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The Shipbuilding and Ship Repair Sectors in the candidate countries: Poland, Estonia, the Czech Republic, Hungary and Slovenia

Final Report

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Sources

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Abbreviations

AWES	- The Association of European Shipbuilders and Shiprepairers
BSR	- The Baltic Ship Repairers
CENTROMOR	- Polish maritime ship import-export company
CGT	- Compensated Gross Tonnage
COREDES	- The Committee for Research and Development of European Shipbuilding
CSPLO	- The Czechoslovak Elbe Oder Navigation National Company
CSPL	- Ceskoslovenska Plavba Labska Ltd.
CTO	- Centrum Techniki Okrętowej (The Ship Design and Research Center)
DWT	- Dead-weight Tonnage
EMF	- European Metalworkers' Federation
GL	- German Lloyd
GT	- Gross Tonnage
KSF	- Key Success Factors
LPG (liquid gas), LNG (liquid natural gas) carriers	- types of ships
TEU	- Twenty Feet Equivalent Unit
PCBC	- Polskie Centrum Badań i Certyfikacji (Center of Research & Certification)
PPS	- Purchasing Power Standard
ro-ro	- roll-on-roll-off - type of ship

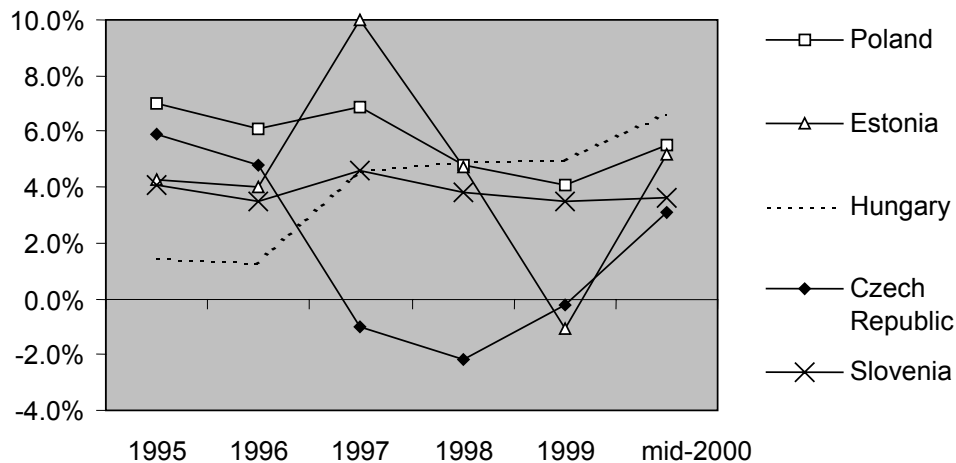
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1. EXECUTIVE SUMMARY

1.1 Macroeconomic overview

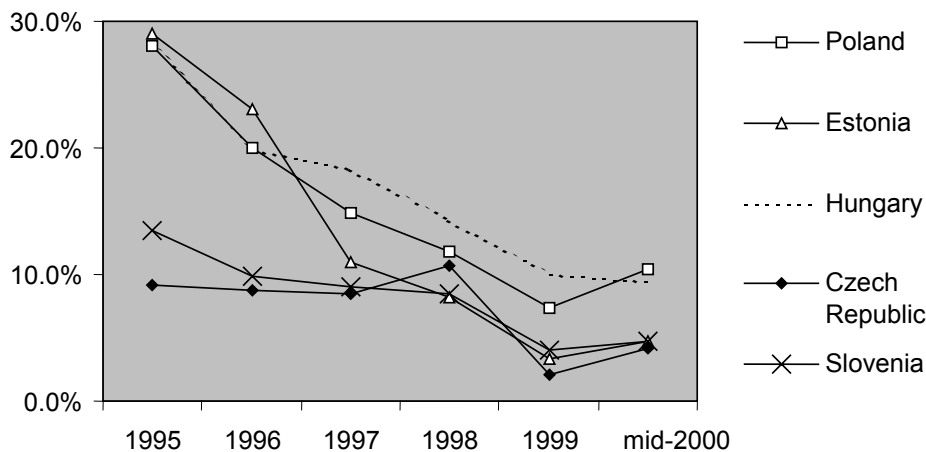
The shipyard sector in all the five countries covered by the study enjoys a stable macroeconomic environment. All the countries are functioning market economies. Poland, Hungary and Slovenia are currently relatively fast-growing economies, while growth in Estonia and the Czech Republic is slower due to either internal or external economic problems.

Graph 1 GDP growth rate in 5 CEE countries



After differing experiences, inflation is under control in all the five countries covered by the study. In Poland, Estonia and Hungary, the CPI inflation rate fell constantly between 1995 and 1999. In Slovenia and Czech Republic the inflation rate was around 10% between 1995 and 1998, falling to 2-3% in 1999. In 2000, all the countries experienced some increase in the inflationary pressure, mainly due to high oil prices and the strong dollar. However, inflation remains under control.

Graph 2 CPI inflation rate in 5 CEE countries



Despite some uncertainties, considering the excessive current account deficits in some of the countries covered by the study (Poland and Estonia), all the 5 countries have full access to the international capital markets and enjoy a generally positive assessment of their international investment credibility.

According to various sources, all the 5 countries have solid macroeconomic fundamentals.

In all the countries, the shipbuilding industry experienced, as did the rest of the economy, a sharp recession after the collapse of the COMECON in 1990-91. This effect was magnified in Slovenia by the break-up of Yugoslavia, and in Estonia by the break-up of the USSR. Output, productivity and employment dropped. However, after considerable restructuring (in Poland, Estonia and Slovenia) and drastic downsizing of the industry (Czech Republic, Hungary), productivity increased and output either stabilised or started to increase. In the cases of Poland and Estonia, downsizing of the sector was avoided mainly due to finding new customers on the world market.

1.2 General characteristics of the industry

During preparation of the study on the shipbuilding and ship repairing industry in the five candidate countries, 35 shipyards in operation were identified. Out of those, 10 are predominantly newbuilding shipyards, 17 are mainly repairing and 8 are mixed shipyards. Ca.75% of all these yards were in Poland.

Table 1 Shipyards by type of activities

Shipyards focused on:	Poland	Estonia	Hungary	Slovenia	Czech Republic	TOTAL
Newbuilding only	9	0	0	0	1	10
Mixed	13	2	0	0	2	17
Repair only	4	0	3	1	0	8
TOTAL	26	2	3	1	3	35

Source: National statistics

Since the beginning of the 90's, a downward trend has been observed in the number of employees in the shipbuilding and ship repairing industry. At present, all the shipyards together employ about 33 200 people, but approximately 90% of them are employed by Polish shipyards. The largest number of employees is observed in the shipyards that are focused on newbuilding (63,2%), while in the mixed shipyards - 33,1%, and in the exclusively repairing shipyards - ca. 3,7%.

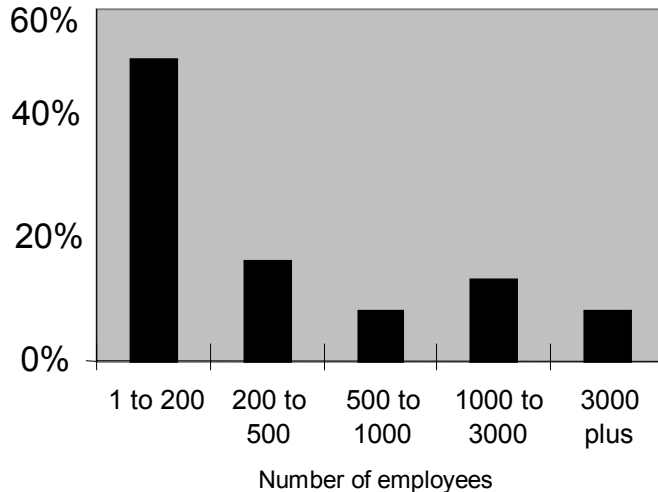
Table 2 Employed in shipyards by type of activities

Shipyards focused on:	Poland	Estonia	Hungary	Slovenia	Czech Republic	TOTAL
Newbuilding only	20 850	0	0	0	120	20 970
Mixed	7 990	2 700	0	0	320	11 010
Repair only	770	0	255	200	0	1 225
TOTAL	29 610	2 700	255	200	440	33 205

Source: National statistics

At present, ca. 90 000 workers are employed in all the EU shipyards. The employment in the five candidate countries makes for about 37% of that number (33% in Poland alone). Half of all the studied yards employ less than 200 workers. Only 3 yards employ more than 3000 people.

Graph 3 Distribution of shipyards by size of employment



In most EU countries, the shipbuilding sector is characterised by one or two major players and a number of small and medium-sized shipyards. Currently, the average shipyard has ca. 500 employees. The vast majority of shipyards (182) employ less than 1000 workers. Only 17 shipyards employ between 1000 and 2000 people and 28 major shipyards employ ca. 64 000 workers (EMF Report).

Two-thirds of all the studied shipyards are focused on sea activity (located in Poland, Estonia and Slovenia).

The role of the shipbuilding sector in the national economy is relatively important only in Poland and Estonia. The Polish shipbuilding sector represents 1.5% of the employment in manufacturing, and 4% in exports. In Estonia, the numbers are respectively 1.9% and 2%.

In the other three countries, the economic role of the sector is marginal: in the Czech Republic, Hungary and Slovenia the shares of the sector in manufacturing employment, as well as in exports, is below 0.1%.

Poland is the only country with a significant share in the world and European markets. By the end of 1999, Polish newbuilding shipyards had a 2,4% share in the total world ship production and the Polish share in the ship production in AWES countries was 7,5% in respect to the number of ships constructed and 10,2% as regards cgt. By the end of 1998, container and semi-container ships manufactured in Polish shipyards accounted for 29,2% of the overall number of all such ships built in AWES countries.

As far as ship repair is concerned 14% of all European ship repair works is carried out in Poland, 50% of which in the Gdańsk Repair Shipyard.

The share of the remaining four countries in the European and global markets is very small.

The following table presents the situation of Polish shipyards compared with the leading European shipyards in regard to ship production output and orders portfolio, as of 31.12.1999.

At the end of 1999, Poland was in fifth position among AWES countries with respect to production output measured in cgt and in third position when measured in gt. Furthermore, the size of the orders portfolio confirms the key role of Poland in the shipbuilding industry in AWES countries.

Table 3 Output and portfolio of orders for yards in selected European countries, 1999

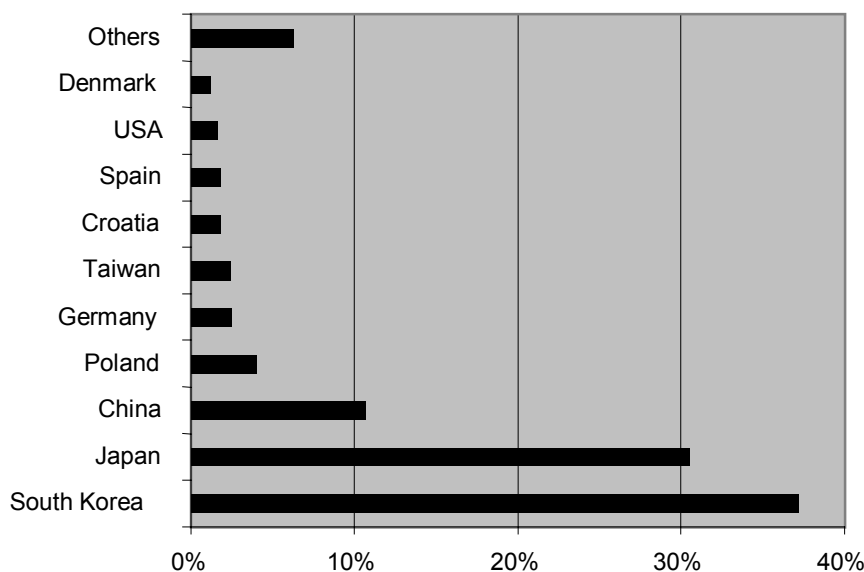
Country	Output				
	Nr. of ships	GT	CGT	DWT	Value (billion)
Germany	67	804154	866578	761222	2,090 USD
Italy	50	755826	776655	533191	2,586 USD
Holland	128	362050	600590	-	1,174 USD
Norway	71	234461	464070	-	1,575 USD
POLAND	34	615312	456561	742086	0,862 USD
Denmark	14	523970	371514	627630	0,756 USD
Spain	45	415016	348986	552998	0,942 USD
Finland	6	230100	280040	47400	0,841 USD
France	26	158663	248087	58549	0,784 USD
	Portfolio of orders				
Germany	118	2411892	2543490	1586415	7,575 USD
Italy	56	1711070	1909105	319870	6,044 USD
France	41	901803	1229483	112300	3,591 USD
POLAND	68	1325149	1080531	1613820	1,897 USD
Finland	7	662000	810000	57000	2,448 USD
Spain	86	716806	738917	742111	2,335 USD
Holland	145	385200	659610	-	1,405 USD
Norway	70	320394	540462	-	1,596 USD
Denmark	21	759315	540323	868630	0,877 USD

Source: Forum Okrętowe in Gdańsk

Poland is in fourth position in the world (4%) with respect to the size of orders portfolio (in cgt). At the end of 1999, the orders portfolio of Polish shipyards accounted for 13.2% (with regard to the number of ships) and 10.4% (in cgt) of the orders portfolio of the AWES countries.

The share of the other candidate countries in the world portfolio of orders is negligible.

Graph 4 Share in world orderbook (in CGT), March 31, 2000



Source: The Ship Design and Research Centre in Poland

Since June 2000, container ships have dominated the orders portfolio of Polish shipyards. The Estonian portfolio is dominated by tankers while the key area of specialisation of the Czech Republic shipyards is the production of river vessels and small river/sea vessels. At present, shipyards in Hungary and Slovenia do not build new ships.

Product development in the Polish shipbuilding sector will concentrate around vessels with an average level of technical complexity: chemical and product carriers, LPG and LNG carriers, ro-ro and, in the future, products for the off-shore market. Polish repair shipyards have started diversifying their production through implementation of more complicated repairs (vessel conversions, conversions and construction of seabed oil extraction equipment – offshore) and construction of small vessels. At present, Polish river shipyards are specialising in the construction of hulls and their sections.

Estonian shipyards plan to become manufacturers of ships that are not technologically complicated, i.e. mostly tankers. Hungarian shipyards are prepared to build smaller and of limited draught dry, liquid self-propelled river cargo carriers and to perform simple repairs of river vessels. The shipyard in Slovenia does not intend to change its current character of activity: simple repairs of bigger ships and conversions of all types of ships. The Czech shipyards are interested in building river/sea ships equipped for the carriage of containers and for dangerous cargo.

1.3 Effects of EU accession

Overall, we expect that accession to the EU will result in a reduction in the competitiveness of the shipbuilding industry in all the five countries. The main reason is the requirement to adjust to the *acquis* in the area of environment. Another important effect will be the increase in labour costs due to the growth of real wages and the real appreciation pressure, as well as due to the acceptance of the social chapter of the *acquis*. The third reason for the increase in production costs will be acceptance of the work safety regulations.

That would lead to an increase in investment, as well as to a permanent increase in operating costs. On the other hand, lower interest rates, easier access to financing, and lower prices of many goods and services used as inputs should mitigate the increase in costs.

The estimated increase in production costs, mainly due to the interest paid on additional debt raised for financing the investment connected with implementation of the environmental *acquis* and higher labour costs expressed in euro, may reach ca. 3-4% in Poland, 4-7% in Estonia, and from 2 to 4% in the other three countries. However, this effect will be spread over time.

1.4 Present and future competitive advantage – views of the industry

Strategic advantage in the global shipbuilding and ship repairing industry is determined by:

- production costs, including labour costs,
- work productivity,
- innovation.

1.Prices of products and services: No direct assessment can be made, since the shipyards do not reveal the conditions under which the contracts with foreign and domestic shipowners are reached. In all the analysed countries, shipyards estimated that they offer lower prices compared to EU manufacturers.

2. Co-operation chains: Material costs are systematically increasing. The trend of increasing production costs and decreasing competitiveness of the studied industry in the candidate countries is being observed. In Poland, it is estimated that if the local suppliers (subsidiaries of yards) are able to find their place in the proposed capital groups, the imports of components could stabilise at the level of 10-15% (presently 25%). Efficient logistics and co-operative systems could significantly contribute to the lowering of production costs. The shipyards in Estonia favour co-operation with national contractors (in 1999 import of material procurement supplies was 10%). The demand of shipyards in the remaining countries is mainly covered by their domestic suppliers. Global comparisons of production costs in the shipyards show a high level of costs in European countries. In the case of Poland, the country has still got a considerable competitive advantage compared to Western European producers.

Table 4 Production costs in shipyards (1997, world average = 100)

Country	Index
China	50
USA	155
Western Europe	140
Japan	150
South Korea	110
Scandinavia	142
Southern Europe	130
Black Sea / Balkan countries	115
South-Eastern Asia	77
UK	138
Middle East	97
Eastern Europe (Poland)	115

Source: Drewry Shipping Consultants Ltd.

3. Customer base: In Poland, the share of sales to the local market has been systematically decreasing since 1990. Polish shipowners are not placing new orders in Polish shipyards due to high interest rates in local banks and high VAT and duties for imported materials and equipment. At present, 95% of the newbuilding shipyards' production is designated for export, 80% of which is for the European Union. In the case of the repair shipyards, around 80% of their production is exported, with 60% going to the European Union and Norway.

Estonian shipyards export ships and repair services to more than 40 countries, mainly to Denmark, USA, Finland, Holland and Norway.

Export production was not a significant part of the Hungarian shipbuilding and ship repairing industry in the last 3 years. In Slovenian shipyards, foreign customers play the key role. The Czech shipyards build ships mainly for German and Dutch naval companies, as well as for domestic shipowners.

4. Access to financing: In the 1990s, Polish shipyards made use of the services offered by local and foreign banks (loans, bank guarantees) and their main destination was the financing of production for export and of investment activities. Pre-payments for export sales were used as well. Bank loans were collateralised by mortgage entry, transfer of ownership for security, cession of the policy or cession of income.

At present, Estonian shipyards do not have any problems with financing their shipbuilding and ship repairing activity. The most common way of securing a bank loan is to obtain the state budget guarantee for credit repayment.

The Hungarian shipyards do have problems with financing their shipbuilding and ship repairing activity. It is fairly difficult for them to obtain short or long – term bank loans. The most common

way of collateralising bank credit is to obtain a state budget guarantee for the credit repayment. Due to high financing costs, it is very difficult to obtain bank guarantees for credit repayment.

The shipyards in Slovenia and in the Czech Republic employ the same financial instruments that are available to other domestic enterprises, mainly loans in local banks.

For all the shipyards studied, the biggest problem with financing their activity is a relatively high level of interest rates, as compared to the profitability of the shipbuilding and ship repairing industry.

5. Labour costs and productivity. Labour costs can be estimated by comparing the hourly wages of workers in shipyards in the different countries. According to Drewry Shipping Consultants Ltd. in 1996, the highest rates were offered by German shipyards – 32 €/h and by French shipyards – 31 €/h. The workers in Japanese, Dutch and Finnish shipyards also received more than 22 €/h. Italian and American shipyards retained the level of about 23 €/h. Much lower hourly labour costs were in South Korea and Croatia – 12 €/h, and in Greece – 14 €/h. At that time, labour costs in Poland were estimated at the level of 6 €/h. In the years 1995-1998, the average share of labour costs in total costs in Polish shipyards was in the range of 15 to 30% (in EU shipyards about 30%).

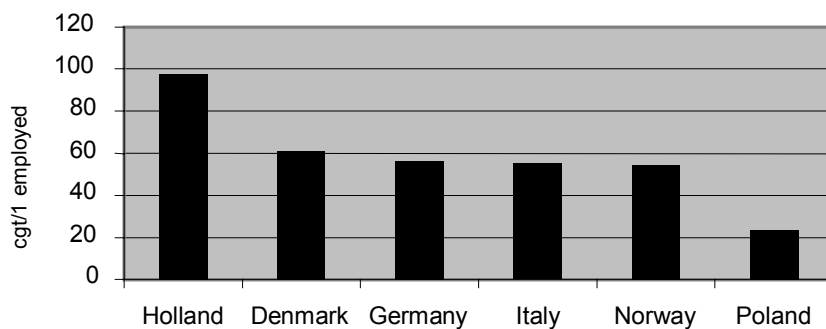
In 1999, labour costs in Estonian shipyards was 2 €/h.

The labour costs, measured in euro per hour in 1999, was over 4 €/h in Hungary, ca.5 €/h in the Czech Republic and ca. 9 €/h in Slovenia.

Due to the low labour costs, the shipyards in the studied countries still have a significant cost advantage, not only over the competing yards in the EU, but also over leading manufacturers in Japan and South Korea.

Work productivity in shipbuilding yards is primarily estimated by dividing the production output expressed in cgt by the number of employees. In the European shipbuilding industry, that index is very diverse.

Graph 5 Work productivity in 1996 in various countries

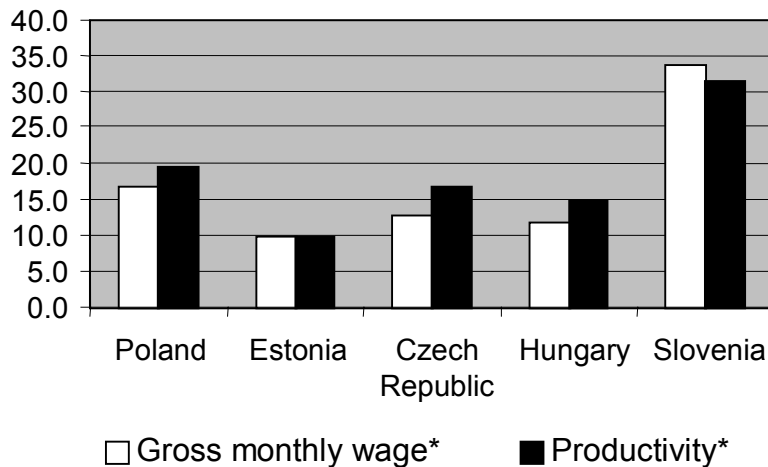


Source: J. Bielinski Report

In 1998, work productivity in Polish yards was already 27 cgt/employee. Although Polish shipyards are dynamically improving their work productivity, they are still well behind the leading ship manufacturers in Europe.

The general comparison of the wage levels and productivity (measured by gross output per employee) in the shipbuilding sectors of the five candidate countries compared to Germany is shown by the graph. The data relates to the year 1998.

Graph 6 Wage and productivity levels compared to Germany (1998 data, Germany=100)



* Data relates to the NACE category 'Other transport equipment'

Source: Own calculations

The comparison of work productivity is hindered by the different concepts of work organisation, the number of workers employed directly and indirectly (companies, subcontractors) and varying annual working time. There are considerable differences among the European shipyards as far as working time is concerned. The annual working time of shipbuilders ranges from 1500 to 2000 hours. Finland (1550 hours) and Germany (1586 hours) are at the low end in average annual working time, while the Netherlands and Greece have the highest levels (EMF Report). In 1998, the annual working time in Polish shipyards was cut to approximately 1822 hours.

6. Quality of products and services – R&D: All the studied shipyards declared their interest in Research and Development in the shipbuilding industry. However, at present, they are not innovative. It does not stem from an under-estimation of the problem, but from a constant lack of resources to perform tasks associated with the design and construction of vessels. The shipyards are pre-occupied with solving current production and financial problems rather than with innovation activities. The Polish shipbuilding sector matches the European leaders in terms of the value of sales, technical efficiency and quality of workmanship, but not in the area of technological breakthrough and establishment of new trends in building new types and unique ships.

7. Environmental protection: There are no actions underway for the acceptance or introduction of a complete system for environmental management, except for one Polish shipyard. In 1999, Szczecin Shipyard was the first yard in Europe to obtain a GL and PCBC certificate concerning an integrated quality management system, which embraces a quality management system consisting of the standards of the ISO 9001 series, the environmental management system – ISO 14001 and the safety and labour safety system – BS 8800/OHSAS 1800.

8. Production capacity: Total newbuilding capacity in the five countries is estimated at about 900 000 cgt, 88% of which falls to Poland. Since 1995, ship production remains at a level close to 500 000 cgt. This value is approximately 40% lower than the current estimated production capacity.

9. Structure and strategies of the industry: Polish shipyards are independent companies, acting in the world market individually. At present, capital groups are formed around the Szczecin Shipyard, Gdynia Shipyard and Gdańsk Repair Shipyard. The group of smaller river shipyards was started by CENTROMOR – the former maritime ship import-export centre. One chance for the development might be to form strategic alliances between the Szczecin and Gdynia capital groups and between the capital groups and the Ship Design and Research Centre in Gdańsk.

Baltic Ship Repair yard from Estonia exists as an individual entity on the global market, whereas Loksa Shipyard is a part of the Odense Yard Group from Denmark.

In Hungary and in the Czech Republic, the biggest domestic shipping companies are the owners of existing shipbuilding and ship repairing yards. Those yards are mainly involved in building and repairing ships of their own fleet. The Slovenian shipyard is an independent company, acting in the world market individually.

10. State policy towards the industry: The processes of privatisation and restructuring of the Polish shipbuilding and ship repair industry began in the early 90's, but only since October 1995 has the Polish Government accepted two draft documents regulating the two processes. According to the management staff, the overall evaluation of the project's implementation is not satisfactory. In 1998, all main Polish shipyards were private partnerships with various structures of ownership. River shipyards were already privatised as well. Only the repair shipyards are still state-owned firms.

