I. Introduction

The Polish Ferry Market

The Baltic Sea is characterised by high activity in ferry and roll on/roll off shipping; however it is also the case that separate regions of the Baltic Sea are notable for substantially different densities of ferry connections. This latter feature is a function of the variations in markets that exist and also the variability in highway connections between different countries of the region. The highest concentration of short sea and roll on/roll off services is to be found in the south-western part of the Baltic Sea and this is largely a consequence of the economic development of the countries of that region - particularly Germany - and the intensive trade networks that have developed between them.

Despite the relatively small size of the Baltic Sea, the volume of total cargoes which are turned over amounts to 8% of world seaborne trade, and this figure is far more than would be expected from a region of this size. As a consequence, there are about 40 ferry operators on the Baltic Sea operating in total about 130 ferries, largely on international routes.

For the convenience of this paper we can identify four main transport corridors on the Baltic Sea [Debicka, 1996]:

- the western route: linking Scandinavia, Germany and Poland - totalling around 75% of the entire passenger ferry transportation on the Baltic Sea;
- the central-eastern route: linking Sweden with Finland, Russia and Estonia and including over 20% of passenger ferry transportation;
- the east-west route: linking Finland with Germany and Poland - serving only around 0.12% of Baltic Sea traffic;
- the central route: linking Sweden with the Gdansk and Riga agglomerations, serving 3.5% of passenger ferry traffic.

By far the most significant passenger trades are those between Sweden-Denmark and the domestic Danish routes, which carry some 24 million passengers a year (around 22% of the total share) and 23 million passengers a year (around 23% share) respectively. Lying a considerable way behind in ferries and the carriage of cargo or passengers, is PZB operating a number of lines under the commercial name of Polferries. Its headquarters is in the small coastal town of Kolobrzeg, from which no ferries operate, and its ferry base and route locations are in Swinoujscie and Gdansk in the north west and north east of Poland respectively.

It has at its disposal four owned and one chartered passenger-car ferries and five tramp ships the latter amounting to only a small tonnage. The latter are used mainly for coastal or intra-Baltic small bulk work and play no part in the ferry operations. PZB used to own and operate a high-speed catamaran on the western Baltic (Swinoujscie–Malmö) until the summer of 2000 when the vessel was chartered out. It was sold in 2001 to an Estonian ferry operator for use in the eastern Baltic Sea. In addition PZB also operate the Port of Kolobrzeg (specialising mainly in small bulk commodities such as timber, sand and gravel etc.) and ten travel agencies located across the country from Warsaw to Gdynia.

At present PZB provides services on four ferry connections [Vainio, 1999]:

- Swinoujscie-Malmö (Sweden) (123 miles) - the main significance are the Denmark-Germany, domestic Norwegian and Swedish, and Finland-Sweden routes.

The Polish ferry shipping industry, despite its central geographical position on the Baltic Sea, is a sector of relatively low intensity ferry traffic. At present, the share in Baltic ferry transportation amounts to only around 1% in total passenger numbers and around 5% in cargo shipments.

At the turn of the millennium, there are three ferry shipowners operating on the Baltic Sea routes to and from Poland. These are the Polish Baltic Shipping Company (PZB or Polska Zegluga Bałtycka) trading as "Polferries", Unity Line and Stena Line. The first two are both entirely Polish owned, whilst the latter is owned by the large Swedish ship operator of the same name. The most significant operator to and from Poland, with respect to the number of
connection serviced by High Speed Catamaran “Boomerang” (until 1999) and M/S “Pomerania” (up to ten cruises per week).

- Swinoujście-Copenhagen (Denmark) (130 miles) - serviced by M/S “Silesia” (five times a week).
- Gdansk-Oxelösund-Nynäshamn (Sweden) (265 miles) - serviced by M/S “Nieborow” and M/S “Rogalin” (daily during the summer season, three times a week otherwise).
- Swinoujście-Roenne (Denmark) (99 miles) - a seasonal line serviced by M/S “Silesia” (once a week).

