl 50 mln
- 1% interest rate
- Grace/Repayment period not set yet

20% to the value of the stock must be provided in cash

⇨

- Elektromontaz Exports participation: pzl 3 bln
- Cash for employees pzl 2 bln

⇨

Elektromontaz will lend pzl 7 bln to its employees

* Unverified by CET

Source: CET Analysis/MOP/Elektromontaz

Prices Structure
(mln PZL)

EPD's Products:	1992	1993	1994
SU Transformer Stations	190	190	190
Compact Transformer Stations	90	100	100
Low Voltage Switchgears ZUR	20	20	0
Low Voltage Switchgears ZMR	0	30 (25*)	30 (25*)
Other Switchgears	22	22	22
Disconnectors	1.5	1.7	1.7
Miscellaneous Installation Equipment	0.025	0.025	0.025
Steel Products	9.5	9.5	9.5
Small Electronic Equipment	0.6	0.6	0.6
Small Water Filtration Systems	1	1	1
Large Water Filtration Systems	9.2	9.2	9.2

* In Model A

Direct Unit Cost Structure
(thousand PZL)

	1992		1993		1994	
	Direct materials	Direct Labour	Direct materials	Direct Labour	Direct materials	Direct Labour
SU Transformer Stations	90.000	9.400	90.000	9.400	90.000	9.400
Compact Transformer Stations	51.000	9.700	55.000	10.800	55.000	10.800
Low Voltage Switchgears ZUR	9.100	2.800	10.700	2.800	0	0
Low Voltage Switchgears ZMR	0	0	12.400	3.350	12.400	3.350
Other Switchgears	8.100	4.250	8.100	4.250	8.100	4.250
Disconnectors	820	67	910	91	910	91
Miscellaneous Installation Equipment	5.4	6	5.4	6	5.4	6
Steel Products	4.500	1.300	4.500	1.300	4.500	1.300
Small Electronic Equipment	150	125	150	125	150	125
Small Water Filtration Systems	600	150	600	150	600	150
Large Water Filtration Systems	4.600	1.500	4.600	1.500	4.600	1.500

Labour Cost Structure
(mln PZL)

		1992		1993		1994	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
EPD	Model A	8.317	3.000	7.528	3.000	7.776	3.000
C/ID		10.200	3.250	11.100	3.200	12.800	3.200
Other Divisions		-	900	-	900	-	900
Administration		-	5.700	-	5.100	-	5.100
Total		18517	12.850	18.628	12.200	20.576	12.200
		31.367		30.828		32.776	
EPD	Model B	8.218	3.000	7.593	3.000	9.193	3.000
C/ID		10.200	3.250	11.100	3.200	12.800	3.200
Other Divisions		-	900	-	900	-	900
Administration		-	5.700	-	5.100	-	5.100
Total		18.418	12.850	18.693	12.200	21.993	12.200
		31.268		30.893		34.193	
EPD	Model C	7.278	3.000	3.859	3.000	5.177	3.000
C/ID		10.200	3.250	11.100	3.200	12.800	3.200
Other Divisions		-	900	-	900	-	900
Administration		-	5.700	-	5.100	-	5.100
Total		17.478	12.850	14.959	12.200	17.977	12.200
		30.328		27.159		30.177	
EPD	Model D	9.378	3.000	9.934	3.000	14.102	3.000
C/ID		10.200	3.250	11.100	3.200	12.800	3.200
Other Divisions		-	900	-	900	-	900
Administration		-	5.700	-	5.100	-	5.100
Total		19.578	12.850	21.034	12.200	26.902	12.200
		32.428		33.234		39.102	

Investment Expenditures
(mln PZL)

	1992	1993	1994
Semi-automatic press	1.700	0	0
Licences	2.500	2.500	0
New factory completion	1.000	1.000	0
Existing machinery parc replacement	3.452	3.900	4.400
Assets disposal	1.491	940	980
Total	10.143	8.340	5.380
Moulding press (model D)	1.500	0	0
Total (model D)	11.463	8.340	5.380