In the Czech Republic, in 1992, the national enterprise Czechoslovak Elbe Oder Navigation National Company (CSPLO) was transformed into The Czechoslovak Elbe Navigation Company Ltd., located in Decin. Currently, all shipyards (with Ceske Lodenice) are private companies. The Governments of Estonia, Hungary and Slovenia have not formulated any special privatisation or restructuring programmes for the shipbuilding and ship repairing industry.

There is no special governmental support in the form of open subsidies for the shipbuilding industry in the studied countries.

1.5 Conclusions: ability to withstand competitive pressure

SWOT Analysis

The conclusions are based on the SWOT analysis. The SWOT analysis includes investigation of four issues

Opportunities - events and processes occurring in the macro environment and in the competitive environment that create favourable conditions for the operation and development of the domestic shipbuilding and ship repairing sector companies;

Threats - factors and events occurring in the macro environment and in the competitive environment that create unfavourable conditions for the operation and development of the domestic shipbuilding and ship repairing sector companies;

Strengths - the unique resources, skills or other properties in the fields of marketing, finance, human resources, technology and manufacturing, as well as in the organisation and management, that distinguish the domestic shipbuilding and ship repairing sector;

Weaknesses - all those aspects of the functioning of the domestic shipbuilding and ship repairing sector in the fields of marketing, finance, human resources, technology and manufacture, as well as in the organisation and management, that limit its efficiency or impede its development.

Key **opportunities** in the 5 candidate countries generally include stable macroeconomic environment, free trade with the EU, and high level of the labour cost competitiveness. Key **threats** are connected with the possible fast growth of wages and the real appreciation of currencies after the accession, and – in the case of Poland, the only big supplier to the world market – threat created by aggressive market strategies of several countries (e.g. South Korea). Key **strengths** are the cost competitiveness and the qualified staff, and in the case of Poland high share in the global market. Key **weaknesses** generally include obsolete capital assets, insufficient R&D, and lack of appropriate environmental strategy.

The results of the SWOT analysis for each country are presented in the country chapters.

GENERAL CONCLUSIONS

POLAND

The Polish sub-sector of building new sea vessels: the sector is almost fully export-oriented and linked to the world market. Therefore, there should be no significant problems with meeting the quality requirements and dealing with the competition. The costs connected with the implementation of the acquis, and the additional cost pressure associated with the accession (e.g. real currency appreciation) may lead to an increase in production costs of 3-4%, spread over time. Given the proven adjustment abilities of the sector, these costs should be relatively easily accommodated. However, the path of investment should be accelerated.

The Polish sub-sector of repair yards: given the high level of export-orientation and the effort to improve the quality and the range of services, the sector should be able to cope with the competition. The competitive position will be slightly hurt by the growing labour costs (in euro).

The Polish sub-sector of river yards: a serious danger exists that, due to the late (as yet unfinished) privatisation, the sector may have significant problems in withstanding the competitive pressure after the accession. On the other hand, this sub-sector plays a minor role in the Polish shipbuilding industry.

ESTONIA

The Estonian activity of building new sea vessels: the sector is almost fully export-oriented and linked to the world market. However, the production is limited to relatively simple ships, and – to a large degree – based on price competitiveness (low wages). Given the expected increase in labour costs, the activity of building new ships may become less profitable and dealing with the competition more difficult. The costs connected with the implementation of the acquis, and the additional cost pressure associated with the accession (e.g. real currency appreciation due to the currency board exchange rate policy) may lead to an increase in production costs of 4-7%, spread over time. These costs could be accommodated only if the path of investment is seriously accelerated.

The Estonian activity of repair yards: given the high level of export-orientation and the effort to improve the quality and the range of services, the sector should be able to cope with the competition. However, the competitive position will be hurt by the growing labour costs (in euro).

HUNGARY

The Hungarian sector is very small and still enjoying a quasi-monopoly position in the market niche. Assets are obsolete and privatisation and restructuring delayed. The sector may have serious trouble in finding a production niche after the EU accession and elimination of its privileged market position.

CZECH REPUBLIC

The Czech sector is very small, but specialized in delivering good quality ships. The sector could be able to find a production niche provided there is a significant improvement in the assets, technology and management.

The costs connected with the implementation of the acquis, and the additional cost pressure associated with the accession (e.g. real currency appreciation) may lead to an increase in production costs of 1-2%, spread over time. These costs could be easily accommodated.

SLOVENIA

The Slovenian sector is very small and searching for its market niche on a local market. The sector may have serious trouble in adjusting to a more competitive environment after the EU accession.

2

2. OVERVIEW OF THE STUDY

2.1 Geographical coverage

The study on the shipbuilding and repair sector covers five candidate countries.

The countries included in the study are shown on the map below. Three countries have access to the sea (Poland, Estonia, Slovenia), and two others (Czech Republic and Hungary) have access to important inland waterways.

Graph 7 Countries covered by the study



2.2 Areas of interest

The purpose of the study was to provide the Commission with a set of qualitative and quantitative information about the shipbuilding and repair sectors in the candidate countries, analysing whether they would be able to cope with the competitive pressure of full EU membership at the time of accession.

According to its terms of reference, the report includes results of research carried out in the candidate countries and at selected shipyards. The following areas of interest were analysed:

PERFORMANCE

Output/production capacity in cgt
Order book/new orders by type of vessel
Employment (number of employees, % of total industry)
Main companies (turnover, capacity and employment)
Ownership structure (including % private/state, % domestic/FDI)
Product range (types of vessel)
Age of equipment and type of equipment
Level of R&D
Share/importance for national economy
Regional concentration of industry (shown on maps)

ACQUIS

Estimated effects of the implementation of the EU legislation, including the environmental legislation, on the future competitiveness of the sector

MICRO LEVEL COMPETITIVENESS

How far has the restructuring process proceeded (privatisation, employment, level of investments, foreign involvement, FDI analysis)
Profitability
Production costs compared to EU-average
Productivity compared to EU-average
Information about 'vulnerable' ('to competitive pressures') segments of the industry (by sub-sectors and regions)

TRADE AND INVESTMENT

% of production that is exported (by product, finished or semi-finished)
% of imports on domestic market (by sub-sectors)
Exports/imports to the EU
FDI analysis (structure and trends)
Sources of funding (state guarantees and subsidies)
Ship prices compared to international market prices

2.3 Data coverage and sources

GENERAL DATA ON THE INDUSTRY

General data was collected from the statistical offices of the candidate countries and other national sources. Unless otherwise indicated, it refers to the NACE category: Building and repairing of ships. Some inconsistencies may exist between the general data and the data based on the information from the shipyards. The macroeconomic data was also taken from the EBRD and IMF publications.

DETAILED INFORMATION ABOUT SHIPYARDS:

POLAND

Statistical analysis of the Polish shipbuilding industry concerns those yards which are able to build sea-going vessels of at least 100 GT. Repair shipyards' characteristics are varied due to the ongoing process of making essential privatisation decisions and also the managing staff not being willing to reveal detailed data. On the other hand, information concerning river shipyards has, to a large degree, a qualitative character since no statistical centre collects quantitative data, and the shipyards themselves are unwilling to share even the most basic information.

ESTONIA

The majority of the data included in the report refers only to the Baltic Ship Repairers Yard. The Loksa Shipyard JSC is a part of the Odense Yard Group and detailed data concerning it is not available.

HUNGARY, CZECH REPUBLIC, SLOVENIA

The majority of data was obtained directly from the shipyards

ADDITIONAL DATA SEARCH

Additionally, the data search included:

- 1) Analysis of materials published by reference trade centres and available databases
- 2) Meetings, participation in conferences and interviews with experts on shipbuilding and ship-repairing issues
- 3) Survey visits and interviews with managing personnel from selected shipyards that play a key role in the national shipbuilding and ship-repairing industry

2.4 Structure of the study

The study contains the general overview, and five country chapters. The characteristics of the shipbuilding and ship repairing industry in each country are grouped into five sections:

- 1. Macroeconomic overview**
 - General macroeconomic framework
 - Macroeconomic performance of the country
 - Situation of the shipbuilding industry
 - Role of the industry in the national economy
- 2. General characteristics of the industry**
 - Shipyard numbers and types
 - Regional concentration of the industry
 - Production capacities and output
 - Product specialisation
 - Employment in the industry
 - Profitability of the industry
- 3. Effects of EU accession**
 - Effects of the acceptance of the acquis
 - Impact on competitiveness
- 4. Present and future competitive advantage – views of the industry**
 - Prices of products and services
 - Co-operation chains

- Customer Base
- Access to financing
- Labour cost
- Quality of product and service - R&D
- Environmental protection
- Production capacities
- Structure and strategies of the industry
- State policy towards the industry

5. Conclusions: ability to withstand competitive pressure

- SWOT analysis
- General conclusions

The actual list of areas discussed in part 4 (views of the industry) is subject to the willingness of the industry to share its opinions with the team preparing the study.

Annex

The report also includes an annex containing individual detailed data on the biggest shipyards.

The data has been grouped into seven blocks:

1. Employment - figures concern only shipbuilding or repair activities; staff in other activities and sub-contractors are shown separately
2. Ownership - information about the ownership structure of the company or the advancement of the privatisation process
3. Production range - description of the main areas of activity
4. Performance measures - financial figures concerning the structure of sales, volume of production, turnover, profit and capital values (shown only for those yards that made this data available)
5. KSF (Key Success Factor) analysis - analysis of the enterprise's strengths and weaknesses by means of a list of key factors created for the global shipbuilding and repair industry. This method makes it possible to carry out a comparative analysis of the industry in various countries as well as characteristics of individual shipyards. To each factor from the list there is assigned a weight and evaluation on the following scale:
 - Weight - significance of given standard in the industry: 1- least important, 2 – average importance, 3- very important.
 - Evaluation - weak and strong sides of analysed company: 1, 2 – weak side; 3 – on average level; 4, 5 – strong side.

This method has been used only for the shipyards that have been visited.

6. Production facilities and capacity - docks and slipways size, number of production halls, main cranes, berths and estimated production capacity by experts from Ship Design and Research Centre (sea-orientated yards) and Centromor (river-oriented yards)
7. Additional points - present and future direction of the yard's development, main customers, last investments, major problems and constraints.

Maps have been included in order to illustrate the geographical distribution of the industry. Boundaries shown on these maps are intended to be indicative only and not a precise rendering of national territories.

3

3. POLAND

3.1 Macroeconomic overview

GENERAL ECONOMIC SITUATION

- The general economic situation of Poland improved considerably during the 1990s. The economy stabilized, with the inflation rate falling to ca.10% (mid-2000), and GDP growth resumed in 1992
- The economy was liberalised: in 1990 the general liberalization took place, followed during the 1990s by the reduction of tariffs due to the Europe Agreement and WTO
- The growing inflow of the FDI, notably after 1994, resulted in a significant strengthening (in real terms) of the currency. That, in turn, led to the appearance of the current account deficit of over 7% of GDP in 1999
- Lack of an adequate fiscal adjustment resulted in high level of both nominal and real interest rates, pushing firms towards foreign financing
- Albeit the path of privatisation is considered too slow, by the year 1999 ca.75% of GDP was being produced by the private sector. In some areas, however, the state-owned enterprises were able to defend themselves against privatisation and restructuring, obtaining state subsidies against the EU rules
- A significant reduction in excess employment in the economy, combined with an inflexible labour market, led to the high level of unemployment of ca.13%

Table 5 POLAND: selected macroeconomic indicators

	1992	1993	1994	1995	1996	1997	1998	1999	mid-2000
Population (millions)	38.4	38.5	38.6	38.6	38.6	38.7	38.7	38.7	
GDP in Złoty (billions)	114.9	155.8	210.4	308.0	388.0	472.0	554.0	617.0	
GDP in EUR (billions)	65.2	73.4	78.1	97.1	113.2	127.1	141.3	146.2	
GDP p.c. in EUR	1697	1907	2022	2517	2934	3284	3652	3778	
GDP p.c. in EUR (at PPS)				5600	6200	6900	7300	7800	
GDP growth rate	2.6%	3.8%	5.2%	7.0%	6.1%	6.9%	4.8%	4.1%	5.5%
CPI inflation	43%	35%	32%	28%	20%	14.9%	11.8%	7.3%	10.4%
Exchange rate EUR (average)	1.76	2.12	2.70	3.17	3.43	3.71	3.92	4.22	3.94
Unemployment rate	14.3%	16.4%	16.0%	14.9%	13.2%	10.3%	10.4%	13.0%	13.5%
Gross wage in Złoty	300	394	524	691	874	1066	1232	1707*	1870*
growth rate in %		31%	33%	32%	26%	22%	16%	11%	13%
Gross wage - in EUR	170	186	195	218	255	287	314	405*	475*
growth rate in %		9%	5%	12%	17%	13%	10%	3%	12%

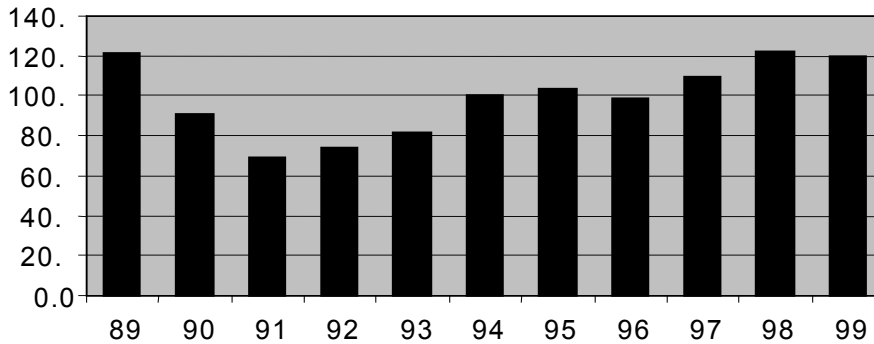
* Not comparable with previous numbers (grossed up since 1999 due to the social security reform)

Sources: Statistical Office of Poland, IMF, Eurostat, EBRD

SITUATION OF THE SHIPBUILDING INDUSTRY

The shipbuilding industry experienced, as did the rest of the economy, a sharp recession after the collapse of the COMECON in 1990-91. Output, productivity and employment all dropped.

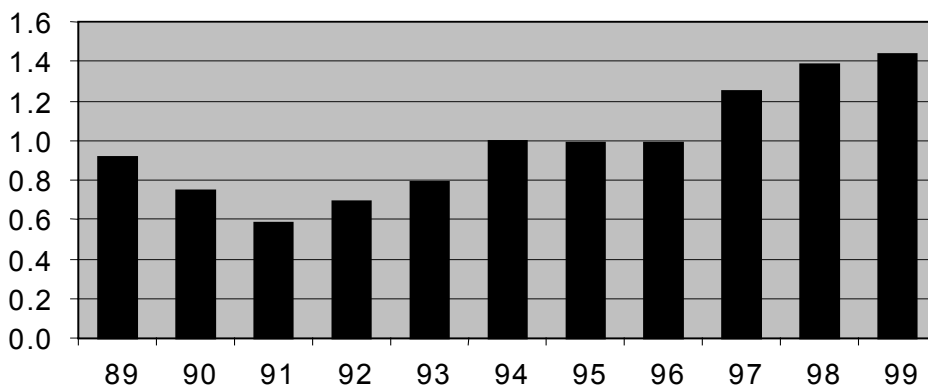
Graph 8 Poland: output of the shipbuilding industry in value terms, constant prices, 1989-99 (level from 1994=100)



Source: national sources

- Since 1992, the recovery has started. However, as the general economic recovery did not embrace Polish maritime transport, the growth of the industry's sales was mainly due to the fluctuating export demand
- The industry responded to the difficult situation by quickly reducing excess employment and restructuring production. After an initial drop, real productivity increased between 1989 and mid-1990s by 10%, and in the period 1997-99 by almost 45%

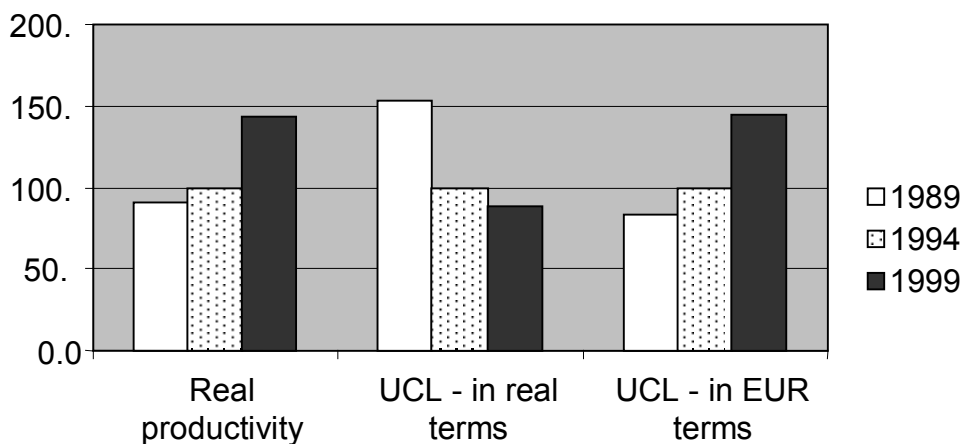
Graph 9 Poland: real productivity of the shipbuilding industry in value terms, 1989-99 (level from 1994=1)



Source: national sources

- Significant differences appeared in the situation of the shipyards. Quickly-privatised yards (mainly due to the debt-for-equity type of arrangements) did restructure, increasing their order book, and improving their financial results. Restructuring was slow in the Gdańsk Shipyard, partly due to the special role played by this company in Polish politics as the home of the Solidarność trade union. As a result, the Gdańsk Shipyard was declared bankrupt and bought out by local competitors
- A serious challenge for the shipbuilding industry is the fact that the sales for the industry depend mainly on the export demand, while several important parameters – like the wage level and the exchange rate level – are basically determined by the macroeconomic conditions of the country. As a result of the strengthening of the currency, the wage in the shipbuilding industry, expressed in euro terms, increased from €200 in 1989 and €155 in 1990 to €300 by the mid-1990s and to €560 in 1999, ca. 15% of the wage in the shipbuilding industry in Germany
- The increase in the unit labour costs (UCL) was slowed down by the fast productivity growth and a relatively slow increase in real wages (slowed down by the labour market situation). As a result, the UCL expressed in real terms (real Złoty) decreased by 35% between 1989 and the mid-1990s, and by a further 12% between 1994 and 1999. However, the UCL expressed in euro terms – the most important one for international competitiveness – increased by 20% between 1989 and 1994 and by 45% between 1994 and 1999
- The obvious loss of wage competitiveness was compensated for by the improved management, quality improvement, and better marketing

Graph 10 Poland: growth of unit labour costs in shipbuilding 1989-99 (level from 1994=100)



Source: own calculations

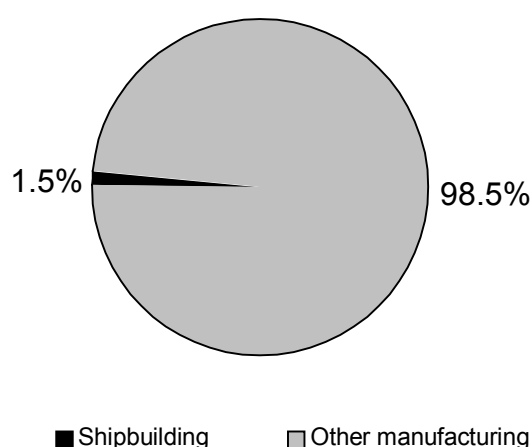
CURRENT ROLE OF THE SHIPBUILDING INDUSTRY IN THE NATIONAL ECONOMY

Table 6 Poland – the role of the shipbuilding industry in the economy

	Year	Value	Remarks
Share in manufacturing employment	1999	1.5%	
Share in the total employment	1999	0.3%	
Highest share in employment (NUTS2 region)	1998	4.6%	Pomorskie (Gdańsk/Gdynia)
Share in industrial output	1998	1.3%	
Share in exports	1999	3.9%	Only exports of goods
EU share in exports	1999	47.5%	

- Despite a market drop in employment, going down from over 70 000 people in the mid-1980s to 37 000 by the end of the 1990s (faster than average), the shipbuilding industry remains a very important branch of the national economy
- The industry employs ca.1.5% of the total employment in manufacturing
- The role of the industry in exports is more important: in 1999 the exports of ships reached over \$ 1 billion (almost 4% of the total exports of goods of \$ 27 billion). Almost half of the exports (\$ 490 million) went to EU countries, \$ 220 million of which went to Germany
- The regional importance of the industry is even bigger, as the major part of production is located in the Gdańsk/Gdynia and Szczecin regions. In the NUTS2 region Pomorze (which includes Gdańsk and Gdynia), the shipbuilding industry has got a share in employment of 4.5%, and in the NUTS2 region Pomorze Zachodnie (which includes Szczecin), the shipbuilding industry has got a share in employment of over 3% (in the appropriate NUTS3 units the share probably reaches almost 10%).

Graph 11 Poland: role of the shipbuilding industry in manufacturing (1999 share in employment)



3.2 General characteristics of the industry

Polish shipbuilding and ship-repair industry consists of four key companies Szczecin Shipyard, Gdynia Shipyard along with Gdańsk Shipyard (capital group), Gdańsk Repair Shipyard REMONTOWA and Gryfia Shipyard. They are located in Szczecin (West Pomeranian Region) and Tree-cities (Pomeranian Region). Reminding ones is a group of smaller companies.

Table 7 Shipyards in Poland by size of employment and type of activities

	Less than 200 employed	From 200 to 800 employed	More than 800 employed	TOTAL
Newbuilding only	4	1	4	9
Mixed yard	7	2	4	13
Repair only	3	1	0	4
TOTAL	14	4	8	26

Graph 12 Regional concentration of industry in Poland

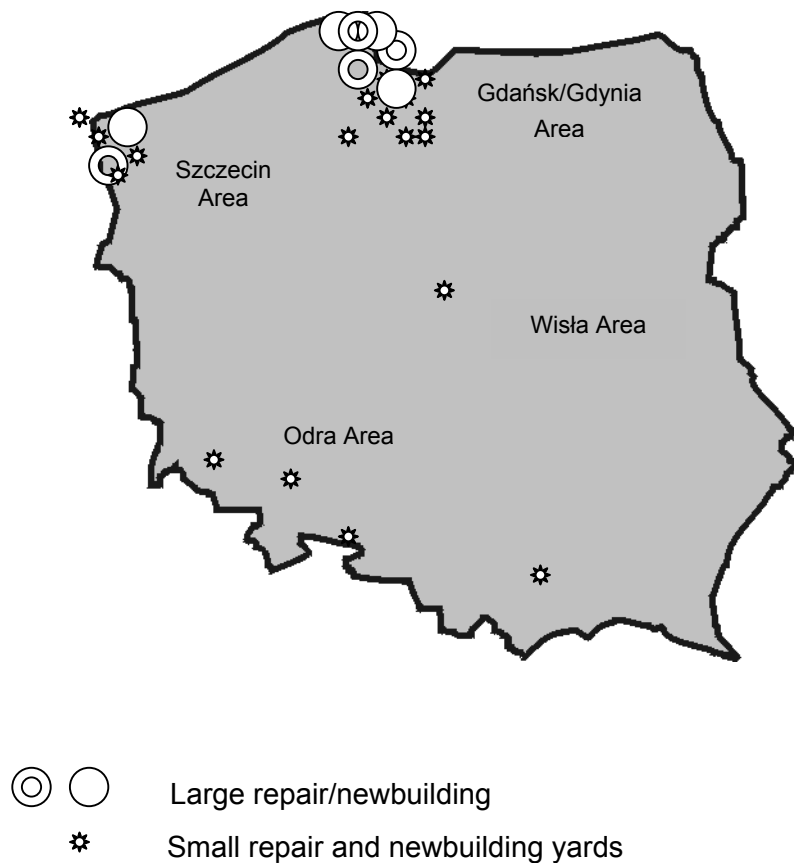


Table 8 Geographical location, employment and types of yards in Poland

Yard name	Direct employees	Orientation		Focus	
		Sea	River	Newbuilding	Repair
Gdynia	8100	X		X	
Naval	2100	X		X	X
Nauta	850	X		X	X

➔ **Gdynia Area**

Yard name	Direct employees	Orientation		Focus	
		Sea	River	Newbuilding	Repair
Gdańsk	3500	X		X	
Gdańsk REM	2500	X		X	X
Northern	1300	X		X	
Crist	60	X		X	
Cenal	80	X		X	X
Alkor	50	X			X
Baltic	80	X			X
Radunia	70	X		X	X
Wisła	150	X		X	
Alu Shipyard	50	X		X	

➔ **Gdańsk Area**

Yard name	Direct employees	Orientation		Focus	
		Sea	River	Newbuilding	Repair
Szczecin	7200	X		X	
Gryfia	1400	X		X	X
Pomerania	100	X			X
Ustka	460	X		X	
Morska	530	X			X
Porta-Odra	220	X	X	X	X

➔ **Szczecin Area**

Yard name	Direct employees	Orientation		Focus	
		Sea	River	Newbuilding	Repair
Centromost - Płock	150		X	X	X
Tczew	200		X	X	X
Elbląg	50		X	X	X
Namorol – Kraków	120		X	X	X

➔ **Wisła River Area**

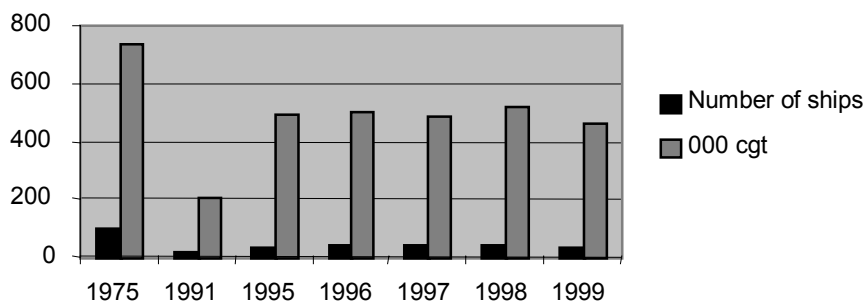
Yard name	Direct employees	Orientation		Focus	
		Sea	River	Newbuilding	Repair
Wrocław	30		X	X	
Koźle Service	200		X	X	X
Konstal - Nowa Sól	50		X	X	X

➔ **Odra River Area**

PRODUCTION

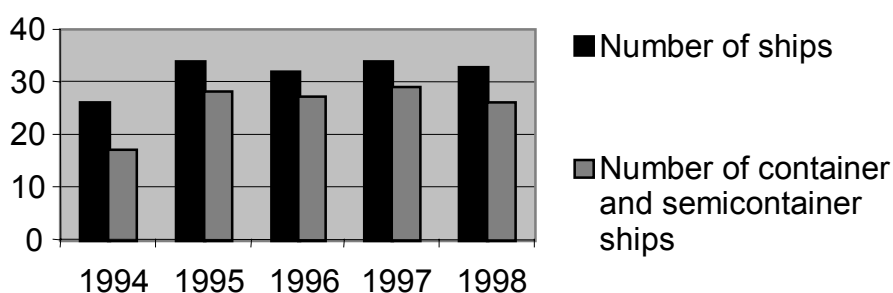
NEW SHIPS

Graph 13 Production of ships in Poland: number of ships and CGT



- Since 1995, shipbuilding has remained at a level close to 500 000 cgt. This value is approximately 27% lower than when compared to 1975, which was the period of the highest output of this industry, and approximately 40% lower than present capacities
- In 1999, when compared with 1998, production dropped by 11,6% (in cgt) due to the shipyards signing some non-attractively priced contracts, caused by the price dumping policy of South Korea
- In the year 2000, the shipyards are planning to build 40 vessels with a total tonnage of 564 000 cgt., which is an increase of 23 % compared to 1999.