A new service was introduced in the autumn of 2000 between Swinoujście and Trelleborg in Sweden operating daily and using the Swedish owned M/S “Gute” roll on/roll off ferry (1,594 dwt) with a capacity of 45 trucks and a speed of 16.5 knots. The new service was a response to a 20% increase in freight traffic between Poland and Sweden in the previous year [Lloyd's List, 2000].

The second Polish shipowner is Unity Line, providing services since 1993. Unity Line is a joint venture of the Polish Steamship Company (PZM - the Polish state-owned bulk ship operator) and Euroafrika (a private ship owning company jointly owned by Polish Ocean Lines (liner operator) and PZM). The company operates three ferries: M/S “Polonia”, M/S “Jan Sniadecki” and M/S “Mikolaj Kopernik” on the Swinoujście-Ystad line (95 miles). The first is essentially a combined freight, passenger and rail ferry and the latter two concentrate solely on the freight market.

The third operator was previously known as Lion Ferry AB Poland, belonging to Stena Line group, but in 1997 was re-branded as Stena Line. Stena Line is the sole operator on the Gdynia-Karlskrona (Sweden) line. Following substantial growth in interest on the route the existing ship “Lion Queen” was replaced with a more modern and larger passenger-car ferry, the “Stena Europe” and subsequent growth has seen further fleet changes.

Polish state-owned ferry operators have served Baltic cargo and passenger movements for 30 years, going through many reorganisations during this time as the inadequately financed and curiously structured state-owned PZB attempted to survive the most politically and economically turbulent times of the century. Partly as a consequence, PZB still handles only a relatively small part of the extensive Baltic ferry trade especially compared with the activities of competing German, Finnish and Swedish operators and even those from Lithuania. The situation is exacerbated by the fact that the majority of ferry transportation in the region is dominated by intensive crosstrade between Scandinavian countries - a market segment that is extremely difficult for Polish operators to enter [Kondratowicz, 1997]. An additional problem is that the standard of the Polish owned ferry fleet (and in particular PZB) is substantially lower than customers' requirements and from the quality offered by foreign shipowners and in particular those operated by Stena out of Gdynia and the variety of Swedish and German operators operating in competition with services from Swinoujście, out of Rostock and Sassnitz. Polish ferry operators are still in the company restructuring phase that began following the collapse of communism in 1989 and which requires considerable capital expenditure - unfortunately this is not forthcoming as the state will not provide the finance, loans are very expensive and the market provides insufficient profit. Polish tonnage is clearly old (and getting older) with the mean ship age at 21 years in 1999 [Miotke-Dziegieł, 1999].

Despite this seemingly pessimistic situation for the main Polish owned ferry shipping fleet, the ferry market on the Baltic Sea remains a place of increased trade and passenger carriage. The economic, social and political changes in Central and Eastern Europe, and the intense aspirations of the countries within the region for integration within the European Union and the Baltic sub-region are the features which are creating new development possibilities for ferry shipping linking the Scandinavian countries with a range of Central and Eastern European countries. In particular, it is clear that many Polish routes show an increase in all types of traffic between Sweden, Finland and Poland with much traffic then going on to travel to south-east Europe and even the Middle East [Zurek, 1999].

Like all ferry markets in Europe, in the Baltic Sea, ferry shipping is extending the variety and differentiating its range of activities. Modern ferries are treated not only as a means of transport but also as tourist, leisure and trade centres, whereby we can see also an increase use of vessels for conferences, meetings and committees as well as an extension of their use as places to relax and enjoy time in addition to actually moving between two ports.

Another tendency is the development of fast ferries where a very important factor is speed and time of transportation in addition to the conventional needs of a convenient departure and arrival time. The Baltic Sea has not seen a large number of developments in this area although PZB was responsible.

