According to studies conducted under the European Communities Interreg IIIB Programme, a further 30mTEU of new container port capacity will be added in the North Sea Region (NSR) in the period from 2003 to 2010. In effect, this will result in more than a doubling of capacity – from 27.9mTEU in 2003 to almost 58mTEU in 2010.

Some 41% of this increase (12.2mTEU) will be seen in the German ports of Hamburg (25%) and Bremerhaven/Wilhelmshaven (16%), whilst Antwerp’s share of the increase is a significant 24% (Figure 1). Combined, these three ports/port areas alone account for two thirds of the planned increase in container terminal capacity in the NSR.

Including Rotterdam and Haven ports (i.e. Felixstowe and Harwich in the UK), this indicates that basically only five ports/port areas account for almost 90% of planned container port capacity increases in the 2003-2010 period.

As these port areas are all in the already most congested core of northern Europe, it might be expected that further anticipated cargo concentration on just a few ports will result in worsening congestion. This will include congestion leading to/from ports on the landside, as well as on the sea access side, and within the ports themselves.
Total..........................................................................29,980,000

Others ...............................................................................830,000
Vlissingen...........................................................................500,000
Amsterdam.....................................................................1,000,000
Zeebrugge.......................................................................1,000,000
Haven Ports....................................................................3,200,000
Rotterdam ......................................................................3,500,000
Bremerhaven/Wilhelmshaven ............................................4,900,000
Antwerp..........................................................................7,250,000
Hamburg.........................................................................7,300,000

Table 1: New Capacity Planned at Major NSR ports by 2010 (by TEU)

- Some two thirds of the forecast +30mTEU increase in capacity is focused at major NSR ports.
- In terms of container port capacity as of 2003, 75% of quay line and 73% of ship-to-shore cranes in the North Sea region are located at just four ports – Antwerp, Rotterdam, Hamburg and Bremerhaven. The top five NSR containerports (i.e. the above plus Felixstowe) together control some 90% of NSR container volumes.
- Some two thirds of the forecast +30mTEU increase in capacity is intended for the ports of Antwerp, Hamburg and Bremerhaven/ Wilhelmshaven. Taking into account a further two ports – Rotterdam and Felixstowe – these six ports will together account for 90% of all forecast additional container capacity in the NSR by 2010.

**NEW RO-RO PORT CAPACITY**

A further 19 ro-ro berths are planned at major NSR ports by 2010. Some 17 (almost 90%) of these berths are planned for ports in the core North Sea area between Haven-Humber-Rhine-Scheldt delta areas.

This implies that ro-ro traffic will continue to expand at ports in the core NSR area where already major expansion of container traffic is forecast.

**CONCLUSIONS AND IMPLICATIONS**

Overall, the analysis reached the following major conclusions:

**Container lo-lo market**
- A very heavily concentrated unitised ports market in the North Sea region with forecast developments expecting to reinforce this concentration.
- In terms of container port capacity as of 2003, 75% of quay line and 73% of ship-to-shore cranes in the North Sea region are located at just four ports – Antwerp, Rotterdam, Hamburg and Bremerhaven. The top five NSR containerports (i.e. the above plus Felixstowe) together control some 90% of NSR container volumes.

**Ro-ro market**
- Ro-ro capacity is very heavily concentrated in the southern North Sea basin area in particular. Two ports – Zeebrugge and Rotterdam – together control about 47% of ro-ro traffic at the major NSR ports.
- The Top 10 ro-ro ports combined account for 91% of ro-ro traffic at major NSR ports.
- The relatively small geographic area between Rotterdam, Zeebrugge/ Ostend, Haven and Humber, accounts for 75% of ro-ro traffic within major NSR ports.
- Forecast ro-ro capacity additions are concentrated at Haven, Humber, Rotterdam and Zeebrugge – with these four port area accounting for 90% of forecast new capacity at all major NSR ports.

**Table 2: New Ro-Ro berths planned at NSR ports by 2010**

<table>
<thead>
<tr>
<th>Port</th>
<th>Berths Planned</th>
</tr>
</thead>
<tbody>
<tr>
<td>Humber ports</td>
<td>6</td>
</tr>
<tr>
<td>Zeebrugge</td>
<td>4</td>
</tr>
<tr>
<td>Haven ports</td>
<td>3</td>
</tr>
<tr>
<td>Rotterdam</td>
<td>2</td>
</tr>
<tr>
<td>Ostend</td>
<td>2</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>19</td>
</tr>
</tbody>
</table>

Therefore overall in terms of existing and forecast maritime intermodal/unitised port capacity covering both the container and ro-ro sectors, three main areas account for 90% of NSR traffic:
- The Haven/Humber – Rhine/Scheldt – Elbe/Weser

Further, forecasts suggest that major ports within these three rather narrow areas will continue to expand and dominate intermodal maritime traffic flows in northern Europe. This, in turn, raises the following important questions:
- How can other areas in the North Sea region ensure their transport connectivity and competitiveness is improved?
- How sustainable are current and future unit load transport arrangements and in particular the very high degree of concentration within relatively few sensitive estuarial areas in northern Europe?