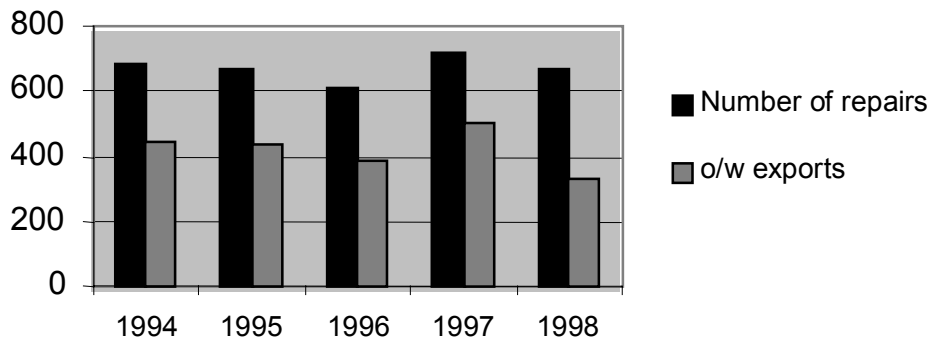
Graph 14 Production of ships in Poland: total number of ships, of which container and semi-container ships



- In the years 1995-1998, over 80% of the vessels delivered from the four biggest shipyards were container and semi-container ships
- 95% of the shipyards' production is designated for export, of which 80% goes to the European Union countries
- Further increase of vessel production is restricted by foreign competition, insufficient local demand, ageing production assets and a lack of adequate investment.

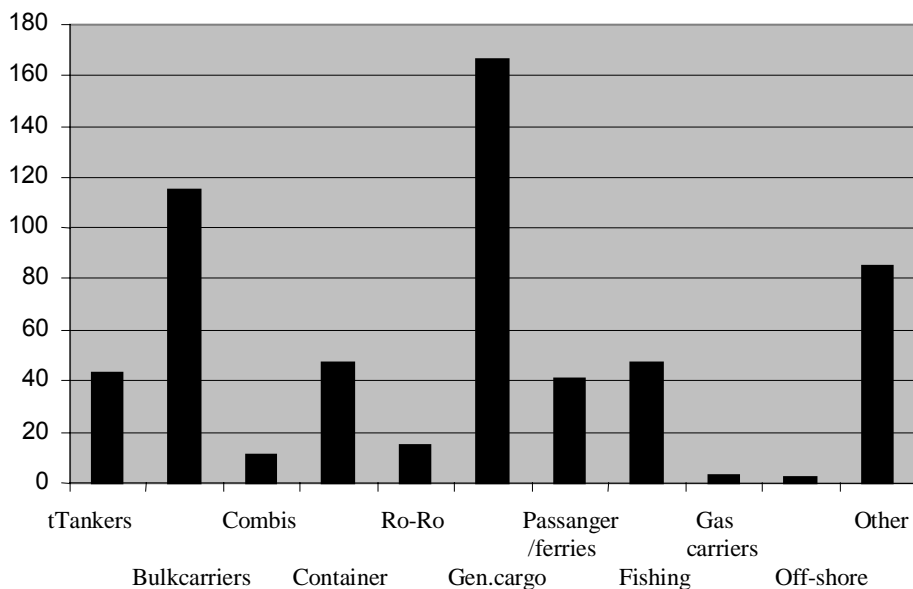
REPAIR SERVICES

Graph 15 Repairs of ships in Poland: number of ships repaired



- The volume of production of repair shipyards maintains the level of 700 repairs per year, although in 1999 this number amounted to 576, which was influenced by the unfavourable situation in the global ship repair and shipbuilding industries
- In the period 1994-1998, exports accounted for 50-70% of the total of repair services
- Repair shipyards are designating 80% of their production (repairs, conversions, new constructions) for export, 60% of this figure applies to the European Union countries and Norway

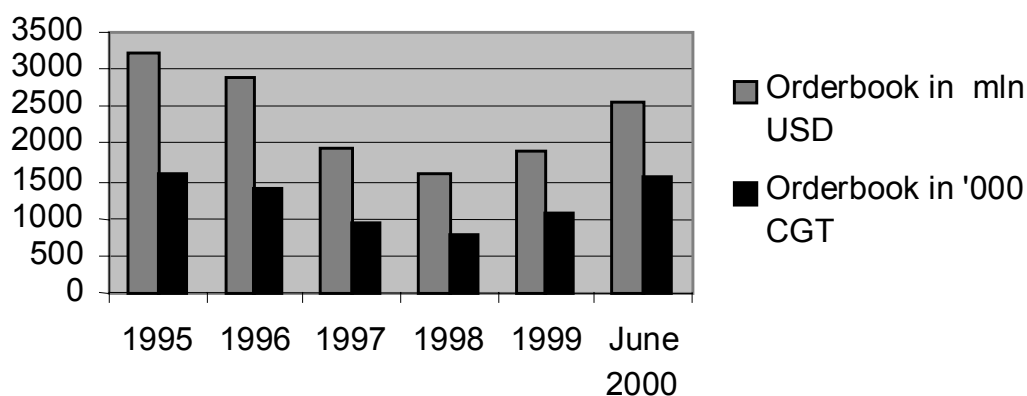
Graph 16 Ship repairs in Poland by types of ships, 1999



- In 1998, in the structure of repair services of the Polish shipyards, vessels of general cargo (29%) and bulkcarriers (20%) predominated
- The largest amount (45%) of repairs were repairs of vessels less than 5000 dwt: 20% from 5000 to 10 000 and 20% from 20 000 to 40 000 dwt
- In the structure of the production of maritime repair shipyards, 80% are repairs and conversions, 5% services and 15% ready products (in 1998 the shipyards built a total of 8 vessels – 1 school ship, 1 tug, 3 passenger/car ferries, 1 trawler and 1 research ship)
- Over 14% of all repairs and conversions carried out in Europe are being done in Poland, 50% out of which take place in Gdańsk Repair Shipyard – which means a position of 1st or 2nd place in Europe and 5th in the world in respect of the volume and total tonnage of ships repaired.

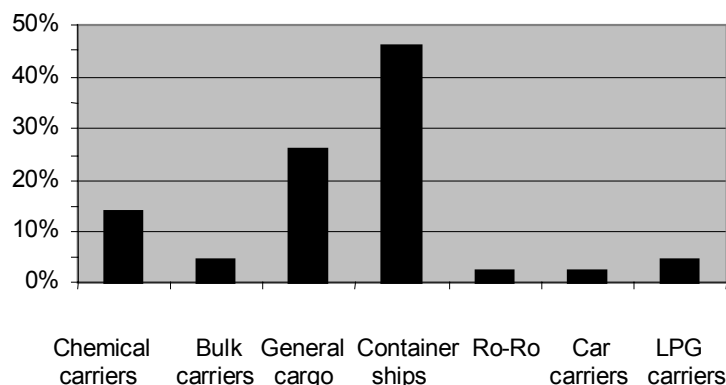
PRODUCT SPECIALISATION

Graph 17 Orderbook of Polish shipyards, 1995-2000



- The years 1995-1996 were very good for Polish shipyards with respect to the order portfolio volumes, but in 1997-98 the indications of a decline are visible, as regards both the value and tonnage (in cgt). This situation was caused on the one hand by the announcement of the bankruptcy of Gdańsk Shipyard and the discontinuance of contracting vessels, and on the other hand by the dumping policy of South Korea
- The signs of portfolio growth have been visible since 1999 and, in June 2000, the shipyards already had orders for 84 cargo vessels with a total volume of 1 570 113 cgt (2 469 120 dwt) and value exceeding 2500 million USD (all for foreign buyers)
- In March 2000, Poland had a 4% share in the world's orders for cargo vessels in respect of cgt (4th place in the world) and out of that: Szczecin Shipyard – 1,7%, Gdynia Shipyard – 2,25% and other shipyards – 0,05%

Graph 18 Structure of orders of Polish shipyards (in CGT), June 2000



- In 1995, in Polish shipyards, 27 container ships were built with a gross tonnage of around 370 000 CGT, which constitutes 75% of the total national vessel production and over 35% of the combined European production of container ships
- In the orders portfolio from June 2000, container ships pre-dominate (46%), along with general cargo ships (26%) and product and chemical carriers (14%)
- Development of the product will concentrate around vessels with an average level of technical advancement: chemical and product carriers, LPG and LNG carriers, ro-ro and, in the future, products for the off-shore market
- Presently, it is impossible to build luxury passenger vessels due to the lack of a base which would allow the equipping of the hotel sections
- The mix of repair services performed in Poland is changing in favour of complicated rebuilding and lengthening of the vessels. The shipyards are entering the offshore arena as well – constructions and vessels for exploitation of the seabed and construction of small specialised vessels
- River shipyards are presently specialising in the construction of hulls and their sections, mainly for the Dutch market
- Repair shipyards started diversifying their production by carrying out more complicated repairs (conversions of vessels, conversions and construction of the equipment for oil extraction from the sea– offshore) and construction of small vessels. The future of ship repair will be positively affected by the ageing world fleet, which requires larger numbers of repairs, as well as the increase in the importance of the environmental protection requirements which require additional repair jobs, and rebuilding hulls and vessels.

EMPLOYMENT IN THE INDUSTRY

Since the beginning of the 1990s, there has been a visible tendency for employment in shipyards to decrease:

Table 9 Employment in Polish shipyards, 1993-98

Specification	1993	1994	1995	1996	1997	1998
Shipyards building vessels	24111	23017	24762	23151	20563	20831
Shipyards repairing vessels	7134	7374	7134	7165	6204	5983
Total	31245	30391	31894	30316	26767	26874

Source: Bieliński raport

- In 1998, there were almost 27000 people employed in the shipbuilding and ship repair yards. The industry of shipbuilding and ship repairs is closely connected to the suppliers sector (around 800 co-operating companies) and bankruptcy of a shipyard could cause a “domino effect” and increase the social costs.
- Most of the employment is located in the sea shipyards (98%) and in newbuilding shipyards (75%)
- According to CTO, the structure of employment in the shipbuilding and ship repair industry at the end of 1999 was as follows: work force (total payroll of merchant shipyards) – 25 223, of which building of new ships – 17270 (68%); repair services – 3506 (14%); conversions – 1042; shipbuilding-related activities including work subcontracted to shipyards – 2157; non-shipbuilding activities – 1248. The subcontracted labour force employed on the yards was about 3339
- Employment in large shipyards has dropped not only due to a reduction in excess employment but also due to the fact that some of the departments within the holdings have moved beyond the beltway (de-cooperating of production)
- Employment in the river shipyards could be estimated at around 800 people, although this figure covers larger businesses only. There exist companies that are not typical shipyards, and only private repair workshops (often without direct access to the water)

PROBLEMS WITH HUMAN CAPITAL

- The percentage of young people trained to work in shipyards is decreasing, due to closing of shipyard schools, reduced vocational training, difficulties in employing graduates of maritime technical and higher schools and the lack of interest on the part of the young to work in maritime industries due to the hard nature of the work
- The lack of an educated design staff – on the one hand there is a lack of candidates with a wide range of skills in the area of shipbuilding (increasing age gap) and on the other hand an increasing number of specialists are retiring
- There is a shortage of young and educated employees in the research-didactical base of the shipbuilding industry.

PROFITABILITY OF THE INDUSTRY

It is generally assumed that a decent profitability rate in the shipbuilding industry should amount to 3-5% profit, before tax. Profitability indicators of the maritime shipyards in the period 1991-1998 are presented in the table below.

Table 10 Profitability of the Polish shipbuilding industry

	Years							
	1991	1992	1993	1994	1995	1996	1997	1998
After tax profits as % of sales	-64,3	-34,1	-39,0	+7,8	-2,7	-14,5	-2,2	+1,0

Source: J. Bieliński report

The negative profitability of the Polish shipyards in the period 1991-1993 was caused mainly by the large debt burden. The positive results of its reduction were visible in the years 1994-1995. The year 1996 is marked with the bankruptcy of the Gdansk Shipyard, which significantly influenced the total profitability of all the shipyards. In the period 1997-1998, profitability increased considerably, regardless of the difficult situation in Gdansk Shipyard, making shipyards more credible from the point of view of the banks.

3.3 Effects of EU accession

The accession may influence the competitiveness of the shipbuilding industry through various channels. These are:

- *The single market*: Poland and the EU already form a free trade zone (with some temporary exemptions) and so joining the customs' union should not have any serious effect on the competitiveness of shipbuilding. Lower tariffs towards other countries, however, could lead to an increase in imports by Polish ship companies
- Given the export orientation of the industry, and the effort to bring the quality of output to internationally-accepted standards, no special cost should appear at the accession
- *Competition rules*: currently, state aid is granted in a way which is inconsistent with EU law. Although the forms of state aid must be adjusted, the level of the aid is not high by EU standards (for example, the support given upon the liquidation of the Gdańsk Shipyard). Therefore, no serious harm to competitiveness should appear
- *The social acquis*: the necessary amendments of the labour code, connected with the slight adjustment of the working time regulations, employment of the young and women, rules of terminating employment, and the change of employer should lead to a slight increase in labour costs, estimated at below 1%
- Acceptance of the work safety directives may require some additional investment, mainly due to the necessity to upgrade the equipment (Directive 89/655). The upgrade is necessary, in any case, due to the need to modernize the capital stock. It is estimated that, in 3-4 years, the benefits of the reduced absences from work will compensate for the expenditure in this field. The medium-term effect is therefore negligible
- *The environmental acquis*: the industry will have to adjust to the environmental acquis in three main ways: higher energy costs (by 10-15%) due to the transfer of additional environmental costs (reducing air pollution) from the energy sector to final users; higher costs of industrial waste disposal; and higher costs of water treatment. According to rough estimates, the total production cost increase due to environmental reasons may reach up to 2% after the full implementation of the acquis
- *Macroeconomic factors*: the macroeconomic factors in play are: higher growth of wages, real appreciation of the currency, and lower interest rates. The growth of wages should be slowed down by the high unemployment, thus making the impact negligible. According to the CGE model (Computable General Equilibrium) simulations, we should expect 10-15% real appreciation of the currency during the first 5 years after the accession. With the current trends in investment and productivity growth, the rise in labour costs should lead, overall, to an increase of unit labour costs in euro by 1-2% in the medium term
- Real interest rates should fall during the period of 5 years after the accession by 300-500 basis points, making the extra investment less costly

Overall, we expect that the EU accession effects will bring about some decrease in the competitiveness of the shipbuilding industry (an increase in production costs of 3-4%, mainly due to the interest paid on the additional debt raised for financing the investment connected with the implementation of the environmental acquis and higher labour costs expressed in euro). However, this effect will be spread over time.

3.4 Present and future competitive advantage – views of the industry

NOTE: this part of the chapter is mainly based on information obtained directly from representatives of the industry. Therefore, it reflects the views of the industry rather than the results of objective research.

Prices of products and services

The shipyards do not give details on the prices included in the contracts. Price competitiveness is sensitive to the exchange rate of the currency the contract was signed in. The relationship between changes in the inflation rate and the dynamics of the USD exchange rate (the majority of the contracts for ships are drawn up in this currency) were definitely unprofitable for the shipyards in 1995, improved slightly in 1996 and were relatively good in 1997. The end of 1998 and early 1999 was a good time for those shipyards which at that time were selling their ships.

Co-operation chains

In Polish shipyards, material costs constitute approximately 65% of the costs of ship construction (in the repair shipyards those costs are relatively small). Around 12 000 different kinds of components and materials are used in the construction of a vessel, delivery of which are carried out by around 800 local and 270 foreign suppliers. Out of this group, 690 companies supply materials and products for basic production, and the rest supply materials that are indirectly associated with production. The Polish shipbuilding sector has an article typification system at its disposal, which involves 50% of the suppliers of materials and products used for construction and equipment of the ships in all of the local shipyards.

Since 1995, material costs have systematically increased. There has been an increase in production costs and a reduction in the competitiveness of Polish shipyards due to the real appreciation of zloty and also unfavourable changes in the co-operative environment:

- Increase in the competitiveness of foreign supplies
- Increase in imports of the equipment. Presently, it constitutes around 25% of the ship value. The biggest competition for the local suppliers are suppliers from Germany, whose products are of better quality and are competitively priced.
- Unfinished privatisation and restructuring process in co-operating companies
- Costs of obtaining quality certificates from the ISO 9000 series
- Low grade of unification and standardisation
- Insufficient research & development (many of the firms are doing this as sub-contractors for western firms). Often the production is done under West European licences.

The increase in ship production and changes to the profile of this production to ships of a higher level of technical advancement and greater unit value requires better co-operation between the shipyards and the supplier industry, based on the creation and determination of assortment and quantitative needs. It is estimated that if the local supplier subsidiaries are able to find their place in the capital groups that are presently being created, the imports of components could stabilise at the level of 10-15%. Efficient logistical and co-operative relations systems could significantly contribute to the lowering of production costs.

Customer Base

Local customers

Polish ship-owners are building few ships in Poland due to high interest rates in local banks and the necessity for paying VAT and duty on imported materials and equipment, which in turn increases ship prices by around 20 to 30 %. If the ship is not registered abroad, the Polish shipyard loses export tax allowance.

Three of the biggest state-owned ship-owners in Poland; Polskie Linie Oceaniczne, Polska Żegluga Morska and Polska Żegluga Bałtycka, are presently in a very difficult economic situation. A lack of financial resources is impeding tonnage investments and any development strategies which are being implemented are restricted to internal organisational changes, reducing the level of employment and sales of fixed assets (including the fleet) in order to pay off the debts.

Foreign customers

Since 1990, the share of sales to the local market has systematically decreased. Presently, the major shipyards are designating almost 100% of their production for export. In the case of the repair shipyards this figure amounts to around 80%.

Identification of foreign ship-owners is hindered by the possibility of registration under various flags. One can only research the direction of trade structure. Since 1995, over 50% (in GT) of the export purchases of Polish shipyards was made by German ship-owners. In 1998, this share increased to 77%. Since 1995, Norwegian, British, German and Greek ship-owners have been amongst the ones repairing the largest number of ships in Poland.

Due to the lack of local orders and the higher profitability of export production, the shipyards were more interested in developing exports. As a result, construction and technological changes have been made, production assets modernised, ISO 9000 certificates obtained and marketing activities developed.

Access to financing

Capital fragmentation of the Polish banking system seriously restricts opportunities for finding financing for building a ship. Yearly production of 2 billion USD requires provision to the shipyards of loans and bank guarantees to the amount of around 700 million USD, which is below the capabilities of any single Polish bank (banks are not allowed by law to involve more than 25% of its assets in a single loan). Two thirds of the loans for the shipyards come from Polish banks and one third from foreign banks. As a rule, the bank loans 100% of the price of a ship. Usually one ship is financed, rarely a series. The loan either from local or foreign resources is easily accessible to the shipyard, although its cost is very high (especially from the local ones – the yearly nominal interest rate fluctuates around 22-25%).

Besides loans for shipbuilding and ship repairs, the banks also offer the shipyards guarantees, letters of credit and surcharges for export credits.

An increasingly common way of financing ship production is to organise consortiums consisting of banks or other financial institutions, the ship-owner and the shipyard, which in management practice, is called *project finance*. This was used for the first time in the Polish shipbuilding industry in 1992 by Szczecin Shipyard in co-operation with the Polish Development Bank during the contract for a container ship for a German ship-owner.

Repair shipyards have lines of credit at their disposal but financing of their current activities is usually done from their own resources.

Labour costs

An estimation of labour costs in Polish shipyards is not an easy task due to the large spread of wages. In 1998, the relations of average salaries in the shipyards, when compared to the national averages, were in the ranges of 0.72 to 1.59. According to J. Bieliński's report in 1996, 1 man-hour ranged from €4.5-6.5. The share of man-hours in shipbuilding costs in 1999 ranged from 15 to 30%. In the costs of ship repairs, labour costs constitute around 40%.

Productivity in Polish shipyards grew systematically in the 1990s. The same trend can also be observed in repair shipyards. This is the result of the reduction in employment, the improved organisation of work, technical developments, the upgrading of equipment and the increasing degree of production de-cooperation. As a result, the growth of dollar wages is partly compensated for by productivity gains.

The trend for wage-related costs in Polish shipyards to increase is still growing, due to the process of the gradual strengthening of the currency and the increase in real wages. Polish shipyards give way to the leading world ship producers as regards the level of productivity indicator. This is due to the work organisation (lower degree of de-cooperation) and the types of ships (simpler constructions), and not necessarily to a worse production efficiency. An increase in productivity could take place with better organisation and improvements in the technical equipment, particularly in the areas of welding and painting technologies.

Quality of products and services – R&D

The ships that are built and repaired in Poland meet all of the world's technical and quality requirements. This was acknowledged by the granting of the ISO 9000 certificates (which five repair shipyards hold – Gryfia in Szczecin, Morska in Świnoujście, Remontowa in Gdańsk, Nauta and Naval Shipyards in Gdynia). Large marine shipyards are building ships according to their own projects and own documentation maintaining sovereignty in the area of ship design and construction. River shipyards are usually working using foreign documentation.

The main design-construction base of the Polish shipbuilding and ship repair industry is the Ship Design and Research Centre and Design Offices of Szczecin and Gdynia Shipyards (there are also companies on the market which employ experienced former employees of the state's and shipyard's design offices and which provide services for Polish and foreign shipyards). In 1998, those entities established the Co-ordination Group for Research and Implementation. This group has outlined a plan of the research and development needs for the Polish shipbuilding industry. The most important needs were recognised as:

- Integration of the design and production processes
- Increase in the reliability and safety of the ships, environmental conservation issues and effectiveness of maritime transport.

Polish shipyards participate in the 5th Framework Program, carrying a number of projects aimed at enhancing the technological level of production.

HARDER - harmonisation of rules and design rationale; OPTIDOD - optimal design and implementation of azimuthing pods for safe and efficient propulsion of ships; SUNDWICH - advanced composite steel sandwich structures; MOBISHIP - model based initial and basic ship design; INBAT - innovative barge trains for effective transport on inland shallow waters; EROCAV - erosion induced by cavitation; ROPAX – project for a ro-ro passenger ship with the following parameters: length of the cargo line for vehicles – 2000m; number of passengers- 2000 in 400 staterooms; transport speed – 38 knt.

A lack of greater interest in the European Union programmes on the part of the Polish shipyards arises from the lack of experience in co-operating with the European Commission, the lack of feedback between research activities and opportunities for implementation on the market, human resources-related problems and the lack of adequate information channels.

Since 1997, the Ship Design and Research Centre, and since 1998 Szczecin and Gdynia Shipyards, have been members of COREDES – a committee for research and development of European shipbuilding, having access to information about the character and activity of research and development conducted for the Union's maritime economy.

Environmental protection

In April 2000, the Ministry of Environment presented a project of *Strategy for the Sustained Development of Poland*, the aim of which is to create conditions for the development of economic activities in such a way that they would threaten the natural environment in the least possible degree. The basis for this concept is set by the international standards from the ISO 14000 series.

In the Polish shipbuilding and ship repair industry, the problem of eco-development is being dealt with by the Ship Design and Research Centre. Their analyses indicate that the shipyards and co-operating companies can be characterised by excessive use of materials (including water and energy), increased damage to the environment (larger than in the EU) and the production of a

significant amount of waste. Each large shipyard has over 100 emitters of environmental pollutants.

Polish shipyards are presently in the process of implementing an environmental management system as per the ISO 14001 standard. In December 1999, Szczecin Shipyard was the first in Europe to obtain a GL and PCBC certificate, providing an integrated quality management system, which involves: a quality management system as per one of the standards of ISO 9001 series; an environmental management system – ISO 14001; a safety and labour safety system – BS 8800/OHSAS 1800.