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**Table 1: Characteristics of the Polish Ferry Fleet, 2002**

<table>
<thead>
<tr>
<th>Operator</th>
<th>Ferry</th>
<th>Year</th>
<th>Length (m)</th>
<th>Breadth (m)</th>
<th>Passengers</th>
<th>Cars</th>
<th>Trucks (tce)</th>
<th>Speed</th>
</tr>
</thead>
<tbody>
<tr>
<td>PZB</td>
<td>Nieborow</td>
<td>1973</td>
<td>118.8</td>
<td>16.6</td>
<td>1,100</td>
<td>626</td>
<td>225</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>Pomerania</td>
<td>1978</td>
<td>127.5</td>
<td>21.7</td>
<td>1,000</td>
<td>436</td>
<td>237</td>
<td>26</td>
</tr>
<tr>
<td></td>
<td>Rogalin</td>
<td>1972</td>
<td>126.8</td>
<td>16.5</td>
<td>984</td>
<td>412</td>
<td>146</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td>Gute</td>
<td>1979</td>
<td>118.5</td>
<td>16.9</td>
<td>52</td>
<td>52</td>
<td>0</td>
<td>45</td>
</tr>
<tr>
<td></td>
<td>Silesia</td>
<td>1979</td>
<td>124.3</td>
<td>19.4</td>
<td>984</td>
<td>426</td>
<td>277</td>
<td>26</td>
</tr>
<tr>
<td>Unity Line</td>
<td>Mikolaj Kopernik</td>
<td>1974</td>
<td>125.6</td>
<td>17.0</td>
<td>41</td>
<td>41</td>
<td>0</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td>Jan Sniadecki</td>
<td>1988</td>
<td>155.2</td>
<td>21.6</td>
<td>50</td>
<td>50</td>
<td>0</td>
<td>35</td>
</tr>
<tr>
<td></td>
<td>Polonia</td>
<td>1995</td>
<td>169.9</td>
<td>28.0</td>
<td>1,000</td>
<td>586</td>
<td>172</td>
<td>1,000</td>
</tr>
<tr>
<td>Stena</td>
<td>Stena Traveller</td>
<td>1992</td>
<td>154.0</td>
<td>24.0</td>
<td>120</td>
<td>120</td>
<td>120</td>
<td>na</td>
</tr>
<tr>
<td></td>
<td>Stena Baltica</td>
<td>1986</td>
<td>162</td>
<td>25.0</td>
<td>1,900</td>
<td>1,296</td>
<td>500</td>
<td>na</td>
</tr>
<tr>
<td>DFNS*</td>
<td>Duke of Scandinavia</td>
<td>1978</td>
<td>152.9</td>
<td>24.2</td>
<td>1,372</td>
<td>1,250</td>
<td>420</td>
<td>na</td>
</tr>
</tbody>
</table>

*Source: Author’s Interpretation of Cruise & Ferry Information 4 / 1997
*From October 1st, 2002.
for the introduction of the “Boomerang” high-speed catamaran which ran from 1997 until 1999 from Swinoujscie to Malmo in Sweden. Increasing costs, disappointing load factors and the pressing need to increase revenue, forced PZB to contract out the vessel in 2000, however and then to sell the vessel in 2001. Growth in the market has been evidenced by the planned introduction of a new service in October 2002 by DFDS between Swinoujscie and Copenhagen and by the expanded services offered the same year by Stena Line between Gdynia and Karlskrona with the introduction of an additional vessel on the route [Brogren, 2002]. Meanwhile, PZB had expanded their services with a new route between Swinoujscie and Trelleborg in Sweden using chartered in tonnage [Lloyds List 2000, 2001a, 2001b, 2002]. Future development of the Polish ferry shipping industry, both state-owned and that from overseas, is dependent upon many factors. Polish shipowners (and in particular PZB) continue to operate the oldest units on the Baltic Sea and they urgently need modernisation and replacement of their increasingly old tonnage in order to secure higher quality of services and to meet the requirements of international competition in the marketplace and particularly that of Stena Line of Sweden and a number of Swedish, Finnish and German operators providing intense competition from neighbouring Germany and Lithuania.