Addresses of the Wire and Wire Products Manufacturers

BICC plc	Devonshire Place, Mayfair Place, London W1X 5FX Tel: 071 - 629 6622
BBA Group plc	PO Box 20, Whitechapel Road Cleckheaton, W. Yorkshire BD19 6HP, Tel: 0274 874444
TI Group plc	50 Curzon Street, London W1Y 7PN, Tel: 071 - 458 3232
Smiths Industries plc	765 Finchley Road, London NW11 8DS, Tel: 071 - 458 3232
Delta plc	1 Kingsway, London WC2B 6XF, Tel: 071 - 836 3535
ASW Holding plc	PO Box 83, Castle Works, Cardiff CF1 5XG, Tel: 0222 471333
Thomas Locker plc	PO Box 161 Church Street, Warrington WA1 25V, Tel: 0925 51212

Addresses of the Wire and Wire Products Manufacturers Cont'd

Associated Electrical Industries Ltd	1 Stanhope Gate, London W1A 1EH, Tel: 071 - 493 8484
Associated Perforators and Weaners	Church Street, Warrington, Cheshire WA1 2SU, Tel: 0925 51212
Begg Cousland Holdings Ltd	636 Springfield Road, Glasgow G40 3HS, Tel: 071 - 556 5288
Fairmile Fencing Ltd	PO Box 205, St Georges, Telford, Shropshire TF2 9BQ, Tel: 0952 610011
A.J. Bins Northern Ltd	4 Ambleside Road, Liverpool L31 6B4, Tel: 051 - 546 3424
Chestnut Products Ltd	Unit 8, Gaza Trading estate, Hildenborough Tonbridge, Kent TN11 8PL, Tel: 0732 463777
Welded Mesh (Sales) Ltd	Skerne Works, Dodsworth Street, Albert Hall, Darlington, Yorks 0LI 2NG, Tel: 0325 - 487141

Appendix...

ADDRESSES OF U.K MANUFACTURERS OF THE WATER TREATMENT SYSTEMS

Ecowater Systems Ltd
Unit 1, The Independent Business Park,
Mill Road,
Stokenchurch,
Bucks HP14 3TP
Tel: 0494 484000 Fax: 0494 484396

Brita (UK) Ltd., Brita House
62 - 64 Bridge Street,
Walton-on-Thames,
Surrey KT12 1AP
Tel: 0932 228348 Fax: 0932 247931

Acrokool Limited
Unit 1 The Shires,
Shirehill Industrial Estate,
Saffron Walden,
Essex CB11 3AN
Tel: 0799 513631

Awe Ltd
Water Conditioning Equipment,
Cardiff Workshops, Lewis Road,
Cardiff CF1 5EG
Tel: 0222 492848

Addresses of the World's Leading Transformer Manufactures Contacted by CET

Hazemeyer	35 Boulevard de Beauburg, PO Box 83, 7312 Marne La Vallee France, Tel: 331 60056124 Fax: 331 60063659
Westignhouse Electric	1st Floor, Central House, Lampton Road, Houslow, TW3 1HY Tel: 44 81 569 5500 Fax: 44 81 569 5542
ABB	POB 8131, Zurich, Switzerland, Tel: 41 1 3177111 Fax: 41 1 3177321
Toshiba Corporation Europe Office	Audry House, Ely Place, London EC1N 6SN, Tel: 44 71 242 7295 Fax: 44 41 405 1489
Mitsubishi	6-3 Marunouchi 2-chrome, Tokyo 100, Japan, Tel: 813 32182111 Fax: 813 32147644
Siemens	Wittelsbacherplatz 2, D-8000 Munchem 2, Postfach 1 03, Germany Tel: 49 89 234-0 Fax: 49 89 234 4242
GEC - Alsthom (London address)	GEC PLC, 1 Stanhope Gate, London, W1A 1EH Tel: 44 71 493 8484 Fax: 44 71 493 1974
Hitachi Europe Ltd	Trafalgar House, Chalkhill Road, London W6 Tel: 44 81 748 2001 Fax: 44 81 741 5366
Merlin Gerin	2 chemin des Sources, F-38240 Meylan, France 33 76 76 57 60 60
Elin	1140, Viena, Papenzinger Strasse 76, Austria Tel: 43 222 891000 Fax: 43 222 8946046
Hawker Sidderley	18 St James Square, London SW1Y 4LJ Tel: 44 71 930 6177 Fax: 44 71 627 7767