Production capacities

The type and size of the ships that are presently being built in Polish shipyards does not exhaust the technical capabilities of the production equipment in stock (especially in Gdynia Shipyard, which has the largest and the most modern equipment for ship construction). Better utilisation of the existing technical possibilities in the period 1999-2005 (choice of appropriate type of ships) could allow an increase in the production capacities of the shipbuilding sector of up to 2 billion dollars. It would require a shortening of the slipway cycles and improvement of the co-operation base in the production of a new type of machinery and appliances which are part of ship equipment.

Table 11 Technical production capacities of Polish shipyards, 1998

Shipyard	Slipway or dry dock	Slipway cycle (in months)	Number of ships /year	Type of ship dead-weight ('000 DWT)	Ship value (mln \$)	Summary value (mln \$)	Summary cargo ('000 DWT)
Szczecin (from 2002)	W1	1,33	9	BC Handym 32,0	20	180	288
	W2	1,33	9	TN Aframax	35	315	380
	Odra N	2,40	5	T Aframax 95,0	40	200	475
Total						695	1143
Gdynia	SD1	1,5	8	T Suezm. 140,0	48	384	1120
	SD2	2,0	6	T ULCC 400,0	100	600	2400
Total						984	3520
Gdańsk (2005)	SD1	2,0	6	Con 6000 TEU	100	600	431
	SD2	2,0	6	Con 6000 TEU	100	600	431
Total						1200	862
Północna	Slipway.b	1	12	Con1100 TEU	20	240	210
Świnouj-ście (2010)	New	1,0	12	BC Capesize 155	38,5	462	1860
Total						3581	7595

Source: Forum Okrętowe

After the widening of the slipway W2 in Szczecin Shipyard from 2001 on, which will allow an increase in yearly production for the shipyard of around 150 million dollars, construction of modern appliances for ship assembly in Gdański Shipyard and, following that, investments on the Ostrów Island in order to build a new shipyard, which will also allow a yearly production exceeding 1 billion USD and in the future the prospective (till 2010) building of a shipyard in Świnoujście, which would be capable of building ships with cargo of up to 150 000 DWT, production value may be increased by a total of up to 3 billion USD.

It is difficult to assess the reality of those plans, since at the moment there is still no clear concept as far as the future of the shipyard at the Gdańsk Shipyard is concerned and the possibilities for building a shipyard in Świnoujście.

Structure and strategies of the industry

Polish shipyards are independent companies, acting in the world market individually. In the 1990s there were attempts to consolidate the Polish shipbuilding and ship repair industries on a larger scale but those attempts were unsuccessful. Presently, capital groups are being created around Szczecin Shipyard, Gdynia Shipyard and Gdańsk Repair Shipyard.

Szczecin Shipyard holding group is implementing a strategy of development of production and services not associated with the shipbuilding industry, along with maritime and land based ones, in such a way that, in the future, shipbuilding would constitute not more than 50% of the group's sales value.

Gdynia Shipyard is strengthening its own potential as a leader of the shipbuilding group which was created by the purchase of the bankrupt Gdańsk Shipyard and by its efforts to purchase shares in Masa Yards in Finland, as well as in Polish Ocean Lines. In the next 2 years, the group of Gdynia Shipyard is planning to increase the value of ship sales by 50%, compared to the level from 1999.

In the capital group of Gdańsk Repair Shipyard, besides the Northern Shipyard, there are manufacturers of equipment used both in maritime and land-based industries, which render various repair services and possess a 51% stake in the Albanian Repair Shipyard in Durres. The scale of this group is much smaller due to its smaller capital possibilities.

The group of smaller river shipyards was started by CENTROMOR – the former maritime centre for import-export of ships. It involves Cental shipyard in Gdańsk and Centromost in Płock. It has minority packets of shares in Northern Shipyard, Ustka Shipyard and Porta-Odra Shipyard.

State policy towards the industry

In October 1995, Polish Government accepted two draft documents regulating the privatisation and restructuring processes in the Polish shipbuilding industry: *The Position of RP Government towards the state policy for growth of competitiveness of the Polish shipbuilding industry* and *Mechanisms of state policy towards the shipbuilding industry for improvement of its competitiveness*.

The goals of the privatisation and restructuring processes:

- Determination of the model of state policy towards the shipbuilding sector
- Increase of efficiency through the reduction of debt, higher profitability, achieving financial solvency, elimination of excess employment, changes in the organisation of production (shortening the cycle of ship building, reducing unnecessary assets, modernisation investments), increase in the quality of the ships and increase of exports
- Development of supplier base for the shipyards
- Development of technology
- Increasing competitiveness in the world market.

Results of privatisation processes

- In 1998, all of the main Polish shipyards were private partnerships with various structures of ownership. Today, the major shareholders are:
 - Szczecin Shipyard: banks (Bank Handlowy, BIG Bank Gdański, PBR), State Treasury, Industrial Group Ltd., small shareholders and management;
 - Gdynia Shipyard – State Treasury and Shipyard's Investment Fund,
 - Northern Shipyard – Gdańsk Repair Shipyard, Centomor JSC, State Treasury, employees and H. Cegielski-Poznań JSC.
- The river shipyards were already privatised and only the repair shipyards are at the beginning of this path. Presently, they are at the transition phase, converted from state-owned enterprises to State Treasury joint-stock companies. Only one shipyard was forced to declare bankruptcy. The most advanced is the privatisation of the Gdańsk Repair

Shipyard. The other shipyards are still in the process of preparing and negotiating the privatisation strategies with the central and regional administrations and labour unions.

- Directly after privatisation, the main owners of the major shipyards were: State Treasury - almost 40% of shares, and banks - mainly state-owned (due to the debt-equity swaps). Therefore, the ownership structure was an artificial and incidental creation.
- However, in the second half of the 1990s, the state significantly reduced its share, the banks were effectively privatised, and new investors entered the shipyards.

Results of assets and investment restructuring

- Production assets of the shipyards are de-capitalised to a substantial degree, since the shipyards did not have adequate financial possibilities for the restructuring-modernisation processes.

Table 12 Age structure of production equipment in Polish shipyards, 1998

Age category	Szczecin Shipyard	Gdynia Shipyard	Northern Shipyard
	percentage of the total of technical equipment		
0-5 years	5,0	3,3	28,7
6-10 years	10,0	2,4	44,8
11-15 years	20,0	4,3	67,8
Above 15 years	65,0	90,0	32,1

- Total investment expenditures in Polish production shipyards in 1997 amounted to 78 million zł (in 1995 it was 71 million zł and in 1996 92 million zł), out of which 80% was expenditure of the Szczecin Shipyard.

Table 13 Investment expenditures structure in Polish shipyards, 1997

Investment categories	Szczecin Shipyard	Gdynia Shipyard	Northern Shipyard
Restructuring	29,4	40,0	-
Modernisation	21,1	30,0	45,2
New production outputs	31,1	30,0	54,8
Environmental	16,3	-	-
Safety	1,6	-	-

- The investment goals were to improve the production capacities of the shipyard, the mechanisation and automation of technological processes, the improvement of working conditions and the quality and modernity of the products
- According to the management, with respect to modernity of the technical infrastructure, the Polish shipyards are at the average world level, although their assets are seriously de-capitalised. In last 20 years, there have been no adequate capital investments and production technologies from the end of the 1970s are still being used and implemented. There has been progress in the area of maintenance-particularly with painting and welding. Progress in technological methods, an increase in requirements in the area of environmental protection and equipment of the work places in order to increase labour productivity (automation and computerisation of labour) as well as the high level of depreciation of the capital requires significant capital investment in the future.

Results of debt restructuring

In order to regain financial solvency, Szczecin Shipyard reached a settlement with the creditors in 1992 (its debt was reduced by 33%). Gdynia and Northern Shipyards in 1994 entered into a banking agreement (the debt reduction amounted respectively to 50 and 70%). Legal regulations in court proceedings were also used in 1995 in the Gdansk Shipyard, although they did not save the shipyard from future bankruptcy.

Repair shipyards at the beginning of the 1990s were in much better condition than production shipyards, since they did not get the load of debts. However, in 1995, Gryfia Shipyard was forced to enter into an agreement with the banks and creditors. At the end of 1998, the shipyards mentioned had already paid the instalments subsequent to the settlements entered into.

3.5 Conclusions: ability to withstand competitive pressure

SWOT Analysis

The conclusions are based on the SWOT analysis.

The SWOT analysis includes investigation of four issues:

Opportunities - events and processes occurring in the macro environment and in the competitive environment that create favourable conditions for the operation and development of the domestic shipbuilding and ship repairing sector companies;

Threats - factors and events occurring in the macro environment and in the competitive environment that create unfavourable conditions for the operation and development of the domestic shipbuilding and ship repairing sector companies;

Strengths - the unique resources, skills or other properties in the fields of marketing, finance, human resources, technology and manufacture, as well as in the organisation and management, that distinguish the domestic shipbuilding and ship repairing sector;

Weaknesses - all those aspects of functioning of the domestic shipbuilding and ship repairing sector in the fields of marketing, finance, human resources, technology and manufacture, as well as in organisation and management, that limit its efficiency or impede its development.

The results of that analysis for Poland are as follows:

Table 14 Results of the SWOT analysis for Poland

POLAND	
Key opportunities	Key threats
<p>Macroeconomic situation</p> <p>stable macroeconomic environment</p> <p>free trade zone with the EU</p> <p>fast economic growth</p> <p>falling tendency in inflation and interest rates</p> <p>participation in the research and development programs supporting ship industry in the EU (5th Framework Programme) as a chance for the development of the common market of marine technology</p> <p>Competitive situation</p> <p>trends towards growth in the global trade and international sea transport, in which the largest dynamics is shown by the transport of general cargo and bulk cargo</p> <p>increase in the demand for multi-task ships</p> <p>possibility of supplying a range of services for the NATO military naval forces operating in the Baltic Sea</p> <p>development of products and services market-related to environmental protection that may result in increased demand for ecological vessels (e.g. tank ships)</p> <p>possible change in the structure of global competition with an active role played by Poland</p> <p>access to financial and capital market</p> <p>low labour costs</p>	<p>Macroeconomic situation</p> <p>lack of active policies in the area of export promotion</p> <p>delay in ratification of the OECD agreement that supports current competitive advantages of the Polish ship industry</p> <p>relative capital weakness of the Polish banking system that restricts the possibility of finding financing for large-scale projects</p> <p>lack of an adequate law on creating holding groups</p> <p>slow progress of works on a national system for innovation that would support research and development activities in the domestic shipbuilding and ship repairing sector</p> <p>delay in concluding privatisation of ship-repair yards</p> <p>Competitive situation</p> <p>danger created by aggressive market strategies of several countries (South Korea, China, Croatia) increasing their shares in the world market</p> <p>possible practices of strong government interventions (subventions) in competitor countries</p> <p>strong global quality, price and cost competition</p> <p>tendency to increase the material costs</p> <p>unfavourable geographic location of sea repair yards in respect to main world seaways</p> <p>river yards - seasonal type of work imposed by climate conditions (access problems between March and November)</p> <p>river yards - difficulties in navigability of rivers</p>

POLAND (cont.)

Key strengths	Key weaknesses
<p><u>A. Shipbuilding yards</u></p> <p>Marketing</p> <p>considerable share in the global market image of a reliable partner with acknowledged shipbuilding traditions efficiency of marketing services price and cost competitiveness</p> <p>Personnel</p> <p>highly-skilled management staff</p> <p>Technology/Production</p> <p>good design, production flexibility considerable production capacity</p> <p>Organisation and Management</p> <p>growing work productivity</p>	<p><u>A. Shipbuilding yards</u></p> <p>Finance</p> <p>difficulties in securing financing</p> <p>Personnel</p> <p>lack of young and skilled design team</p> <p>Technology/Production</p> <p>low level of technical standardisation of projects and of fabrication process unification high idle production capacities de-capitalised production assets low level of product innovation</p> <p>Organisation and Management</p> <p>lack of complex environmental management low degree of production de-cooperation</p>
<p><u>B. Ship repairing yards</u></p> <p>Marketing</p> <p>considerable share in the global market price competitiveness efficiency of marketing services</p> <p>Personnel</p> <p>competent management staff</p> <p>Technology/Production</p> <p>skills in advanced repair works - modification and conversion of ships, repairs of off-shore equipment skills in construction of special vessels short repair period, satisfactory quality</p> <p>Organisation and Management</p> <p>increase in work productivity - improvement in work organisation</p>	<p><u>B. Ship repairing yards</u></p> <p>Marketing</p> <p>lack of competitiveness in simple repair works over Asian countries</p> <p>Technology/Production</p> <p>seasonal type of works (the infrastructure is unsuitable for the operation during winter period) technological and organisational gap in respect of the leaders from EU de-capitalised production assets</p> <p>Organisation and Management</p> <p>lack of complex environmental management procedures</p>
<p><u>C. River yards</u></p> <p>Marketing</p> <p>price competitiveness</p>	<p><u>C. River yards</u></p> <p>Finance</p> <p>difficulties in securing financing</p> <p>Technology/Production</p> <p>de-capitalised production assets</p> <p>Organisation and Management</p> <p>lack of complex environmental management mostly sub-deliverers for Dutch yards</p>

GENERAL CONCLUSIONS

In the light of the above information, the conclusions about the ability of the Polish shipbuilding industry to withstand the competitive pressure after country's accession to the European Union are the following.

The Polish sub-sector of building new sea vessels: the sector is almost fully export-oriented and linked to the world market. Therefore, there should be no significant problems with meeting the quality requirements and dealing with the competition. The costs connected with the implementation of the acquis, and the additional cost pressure associated with the accession (e.g. real currency appreciation) may lead to an increase in production costs of 3-4%, spread over time. Given the proven adjustment abilities of the sector, these costs should be relatively easily accommodated. However, the path of investment should be accelerated.

The Polish sub-sector of repair yards: given the high level of export-orientation and the effort to improve the quality and the range of services, the sector should be able to cope with the competition. The competitive position will be slightly hurt by the growing labour costs (in euro).

The Polish sub-sector of river yards: a serious danger exists that, due to the late (as yet unfinished) privatisation, the sector may have significant problems in withstanding the competitive pressure after the accession. On the other hand, this sub-sector plays a minor role in the Polish shipbuilding industry.

Annex to part 3: Statistical tables on Polish shipyards

Table 15 Data on orders and output of Polish shipyards, 1995-98

Shipyard	Number of vessels	GT	CGT	DWT	Value in (millions USD)
Orders portfolio 31.12.1995					
Gdańsk	20	536624	367459	795878	613,3
Szczecin	56	984600	760654	1410000	1520,0
Gdynia	28	710452	464344	1006800	1008,0
Northern	4	16400	19680	19600	56,0
Others	3	5050	13334	5050	2,7
Total 1995	111	2253126	1625471	3201328	3200,0
Orders portfolio 31.12.1996					
Gdańsk	6	119076	88728	159229	162,0
Szczecin	55	1019635	758527	1489688	1547,0
Gdynia	31	693875	533043	869800	1133,0
Northern	3	12300	18081	14700	31,5
Others	3	2082	4040	1083	10,5
Total 1996	98	1846968	1402419	2534500	2884,0
Orders portfolio 31.12.1997					
Gdańsk	3	51851	41480	66514	84,0
Szczecin	44	811306	605597	1166190	1277,0
Gdynia	16	441987	318106	538300	572,0
Northern	-	-	-	-	-
Others	3	2110	1938	514	11,0
Total 1997	66	1307254	967121	1771518	1944,0
Orders portfolio 31.12.1998					
Gdańsk	-	-	-	-	-
Szczecin	34	605510	466880	844500	1039,0
Gdynia	13	399698	286741	487700	504,82
Others	7	6819	17082	3288	48,5
Total 1998	54	1012027	770703	1335488	1592,32
Orders portfolio 31.12.1999					
Szczecińska	31	755500	600743	973600	1151,0
Gdynia	34	561704	464283	634020	718,24
Others	3	7945	15505	6200	27,5
Total 1999	68	1325149	1080531	1613820	1896,74

Source: Ship Design and Research Centre

Table 16 (cont.)

Shipyard	Number of vessels	GT	CGT	DWT	Value in (millions USD)
production in 1995					
Gdańsk	6	141588	119863	88512	262,0
Szczecin	21	255701	228394	334685	418,0
Gdynia	7	183948	134558	219600	192,0
Northern	1	6000	7200	6000	13,0
Others	-	-	-	-	-
Total 1995	35	587237	490015	648797	885,0
production in 1996					
Gdańsk	4	90100	65993	128165	102,5
Szczecin	20	305943	257715	416861	469,0
Gdynia	10	248144	157672	366800	272,0
Northern	2	10100	13227	11700	23,4
Others	3	4745	10131	6678	12,2
Total 1996	39	659032	504740	930204	879,0
production in 1997					
Gdańsk	2	63395	38037	96384	55,0
Szczecin	20	336009	268506	470981	538,0
Gdynia	9	189937	148807	239029	280,5
Northern	3	12300	18081	14700	28,2
Others	3	4745	11238	6678	14,5
Total 1997	37	606386	484669	827772	916,2
production in 1998					
Gdańsk	3	51851	41480	66514	83,0
Szczecin	19	361560	267010	527298	544,0
Gdynia	11	257556	198845	319693	372,72
Others	4	2883	10258	924	19,57
Total 1998	37	673850	517593	914429	1019,29
production in 1999					
Szczecin	17	256474	201373	364542	437
Gdynia	11	351625	237629	374256	376,4
Others	6	7213	17559	3288	49
Total 1999	34	615312	456561	742086	826,4

Source: Ship Design and Research Centre

Table 16 Ships delivered by Polish shipyards by types, 1994-98

Delivered ships n- number d- DWT		Years				
		1994	1995	1996	1997	1998
Total						
n		26	34	32	34	33
d		763800	643700	794447	822015	921119
General cargo ships						
n		-	-	2	2	-
d		-	-	11785	84420	-
Bulk carriers						
n		3	3	1	3	5
d		185800	51100	165055	144275	222919
Tankers						
n		2	-	2	-	1
d		192000	-	90000	-	46724
Refrigerating ships						
n		4	1	-	-	-
d		41200	9000	-	-	-
Container and semicontainer ships						
n		17	28	27	29	26
d		344800	551500	527607	593320	644872
Chemical carriers						
n		-	-	-	-	1
d		-	-	-	-	6604

*the data relates to four of the biggest shipyards: Szczecin, Gdynia, Gdańsk and Northern

Source: Maritime Institute

Table 17 data on repairs performed by Polish shipyards, 1994-98

Specification	Years				
	1994	1995	1996	1997	1998
Number of repairs	684	671	610	714	672
o/w exports	445	435	384	499	329

* the data relates to five of the biggest shipyards: Gdansk, Nauta, Radunia, Gryfia and Morska in Swinoujście

** Year 1996 without Radunia Shipyard

Source: Maritime Institute

4

4. ESTONIA

4.1 Macroeconomic overview

GENERAL ECONOMIC SITUATION

- The general economic situation of Estonia was extremely bad during the early 1990s and improved considerably after 1995 (until the Russian financial crisis). Despite the huge drop of output after the secession from the Soviet Union (GDP dropped by 40% between 1989 and 1994), the economy stabilized, with the inflation rate falling to ca.5% (mid-2000), and GDP growth resumed in 1995
- The economy was liberalised: Estonia introduced the most radical trade liberalisation program in Central Europe
- Stabilisation of the economy was based on pegging the exchange rate to the German Mark (or euro) and applying the currency board principle (new money issued only on the basis of the increase in the foreign exchange reserves)
- The currency board, combined with the high inflow of the FDI, resulted in significant strengthening (in real terms) of the currency. That, in turn, led to the appearance of the big current account deficits (currently ca.6% of GDP)
- The privatisation progress was fast partly due to the high involvement of foreign capital
- Significant reduction in excess employment in the economy, combined with an inflexible labour market, led to the high level of unemployment of ca.12%

Table 18 ESTONIA: selected macroeconomic indicators

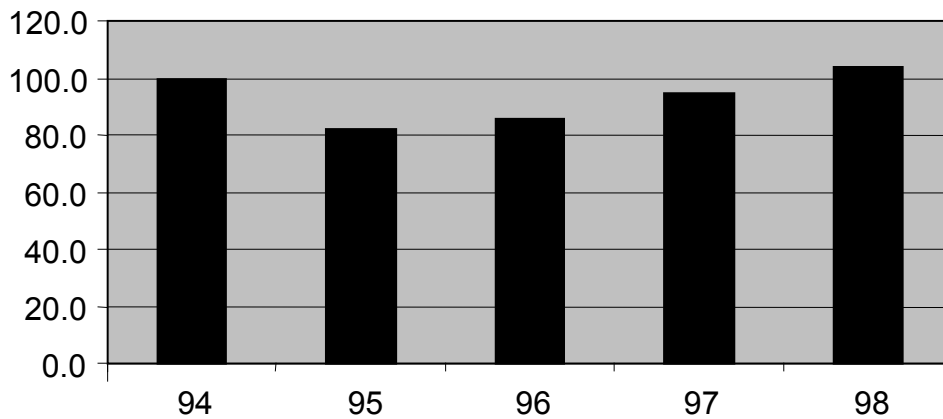
	1992	1993	1994	1995	1996	1997	1998	1999	mid-2000
Population (millions)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	
GDP in Kroon (billions)	13.1	21.9	30.3	41.3	52.4	64.5	73.3	75.4	
GDP in EUR (billions)		1.4	2.0	2.7	3.4	4.1	4.7	4.8	
GDP p.c. in EUR		945	1309	1855	2356	2827	3209	3348	
GDP p.c. in EUR (at PPS)				5600	6100	7100	7500	7700	
GDP growth rate	-14.2%	-8.5%	-1.8%	4.3%	4.0%	10.0%	4.7%	-1.1%	5.2%
CPI inflation	1076%	90%	48%	29%	23%	11%	8.2%	3.3%	4.7%
Exchange rate EUR (average)	n/a	15.46	15.42	15.03	15.23	15.74	15.75	15.64	15.64
Unemployment rate	n/a	6.5%	7.6%	9.7%	10.0%	9.7%	9.9%	12.3%	13.2%
Gross wage in Kroon	543	1069	1743	2385	2986	3571	4100	4418	5031
growth rate in %		97%	63%	37%	25%	20%	15%	8%	11%
Gross wage - in EUR		69	113	159	196	227	260	282	322
growth rate in %		n/a	63%	40%	24%	16%	15%	9%	11%

Sources: Statistical Office of Estonia, IMF, Eurostat, EBRD

SITUATION OF THE SHIPBUILDING INDUSTRY

- The shipbuilding industry experienced, as did the rest of the economy, a sharp recession after the secession from the Soviet Union. Output, productivity and employment dropped significantly (no compatible data exists, but a drop of output from 1989-1993 can be estimated at the level of at least 50-60%)
- Since 1995, however, after total re-orientation towards the Western markets, output has started to increase

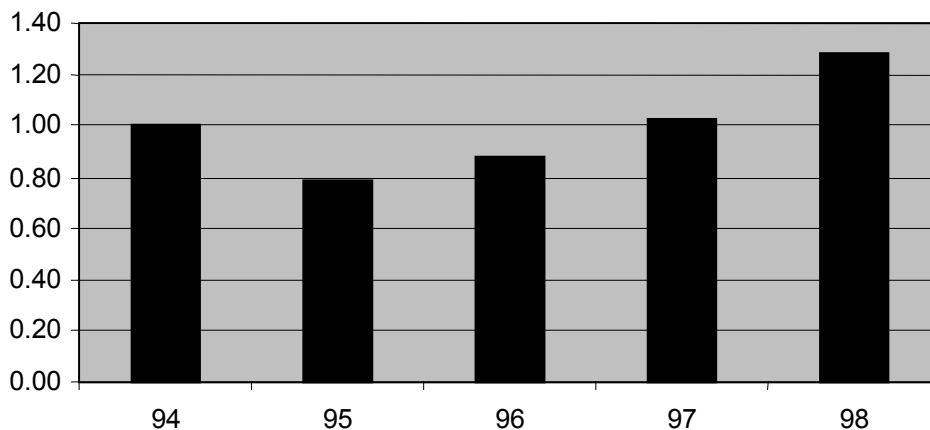
Graph 19 Estonia: output of the shipbuilding industry in value terms, constant prices, 1994-98 (level from 1994=100)



Source: national sources

- The industry responded to the difficult situation by a sharp reduction in the excess employment, an increase in productivity, a change of the customer base, and production restructuring. After an initial drop, real productivity increased between 1995 and 1998 by over 60%, partly due to the huge employment restructuring (employment cut by ca. 20%)

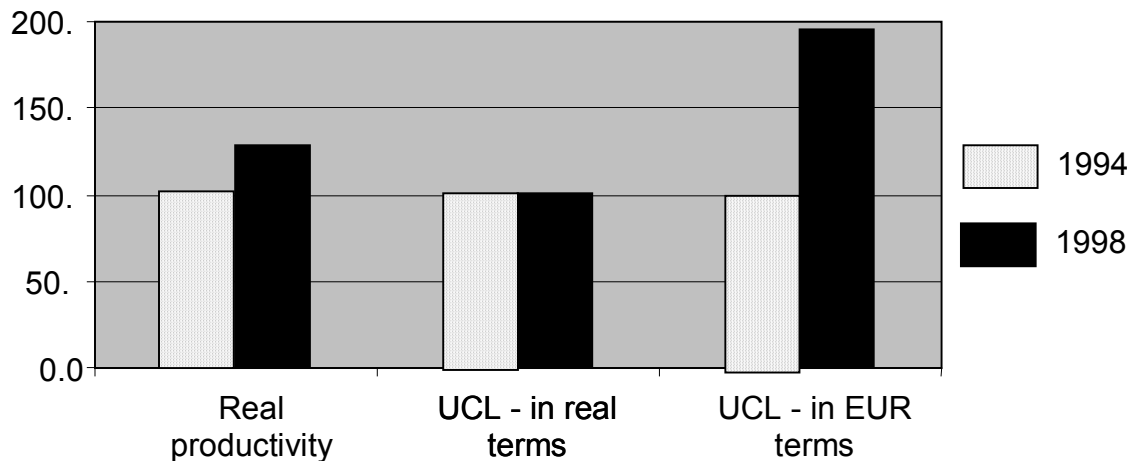
Graph 20 Estonia: real productivity of the shipbuilding industry in value terms, 1994-98 (level from 1994=1)