An additional very important factor is the condition of Polish ferry terminals. Poland has only one relatively modern ferry terminal in Swinoujscie. Ferry transport, unlike that of bulk or liner cargoes, requires both an efficient and pleasant terminal experience and to achieve this, similar ferry terminals need to be built in Gdansk and Gdynia. The ferry terminal in Gdynia, although well over 20 years old, is actually a temporary base only, located effectively within the main Container Terminal, and used by Stena Line for handling ferries on the Gdynia-Karlskrona route. The ferry base in Gdansk, which is even older, is unable to handle large ferries and provides facilities that are poor and inadequate in the current market place. Recently (2002) plans have been announced for the refurbishment of both the terminals in Gdynia and Gdansk over the coming years and also the sale of the latter by PZB.

However, the poor condition of the road transportation network and the almost complete lack of motorway connections to any of the three port terminals remains the most serious problem for the ferry industry and detracts from the advantages of the locality of Poland, in particular with regard to the significant transit possibilities that exist between Scandinavia and Central Europe, south-east Europe and beyond to the Middle East. It is to this issue that we can now turn.

2. Polish Motorway Development and the Ferry Sector
In Poland, motorway investment has a history all of its own following the first steps which were taken by the communist government in the 1970s. Partially sponsored by the United Nations, a model of the proposed road network was developed which included the construction of 1,900 km of new motorways. During the next ten years, three new segments were commenced:

- Nieborow-Lowicz (A2);
- Wrzesnia-Konin (A2) (50 km);
- Krakow-Katowice (A4) (61km).

However, only the latter two were completed. The section between Nieborow and Lowicz remains to this day unfinished. Since then there has been some progress in extending the A4 route between Wroclaw and Boleslawiec, and minor sections near Warsaw and Szczecin. Between 1990 and 1991 the whole system was reviewed by the new government and a revised plan set forward which was aimed to be completed by 2002. This included a new structure of 2,600 km of motorways of European standard to be funded by tolls. This network was important for the ferry industry for obvious reasons and included direct connections to Gdansk, Gdynia and Swinoujscie Ports. An Agency for Motorway Construction and Operation (ABIEA) was established under the Act on Toll Motorways of 27th October 1994. At that time the total motorway length in Poland was 257 kilometres.

The overall programme is the largest investment plan in Eastern Europe with the dual aim of improving domestic traffic flow as well as encouraging and facilitating trans-European corridors. The new roads when built, will link Poland to the European network as well as helping to complete the country’s integration into the European Union. As already noted, the Polish motorway programme envisages the construction of 2,600 kilometres of motorways originally over a period of 15 years although this has now been extended indefinitely. The three main routes all form part of the proposed EU TEM system and consist of the following:

- A1 - Gdynia, Gdansk to Silesia via Torun, Lodz and Czestochowa, and beyond to countries south of Poland;
- A2 - Poland’s western border at Swiecko through Poznan, Lodz and Warsaw to the eastern border at Terespol;
- A4/A12 - Poland’s western border (traffic from Germany) to Lower and Upper Silesia via Wroclaw, Opole, Katowice, Krakow and Tarnow.

It is interesting to note the absence of an east-west route to the north of Poland connecting Szczecin to Gdansk - thus encouraging development of these ports and not encouraging road traffic to filter cargo and passengers west to Germany; and the missing link between the A4/A12 and the Szczecin agglomeration. Szczecin is already well connected to Germany (it lies on the border) although Szczecin-Swinoujscie road links are very poor.

Financing of this new system is planned to be by the Build-Operate-Transfer method, whilst the 1994 Act outlawed the use of public funds. Thus income is anticipated from tolls. Concessions to build the roads are awarded by the state Ministry of Transport to the consortium/company that tenders the best offer. To help with finance, some stretches are now to
be supported by loans and grants from the European Bank of Reconstruction and Development (EBRD) and the EU through the PHARE Programme. Changes to the arrangements since 1994, made in 1998, now make public funding a possibility in the hope of kick-starting the programme. As noted earlier in this paper, by October 2000, no tangible progress had been achieved because of fears over low (or even nil) profitability.