Source: national sources

- A serious challenge for the shipbuilding industry was the fact that the sales of the industry depended almost exclusively on the export demand. Firstly, the Estonian shipyards lacked experience in dealing with the world market. Secondly, several important parameters – like the wage level and the exchange rate level – are basically determined by the macroeconomic conditions of the country.
- The currency board policy applied by Estonia resulted in the full stabilisation of the exchange rate vis-à-vis the German Mark (euro), with the continuously existing large differentials between price and wage inflation levels between Estonia and the EU. Therefore, with a relatively modest growth of real wages, the increase in nominal wages translates immediately into the same scale of increase of the euro wages. As a result, the currency strengthens and wages increase rapidly.
- The wage in the shipbuilding industry expressed in euro terms increased from €70 in 1993 to €300 in 1999, ca. 8% of the wage in the shipbuilding in Germany, and to €350 by mid-2000.
- The increase in the unit labour costs (UCL) was only counter-acted to a certain degree by the productivity growth and a comparable increase in real wages (slowed down by the labour market situation). As a result, the UCL expressed in real terms (real Kroon) remained almost constant between 1994 and 1998. However, the UCL expressed in euro terms – the most important one for international competitiveness – almost doubled between 1994 and 1998.
- The obvious loss of wage competitiveness was compensated for by the improved management, higher quality, and better marketing

Graph 21 Estonia: growth of unit labour costs in shipbuilding 1994-98 (level from 1994=100)



Source: national sources

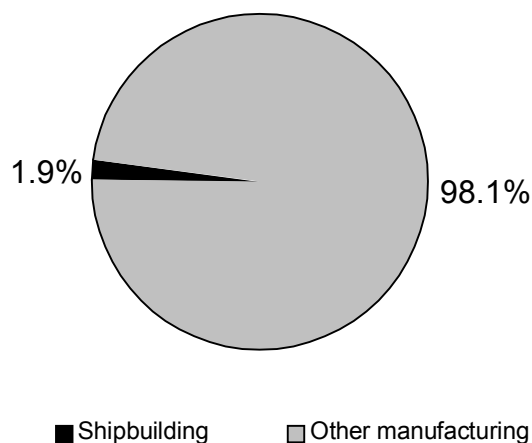
CURRENT ROLE OF THE SHIPBUILDING INDUSTRY IN THE NATIONAL ECONOMY

Table 19 Estonia - role of the shipbuilding industry in the economy

	Year	Value	Remarks
Share in manufacturing employment	1999	1.9%	
Share in total employment	1999	0.4%	
Highest share in employment in the NUTS2 region	1999	0.4%	Estonia is one NUTS2 region
Share in industrial output	1998	1.7%	
Share in exports	1999	2.0%	Goods and services
EU share in the exports	1999	ca.50%	Estimated

- Despite a big drop in employment, the shipbuilding industry remains an important branch of the national economy
- The industry employs ca.1.9% of the total employment in manufacturing
- The role of the industry in exports is similar: in 1999, the exports of ships and repair services, ca. \$ 50 million, was about 2% of the total exports of goods and services. It can be estimated that about half of the exports went to EU countries

Graph 22 Estonia: role of the shipbuilding industry in manufacturing (1999 share in employment)



4.2 General characteristics of the industry

The shipbuilding and repair industry in Estonia is composed of two shipyards - Loksa Shipyard JSC and Baltic Ship Repairers located in the Bay of Finland.

Table 20 Shipyards in Estonia by size of employment and type of activities

	Less than 200 employed	From 200 to 800 employed	More than 800 employed	TOTAL
New building only		0	0	0
Mixed yard		1	1	2
Repair only		0	0	0
TOTAL		1	1	2

Graph 23 Regional concentration of industry in Estonia

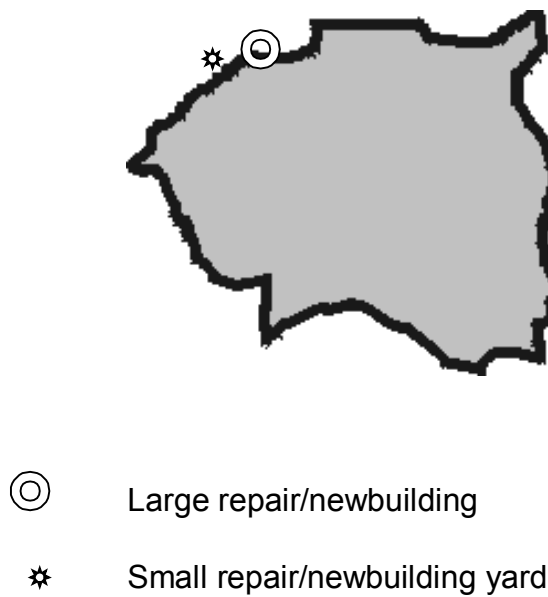
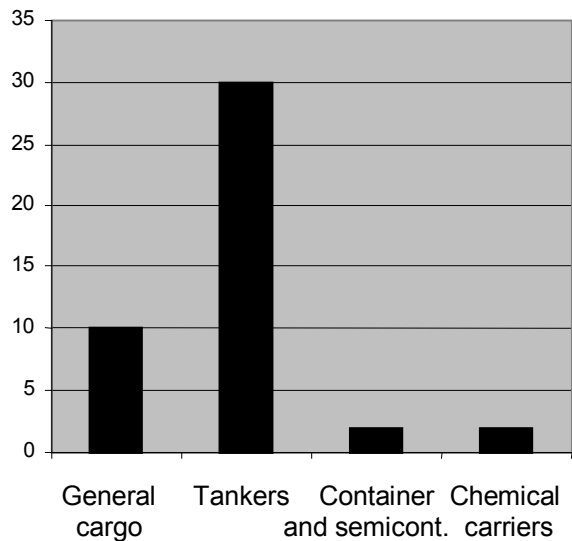


Table 21 Geographical location, employment and types of yards in Estonia

Yard name	Direct employees	Orientation		Focus		
		Sea	River	New building	Repair	
Loksa	700	X		X	X	Loksa Area
Baltic	2000	X		X	X	Tallinn Area

PRODUCTION

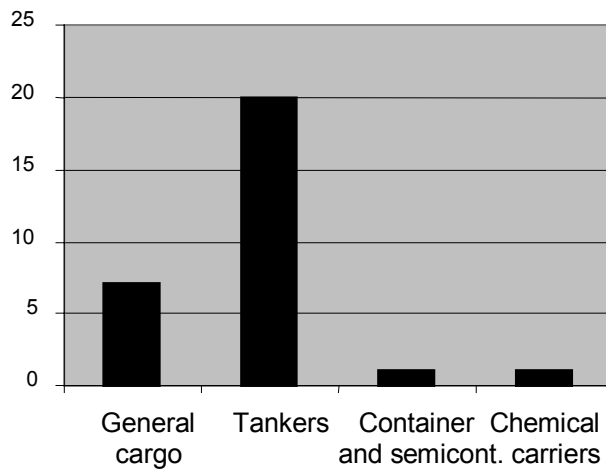
Graph 24 Number of delivered ships in Estonia, by type (1999)



- In 1999, the biggest Estonian shipyard, the Baltic Ship Repairers, built 44 vessels. The production of the Loksa shipyard can be estimated as much smaller, ca. 25-30% of the Baltic Ship Repairers (BSR).
- More than 68% of ships were tankers and 28% general cargo ships
- BSR shipyard undertook the building of technologically more advanced ships - chemical carriers
- In 1999, repairs and conversions constituted 31% of the assortment structure of the shipyard production services, services 30%, and final products 39%

PRODUCT SPECIALISATION

Graph 25 Orderbook in Estonia by type of ships, Sep.2000 (units)



- In the orderbook from September 2000, tankers are in the majority (70%), general cargo ships constitute 24%, container and semi-container ships 3% and chemical carriers 3%
- BSR is considered to be a producer of ships which are not technologically complicated, mostly tankers

EMPLOYMENT IN THE INDUSTRY

In 1999 there were 2700 workers employed in both shipyards, 74% of whom were in BSR. The employment in the shipyards constituted about 0,4 % of all the employees in national industry.

PROFITABILITY OF THE INDUSTRY

It is generally assumed that in the shipbuilding industry good profitability should amount to 3-5% profit, before tax. At the end of 1999, both shipyards achieved the following financial results.

Table 22 Profitability of the Estonian shipbuilding industry

	Profit in 1999	Turnover in 1999
Baltic Ship Repairers	8 121 212 USD	44 848 484 USD
Loksa ShipyardJSC	1 515 151 USD	estimated at ca. USD 10 million

Therefore, both shipyards should be judged as highly profitable.

4.3 Effects of EU accession

The accession may influence the competitiveness of the shipbuilding industry through various channels. These are:

- *The single market*: as Estonia and the EU already form a free trade zone, joining the custom union should not have any serious effect on the competitiveness of shipbuilding.
- Given the export orientation of the industry, and the effort to bring the quality of output up to internationally accepted standards, no special costs should appear at the accession
- *Competition rules*: currently, state aid is granted in a way that seems to be generally consistent with the EU law, and the level of aid is not high by EU standards. Therefore, no serious harm to competitiveness should appear
- *The social acquis*: the necessary amendments of the labour code, connected with the slight adjustment of working time regulations, the employment of the young and women, rules of terminating employment, and the change of employer should lead to a moderate increase in labour costs, estimated at between 1% and 2%
- Acceptance of the work safety directives may cause some additional investment, mainly due to the necessity to upgrade equipment (Directive 89/655) and personal safety equipment (Directive 89/656). Nevertheless, the cost should be moderate and soon compensated for by reduced absences from work
- *The environmental acquis*: the biggest challenge for the industry may be the adjustment to the environmental acquis, in three main ways: higher energy costs (by 5-10%) due to the transfer of additional environmental costs (reducing air pollution) from the energy sector to final users; higher costs of industrial waste disposal; and higher costs of water treatment. According to rough estimates, the total production cost increase, due to the environmental reasons, may reach 2% after the full implementation of the acquis
- *Macroeconomic factors*: the macroeconomic factors in play are: higher growth of wages, real appreciation of the currency, and lower interest rates. The growth of wages should be partly slowed down by high unemployment, and therefore the impact should be negligible. However, if the current currency board policy is maintained, we expect 20-25% of the real appreciation of the currency during the first 5 years after the accession. With the current trends in investment and productivity growth the rise in labour costs should lead, overall, to an increase in unit labour costs in euro of 10-15% in the medium term
- Real interest rates should fall during the first 5 years after the accession by 300-500 basis points, making the extra investment less costly

Overall, we expect that accession to the EU will bring about some reduction in the competitiveness of the shipbuilding industry (with production costs increasing by 4-7%, mainly due to higher labour costs expressed in euro and interest paid on additional debt raised for financing the investment connected with implementation of the environmental acquis).

4.4 Present and future competitive advantage – views of the industry

NOTE: this part of the chapter is mainly based on information obtained directly from representatives of the industry. Therefore, it reflects the views of the industry rather than the results of objective research.

Prices of products and services

In the opinion of the management of the Estonian shipyards, the prices obtained by shipyards on the global market are lower than the prices obtained by other European producers (production costs in the case of ship repairing are 40% lower, and in the case of shipbuilding 30%, in comparison with competitors from the EU).

Co-operation chains

In 1999, material supplies of the shipyards came from the following sources: imports - 10%; foreign firms or firms with foreign capital active on the national market - 30%; state-owned enterprises - 20%; private local enterprises - 40%. The shipyards favour co-operation with national contractors.

Customer Base

BSR exports ships and repair services to more than 40 countries, first of all to Denmark, USA, Finland and Norway. For Loxsa Shipyard the major recipients are Norway, Holland, and Finland.

Shipyards are interested in increasing exports, because it is more profitable and allows for production broadening and breaking the demand barrier. Profitability of the exports to EU countries varies, but it is generally higher than to other ones.

In order to increase exports, shipyards are continuing the modernisation of assets, changes in ship constructions, the improvement of repair services and the development of marketing.

The main reasons for the hitherto failures in export development were: a low quality of products resulting from the poor technical state of the firm, foreign competition, an insufficient knowledge of the market, outdated production and the interventions of labour unions in firm management.

Access to financing

At present, shipyards do not have any problems with financing their shipbuilding and ship repairing activities. It is fairly easy for them to obtain short or long-term loans from banks. The most common way of collateralising bank credit is to obtain the guarantee of the state budget.

In the years 1990-1999, shipyards did not use foreign sources for financing nor any assistance funds from foreign institutions.

Labour costs

In 1999 labour costs were 1,5 €/hour. The average gross wage in shipyards was €300 per month.

Quality of products and services – R&D

At the moment there is no important developmental research being carried out, apart from the project works. The shipyards do not participate in the 5th Framework Programme.

Sources of technical and technological changes introduced, and those which are intended to be introduced within the next 3-6 years, in the area of production are as follows:

Table 23 Activities projected by Estonian shipyards for improving the technological level of production

Specification	Activities undertaken	Activities intended
	Number of shipyards	
elaboration of own research background	1	1
elaboration of external national R&D	1	1
purchase of licences	0	2
co-operation	2	2
production for foreign customer	2	2
elaboration of own technical services	2	2

Environmental protection

There are no actions being carried out for the acceptance and introduction of a complete system for environmental management.

Production capacity

BSR assumes that by the year 2006 the production of the shipyard will have increased by 20 % (in comparison with 1999). The production increase might be limited by the low qualifications of the staff and insufficient local demand.

According to the opinion of the management of the shipyard there are no serious competition threats for the shipyard in relation to Estonia's entering into the EU structures in the coming years (in some contrast to our conclusions). The only limitation might be the limited investment possibilities of their companies.

Structure and strategies of the industry

The structure of the BRS production assortment underwent substantial changes between 1990 and 1999. Its new activity concerns machine and steel construction building, steel wholesale, steel scrap, stock repair, port services, technical and medical gases.

BSR shipyard exists in the global market as an individual subject, whereas Loksa Shipyard is a part of the Odense Yard Group from Denmark.

State policy towards the industry

The government of Estonia did not formulate any special privatisation or restructuring programmes for the shipbuilding and repairing industry.

A significant role in the stimulation of the economic activity of the shipyard in the 1990s was played by the following instruments of state policies:

- Encouragement of direct investment (local or foreign investors)
- Insurance for export contracts
- Possibility of obtaining a surcharge for a percentage of export credits for investment goods
- Import quotas as a protection from the excessive competition of imports
- Advanced VAT refunds while purchasing components for export production.

In 1996 BSR was privatised and transformed into a joint stock company. There is no foreign capital in the ownership structure of the shipyard (295 domestic shareholders).

Loksa shipyard was privatised through direct sale to a foreign investor.

Results of assets and investment restructuring

The age structure of production facilities in Estonian shipyards is quite unfavourable:

Table 24 Age structure of the fixed assets in BSR (1999)

The age structure	Baltic Ship Repairers
0-5 years	negligible
6-10 years	ca.25%
11-15 years	ca.75%
Above15 years	negligible

BSR did not introduce substantial changes in technological process in the period of 1990-1999 and during this period BSR invested its own resources mainly in new production capacities and work safety

4.5 Conclusions: ability to withstand competitive pressure

SWOT Analysis

The conclusions are based on the SWOT analysis (see methodological comments in the chapter on Poland)

Table 25 Results of the SWOT analysis for Estonia

ESTONIA	
Key opportunities	Key threats
<p>Macroeconomic situation</p> <p>stable macroeconomic environment</p> <p>free trade zone with the EU</p> <p>low interest rates</p>	<p>Macroeconomic situation</p> <p>tendency to a real appreciation of the currency (due to the currency board policy)</p> <p>possible further strengthening of the currency after the EU accession</p> <p>lack of export promotion</p>
<p>Competitive situation</p> <p>very low labour costs</p> <p>access to financial and capital market</p>	<p>Competitive situation</p> <p>possible fast growth of labour costs in euro</p> <p>tendency to increase the material costs</p>

ESTONIA (cont.)	
Key strengths	Key weaknesses
<p>Marketing</p> <p>price competitiveness over EU countries and CEE countries</p> <p>production for exports mainly</p> <p>Finance</p> <p>safe financing of ship building</p> <p>Personnel</p> <p>qualified design staff</p> <p>Technology/Production</p> <p>development of skills in construction of technologically more complex ships</p>	<p>Marketing</p> <p>negligible share in the global market</p> <p>insufficient knowledge of the market</p> <p>Technology/Production</p> <p>de-capitalised production assets</p> <p>low level of research and development projects</p> <p>moderate quality of products</p> <p>Organisation and Management</p> <p>lack of environmental management procedures</p> <p>interventions of labour unions in firm management</p>

GENERAL CONCLUSIONS

In the light of the above information, the conclusions about the ability of the Estonian shipbuilding industry to withstand the competitive pressure after country's accession to the European Union are the following.

The Estonian activity of building new sea vessels: the sector is almost fully export-oriented and linked to the world market. However, the production is limited to relatively simple ships, and – to a large degree – based on price competitiveness (low wages). Given the expected increase in labour costs, the activity of building new ships may become less profitable and dealing with the competition more difficult. The costs connected with the implementation of the acquis, and the additional cost pressure associated with the accession (e.g. real currency appreciation due to the currency board exchange rate policy) may lead to an increase in production costs of 4-7%, spread over time. These costs could be accommodated only if the path of investment is seriously accelerated.

The Estonian activity of repair yards: given the high level of export-orientation and the effort to improve the quality and the range of services, the sector should be able to cope with the competition. However, the competitive position will be hurt by the growing labour costs (in euro).

5

5. CZECH REPUBLIC

5.1 Macroeconomic overview

GENERAL ECONOMIC SITUATION

- The general economic situation of the Czech Republic was difficult during the early 1990s, partly due to the break-up of Czechoslovakia and the fall of the COMECON trade. After a considerable improvement in the period 1994-96, the financial crisis of 1997 that revealed various structural deficiencies of the economy resulted in a prolonged recession.
- Despite all the troubles, the Czech Republic remains one of the most stable economies in Central and Eastern Europe, with the inflation rate currently at 4%.
- The economy was liberalised, both due to the unilateral moves and due to the Europe Agreement.
- A relatively strong currency, combined with the high inflow of the FDI, resulted in significant strengthening (in real terms) of the currency until 1997. That, in turn, led to the appearance of the big current account deficits (ca. 10 of GDP) that were reduced after 1997 due to the strict adjustment program.
- The privatisation progress was fast, especially due to the mass privatisation programme. However, that “shortcut” led to a particular ownership structure that did not lead to fast restructuring nor improved management.
- As the reduction of excess employment in the economy was slower than in the other transition economies, the level of unemployment remained relatively low.

Table 26 CZECH REPUBLIC: selected macroeconomic indicators

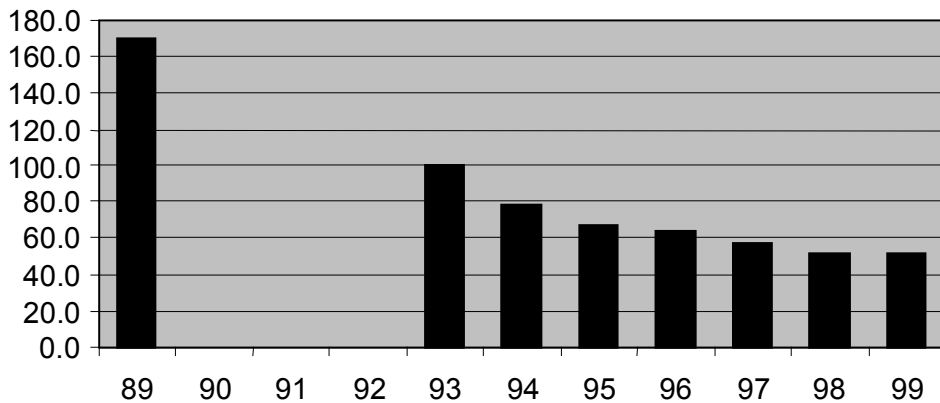
	1992	1993	1994	1995	1996	1997	1998	1999	mid-2000
Population (millions)	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	
GDP in Koruna (billions)	847	1002	1143	1339	1572	1669	1798	1836	
GDP in EUR (billions)		29.3	33.5	38.6	45.6	46.5	49.8	56.6	
GDP p.c. in EUR		2841	3239	3735	4423	4513	4832	5494	
GDP p.c. in EUR (at PPS)				11000	12000	12300	12200	12500	
GDP growth rate	-3.3%	0.6%	3.2%	5.9%	4.8%	-1.0%	-2.2%	-0.2%	3.1%
CPI inflation	11.1%	20.8%	10.0%	9.1%	8.8%	8.5%	10.7%	2.1%	4.1%
Exchange rate EUR (average)	36.62	34.15	34.14	34.70	34.45	35.90	36.12	32.45	34.74
Unemployment rate	4.0%	4.3%	4.3%	4.0%	3.9%	4.8%	6.5%	8.6%	8.8%
Gross wage in Koruna	4644	5817	6894	8172	9676	10691	11693	12263	13400
growth rate in %		25%	19%	19%	18%	10%	9%	5%	4%
Gross wage - in EUR	127	170	202	236	281	298	324	378	386
growth rate in %		34%	19%	17%	19%	6%	9%	17%	2%

Sources: Statistical Office of the Czech Republic, IMF, Eurostat, EBRD

SITUATION OF THE SHIPBUILDING INDUSTRY

- The shipbuilding industry experienced, as did the rest of the economy, a sharp recession after the break-up of Czechoslovakia and after the fall in COMECON trade. Output, productivity and employment dropped significantly (the drop of output in 1989-1993 was 40%)
- The process of downsizing the sector continued, albeit at a slower rate, after 1993. However, in the period 1993-99 the fall in output was accompanied by an even stronger reduction in employment, leading to productivity growth.

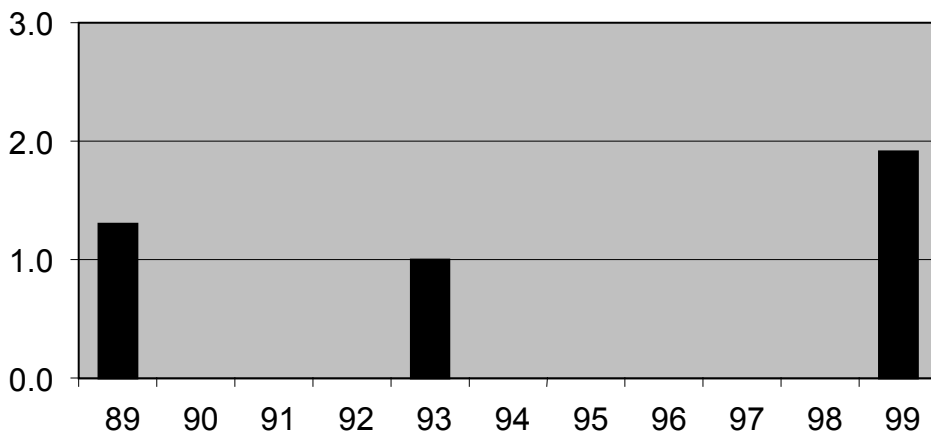
Graph 26 Czech Republic: output of the shipbuilding industry in value terms, constant prices, 1989-99 (level from 1993=100)



Source: national sources

- After 1993 the industry responded to the difficult situation by sharply reducing excess employment, increasing productivity, closing some shipyards and reducing capacities. After an initial drop, real productivity increased between 1993 and 1999 by 90%, mainly due to the huge employment restructuring (employment was cut by ca. 75%)

Graph 27 Czech Republic: real productivity of the shipbuilding industry in value terms, 1989-99 (level from 1993=1)

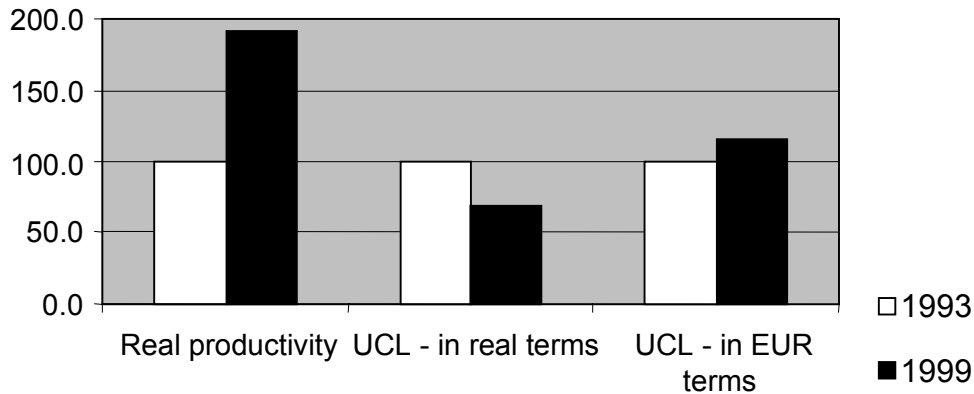


Source: national sources

The wage in the shipbuilding industry expressed in euro terms increased from €150 in 1993 to €400 in 1999.

The increase in the unit labour costs (UCL) was only counter-acted to a certain degree by the productivity growth, and it was undermined by the fast increase in real wages in the period 1993-97 (this process was stopped after 1997). As a result, the UCL expressed in real terms (real Koruna) decreased between 1993 and 1999 by 30%. However, the UCL expressed in euro terms – the most important one for international competitiveness – increased by 15%

Graph 28 Czech Republic: growth of unit labour costs in shipbuilding 1993-99 (level from 1993=100)



Source: own calculation

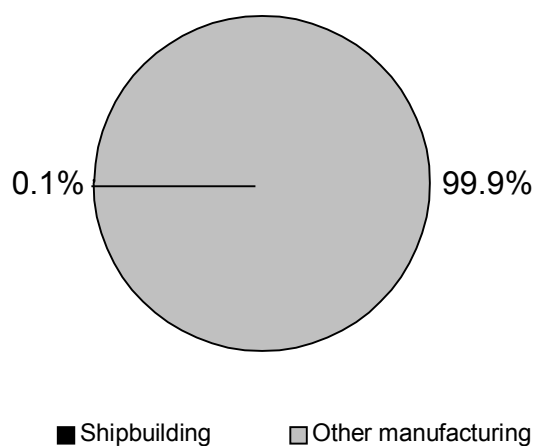
CURRENT ROLE OF THE SHIPBUILDING INDUSTRY IN THE NATIONAL ECONOMY

Table 27 Czech Republic - role of the shipbuilding in the economy

	Year	Value	Remarks
Share in manufacturing employment	1998	0.1%	
Share in total employment	1998	0.0%	
Highest share in employment in the NUTS2 region	1998	0.0%	Western Bohemia
Share in industrial output	1998	0.1%	
Share in exports	1999	0.0%	
EU share in the exports	1999	ca.100%	

- Following the downsizing, the shipbuilding industry plays a negligible role in the national economy
- The industry employs ca.0.1% of the total employment in manufacturing and provides less than 0.1% of exports, mainly to EU states
- Employment in the shipbuilding industry has no importance for the labour market either on a national or regional scale.

Graph 29 Czech Republic: role of the shipbuilding industry in manufacturing (1999 share in employment)



5.2 General characteristics of the industry

The sector is mainly linked to Ceskoslovenska Plavba Labska Ltd. (CSPL a.s.) in Decin, one of the biggest river shipping companies in Europe. Its division - CSPL Production Section is composed of two shipyards: Kresice and Chvaletnice. There is one more private shipyard located in Velke Brczno called Ceske Lodenice.

Table 28 Czech shipyards by size of employment and type of activities

	Less than 200 employed	From 200 to 800 employed	More than 800 employed	TOTAL
Newbuilding only	1	0	0	1
Mixed yard	2	0	0	2
Repair only	0	0	0	0
TOTAL	3	0	0	3

Graph 30 Regional concentration of industry in Czech Republic

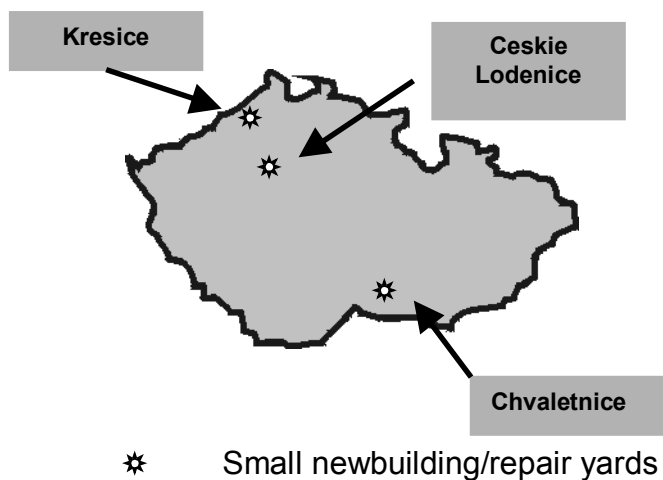


Table 29 Geographical location, employment and types of yards in Czech Republic

Yard name	Direct employees	Orientation		Focus	
		Sea	River	Newbuilding	Repair
Kresice	200		X	X	X
Chvaletnice	120		X	X	X
Ceske Lodenice	120		X	X	

➔ Elbe River

PRODUCTION

- The shipyards are the leading European producers of river/sea ships
- Ceskie Lodenice used to build 2-3 hulls for inland and seagoing tankers with 3200 dwt each per year
- Chvaletnice Shipyard builds 2 general cargo vessels equipped for carriage of containers with 2500 dwt each per year
- Decin Shipyard's yearly output is about 3 hulls for seagoing ships with 3500 dwt each.

PRODUCT SPECIALISATION

- In June 2000 the CSPL shipyards had orders for 7 general cargo vessels with a total volume of 13 645 gt (17 750 dwt); all for foreign buyers
- Primarily, the key areas of specialisation in CSPL shipyards are simple repairs, lengthening of river vessels and building small river/sea vessels (max. size: length and width not exceeding 90m and 12.5m respectively)
- The river/sea ships are equipped to carry containers and dangerous cargo
- The shipyards are prepared to manufacture floating appliances and machines as well as to make steel constructions together with their assembling.

EMPLOYMENT IN THE INDUSTRY

Shipyard employees form a small fraction of the total number of employees in all industry (less than 0.1% of employment in manufacturing). The employment was downsized considerably during the 1990s, going down from 1300 in 1992 to 350 employees in 1999.

PROFITABILITY OF THE INDUSTRY

Due to the lack of reliable data it is impossible to estimate the financial situation of the shipyards.

5.3 Effects of EU accession

The accession may influence the competitiveness of the shipbuilding industry through various channels. These are:

- (a) *The single market*: as the Czech Republic and the EU already form a free trade zone, joining the customs' union should not have any serious effect on the competitiveness of shipbuilding.
- (b) *Competition rules*: currently, state aid is low and granted in a way that seems to be generally consistent with the EU law. Therefore, no serious harm to competitiveness should appear
- (c) *The social acquis*: the Czech labour code is rather restrictive. Therefore, necessary amendments of the labour code should not lead to a serious increase in labour costs
- (d) Acceptance of the work safety directives may cause some additional investment, mainly due to the necessity to upgrade equipment (Directive 89/655) and personal safety equipment (Directive 89/656)
- (e) *The environmental acquis*: the biggest challenge for the industry may be the adjustment to the environmental acquis. Although no detailed assessment exists, given the general knowledge about the large environmental problems of the Czech Republic, we expect the total production cost increase, due to environmental reasons, to be around 2-3% after the full implementation of the acquis
- (f) *Macroeconomic factors*: the macroeconomic factors in play are: higher growth of wages, real appreciation of the currency, and lower interest rates. With the current trends in investment and productivity growth the rise in labour costs should lead, overall, to an increase in unit labour costs in euro of 5-10% in the medium term
- (g) Real interest rates should fall during the first 5 years after the accession by 100-200 basis points, making the extra investment less costly

Overall, we expect that accession to the EU will bring about a reduction in the competitiveness of the shipbuilding industry (with production costs increasing by 1-2%, mainly due to the higher labour costs expressed in euro and interest paid on additional debt raised for financing the investment connected with implementation of the environmental acquis).

5.4 Present and future competitive advantage – views of the industry

NOTE: this part of the chapter is mainly based on the information obtained directly from representatives of the industry. Therefore, it reflects the views of the industry rather than the results of objective research.

Prices of products and services

According to the management, prices are below the prices demanded by EU producers.

Customer Base

Kresice and Chvaletnice Shipyards build river/sea ships mainly for German and Dutch naval companies. They also perform reconstruction and repair works of river vessels for foreign and domestic ship-owners.

Access to financing

Shipyards have got easy access to financing. They use the same financial instruments that are available to other domestic enterprises (loans in local banks).

Labour costs

In 1999 the average gross wage in shipyards was ca. €400, ca. 14% of the wage in the shipbuilding industry in Germany.

Quality of products and services – R&D

Kresice shipyard was modernised in the second half of the 20th century. The same type of production facilities are in use in Chvaletnice shipyard, which was established in 1977.

In Kresice there is a service centre which performs complete repairs of ship propellers using Van Voorden Reparatie BV technology. The quality of all the repairs made in this yard is guaranteed by the ISO 9002 certificate.

Environmental protection

There are no actions being carried out for the acceptance and introduction of a complete system for environmental management.

Production capacity

Shipyards are equipped with the following facilities: ship lifts (2x - 500t) and slipways (2x - 600t); outer berths (2x - 130x11m, 4x - 85x12m, 3x - 12x11m, 2x - 21x11m), covered berths (4x - 85x11m, 2x - 21x11m) and finishing berths (1x - 250m, 1x - 350m).

Structure and strategies of the industry

Ceskoslovenska Plavba Labska Ltd. (CSPL a.s.) in Decin is one of the biggest river shipping companies in Europe. It is divided into five divisions: CSPL Shipping, CSPL Ports, CSPL Production Section, CSPL Trading and CSPL Foreign Agency. With almost 180 vessels and

capacity of 140 000 t the CSPL Shipping division forwards 1,5 mln tons of goods in both domestic and foreign relations a year.

The shipyards, which are included in Production Section, build on average 12 sea/river vessels a year. Such ships are sailing in the Northern and Baltic Sea under the flags of west European ship-owners. CSPL Trading division is responsible for the sale of vessels and cranes as well as for running year-long and seasonal passenger transport.

5.5 Conclusions: ability to withstand competitive pressure

SWOT Analysis

The conclusions are based on the SWOT analysis (see comments in the chapter on Poland)

Table 30 Results of the SWOT analysis for the Czech Republic

THE CZECH REPUBLIC	
Key opportunities	Key threats
<p>Macroeconomic situation</p> <p>stable macroeconomic environment</p> <p>free trade zone with the EU</p> <p>low interest rates</p> <p>Competitive situation</p> <p>low labour costs</p> <p>access to financial and capital market</p>	<p>Macroeconomic situation</p> <p>possible strengthening of the currency after the EU accession</p> <p>Competitive situation</p> <p>increase of labour costs after the accession</p> <p>tendency to increase the material costs</p>
Key strengths	Key weaknesses
<p>Marketing</p> <p>price competitiveness</p> <p>good competitive standing in Europe</p> <p>Technology/Production</p> <p>good quality of ships</p> <p>specialisation in convertible sea-river ships</p>	<p>Marketing</p> <p>negligible standing on the global market</p> <p>Technology/Production</p> <p>limited production capacity</p> <p>lack of modern technologies</p> <p>obsolete production assets</p>

GENERAL CONCLUSIONS

In the light of the above information, the conclusions about the ability of the Czech shipbuilding industry to withstand the competitive pressure after country's accession to the European Union are the following.

The Czech sector is very small, but specialized in delivering good quality ships. The sector could be able to find a production niche provided there is a significant improvement in the assets, technology and management.

The costs connected with the implementation of the acquis, and the additional cost pressure associated with the accession (e.g. real currency appreciation) may lead to an increase in production costs of 1-2%, spread over time. These costs could be easily accommodated.

6

6. HUNGARY

6.1 Macroeconomic overview

GENERAL ECONOMIC SITUATION

- The general economic situation of Hungary has improved considerably in the last few years. After the initial transitional recession in 1990-92, the economy started to grow in an unsustainable way, particularly due to the growing external imbalance (the current account deficit reached over 10% of GDP in 1994). However, after the stabilization program of 1995, solid growth fundamentals were created and the economy started to enjoy, after 1997, a fast export-driven growth.
- The macroeconomic environment is stable, with the inflation rate currently at 10%.
- The economy was liberalised, both due to the unilateral moves and due to the Europe Agreement. From that point of view, Hungary was one of the least protectionist transition countries.
- A relatively strong currency, combined with the high inflow of the FDI, resulted in significant strengthening (in real terms) of the currency until 1995. That, in turn, led to the appearance of the large current account deficits (ca.10 of GDP) that were reduced after 1995 due to the strict adjustment program.
- The progress of privatisation was fast, especially due to foreign participation.
- With the radical restructuring of the economy and the reduction of excess employment, the level of unemployment was relatively high in the mid-1990s, but it is currently falling.

Table 31 HUNGARY: selected macroeconomic indicators

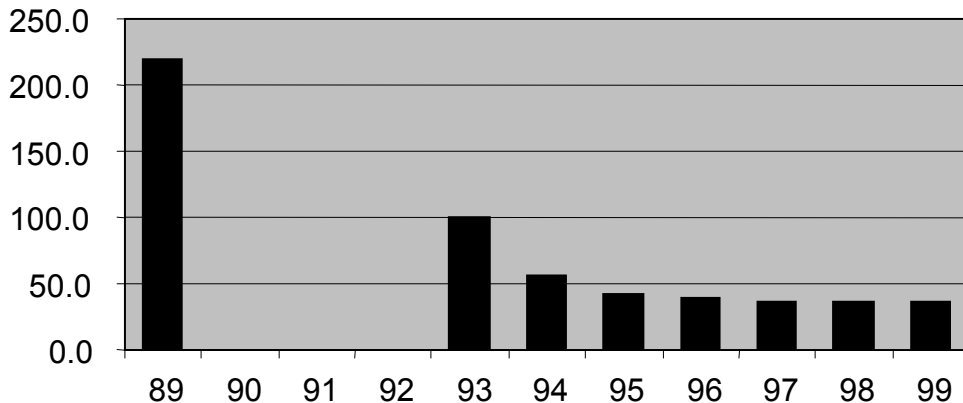
	1992	1993	1994	1995	1996	1997	1998	1999	mid-2000
Population (millions)	10.3	10.3	10.3	10.2	10.2	10.2	10.1	10.0	
GDP in Forints (billions)	2943	3554	4371	5623	6907	8557	10163	11525	
GDP in EUR (billions)		33.0	35.1	34.2	35.7	40.5	42.4	51.7	
GDP p.c. in EUR		3197	3411	3340	3493	3976	4194	5170	
GDP p.c. in EUR (at PPS)				8100	8600	9300	9900	10700	
GDP growth rate	-3.1%	-0.6%	2.9%	1.5%	1.3%	4.6%	4.9%	5.0%	6.6%
CPI inflation	21.6%	21.1%	21.1%	28.3%	19.8%	18.4%	14.3%	10.0%	9.5%
Exchange rate EUR (average)	102	108	125	164	194	212	240	223	253
Unemployment rate	13.7%	12.5%	11.3%	10.2%	9.9%	8.7%	7.8%	6.9%	6.5%
Gross wage in Forints	22294	27173	33309	38900	46837	57610	67764	77187	89383
growth rate in %		22%	23%	17%	20%	23%	18%	14%	16%
Gross wage - in EUR	218	252	267	237	242	272	282	346	353
growth rate in %		15%	6%	-11%	2%	13%	4%	23%	2%

Sources: Statistical Office of Hungary, IMF, Eurostat, EBRD

SITUATION OF THE SHIPBUILDING INDUSTRY

- The shipbuilding industry experienced, as did the rest of the economy, a sharp recession after the fall in the COMECON trade. Output and employment dropped significantly (the drop in output in 1989-1993 was over 50%)
- The process of downsizing the sector continued, albeit at a slower rate, after 1993. However, in the whole period 1989-99 the fall in output was accompanied by an even stronger reduction of employment, leading to productivity growth.

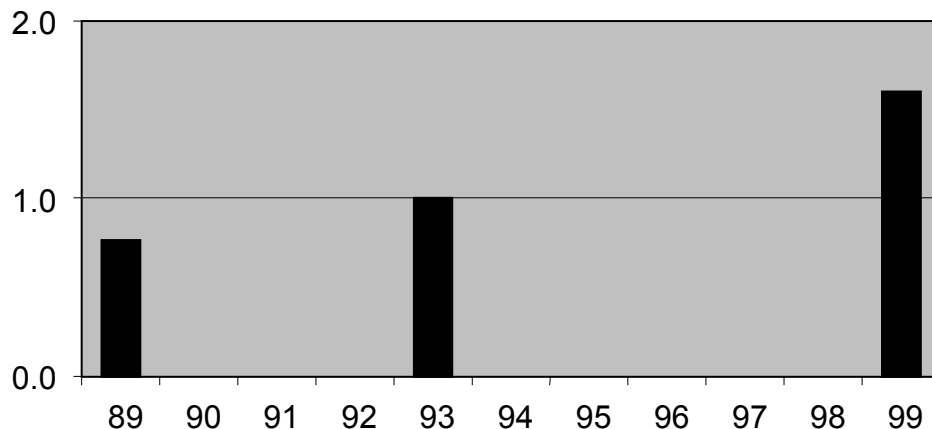
Graph 31 Hungary: output of the shipbuilding industry in value terms, constant prices, 1989-99 (level from 1993=100)



Source: national sources

- The industry responded to the difficult situation by sharply reducing excess employment, increasing productivity, closing the majority of the shipyards and reducing capacities. Real productivity doubled between 1989 and 1999 (employment was cut by ca. 95%).

Graph 32 Hungary: real productivity of the shipbuilding industry in value terms, 1989-99 (level from 1993=1)

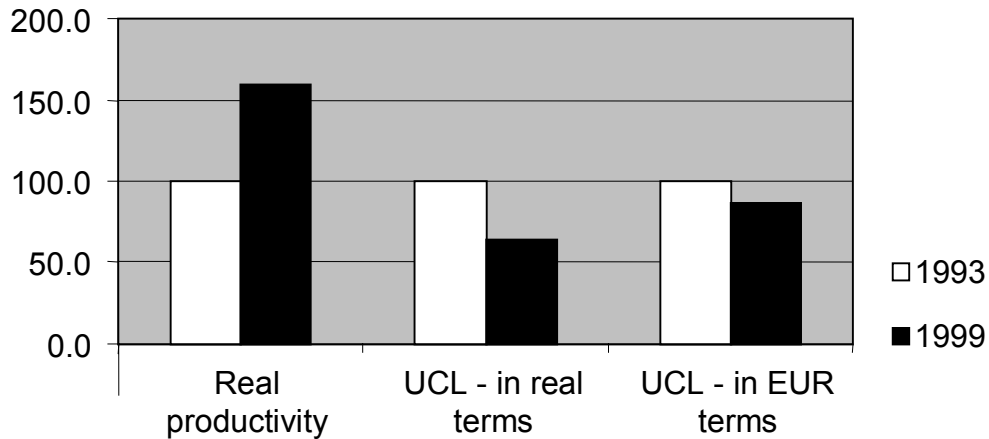


Source: national sources

- The wage in the shipbuilding industry expressed in euro terms increased from €200 in 1993 to €350 in 1999. The growth of euro wages was counter-acted by the stabilization program of 1995-96 and by a cautious real exchange rate policy thereafter.

- The increase of unit labour costs (UCL) was counter-acted by the productivity growth. The UCL expressed in real terms (real Forints) decreased between 1993 and 1999 by 35%, and the UCL expressed in euro terms – the most important one for the international competitiveness – decreased by 15%

Graph 33 Hungary: growth of unit labour cost in shipbuilding 1993-99 (level from 1993=100)



Source: own calculation

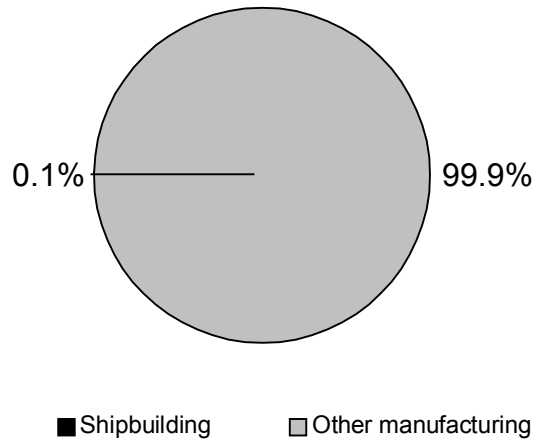
CURRENT ROLE OF THE SHIPBUILDING INDUSTRY IN THE NATIONAL ECONOMY

Table 32 Hungary - role of the shipbuilding in the economy

	Year	Value	Remarks
Share in manufacturing employment	1998	0.1%	
Share in the total employment	1998	0.0%	
Highest share in employment in the NUTS2 region	1998	0.0%	Yards located in various regions
Share in industrial output	1998	0.1%	
Share in exports	1998	0.0%	
EU share in the exports	1999	ca.100%	

- Following the downsizing, the shipbuilding industry plays a negligible role in the national economy
- The industry employs ca.0.1% of the total employment in manufacturing and provides less than 0.1% of exports, mainly to EU states
- Employment in the shipbuilding industry has no importance for the labour market either on a national or regional scale.

Graph 34 Hungary: role of the shipbuilding industry in manufacturing (1999 share in employment)



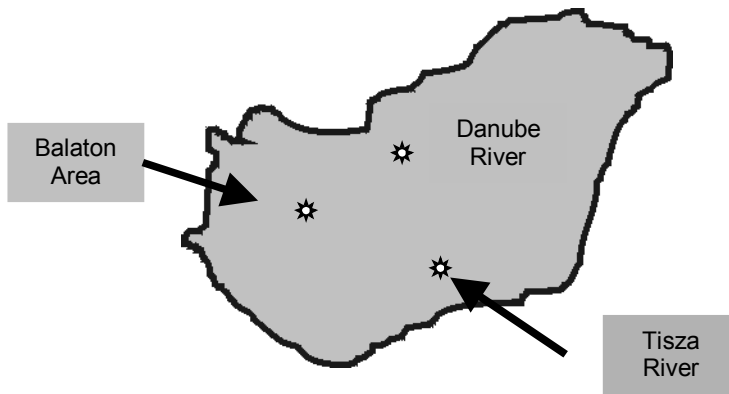
6.2 General characteristics of the industry

The Hungarian shipbuilding and shiprepairing industry is composed of three small shipyards - Mahart Budapest Shiprepair Yard, Mahart Tiszayacht Ltd. (Szeged - Tape), Mahart Balaton Shipping Co. (Siofok). Besides those three big yards, there are a further 7-8 small firms which offer special services related directly to the shiprepairing industry. The industry was seriously downsized during the 1990s, with a number of shipyards being closed.

Table 33 Shipyards in Hungary by size of employment and type of activities

	Less than 200 employed	From 200 to 800 employed	More than 800 employed	TOTAL
Newbuilding only	0	0	0	0
Mixed yard	3	0	0	3
Repair only	0	0	0	0
TOTAL	3	0	0	3

Graph 35 Regional concentration of industry in Hungary



* Small repair and newbuilding yards

Table 34 Geographical location, employment and types of yards in Hungary

Yard name	Direct employees	Orientation		Focus		
		Sea	River	Newbuilding	Repair	
Mahart Budapest	150		X		X	→ Danube River
Mahart Tiszayacht	45		X		X	→ Tisza River
Mahart Balaton	60		X		X	→ Balaton Area

PRODUCTION

- The production scale of the shipyards retains the level of ca. 155 repairs of river boats per annum (total tonnage of repaired ships - ca. 52 000 tons)
- 10% of the repair production (measured in tonnage) is exported by the shipyards to Germany and Netherlands
- In the years 1996-1998, the assortment structure of production in shipyards was comprised of 90% of repair and conversions and 10% of services. In 1999 the production structure changed in two shipyards: Mahart Tiszayacht and Mahart Balton, where 60% was comprised of repair and conversions, 10% of services and 30% of final product
- At present, shipyards do not build new ships and the Hungarian shipbuilding and ship repairing industry does not have any significant international importance

PRODUCT SPECIALISATION

- Primarily, the key area of specialisation in Hungarian shipyards is simple repairs of river vessels
- In the 1980's, Hungarian shipyards used to build ca. 20 river vessels a year. Since 1995 shipyards have not been building new ships; however, they are still considering coming back into production (currently shipyard order portfolios are empty)
- Shipyards are prepared to build smaller and of limited draught dry and liquid self-propelled river cargo carriers and barges, smaller towing and pushing vessels, passenger vessels, ferries, tugs, steel yachts, pontoons and floating working units

EMPLOYMENT IN THE INDUSTRY

- At the beginning of the 1990s, almost the entire Hungarian shipbuilding industry collapsed. At that time, about 10.000 people worked in or were linked with the shipbuilding industry. Today only 5% of that number could remain in that field.
- Besides the three big yards (255 employees) there are a further 7-8 small firms, with less than 20 employees in each, offering special services related directly to the shiprepair industry.

PROFITABILITY OF THE INDUSTRY

At the end of 1999, the shipyards achieved the following financial results:

Table 35 Profitability of the Hungarian shipbuilding industry

	Turnover in 1999
Mahart Budapest	estimated at ca. USD 4.5 million
Mahart Tiszayacht	estimated at ca. USD 1.0 million
Mahart Balaton	estimated at ca. USD 1.2 million

The average profitability of the shipbuilding and shiprepairing industry in Hungary in 1999 was about 5-10 %.

6.3 Effects of EU accession

The accession may influence the competitiveness of the shipbuilding industry through various channels. These are:

- (a) *The single market*: as Hungary and the EU already form a free trade zone, joining the customs' union should not have any serious effect on the competitiveness of shipbuilding.
- (b) *Competition rules*: currently, state aid is low and granted in a way that seems to be generally consistent with EU law. Therefore, no serious harm to competitiveness should appear
- (c) *The social acquis*: the Hungarian labour code is rather restrictive. Therefore, necessary amendments of the labour code should not lead to a serious increase in labour costs
- (d) Acceptance of the work safety directives may cause some additional investment, mainly due to the necessity to upgrade equipment (Directive 89/655) and personal safety equipment (Directive 89/656)
- (e) *The environmental acquis*: compared to Poland and Czech Republic, the cost of the adjustment to the environmental acquis should be relatively low in Hungary. We expect the total production cost increase, due to the environmental reasons, to be around 1-2% after the full implementation of the acquis
- (f) *Macroeconomic factors*: the macroeconomic factors in play are: higher growth of wages, real appreciation of the currency, and lower interest rates. With the current trends in investment and productivity growth the rise in labour costs should lead, overall, to an increase in unit labour costs in euro of 5-10% in the medium term
- (g) Real interest rates should fall during the first 5 years after the accession by 200-300 basis points, making the extra investment less costly

Overall, we expect that accession to the EU will bring about a reduction in the competitiveness of the shipbuilding industry (with production costs increasing by 2-3%, mainly due to the higher labour costs expressed in euro and interest paid on additional debt raised for financing the investment connected with implementation of the environmental acquis).