The 1998 changes also reduced the length of motorway planned for construction by 2010 to 1,289 kilometres. By late 2000, the Ministry had granted five concessions covering parts of all three proposed roads but none had commenced construction. Only time will tell when this situation will change.

To place progress so far into perspective and to give an idea of the significant inadequacies in Poland (and their impact on the ferry industry) by September 2000 the total length of motorways in Poland remained 257 km. This had increased to 264 km by October 2001 and further increased to 294 km later that month. By December 2001 there had been a further increase to 390 km. That same month, there was a further announcement by the Deputy Infrastructure Minister that a new major goal had been set of constructing 500 km more motorway by 2006.

Clearly, the motorway plans are significant in terms of the development of the Polish ferry industry as the German motorway system provides a highly competitive transport network for ferry ports to the west. The main opportunity for development for all Polish ferry shipping operators thus lies with the proposed North-South transport corridor that passes from Finland via the Baltic Sea, the ports of Gdynia and Gdansk and then south, to the ports of Italy and via Istanbul to the Persian Gulf. The Trans-European North-South Motorway (TEM) is the most important part of the corridor that if constructed, would help to extend the Polish hinterland and provide the catalyst for ferry developments in the region. Coupled with fleet renewal, this could provide the basis for major developments within the Polish owned ferry sector. According to agreements within the United Nations, the port of Gdansk has been appointed as the northern terminal of the TEM. The main route runs from Gdansk to the south of Poland, then through the Czech Republic, Hungary, the republics of former Yugoslavia, Bulgaria, Turkey and a number of Middle Eastern countries to the Persian Gulf and beyond (Anon., 1996; Misztal, 1997; Szwankowski, 1997).

The TEM and the Polish motorway system as part of this is expected to bring Polish ferry shipping many advantages:

- improvement of transportation from South to North and vice versa;
- attract a considerable flow of transit cargo from south Europe and Scandinavia;
- growth in maritime traffic, both domestic and international.

However, in addition to the slowness of developments, the local access to the ports of Gdansk, Gdynia and Szczecin remains a very urgent problem that also needs to be solved. In Gdynia’s case, the existing access routes pass close to the centre of the agglomeration although the “E. Kwiatkowski” route, which has been under construction for over 10 years, has now been completed. Similar problems in Gdansk have finally been resolved with the construction of a new bridge to relieve the ancient city centre although access to the “Nowy Port” area remains difficult. In the case of Swinoujscie, the best solution to improve the existing very poor highway, is completion of the planned motorway between Szczecin and Swinoujscie but as we have seen, this has been delayed [Toy and Roe, 1997; Zurek, 1997].

3. Conclusions

The significance of the Polish motorway programme as part of the TEM network and its role in integrating Poland into the European Union is not in question but its importance in the development of transit services from Scandinavia to central Europe and the Near East has been less emphasised. The latter are vital for the prosperity of Polish ferry services and ports and thus the failure to construct almost any of the proposed motorways in Poland is a major problem that needs to be addressed urgently. Poland is an early candidate for entry into the EU but unlike the other two competitors from the region - Hungary and the Czech Republic - it has still to organise and find a way to finance these urgent road developments. The ports of Gdansk, Gdynia and Szczecin/Swinoujscie require these highway developments as does the state operator of ferries PZB.

Clearly other developments remain of importance to the ferry industry and the increasing role of tourism is one sector that can only help PZB and its competitors in Stena and Unity Line. However, even here, motorway connections are urgently needed if traffic is not to be lost to other ferry services operating out of German or even Lithuanian ports. The opportunities in the tourism and freight ferry sectors that are provided by impending entry to the EU in the coming five years, may be placed in doubt by the failures within the highway construction and financing industries. Poland needs to act and quickly if this valuable traffic and the potential of the ferry industry within the Baltic Sea are not to be lost.

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