6.4 Present and future competitive advantage – views of the industry

NOTE: this part of the chapter is mainly based on information obtained directly from representatives of the industry. Therefore, it reflects the views of the industry rather than the results of objective research.

Prices of products and services

The prices obtained by shipyards for repair services on the global market are lower by about 20% than those obtained by other European manufacturers. Production costs in the case of ship repairing are 20% lower than the competitors from the EU. Ship repairing costs consist of 20 % materials cost and 80 % overhead expenses. The overhead expenses include direct wages, administration and checking fees, energy costs, taxes, social insurance fees, financing and capital costs, etc.

Co-operation chains

The Mahart Budapest Shiprepair Yard is trying to reduce the production and labour costs of the company by co-operating with 5-6 small specialised (designer, mechanical, electrical, painter, etc.) outworked firms. The two other Hungarian yards mainly use their own manpower. There is no co-operation with foreign companies because the local ship repair market is currently fully covered by the three yards. Analysis of the existing and near-future shipping traffic on Hungarian Danube section shows that there is no need for additional ship repair resources.

Customer Base

Local customers

Except for Mahart Tiszayacht Shiprepair Yard the two other big Hungarian yards are in an almost monopolistic position - Mahart Budapest Ship repair Yard on the Hungarian Danube and Mahart Balaton Shipping Co, ship repair yard on the Balaton. Mahart - Hungarian Shipping Company - ensures a fixed demand for these yards bidding their producing capabilities by long term contracts. This safe position can protect those yards from the hectic changes of the open ship repair market and sometimes this situation makes the behaviour of the yards very comfortable. Yet another domestic problem is the low rate of the non-Mahart ship repairing and shipbuilding demand.

The shipping sector is currently facing the privatisation process. It is clear that privatisation will very soon change the existing structures, possibly destroying the relative monopolistic positions of those yards and forcing the Hungarian ship repair industry to face international competition.

Foreign customers

At the beginning of the nineties, the shipyards used to build and repair ships for ship-owners especially from the Soviet Union, Romania, Slovakia and Germany. In the period of 1997-1999 the key customers for repair services were ship-owners from Germany and Netherlands.

Export production has not been a significant part of the Hungarian shipbuilding and ship repairing industry in the last 3 years. The shipyards are interested in increasing exports because it is more profitable and allows for production broadening and breaking the demand barrier. Profitability of the exports is variable, but it is generally higher than with local sales.

The shipyards are continuing to improve their repair services and develop their marketing in order to increase exports. In the next 3-6 years they plan to modernise their assets.

The main reasons for the failures that have previously been experienced in the development of exports were the insufficient knowledge of the market, bad marketing, strong competition on the global market, the unfavourable location (Tisza River, Balaton), limited production capabilities, obsolete production assets, low-skilled manpower, lack of financial resources for investments, depressed prices on the global market, relatively low profitability and an unstable economical policy.

An increase in exports in the near future may be limited by high costs, difficulties in reaching potential customers and low flexibility of production.

Access to financing

At present, shipyards have serious problems with financing their shipbuilding and ship repairing activity. It is fairly difficult for them to obtain short or long-term bank loans. The most common way of collateralising bank credit is to obtain a guarantee for the credit repayment from the state budget, but in the future it could be secured with a mortgage deposit.

The biggest problem with financing is the relatively high interest rate compared to the profitability of the shipbuilding and ship repairing industry. It is very difficult to obtain bank guarantees requested by clients due to the high financing costs. The lack of these bank guarantees can impede signing of the contract.

The financing of vessel and repair production is strictly determined by the contract between the yard and client. The engagement liability of the client is associated with the particular phases of

the shipbuilding process - prepayment on signing the contract, keel laying, launching, trials, final hand-over, and after the guarantee expires. In most cases the client requests bank guarantees from the yard.

In the years 1990-1999, shipyards did not use foreign sources of financing nor any assistance funds from foreign institutions.

Labour costs

In 1999 labour costs were about 3,0 € per hour. The average gross wage in shipyards was €350.

Quality of products and services – R&D

Apart from the ship design works there is no important developmental research being carried out at the moment.

The key source of technical and technological changes introduced and intended for introduction within the next 3-6 years in the area of production is co-operation with outworked firms.

Environmental protection

There are no actions being carried out for the acceptance or introduction of a complete system for environmental management.

Production capacity

By the year 2006, the production of two shipyards will have increased by 15% (in comparison to 1999) and in the other one it will stay at the same level. The production increase might be limited by the lack of financial resources for investments, insufficient local demand, large tax liabilities and obsolete production assets.

The Hungarian ship repair yards intend to increase their production capabilities in the next 3/6 years, but the accomplishment of those plans will greatly depend on the real demand for ship repairing in the Central-European region.

According to the opinion of the management of the shipyards, there are no serious competition threats for the shipyards in relation to Hungary's entrance into the EU structures in the coming years (in some contrast to our conclusions). The only limitation might be the restricted investment possibilities of the companies and no special governmental attention to this field.

Structure and strategies of the industry

At the beginning of the last decade, almost the whole Hungarian shipbuilding industry collapsed. Even the biggest Hungarian shipyards, and those of the longest tradition - Ganz Danubius Shipyard (Obuda, Angyalfold, Balatonfured) went bankrupt and closed down. The most important reasons for this bankruptcy were political and economic changes which essentially modified the industrial and financial structure of the country. The big Hungarian shipyards suddenly lost their traditional markets and were not able to obtain short or medium-term government support to ensure their survival through the critical period.

At the moment, only three important yards are operating in Hungary. The owner of those ship repair yards is the Mahart, the biggest state-owned shipping company. Those ship repair yards are mainly involved in repair of the Mahart fleet. Besides the repairing activities, production of new tonnage was also important, but represented only a small fraction of the total income of those yards. However, the shipyards do plan to increase shipbuilding activity in the future.

Theoretically, control of the shipbuilding industry - as the shipbuilding industry is part of the Hungarian economy - belongs to the Hungarian Ministry of Economic Affairs. Due to the special

owner structure of the shipbuilding industry in Hungary - Mahart is the main owner of the still existing yards - the Hungarian Ministry of Transport and Water Management has also obtained considerable influence in this field.

State policy towards the industry

The Hungarian government has not formulated any special privatisation or restructuring programmes for the shipbuilding and ship repairing industry. There is no special government attention or support to reconstruct the Hungarian shipbuilding industry.

The lack of private capital and interest to invest in the shipbuilding industry is a reason for the limited possibilities for development of that industry in the near future. Similarly, due to the long-term Yugoslavian crises, the reduced shipping activity on the River Danube has had a negative impact on the ship repair industry.

The sector has not been privatised yet.

Product restructuring and R&D

The shipyards are not going to increase expenditure on research and development, limit the assortment of products or purchase new technologies.

No investments in the last decade were made to improve the quality or modernity of the products.

Results of assets and investment restructuring

The age structure of production facilities in each shipyard in 1999 is as follows:

Table 36 Age structure of the capital assets in Hungarian shipyards

Yard name	Age categories			
	0-5 years	6-10 years	11-15 years	Above 15 years
Mahart Budapest	negligible	negligible	ca.20%	ca.80%
Mahart Tiszayacht	negligible	negligible	ca.20%	ca.80%
Mahart Balaton	negligible	negligible	ca.20%	ca.80%

In comparison with the EU shipyards, the technical level of the basic components of production facilities in the shipyards assessed is much lower

Hungarian shipyards did not introduce any substantial changes in the technological process during the period 1990-1999

Between 1990 and 1999, the investments implemented in the Hungarian shipbuilding and ship repairing industry were negligible. The main goal of those investments was to lower production costs. There were no replacement, modernisation, new capacity, ecological or work safety investments due to large tax liabilities, the lack of financial resources, insufficient local demand and knowledge about the market

6.5 Conclusions: ability to withstand competitive pressure

SWOT Analysis

The conclusions are based on the SWOT analysis (see comments in the chapter on Poland)

Table 37 Results of the SWOT analysis for Hungary

HUNGARY	
Key opportunities	Key threats
<p>Macroeconomic situation</p> <p>stable macroeconomic environment</p> <p>free trade zone with the EU</p> <p>fast economic growth</p> <p>falling inflation and interest rates</p> <p>Competitive situation</p> <p>low labour costs</p> <p>Mahart - Hungarian Shipping Company - ensures long term contracts.</p> <p>monopolistic position on the domestic market</p>	<p>Macroeconomic situation</p> <p>possible strengthening of the currency after the EU accession</p> <p>Competitive situation</p> <p>Increase in labour costs as an accession effect.</p> <p>delay of the privatisation process</p> <p>loss of the monopoly position</p> <p>low rate of the non-Mahart ship repairing and shipbuilding demand</p> <p>unfavourable location (Tisza River, Balaton)</p> <p>analysis of the existing and near-future shipping traffic on the Hungarian Danube section shows that there is no need for additional ship repair resources</p> <p>poor access to financial and capital market</p>
Key strengths	Key weaknesses
<p>Marketing</p> <p>price competitiveness</p> <p>cost competitiveness</p> <p>Personnel</p> <p>qualified design staff</p>	<p>Marketing</p> <p>negligible share in the global market</p> <p>production to cover demand of the local market</p> <p>insufficient knowledge of the market</p> <p>Finance</p> <p>difficulties in securing financing of activities</p> <p>Technology/Production</p> <p>de-capitalised production assets</p> <p>low level of research and development projects</p> <p>Organisation and Management</p> <p>lack of environmental management procedures</p> <p>low work productivity</p>

GENERAL CONCLUSIONS

In the light of the above information, the conclusions about the ability of the Hungarian shipbuilding industry to withstand the competitive pressure after country's accession to the European Union are the following.

The Hungarian sector is very small and still enjoying a quasi-monopoly position in the market niche. Assets are obsolete and privatisation and restructuring delayed. The sector may have serious trouble in finding a production niche after the EU accession and elimination of its privileged market position.

7

7. SLOVENIA

7.1 Macroeconomic overview

GENERAL ECONOMIC SITUATION

- In contrast to the other transition economies, Slovenia enjoyed a pretty liberalised, partly market-based, development even before the 1990s. Slovenia is also the best-developed country of Central Europe.
- The general economic situation of Slovenia was particularly difficult during the early 1990s, partly due to the break-up of Yugoslavia. Since 1993 Slovenia has enjoyed steady growth.
- The economy is stable, with the inflation rate currently at 5%.
- The privatisation progress was rather slow. As the result, the economy is lagging behind in restructuring and improved management.
- Despite the slow reduction in excess employment, the level of unemployment remained relatively high due to labour market inefficiencies.

Table 38 SLOVENIA: selected macroeconomic indicators

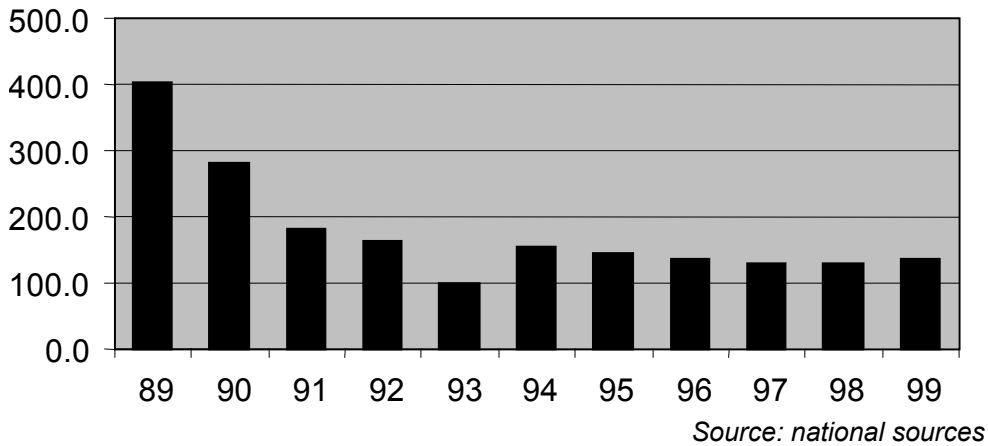
	1992	1993	1994	1995	1996	1997	1998	1999	mid-2000
Population (millions)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
GDP in Tolars (billions)	1018	1435	1853	2221	2553	2907	3243	3474	
GDP in EUR (billions)		10.8	12.1	14.3	14.9	16.1	17.4	20.4	
GDP p.c. in EUR		5435	6098	7213	7462	8035	8724	10179	
GDP p.c. in EUR (at PPS)				11300	12200	13200	13900	15000	
GDP growth rate	-5.5%	2.8%	5.3%	4.1%	3.5%	4.6%	3.8%	3.5%	3.6%
CPI inflation	207%	33%	21%	13.5%	9.9%	9.0%	8.5%	4.0%	4.7%
Exchange rate EUR (average)	105	133	153	155	172	181	186	171	198
Unemployment rate	9.5%	9.1%	9.0%	7.4%	7.3%	7.1%	7.7%	7.6%	7.5%
Gross wage in '000 of Tolars	51.0	75.4	95.6	112.0	128.8	144.3	157.9	173.2	190.6
growth rate in %		48%	27%	17%	15%	12%	9%	10%	10%
Gross wage - in EUR	485	569	626	723	750	798	850	1015	962
growth rate in %		17%	10%	16%	4%	6%	7%	19%	-5%

Sources: Statistical Office of Slovenia, IMF, Eurostat, EBRD

SITUATION OF THE SHIPBUILDING INDUSTRY

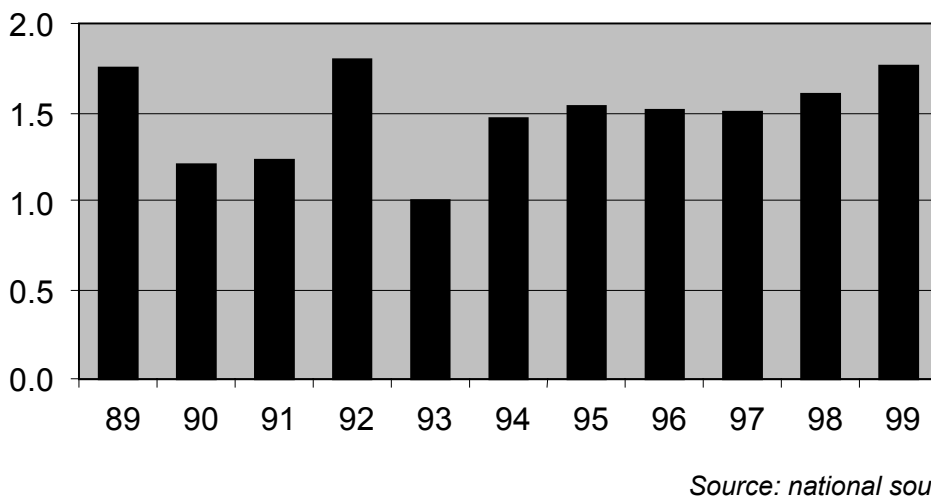
- The shipbuilding industry experienced, as did the rest of the economy, a sharp recession after the break-up of Yugoslavia. Output and employment dropped significantly (the drop in output in 1989-1993 was 75%)
- Since 1994, output has stabilised at a low level.

Graph 36 Slovenia: output of the shipbuilding industry in value terms, constant prices, 1989-99 (level from 1993=100)



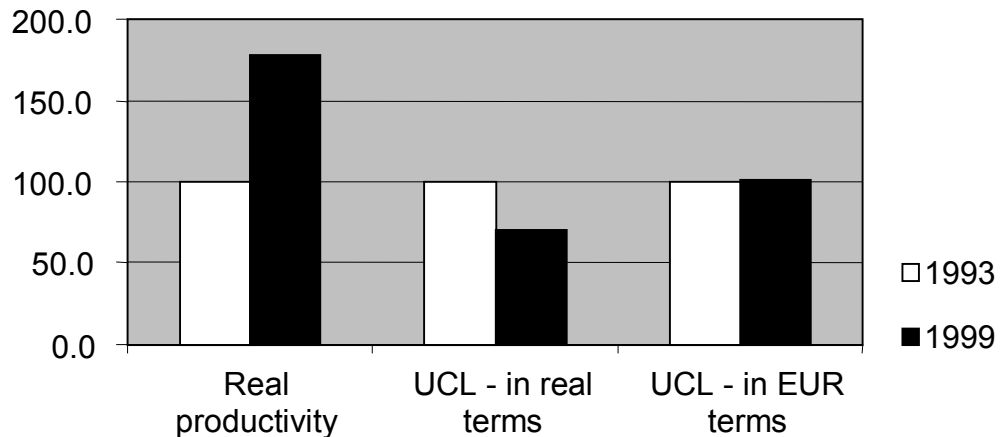
- As the scale of the employment reduction was comparable to the drop in output, after an initial decrease productivity returned to the levels of the late 1980s (employment was cut by ca. 66%)

Graph 37 Slovenia: real productivity of the shipbuilding industry in value terms, 1989-99 (level from 1993=1)



- The wage in the shipbuilding industry expressed in euro terms increased from €500 in 1993 to €1000 in 1999.
- The increase in unit labour costs (UCL) was only counter-acted to a certain degree by productivity growth. As a result, the UCL expressed in real terms (real Tolar) decreased between 1993 and 1999 by 30% and the UCL expressed in euro terms remained flat.

Graph 38 Slovenia: growth of unit labour cost in shipbuilding 1993-99 (level from 1993=100)



Source: own calculation

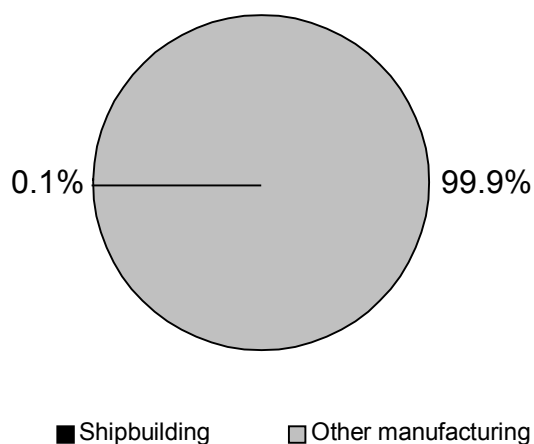
CURRENT ROLE OF THE SHIPBUILDING INDUSTRY IN THE NATIONAL ECONOMY

Table 39 Slovenia - role of the shipbuilding in the economy

	Year	Value	Remarks
Share in manufacturing employment	1998	0.1%	
Share in the total employment	1998	0.0%	
Highest share in employment in the NUTS2 region	1998	0.0%	Slovenia is one NUTS2 region
Share in industrial output	1998	0.1%	
Share in exports	1999	0.1%	
EU share in the exports	1999	over 50%	

- The shipbuilding industry plays a negligible role in the national economy
- The industry employs ca.0.1% of the total employment in manufacturing and provides less than 0.1% of exports, mainly to EU states
- Employment in the shipbuilding industry has no importance for the labour market either on a national or regional scale.

Graph 39 Slovenia: role of the shipbuilding industry in manufacturing (1999 share in employment)



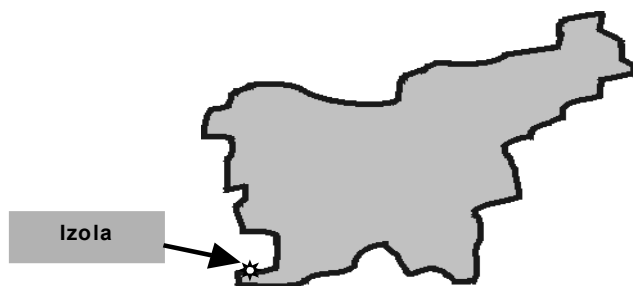
7.2 General characteristics of the industry

The Slovenian shipbuilding and shiprepairing industry is represented by one small yard - Ladjedelnica Shipyard in Izola located on the Adriatic Sea.

Table 40 Shipyards in Slovenia by size of employment and type of activities

	Less than 200 employed	From 200 to 800 employed	More than 800 employed	TOTAL
Newbuilding only	0	0	0	0
Mixed yard	0	0	0	0
Repair only	0	1	0	1
TOTAL	0	1	0	1

Graph 40 Regional concentration of the industry in Slovenia



* Small repair yard

Table 41 Geographical location, employment and types of yards in Slovenia

Yard name	Direct employees	Orientation		Focus	
		Sea	River	Newbuilding	Repair
Ladjedelnica Shipyard	ca. 200	X			X

→ Izola Area

PRODUCTION

Ladjedelnica Shipyard does not have any significant international importance.

PRODUCT SPECIALISATION

The key areas of shipyard specialisation are simple repairs of bigger ships and conversions of all type of ships

The yard is also interested in production, repair, service and storage of medium sized and small ships and boats (yachting program)

The shipyard carries on marine activities for the need of the domestic market only

The other works that are carried out in the shipyard are: cleaning and painting, renewal of shell plating and hull construction, services and repairs of main engines, auxiliary engines, steering gears, tail shafts, propellers, pumps, turbochargers, cargo gears, anchor and mooring winches, repair of electrical machinery and equipment, repair and renewal of pipe systems, services and repair of steam boilers, heat exchangers and other pressure vessels, fabrication of several kinds of ships - as per order as well as fabrication of several steel constructions (very large dimensions)

EMPLOYMENT IN THE INDUSTRY

In 1999 there were less than 200 workers employed in the shipyard.

7.3 Effects of EU accession

The accession may influence the competitiveness of the shipbuilding industry through various channels. These are:

- (a) *The single market*: as Slovenia and the EU already form a free trade zone, joining the customs' union should not have any serious effect on the competitiveness of shipbuilding.
- (b) *Competition rules*: currently, state aid is low and granted in a way that seems to be generally consistent with the EU law. Therefore, no serious harm to competitiveness should appear
- (c) *The social acquis*: the Slovene labour code is very restrictive. Therefore, necessary amendments of the labour code should not lead to a serious increase in labour costs
- (d) Acceptance of the work safety directives may cause some additional investment, mainly due to the necessity to upgrade equipment (Directive 89/655) and personal safety equipment (Directive 89/656)
- (e) *The environmental acquis*: compared to the other countries of the region, the adjustment to the environmental acquis should not be very costly. We expect the total production cost increase due to the environmental reasons to be around 1-2% after the full implementation of the acquis
- (f) *Macroeconomic factors*: the macroeconomic factors in play are: higher growth of wages, real appreciation of the currency, and lower interest rates. With the current trends in investment and productivity growth the rise in labour costs should lead, overall, to an increase in unit labour costs in euro of 5-10% in the medium term
- (g) Real interest rates should fall during the first 5 years after the accession by 100-200 basis points, making the extra investment less costly

Overall, we expect that accession to the EU will bring about a reduction in the competitiveness of the shipbuilding industry (with production costs increasing by ca.1%, mainly due to the higher labour costs expressed in euro and the interest paid on additional debt raised for financing the investment connected with implementation of the environmental acquis).

7.4 Present and future competitive advantage – views of the industry

NOTE: this part of the chapter is mainly based on information obtained directly from representatives of the industry. Therefore, it reflects the views of the industry rather than the results of objective research.

Labour costs

In 1999 the average gross wage in the shipyard was €1000.

Environmental protection

There are no actions being carried out for the acceptance or introduction of a complete system for environmental management.

Production capacity

The shipyard occupies an area of 4,5 hectares, 6800 sq. m of which is the workspace. The shipyard is equipped with the following facilities: 230 m and 70 m of berthing piers for dockside repairs, two slipways with a total area of 1800 sq. m and a floating dock with lifting capacity of 8500 tons for the ships up to 25.000 DWT (max. length 165 m, max. width 23 m). The dock is supplied with electric power from the shore but it has its own diesel-generators as well. The shipyard's facilities include several cranes with lifting capacities ranging between 8 and 70 tons.

Structure and strategies of the industry

Ladjedelnica Shipyard exists in the global market as an individual entity.

7.5 Conclusions: ability to withstand competitive pressure

SWOT Analysis

The conclusions are based on the SWOT analysis (see methodological comments in the chapter on Poland)

Table 42 Results of the SWOT analysis for Slovenia

SLOVENIA	
Key opportunities	Key threats
<p>Macroeconomic situation</p> <p>stable macroeconomic environment low inflation and interest rates free trade zone with the EU</p> <p>Competitive situation</p> <p>relatively low labour costs access to financial and capital market</p>	<p>Macroeconomic situation</p> <p>possible high growth of wages and real appreciation of the currency after the accession</p> <p>Competitive situation</p> <p>increase of labour costs after the accession tendency to increase material costs</p>
Key strengths	Key weaknesses
<p>Marketing</p> <p>price competitiveness</p>	<p>Marketing</p> <p>significance in the local market only</p> <p>Technology/Production</p> <p>lack of opportunities to expand production capacity no research and development works</p> <p>Organisation and Management</p> <p>lack of environmental management procedures</p>

GENERAL CONCLUSIONS

In the light of the above information, the conclusions about the ability of the Slovene shipbuilding industry to withstand the competitive pressure after country's accession to the European Union are the following.

The Slovenian sector is very small and searching for its market niche on a local market. The sector may have serious trouble in adjusting to a more competitive environment after the EU accession.

APPENDIX: DETAILED INFORMATION ON SELECTED SHIPYARDS

GDYNIA AREA

Newbuilding
Shiprepair

NAVAL SHIPYARD

Ul. Śmidowicza 48, 81-127 Gdynia

Employment

About 2100 in total.

Ownership

State-owned company.

Production range

Repair of various types of naval and merchant vessels; building of steel ships (up to 100m in length and 6500 dwt) and GRP ships (up to 45m in length); manufacturing of special equipment, machinery and spare parts; conversions of ships.

Performance measures

Number of production in 1999 - 53
mln USD

Turnover in 1999 - 56 mln USD

KSF analyses

Not visited.

Production facilities and capacity

2,5 km of fully equipped wharf with depth of up to 8m, cranes with lifting capacities of 5 to 50t; one floating dock (150x27x8m) of 8000t lifting capacity; mechanical lift with 12 separate stands for simultaneous repair of 12 ships up to 100m length and 1600t weight; slipway for small vessels of length up to 40m and 180t weight.

Additional points

- In 2000 it obtained the ISO 9001 certificate
- It is currently building naval crafts for the Polish and Yemen Navy

GDYNIA SHIPYARD

Ul. Czechosłowacka 3, 81-963 Gdynia

Employment

About 8100 in total.

Ownership

Joint stock company. The major shareholders in 1998 – State Treasury (34,6%), Shipyard's Investment Fund (39,1%) and employees (13%). There is no foreign capital engaged.

Production range

Designing, building (size of ships to be built is limited to 400000 dwt - container ships, tankers and bulk cargo vessels from handy size to the biggest ones such as liquid gas carriers LPG, car carriers and chemical cargo vessels) and repairing of ships and marine floating units; manufacturing of steel bridges and other industrial steel constructions; trading activity

Performance measures

Number of production in 1999 - 11 ships = 237 629 cgt = 376 mln USD

KSF analyses

	Weight*/Evaluation**
Share in world market	2 4
Dynamics of growth of share in the world market	1 4
Costs of production	3 3
Costs of production factors	3 4
Productivity of work	3 2
Product brand	3 4
Quality and modernity of the ship	3 3
Punctuality of supply	3 5
Production potential	3 5
Level of modernity of production assets	3 4
Flexibility of production	3 4
Degree of de-cooperation of production	3 3
Skills of the design staff	3 5
Costs of financing of shipbuilding	3 2
Financial solvency	3 3
Strategy and management	3 4
Efficiency of marketing services	3 4
Achievements in the area of R&D	3 3

* Significance of given standard in the industry: 1- least important, 2 – average importance, 3- very important.

** Weak and strong sides of analysed company: 1, 2 – weak side; 3 – on average level; 4, 5 – strong side.

Production facilities and capacity

Two large dry docks:

SD1 – 241x40x8m with 500t gantry crane for ships up to 120000 dwt;
SD2 – 380x70x8m with 900t gantry crane for ships up to 400000dwt.

Additional points

- in March 2000 Poland had a 4 % share in the world's orders for cargo vessels in respect of cgt (4th place in the world), out of that Gdynia Shipyard – 2,25%
- total income per employee in 1997 - 45 722 USD, in 1998 - 50 707 USD
- forecasts of total income (in mln USD): 2000-500; 2001-580; 202-650; 2003-700
- Orders portfolio 31.12.1999 - 34 ships; 464 283 cgt; 718,24 mln USD
- Main customers are from Germany and Cyprus
- The company is still in the process of negotiating in order to purchase stocks package of Masa Yards in Finland, as well as of Polish Ocean Lines

NAUTA SHIPYARD

Ul. Waszyngtona 1, 81-342 Gdynia

Employment

About 850 in NAUTA Shipyard and about 320 in 11 subordinated companies.

All the subordinated companies are fully independent and operate on their own account.

Ownership

The first step of privatisation - transformation from a state-owned enterprise into a joint stock company has already been completed. At present it is taking into consideration a consolidation with the Naval Shipyard in Gdynia.

Production range

Repair, rebuilding and conversion of floating units; newbuilding of small ships; ship lengthening; repair of naval vessels.

Performance measures

Number of production in 1999 - 71 repaired and rebuilt ships = 114,2 GT = 18 mln USD

Turnover in 1999 - 30 mln USD

Structure of turnover:

70% of turnover - conversions and shipbuilding

30% of turnover - repairs

KSF analyses

Not visited.

Production facilities and capacity

Three floating docks of 100-200 m length and 4500, 3500 and 1200 t lifting capacity; ship elevator of 600t capacity; fully developed m long quays enable repairing of ships up to 215 m in length.

Additional points

- In 2000 it obtained the ISO 9001 certificate
- Preparation to the introduction of the integrated quality management system, which involves: a quality management system, an environmental management system and a safety and labour safety system
- Forecast of 2000 turnover - 35 mln USD
- Satisfactory financial results tent the yard for investments focussed on the yard's modernisation in order to lower the company's costs
- Main customers are from Holland, Italy, Iceland, Norway, Germany, Great Britain
- Export is increasing steadily and in 1999 it represented 90% of revenues
- Shipyard is prepared for building and repairing naval vessels for NATO

GDAŃSK SHIPYARD

Ul. Doki 1, 80-958 Gdańsk

Employment

About 3500 in total.

Ownership

From December 1998 company is functioning in Gdynia Shipyard Group Joint Stock Company.

Production range

Nowadays builds first bulkers, and also multi-purpose and container ships.

Performance measures

Number of production in 1999 - 2 partly equipped hulls, 1 finished ship with Shipyard Gdynia, 2 ships = 31 000 cgt = 30 mln USD

Turnover in 1999 - 78 mln USD

KSF analyses

Not visited.

Production facilities and capacity

Three slipways:

B1 – 280x36m and 18000t launching mass;

B3 – 185x28m and 7000t launching mass;

B5 – 202x30m and 8000t launching mass;

Estimated production capacity - 150 000 cgt.

Additional points

- The production facilities are moving to Ostrów Island and capacities are going to be reduced. New company intended for a compact shipyard. First step was taken - building a modern maintenance and painting facility
- Probably in the future, the shipyard will build sections for the Gdynia Shipyard
- Plans for 2000 - building 14 ships

GDAŃSK REPAIR YARD *REMONTOWA*

Ul. Na Ostrowiu 1, 80-958 Gdańsk

Employment

About 2500 in total.

Ownership

1999 saw the commencement of the process of the REMONTOWA privatisation. It started with its transformation from a state-owned enterprise into a joint stock company with a 100% of share owned by the Treasury. One of the proposals for the next step of privatisation is that deposited by employees.

Production range

Building new ships; conversions; lengthening; overhauls; slop disposal/reception; tank cleaning; oil cleaning; blasting; in-situ grinding/machining; underwater surveys; propeller repairs; tank coating; precision machining; retrofits; electrical repairs.

Performance measures

Number of production in 1999 - **92 mln USD**

Turnover in 1999 - 93 mln USD

KSF analyses

Not visited.

Production facilities and capacity

Five floating docks:

Dock 1 – 136x24x5,2m (100-200 m length); lifting capacity – 6400t

Dock 4 – 164x25,8x6,8m (100-200 m length); lifting capacity – 9000t

Dock 3 – 176x26,2x6,3m (100-200 m length); lifting capacity – 1100t

Dock 5 – 225x37x9m (200-300 m length); lifting capacity – 25000t

Dock 6 – 244x44x9m (200-300 m length); lifting capacity – 33000t

3,5 km of fully equipped wharf.

Additional points

- The biggest Polish shiprepair yard, which in real terms represents almost half the turnover of the whole shiprepair industry
- In 1999 it obtained the ISO 9001 certificate
- In the 1990s it started diversifying production through implementation of more complicated repairs (conversions of vessels, conversions and construction of equipment for oil extraction from the seabed – offshore) and construction of small vessels
- Alongside the changes in production specialisation was the important process of REMONTOWA's restructuring from a single company into a holding structure (in 1993 the company acquired a 51% share in Albanian Shiprepair Yard in Durres)
- Main customers are Norwegian, British, German and Greek shipowners

NORTHERN SHIPYARD

Ul. Marynarki Polskiej 177, 80-958 Gdańsk

Employment

About 1300 in total.

Ownership

In 1997 control over Northern Shipyard was taken by Gdańsk Repair Yard REMONTOWA (48%), Centromor (27%), a sizeable trading house which has exported 1600 vessels to more than 100 owners during its 40 years of operation, and the Treasury (17%).

Production range

Building sea-going vessels: small fishing, container ships up to 5 000 DWT, special units and hulls up to around 6500 DWT, passenger-car ferries, offshore service ships, tugs.

Performance measures

Number of production in 1999 - 12 units (1 fjord ferry, partly equipped trawlers, tugs' hulls)

Turnover in 1999 - 37 mln USD

KSF analyses

	Weight*	Evaluation**
Share in world market	2	1
Dynamics of growth of share in the world market	1	1
Costs of production	3	3
Costs of production factors	3	4
Productivity of work	3	
2Product brand	3	2
Quality and modernity of the ship	3	2
Punctuality of supply	3	5
Production potential	3	4
Level of modernity of production assets	3	2
Flexibility of production	3	2
Degree of de-cooperation of production	3	1
Skills of the design staff	3	5
Costs of financing of shipbuilding	3	2
Financial solvency	3	2
Strategy and management	3	3
Efficiency of marketing services	3	3
Achievements in the area of R&D	3	3

* Significance of given standard in the industry: 1- least important, 2 – average importance, 3- very important.

** Weak and strong sides of analysed company: 1, 2 – weak side; 3 – on average level; 4, 5 – strong side.

Production facilities and capacity

Two side launching ways:

Cp 1A – 88x13,5m and 1500t – max weight of launched vessel;

Cp 1B – 120x18,6 m and 3150t – max weight of launched vessels. In upgraded conditions max length 130m, max breadth 20,4m.

Additional points

- From 1997, in the new ownership situation, the yard has been reconstructing its market position as the producer of fishing vessels, tug, small ferries and multi-purpose cargo vessels
- Together with REMONTOWA Shipyard, the company is going to construction the equipment for oil extraction from the seabed – offshore
- Plans for co-operation with Polish Navy
- Main customers come from Norway and Holland

CRIST SHIPYARD

Ul. Swojska 12, 80-867 Gdańsk

Employment

About **60 + 250 subcontractors**.

Ownership

Limited liability private company.

Production range

Fishing and offshore vessels, hulls building up to 42 m and reconditioning current and class hull repairs steel constructions piping lines installation and reconditioning hatch covers, lofting documents and workshop drawing.

Performance measures

Number of production in 1999 - 14 hulls of which: 1 full equipped trawler

Turnover in 1999 - 7,7 mln USD

KSF analyses

Not visited.

Production facilities and capacity

1 production hall, cranes, gantries

Newbuilding capacity - max 3 fish vessels per year.

Additional points

- The orders come mainly from Denmark, Norway, Holland, Belgium and Iceland
- Pioneers in building mussel dredges for Dutch owners
- Plan for 2000 - 18 partly equipped fishing vessels
- Co-operation with Gdynia Shipyard, Northern Shipyard and Nauta Shipyard

CENAL SHIPYARD

Ul. Doki 1, 80-863 Gdańsk

Employment

About 80 in total.

Ownership

Limited liability private company.

Shareholders:

60% Centromor S.A. - a sizeable trading house which has exported 1600 vessels to more than 100 owners in its 40 years of operations

40% Alkor Co.Ltd. - a very efficient private company which has repaired more than 500 vessels over last five years

Cenal started its operations in 1996.

Production range

Completing vessels up to 115m in length and 16,6 beam: steel and stainless constructions; hatch covers; completing rudders, barges, pontoons; docking; class renewal, conversion, repairs.

Performance

measures

Number of production in 1999 - 7 hulls of fishing vessels and 5 repaired ships

Turnover in 1999 - 17,5 mln USD

KSF analyses

Not visited.

Production facilities and capacity

Area: 40 000 square m located in "old" Gdańsk Shipyard; production hall 131x21, 3 m with overhead gantry cranes open-air production rigs with self-propelled roofs. Blasting and painting chambers.

Slipway - 115X16,5m;

1 floating docks - lifting capacity - 7000t.

Additional points

- The orders come mainly from Norwegian, Dutch, Danish, German, British and Icelandic owners
- The shipyard does not possess a design office and works on foreign documentation
- Strong attribute – the cycle of production of a hull does not cross 6 months

ALKOR SHIPYARD

Ul. Doki 1, 80-863 Gdańsk

Employment

About 50+400 subcontractors.

Ownership

A very efficient limited liability private company which has repaired more than 500 vessels over last five years.

Production range

Shiprepair; overhauls; conversions; constructions of ships, steel and stainless aluminium structures; different equipment delivery for ship

Performance measures

Number of production in 1999 - 25 repaired ships

Turnover in 1999 - 3,5 mln USD

KSF analyses

Not visited.

Production facilities and capacity

1 floating dock of 100-200m length (155x24,7m) , lifting capacity 8000t

Additional points

- Vessels being repaired are docked in the dry-docks of Shipyard Gdynia or in a floating dock at Shipyard Remontowa

RADUNIA REPAIR YARD

Ul. Na Ostrowiu 1, 80-873 Gdańsk

Employment

About **70+150 subcontractors**.

Ownership

Joint stock company with 100% of share owned by the Treasury.

Production range

Actually builds hulls and quarterdecks for other shipyards.

Performance measures

Number of production in 1999 - **800t**
Turnover in 1999 - 0,34 mln USD

KSF analyses

Not visited.

Production facilities and capacity

Hired repair quay – 300m from Shipyard REMONTOWA
Production capacity - 12x500t per year.

Additional points

- In the 1990s, Radunia's involvement in the Polish shiprepair industry was limited
- Nowadays, the yard co-operates closely with shipyards, predominantly with foreign yards in the fields of construction of steel structures, hulls and elements for offshore. It is also involved in the building of technical craft and barges

SZCZECIN SHIPYARD

Ul. Hutnicza 1, 71-642 Szczecin

Employment

At the end of 1999 it was about 7200 in total, now it's about 6200.

Ownership

Joint stock company.

The major shareholders in Szczecin Shipyard are banks (Bank Handlowy, BIG Bank Gdański, PBR), State Treasury, Industrial Group Ltd., small shareholders and management.

Production range

Designing and building ships - container ships from 900 to 3000 TEU with widening the programme of product line to bulk cargo and general cargo vessels with tonnage up to around 45000 DWT (handy size), chemical cargo vessels, passenger, RoRo and RoPax ships up to 45 000 GT.

Performance measures

Number of production in 1999 - 17 ships = 201 373 cgt = 437 mln USD

KSF analyses

	Weight*/Evaluation**	
Share in world market	2	5
Dynamics of growth of share in the world market	1	4
Costs of production	3	3
Costs of production factors	3	4
Productivity of work	3	
4Product brand	3	4
Quality and modernity of the ship	3	3
Punctuality of supply	3	5
Production potential	3	3
Level of modernity of production assets	3	3
Flexibility of production	3	4
Degree of de-cooperation of production	3	4
Skills of the design staff	3	5
Costs of financing of shipbuilding	3	2
Financial solvency	3	3
Strategy and management	3	5
Efficiency of marketing services	3	5
Achievements in the area of R&D	3	2

* Significance of given standard in the industry: 1- least important, 2 – average importance, 3- very important.

** Weak and strong sides of analysed company: 1, 2 – weak side; 3 – on average level; 4, 5 – strong side.

Production facilities and capacity

The length of outfit quays is 1400m. Three slipways:
 W1 – 250x25,6m and 33500t - max ship's dead-weight;
 W2 – 248x25,6m and 33500t - max ship's dead-weight;
 ON – 189x44m and 50000t - max ship's dead weight.

Additional points

- Szczecin Shipyard is a dominant company in Szczecin Shipyard Porta Holding JSC (capital group), which generates about 80% of the total revenue of the group (plan for the future - about 50%)
- In the 1990s, a feeder container ship from Szczecin Shipyard for a German owner became a specific breakthrough. During several consecutive years, first the Szczecin Shipyard and then the Gdynia Shipyard used the market boom for feeder and medium size container vessels (900to 3300 TEU) well. This gave Poland first position among European shipbuilders
- In March 2000 Poland had a 4 % share in the world's orders for cargo vessels in respect of cgt (4th place in the world), out of that Szczecin Shipyard – 1,7%

GRYFIA SHIPYARD

Ul. Ludowa 13, 71-700 Szczecin

Employment

About 1400 in total.

Ownership

Joint stock company with 100% of shares owned by the Treasury. Almost all yard employees set up a company which aims at purchasing a majority share in the GRYFIA.

Production range

Repair, conversion and newbuilding of small ships up to 80m in length and fishing vessels, tugs, ferries and hulls.

Performance measures

Number of production in 1999 - 205 repaired ship and 2 built ships
Turnover in 1999 - 33 mIn USD

KSF analyses

	Weight*/Evaluation**	
Share in world market	2	2
Dynamics of growth of share in the world market	1	2
Costs of production	3	3
Costs of production factors	3	3
Productivity of work	3	2
Service brand (tradition)	3	4
Quality and modernity of the service	3	3
Punctuality of supply	3	5
Production potential	3	3
Level of modernity of production assets	3	3
Flexibility of production	3	4
Degree of de-cooperation of production	3	3
Skills of the design staff	2	3
Costs of financing of repair activity	2	3
Financial solvency	3	3
Strategy and management	3	3
Efficiency of marketing services	3	3
Achievements in the area of R&D	3	1

* Significance of given standard in the industry: 1- least important, 2 – average importance, 3- very important.

** Weak and strong sides of analysed company: 1, 2 – weak side; 3 – on average level; 4, 5 – strong side.

Production facilities and capacity

Three floating docks: first of 200-300m length (216x34,8x7,7m and 15000t lifting capacity), second of 100-200 m length (156x26x6,2m and 7200t lifting capacity), third of 100-200m length (137,2x21,8x5,8m and 5200t lifting capacity).

Additional points

- In 1997, the company obtained the ISO 9001 certificate and in 1999, the ISO 45001 certificate for Laboratory of Technical Supervision
- The shipyard is getting ready to obtain a AQAP 110 certificate confirming adaptation of the shipyard's organisational structure to receive NATO vessels for refit
- The main reasons for the shipyard's good economic position is the effective process of capital, organisation and labour restructuring
- Plans for the future - investments in building one more dock
- Main customers come from Germany and Scandinavia

USTKA SHIPYARD

Ul. Westerplatte 1, 76-210 Ustka

Employment

About 460 in total.

Ownership

Joint stock company grouped with Szczecin Shipyard (50,09% share in USTKA)

Production range

Manufacturing of life and rescue boats, work boats, patrol, fishing and pleasure boats of GRP, sailing yachts, accommodation ladders and gangways of aluminium; steel constructions of various kinds.

Performance measures

Turnover in 1999 - 8,5 mln USD

Nominal capital (31.05.2000) - 1,8 mln USD

Balance-sheet total (31.12.1999) - 6,3 mln USD

KSF analyses

Not visited.

Production facilities and capacity

1 slip 28x12m

1 production hall

4 gantries - 16 t

50-70m in length of the quay

Production capacity - 7 floating units with dimensions: 30x8,5m; steel constructions (16x3x6m) - 10000t per year, rescue and life boats up to 18m in length -100szt.

Additional points

- Currently in a very difficult financial situation due to a lack of demand for aluminium constructions for Szczecin Shipyard
- Although the company possesses significant productive assets, it is not able to launch big units
- Future existence depends on building steel constructions
- Possesses certifications and recommendations: Lloyd's Register of Shipping, Germanischer Lloyd, See-Berufsgenossenschaft, Der Norske Veritas, Bureau Veritas, Australian Maritime Ship Authority, Polish Ships Registration, Rossijskij Morskij Register Sudochodstva and ISO 9001

SZCZECIN AREA

Newbuilding
Shiprepair

PORTA ODRA

Ul. Heyki 14b, 70-631 Szczecin

Employment

About 220 in total.

Ownership

Limited liability company.

Shareholders:

75% - Szczecin Shipyard

25% - Centromor - a sizeable trading house which has exported 1600 vessels to more than 100 owners in its 40 years of operation

Production range

Newbuilding and repairing inland vessels, hulls of fish vessels and tugs; section for sea shipyard.

Performance measures

Turnover in 1999 - 4,5 mln USD

Nominal capital (31.05.2000) -
1,1 mln USD

Balance-sheet total (31.12.1999) -
3,4 mln USD

KSF analyses

Not visited.

Production facilities and capacity

Slip of 70m in length and from 250t to 300t capacity

200m of fully equipped wharf

1 production hall

Production capacity – building and repair units with max dimensions: 70x12,5m and weight of hull up to 500t.

Additional points

- Certifications and recommendations: Bureau Veritas, Germanischer Lloyd, Lloyd's Register, Polish Ships Registration, DNV
- In the new ownership situation investments in production facilities were made

MORSKA REPAIR YARD

Ul. Ludzi Morza 16, 72-602 Świnoujście

Employment

About 530 in total.

Ownership

Joint stock company with 100% of shares owned by the Treasury.

Production range

Complete modernisation and conversion of ships; building of steel and aluminium hulls, sub-elements for offshore industry; ship class repairs, overhauling including ship renewal; emergency repairs and conversions.

Performance measures

Number of production - 121 ships repaired and 2 rebuilt vessels

Turnover in 1999 - 25 mln DEM

Sales structure:

Export - 87%

Domestic sales - 13%

KSF analyses

Not visited.

Production facilities and capacity

Two floating docks of 100-200 m length :

first – 110x18,5x5,7m and 3500 t lifting capacity; second – 117x19,8x6,4m and 4500t lifting capacity; three quays of 298m and 200m in length fitted with cranes; five workshop halls.

Additional points

- The most advantageous place among all Polish shiprepair yards - strategic place for export of services for customers from Scandinavia, Germany, Britain and Benelux countries and convenient access to the railways and highways of both Polish and European systems. Despite that, the yard still remains one of the smallest among Polish shipyards
- Main customers are from Germany, Norway, Austria, Iceland, Denmark, the Netherlands and Sweden
- In 1999 it obtained the ISO 9001 certificate. The scope of certification embraces repairs, conversions and steel structures (including offshore)
- The yard supplies Kvaerner and Haliburton with steel constructions
- The strategy envisages that the share of repairs should be diminished to 50% while the offshore should go up to 20-25% of the total revenues

WISŁA RIVER AREA

Newbuilding
Shiprepair

CENTROMOST

Ul. Popłacińska 42, 09-401 Płock

Employment

About 150+100 subcontractors.

Ownership

Limited liability private company which was established in 1998 thanks to the joint efforts of two Polish companies:

50% Centromor S.A. - a sizeable trading house which has exported 1600 vessels to more than 100 owners in its 40 years of operation

50% Mostostal Płock S.A. - a very efficient Polish firm building steel constructions.

Centromost shipyard is situated on the former state-owned Płock River Shipyard.

Production range

Building of inland vessels of all types: containers, tankers, chemical tankers, bulk carriers, barges, pontoons; building of river/sea-going vessels in the restricted class; ship repairs, restorations; conversions; offering steel constructions for civil engineering projects, hatch covers with fittings, manufacture of marine equipment and technical service. Shipyard can make products of ship steel, stainless steel and aluminium. Actually shipyard doesn't repair vessels only builds not equipped hulls, sections and quarterdecks.

Performance measures

Turnover in 1999 - 5,4 mln USD

KSF analyses

Not visited.

Production facilities and capacity

Slip of 110m in length, 400t

Production capacity – new vessels wit max. dimensions: length 110m, breadth 11,45m, and height from waterline up to 7m.

Estimated production capacity - 25 000 cgt.

Additional points

- The shipyard builds barges (over 100 m in length) for Dutch owners
- Plans for the future - increase production capacity
- Production possibilities are limited by water levels in the River Wisła, which is navigable only from March to November

TCZEW RIVER SHIPYARD

Ul. Czatkowska 2a, 83-110 Tczew

Employment

About 200 in total.

Ownership

Limited liability company.

Shareholders:

64% Tczew Town Council,

36% company Karat Shipyard and
Tczew Shipyard employees.

Production range

Building and repairing of river and coastal ships of length, breadth, draught not larger than 80x12x2,5m; building of bare hulls or their sections; manufacturing steel constructions of weirs and locks, slipways, hatch covers; manufacturing aluminium alloy minor structures.

Performance measures

Number of production in 1999 - 10 tugs up to 31 m in length and 1 trawler hull

KSF analyses

Not visited.

Production facilities and capacity

Slipway with longitudinal slip arrangement of 40m in length and 250t capacity;

Slipway with the transverse slip arrangement of 90m in length and 550t capacity;

Production hall.

Additional points

- Main customers come from Holland
- Undertaking marketing activity in order to enter German and Norwegian markets
- Strong attribute - cycle of production of a hull does not cross 6 months
- In years 1990-1999 company built 100 tugs, that level of equipment was about 40%
- Co-operation with Gdynia Shipyard in building sections of vessels
- Ready to build sea-going ships (small tankers), but problems with punctuality of supply (water levels in the Wisła)
- Plans for the future - building small units out of aluminium

ODRA RIVER AREA

Newbuilding
Shiprepair

KOŹLE SERVICE

Ul. Stoczniewców 2, 47-200 Kędzierzyn Koźle

Employment

About 200 in total.

Ownership

Limited liability company. Main shareholders: FAMAG - a company producing cranes, NAVIMOR - a broker company and the Treasury.

Production range

Building hulls of 95 m in length, small repairs of barges.

Performance measures

Turnover in 1999 - 3,3 mln USD

KSF analyses

Not visited.

Production facilities and capacity

Slip of 72m in length, lifting capacity 300t;

2 production halls.

Additional points

- New investments - computer machine for cutting steel
- Plans for the future - creating a design office with German co-operation